

Reshaping Organizations

To Develop Responsible Global Leadership

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Prof. Dr. Dev Raj Adhikari
Dr. Dhruba Kumar Gautam

Nepalese Academy of Management

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Contents

1. **Patient – Medical Unit Relations in Virtual Environment** 1
   - ❑ Slawomir Smyczek
   - ❑ Justyna Matysiewicz
2. **Corporate Governance and Firm Performance in Nepal** 21
   - ❑ Rameshwar Acharya
3. **Cognitive Approach and Its Application to the Strategic Modelling of Enterprises** 47
   - ❑ Robert Karayev
   - ❑ Miragha Naghiyev
4. **Analysis of Efficient Pricing Mechanism: An Indian Perspective** 57
   - ❑ Deepak Agrawal
5. **Trade Liberalization and Custom Revenue: An Assessment of the Impact on Nepalese Economy** 79
   - ❑ Surendra Kumar Uprety
6. **Consumer Purchase Behavior for Green Products** 95
   - ❑ **Vinod Sharma**
   - ❑ J. Sonwalkar
   - ❑ Maohar Kapse
7. **Important Factors for Successful Technology Entrepreneurship; Evidence from Indian SMEs** 111
   - ❑ Seyed Ali Omrani
   - ❑ Harish Chaudhry
   - ❑ Sudhir K. Jain
8. **Co-movements of Returns in Commodity Markets and Equity Markets** 127
   - ❑ Subarna K. Samanta
9. **Recovery from Turbulence by Innovative Model: A Study of Investigation Revolving Fund (IRF) for Supply Chain Management in a Hospital** 138
   - ❑ Hem Chandra
   - ❑ Garima Singh
   - ❑ Vidha Chandra
   - ❑ Shubhra Mishra
   - ❑ L Masih
   - ❑ AV Rinkoo
   - ❑ KN Prasad
10. **Estimating Project Performance Using Speed, Safety, and Quality: A Study of Indian National Highways** 153
    - ❑ Zeinab Karimi
    - ❑ D.K. Banwet
    - ❑ S.P. Singh
11. **Consumer Protection Models on Financial Services Market as Tool for Creating Corporate Social Responsibility** 169
    - ❑ Slawomir Smyczek
    - ❑ Justyna Matysiewicz

12. **Organisation Structure, Education Profile of Human Capital, Output and Productivity of Electrical Manufacturing Industry of India: A Study of Selected Enterprises** 187
- ❑ Shri Prakash
- ❑ Niharika Joshi Bhatt
- ❑ Amit Sharma

13. **Impact of Marketing Communication and Price Promotion on Brand Equity: Evidence from Durable Goods** 205
- ❑ Sajeeb Kumar Shrestha

14. **Corporate Performance (CP) and Satisfaction in Public Health Service Organizations (PHSO) in Eastern Province of Sri Lanka: A Use of Balanced Score Card (BSC)** 219
- ❑ Mohideen Bawa Mohamed Ismail
- ❑ Thirunavukkarasu Velnampy

15. **Sharing HRM Responsibility to Line Management for Organizational Performance: Nepalese Practices** 235
- ❑ Dhruba Kumar Gautam

16. **Low Carbon Innovation and the Competitive Advantage of Japanese Companies Based on a Strategy of Building Relationships** 253
- ❑ Nobuyuki Tokoro

17. **Trade Unionism in Global Economy and Industrial Relations of Unorganized Migrant Workers in India** 270
- ❑ W.N. SALVE

18. **Banking merger in Nepal: Principles, Policies and Practices** 285
- ❑ Jas Bahadur Gurung

19. **Microfinance and Social Capital in Nepal: The Case for an Integrated Approach** 305
- ❑ Ratna Paudyal
- ❑ Anne Abraham
- ❑ Wayne Fallon

20. **Capital Market Development in Nepal** 321
- ❑ Nabaraj Adhikari

21. **Private Returns to Education in India By Gender and Location: A Pseudo-panel Approach** 335
- ❑ Priti Mendiratta
- ❑ Yamini Gupt

22. **Organizational Competiveness: Mastering the Art of Global Operation Management** 351
- ❑ Kelechikwu Emmanue, Oguejiofor

23. **An Infinite Vision of Social Entrepreneurs of India** 373
- ❑ Punyaprava Pradhan
- ❑ Suresh Kumar Sahoo

24. **What Engenders Retail Shoppers' Satisfaction in Bangladesh?** 387
- ❑ Mohammad Muzahid Akbar
- ❑ Abu Bakar Emran Salahuddin
- ❑ Saquib Shahriar

Editorial Note

In the last two and half decades, we have passed through a number of changes in management theories and practices. Traditional nation specific management practices, leadership styles and communication methods and labor - management practices have been challenged by the increasing flow of foreign investment, innovation in information technology, changes in national political systems, changing government rules and regulations, changing ownership patterns and research and publication of innovative and creative research works. There are direct and indirect impacts of these developments on our knowledge and education systems as well.

Knowledge became the prime source for change in our society and society is became increasingly knowledge based. The corporate world is now focusing on innovation and change to cope with increasing challenges from inside and outside the country. We have great examples from the emerging nations such as China, Brazil, India, and Vietnam where management practices have undergone drastic changes to cope with their economic development goals. In the case of Europe, after the fall of the Berlin wall and political changes in many Eastern European countries, economic priorities have changed and been followed by supportive institutional developments and different management practices. However, there are countries, including Nepal, that have not been able to cope so well with the changes in the management perspective even after changing their political and economic goals and priorities more than two decades ago.

Globalization and liberalization were taken for granted as the best panacea to grow and develop a nation. In the current business environment, the challenge is no more business as usual. Increasing pressures of globalization, demanding and diverse stakeholders, the war for talent, scarce resources, and increased risks and opportunities, are causing leaders to ask if there is a better way to cope with complexity. Leaders all over the world are embedding Global Responsibility in the fabric of their business to deal with these challenges. We all, therefore, embarked in this movement. Therefore, as concern to all of us, the theme of this conference is 'Reshaping Organizations to Develop Responsible Global Leadership' is designed to explore the most emerging areas of Management and Economics like: human resource management, organizational behavior, entrepreneurship, strategic management, organizational change and development, accounting and finance, marketing and supply chain management, tourism and hospitality, micro and macroeconomic perspectives, business education, corporate social

responsibility and ethics, statistics and quality control, technology management, emerging markets, and methodological issues to address a range of themes related to policy issues and corporate practices.

The main objective of this conference is to provide a global platform for our academicians, professional, practitioners, managers, graduate students and many others who are interested to develop competencies, organizational efficiency and effectiveness, reengineering, global leadership, responsible management, entrepreneurship and research. Following the tradition of NAM (1st International conference of NAM that was organized in Hotel Yak and Yeti in March 10-12, 2011), in this conference altogether 237 papers have been received from which 105 papers from distinguished professors and professional of 25 countries are to be presented in two key note speech sessions, three plenary sessions and sixteen technical sessions in different areas of management including leadership development, labor management issues, and the global financial crisis and its aftermath. Even though all papers submitted for conference are outstanding and going to be presented, NAM scientific committee selected only 24 papers for conference proceedings based on the different parameters developed, that are in your hands.

Prof. Dr. Dev Raj Adhikari
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Patient – Medical Unit Relations in Virtual Environment

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Abstract

Challenges facing healthcare sector in twenty-first century are connected with increasing pressure on available healthcare resources (WHO 2009). Although each country is pursuing individual solutions to meet these challenges, some common approaches are clearly apparent, including the use of information and communication technology - ICT (Chaudhry et al, 2006). Use of ICT is expected to lead to improvements in healthcare quality and efficiency (Murray et al, 2011). Concept of informatization of healthcare sector known as e-health is systematically implemented in developed countries. All this have resulted in emergence of new research areas concerning character, range and effectiveness of application of new technologies in healthcare sector. Purpose of this study is to identify models of healthcare entities market behavior in new virtual environment. It is necessary to identify factors deterdmining their behaviors in virtual environment. Research done in Poland shows that healthcare organizations and patients in virtual environment make many changes. Reaction is modification in behavior in market and relations between them. Main determinants granting relation medical units and patients are motivation, capacity and opportunity in virtual environment. Those three determinants influence one another and form structure of models of market behavior of medical entities in virtual environment.

Introduction

Challenges facing healthcare systems in the twenty-first century have been described as following: aging population; increasing prevalence of long-term conditions; improvement of health technologies leading to better survival; and rising expectations of healthcare all combine to put increasing pressure on available healthcare resources (Kautsch, 1999). Although each country is pursuing individual solutions to meet these challenges, some common approaches are clearly apparent, including the use of information and communication technology; (Nazi, 2005). Use of ICT is expected to lead to improvements in healthcare quality (e.g., through better communication) and efficiency (e.g., through reduced duplication of investigations) (Rudawska, 2007).

Concept of informatization of healthcare system known as e-health is systematically implemented within EU. According to definition proposed by European Commission e-health consists of application of tele-information technologies in prevention of diseases, in diagnostics, treatment, monitoring and promotion of healthy lifestyle (EC, 2006).

All this has resulted in emergence of new research areas concerning character, range and effectiveness of application of new technologies in medical sector. Authors of paper have mainly concentrated on identification and analysis of models of market behavior of medical entities in new virtual environment and relations between them in virtual environment.

Models of Market Behavior and Relationship – Theoretical Background

Since introduction of virtual communication tools and delivery of medical services are at very initial stage, it is necessary to develop models of market behavior of medical entities mainly on basis of determinants which condition engagement of healthcare organization and patients and in building mutual relations between them in new virtual environment. Great number of diverse factors included in so-far presented market entities behavior models, e.g. EBK or Nicosii models (Schiffman and Kanuk, 2006) make these analyzes more difficult and complicate explanation of behaviors and relation development mechanisms. In meantime, good model, among others, is characterized by its simplicity. Hence, it is necessary to present behaviors and determinants of relations between healthcare organizations and their patients in virtual environment in relatively simple, measurable and pragmatic way. At that point, however, dilemma arises: something that can be of utilitarian application is not always acceptable from the scientific point of view. On the

other hand, considerable diversification of these determinants, although methodologically correct, can become useless from the utilitarian (pragmatic) point of view.

In subject literature many attempts have been made to tackle problem, mainly by focusing on individual aspects of company-consumer relations, leaving behind the principle of *ceteris paribus* for variables and interactions (Poiesz and Robben, 1994). Another approach, in turn, recommends finding criterion that is followed by markets subjects, with simultaneous rejection of other variables (Stewart, 1989). Such approach, however, is contrary to the concept of external legitimacy and need of full explanation of ways and reasons for interactions between particular market subjects and for maintenance thereof.

Bearing in mind the above, models of market behaviors and relations between medical entities in virtual environment can be developed with use of a three-factor behavior model - 3F (Smyczek, 2007). By employing contrary approach (like in 3F model), i.e. by determination (definition of the influence over the market behaviors of medical enetities) of narrower group of selected general factors, it is possible to learn about their influence and that of other more detailed factors that determine these relations in practice. Consequently, through more fathomed analyzes one can reach a methodologically correct as well as simple and pragmatic level (Antonides and Raaij, 2003).

Such an approach has been already presented in subject literature in the context of description and explanation of some selected aspects of the customer-company relations. Consequently, the ELM model (probability of information processing) developed by R.E. Petty and J.T. Cacioppo (1983) relates to two main factors: motivation and abilities. These determinants affect the whole process of information processing by market subjects. D.J. MacInnes, C. Moorman and B.J. Jaworski (Lambkin et al., 2001), in turn, have built a model of three determinants responsible for shaping attitudes of market subjects and have distinguished motivation, opportunity and ability (MOA model). The model was further developed into the model of advertising message processing by Th.B.C. Poiesz (Lambkin et al., 2001).

All the models have concentrated mainly on explaining the process of information processing by market players during their entering into market relations with another subject. Nonetheless, the models could be more broadly employed i.e. in a complete explanation of a complicated phenomenon of market behavior and relations between patients and medical units in the virtual environment. However, the relation model based on motivation, abilities and opportunities (three-factor relation model of market subjects) must be elaborated according to following assumptions:

- before making „ a decision" about involvement in definite market relations, the subject must define their motivations and assess their abilities as well as external opportunities; it is assumed that the assessment requires minimum intellectual and time engagement on the part of the subject (Hawkins, 2004),
- there exist three main (essential) conditions for the relations to appear between the subjects: motivation to get engaged in a definite relation, (perceived) abilities necessary to get engaged e.g. knowledge, market experience and (perceived) opportunities favorable for the engagement. Motivation with respect to the patient is connected with e.g. a need to be healthy or with external stimuli such as promotional activities or informal information, motivation with respect to a medical unit relates to e.g. generation of bigger profits. Abilities, in turn, are connected with e.g. patient's intellectual predispositions as well as prior knowledge and experience. Abilities of medical units correspond to their financial resources or available personnel. They also include elements that are outside particular market participants, for example, for the patient these include streamlined procedures of medical services delivery which facilitates involvement in the relation, and for medical units an adequate level of patients' knowledge. Opportunities are mainly related to the environment (favorable or not) in which the relations are to develop (market offer, market infrastructure, disturbances, etc.). It is worth emphasizing the fact that 3F model is based on the assumption that the determinants are prerequisites for development of certain market relations. These conditions are insufficient, since, for example, lack of one component can be fully compensated for by excess of another (Bywalec, 2007).
- in 3F model it is assumed that all factors which practically affect relations between market subjects can be reduced to three determinants. This level of generality make more detailed analyzes of various determinants pointless. Consequently, instead of identifying, for example, patients' subjective evaluation of credibility and attractiveness of information sources or information quality, suffice it is to define a subjective level of patient's motivation. Likewise, instead of asking a representative of a medical unit about the influence of e-tools knowledge and experience with e-tools over a tendency to employ them in a unit, it is appropriate to ask respondents for estimation of their abilities to get engaged in the use of such instruments. Finally, in the model, opportunities are not distributed over a great number of possible determinants (time, location, offer), but respondents are asked to point at opportunities that are sufficient for involvement in definite market relations. Hence, from the

utilitarian (operational) pragmatic point of view, analyzes of these determinants allow for information about subjective motivation assessments, as well as about the level of abilities and opportunities perceived by patients and medical unit representatives as well. At the same time, from the methodological point of view, it can be assumed that the observed level (range) of abilities and opportunities does not differ from actual (objective) abilities and opportunities (Kiezel, 2010),

- it is also assumed that three main determinants may affect each other, e.g. If the level of opportunities perceived by the patient is very low, then high motivation for engagement in the relation with a given medical unit is unlikely to occur. If a medical unit, in turn, is insufficiently motivated to offer definite services for a given segment of patients, then neither high level of opportunities perceived by the personnel nor market opportunities are able to encourage the subject to become involved in the relations (Schiffman et al., 2008),
- combination of determinants: motivation, opportunities and abilities can be looked into at a high level of generality (whatever the service, brand, etc.) or in a more detailed range (depending on the service brand, etc.). Once a given market model is capable of taking into account various determinants, it gets engaged in a given relation on the market (taking into consideration the most suitable variables included in the 3F model) (Blackwell et al., 2001),
- if there is no need of more detailed analysis of determinants responsible for relations of market participants (general definition of motivation, abilities and opportunities), then it is possible to make differentiation of each variable (Doole et al., 2005).

Bearing in mind the above, it should be added that in the presented 3F model each determinant plays a significant role in stimulating and shaping market behavior and relations of entities. If any of the factors is not favorable or else their combination is rather unattractive for patients of medical units, then (according to 3F model assumptions) engagement in the particular behavior or relation is more unlikely to occur rather than occur even in a limited scope. In 3F model the focus is also put on negative effects of interactions between determinants such as bad associations with a given patient or medical unit (motivation), misunderstanding of a message conveyed by patient or medical unit representative (abilities), wrong choice of patient segment or medical unit (opportunities). It is worth of note that each of the factors is composed of many variables that create "a bunch" which acts as a motivator for subject's engagement in behavior and relation, which proves subject's abilities and creates conditions that enable involvement in these relations.

Research Method

In order to empirically identify influence of motivation, capacity and opportunities on market behavior and relations between medical entities (patients and medical units) in virtual environment, two surveys were conducted with the use of a structured questionnaires. First survey was conducted among patients, and second one among representatives of medical units.

The first study comprised adult consumers (patients) in the six largest Polish cities, taken as representative models of Polish urbanized municipal centers (Karcz and Kedzior, 2004). A sample of adult patients is considered to be a valid sample type in this kind of study and takes into account lifelong development of cultural orientations and sentiments about products (Neymann, 2005). The research was carried out on a sample of respondents selected by means of a quota sample design. This method is based on the assumption that a test group represents all features (quotas) considered to be important and interesting from the researcher's point of view (Blackwell *et al.*, 2001). The assumed quotas included age and education (Smyczek, 2007). The respondents' quotas were selected on the basis of an already-known structure of population to be studied. The structure of the sample group and that of the population in the selected cities were identical. Eligible responses were obtained from 1,109 subjects.

The questionnaire was designed on the basis of the Likert scale and included 21 variables: 7 variables describing consumer motivation, 7 capacity, 7 market opportunities:

- Non-stop provision of medical services by means of virtual tools (availability 24/7) encourages me to us them,
- I will use virtual medical services if they are for free,
- In order to make use of the virtual healthcare services, it is necessary to have adequate knowledge about electronic tools,
- In order to use virtual medical services it is necessary to accept high risk,
- You should secure yourself also through the use of all possible ways of contacting a medical unit , including virtual channels,
- The use of virtual medical services is fostered by great competitiveness,
- Attractive promotional conditions of a medical unit can make me use virtual services,

- To be able to use virtual medical services, one should have great knowledge about medical services as well,
- Widespread and comprehensible information about medical virtual services contributes to the use of the services,
- Speed of service provision may encourage me to use the services,
- To be able to use the virtual healthcare services you need to have confidence in a medical unit,
- Quick decision-taking is indispensable in using virtual medical services,
- The use of virtual medical services requires great self-reliance,
- Variety of contact channels with medical units promotes the use of virtual medical services,
- Apt recommendations by a medical unit representative/doctor can persuade me to use virtual medical services,
- I would use virtual medical services in the case of a chronic disease or another reason for staying in permanent contact with the unit,
- A wide offer of virtual medical services fosters the use thereof,
- I would use virtual medical services if my friends did too,
- Only a legal obligation would make me use virtual medical services,
- Accessibility of a service would convince me into using virtual medical services,
- In order to use virtual medical services you need to have great experience in the field.

Once the questionnaire was prepared, the measurements were evaluated by three marketing and statistics professors in terms of their wording/meaning and relevance. The data were analyzed by means of the AMOS 5 program. The scale was first refined by means of Cronbach's alpha and exploratory factor analysis (EFA). The results have indicated that seven items on the scale were deleted due to their low item-total correlation (0.20). Other scale items showed satisfying item-total correlations (>0.30) as well as Cronbach's alpha (>0.70) (Gorniak, 2000). The EFA extracted three factors at an eigenvalue of 1.52 and accounted for 58.32 per cent of the variance. In addition, all factor loadings were greater than 0.50. The refining step indicated that all items measuring the constructs were satisfying, and as such were used in the survey. In the next stage, Cronbach's alpha and confirmatory factor analysis (CFA) were used to assess the measures of constructs based on the collected survey data. Cronbach's alphas of three constructs were above 0.68. The CFA results of the final measurement indicate that the model had an acceptable fit to the data: the Chi-square value was significant (Chi-square = 602.272, df =

89, $p < 0.001$). A significant Chi-square, however, might be an artifact of sample size; thus other fit indexes are more indicative. In addition, all factor loadings were significant and substantial (>0.50). Therefore, it can be concluded that these measures were satisfying in terms of convergent validity. Also, the correlations between constructs, together with their standard errors, have indicated that discriminant validity was achieved.

The second study comprised managers of medical units in the same six largest Polish cities, (Karcz and Kedzior, 2004). The research was carried out on a sample of respondents selected by means of a quota sample design. The assumed quotas included size of medical unit and scale of activity (Matysiewicz and Smyczek, 2012). The respondents' quotas were selected on the basis of an already-known structure of population to be studied. The structure of the sample group and that of the population were identical. Eligible responses were obtained from 507 subjects.

The questionnaire was designed on the basis of the Likert scale and included 17 variables describing motivation, capacity and market opportunities:

- Non-stop healthcare service provision by means of virtual tools (availability 24/7) encourages our medical unit to introduce these solutions,
- Virtual medical services should considerably reduce costs of service provision in my medical unit,
- Introduction of virtual medical services requires adequate knowledge about electronic tools,
- Offering virtual medical services calls for high risk acceptance,
- You should secure yourself and introduce virtual medical services as competitors do so,
- Attractive prices of virtual tools of service provisions and communication with patients can persuade me to use virtual medical services,
- Introduction of virtual medical services requires patients' knowledge about the services,
- Widespread and comprehensible information about virtual medical services could induce me to introduce them into my unit,
- The speed of service provision and elimination of queues can be an argument for introducing virtual medical services into my healthcare unit,
- Provision of virtual medical services requires confidence in the patient
- Virtual medical services can be introduced if the personnel have adequate and relevant subject knowledge,

- The use of virtual healthcare services requires great self-reliance on the part of the patient,
- Apt recommendations provided by a healthcare representative/doctor would persuade me to introduce virtual medical services,
- Enlargement of the market offer would make me introduce virtual medical services,
- Only a legal obligation would force me to introduce virtual medical services,
- The willingness to gain new customers would encourage me to introduce virtual medical services,
- In order to use virtual medical services you need to have great experience in the field.

Later the data were analyzed by means of the AMOS 5 program. The scale was first refined by means of Cronbach's alpha and exploratory factor analysis (EFA). The results have indicated that seven items on the scale were deleted due to their low item-total correlation (0.20). Other scale items showed satisfying item-total correlations (>0.30) as well as Cronbach's alpha (>0.70) (Gorniak, 2000). The EFA extracted three factors at an eigenvalue of 1.52 and accounted for 58.32 per cent of the variance. In addition, all factor loadings were greater than 0.50. The refining step indicated that all items measuring the constructs were satisfying, and as such were used in the survey. In the next stage, Cronbach's alpha and confirmatory factor analysis (CFA) were used to assess the measures of constructs based on the collected survey data. Cronbach's alphas of three constructs were above 0.68. The CFA results of the final measurement indicate that the model had an acceptable fit to the data: the Chi-square value was significant (Chi-square = 731.092, df = 84, $p < 0.001$). A significant Chi-square, however, might be an artifact of sample size; thus other fit indexes are more indicative. In addition, all factor loadings were significant and substantial (>0.50). Therefore, it can be concluded that these measures were satisfying in terms of convergent validity. Also, the correlations between constructs, together with their standard errors, have indicated that discriminant validity was achieved.

Results and Discussion

For both studies exploratory factor analysis was applied in order to identify factors describing market behaviors of medical entities and relations between them in virtual environment, with variables simultaneously constituting a basis for models development.

In first study to check if the choice of the factor analysis model is accurate as a method of data analysis, the Kaiser-Meyer-Olkin index was applied Gatnar and Walesiak, 2004). The KMO index for the analyzed 21 variables amounted to 0.793. Next, the adequacy of the selection of each individual variable was calculated by means of MSA_h index which allowed for elimination of some variables before the analysis. Low MSA_h values have showed that correlations of *h* variables cannot be explained by other variables and the variables should be eliminated from the analysis (Gorniak, 2000). Adequacy measures of the sample selection have revealed that such variables as: 1, 5, 9, 10, 16, 19, 20, and 21 as a factor favorable for patients' behavior and engagement in relations with medical units in the virtual environment. These variables have MSA_h index lower than 0.5 (Churchill, 1995), and therefore must be eliminated from further analyzes. Consequently, the analysis comprised 13 variables for which KMO coefficient was high and amounted to 0.846.

In order to define the number of factors to be included in the further analysis, the scree test was conducted (Zakrzewska, 1994, Gorniak, 2000). In the researched case, the phenomenon of „scree" occurred between the third and the fourth factor, which proved problematic, as it was difficult to determine which factor should be taken into consideration for further analysis. The subject literature presents two approaches: one recommends leaving behind only factors which are on the „slope side" together with the one that marks the breaking point, the other one recommends ignoring this factor (Lehmann et al., 1998). In order to determine the final number of factors to be used in the analysis, it was necessary to calculate the eigenvalue and the variance percentage explaining other components. The eigenvalue criterion sets the lower limit of factors numbers which are common in the correlation matrix for population. This means that the number of factors is equal or higher than the number determined by this criterion (Gatnar and Walusiak, 2004). The criterion of the eigenvalue higher than single digits have proved that further analyzes should include three factors which explain 71.13% of the common variance potential of all variables. Application of the method of principal components with quartimax rotation allowed for determination of factor loadings for particular variables.

As a result of the analysis three factors describing patients' market behavior and relations with medical units in the virtual environment have been obtained:

- the first factor is described by variables which state that in order to get engaged in relations with healthcare units in the virtual environment the following conditions must be met: (2) medical services must be free of

charge, patients must (3) have adequate knowledge about electronic tools, (4) be ready for high-risk acceptance, (8) possess sound knowledge of medical services, (12) be able to quickly take decisions and (13) be very self-reliant; these factors are referred to as patient's abilities,

- the second factor is characterized by variables which reveal favorable conditions for using virtual medical services and include: (6) existence of great competition on the market, (14) diverse virtual contact channels with medical units, and (17) a wide offer of virtual medical services; this factor is referred to as market opportunities,
- the third factor describes variables that can induce the patient to use virtual medical services: (7) attractive promotional conditions offered by medical units, (15) good recommendations of a medical unit representative/doctor and (18) using definite virtual health services because friends do, in other words the phenomenon of social emulation; this factor is referred to as patient's motivation.

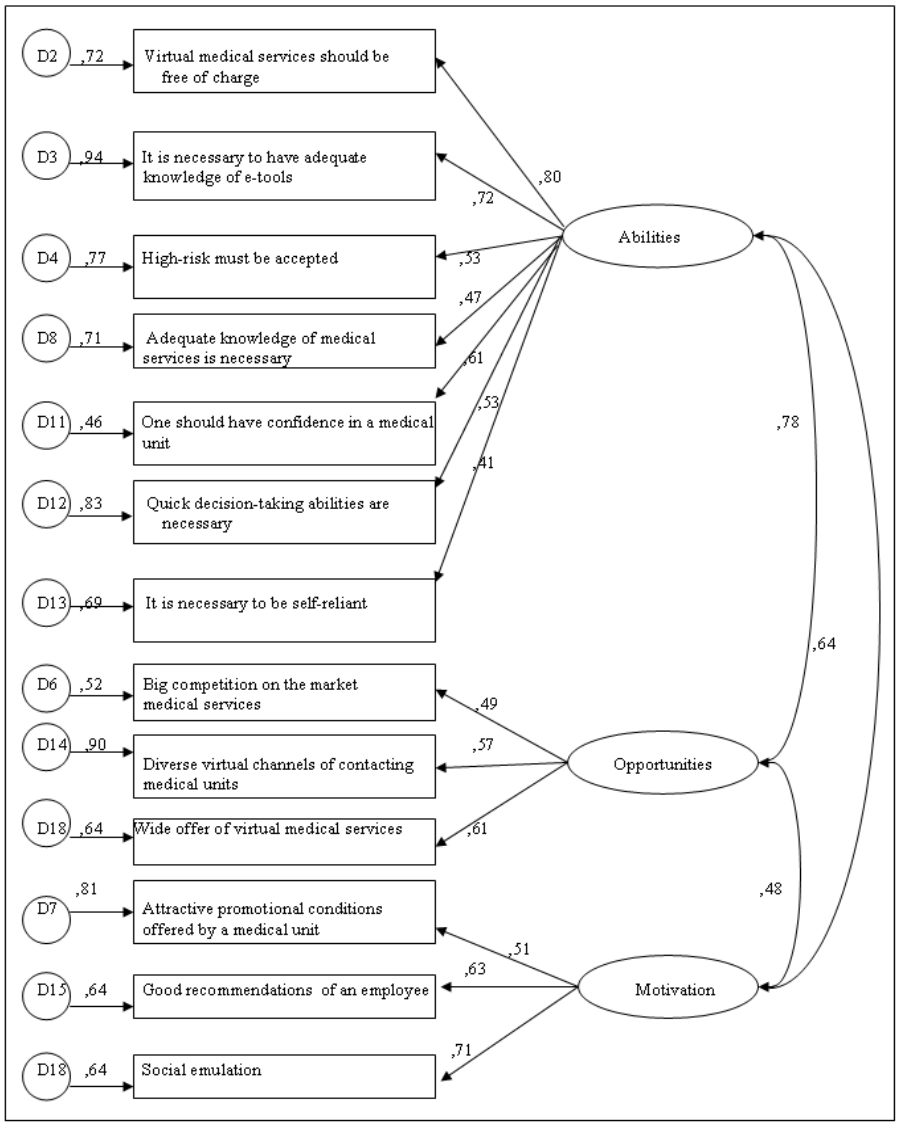
Bearing in mind the above it can be concluded that market behavior and relations between patients and the medical units are determined by three factors, i.e.: abilities of these subjects to become engaged in these relations on the market, opportunities offered by the environment and motivations of the subjects to get involved in market relations.

In the exploratory factor analysis indexes were assigned to hidden, substantially justified constructs (factors). Further on, model assuming existence of these constructs was subject to fathomed analysis with the use of confirmatory factor analysis (CFA) which allowed for measuring the fit of obtained factor model to the data (Szamberg, 2000). Moreover, unlike in the exploratory analysis where each factor can be related to all indexes, in these models particular indexes were assigned to a concrete construct (in other words, it is possible to use non-zero regression coefficients only between a given construct and test-attributed indexes). In CFA the quality of the measuring model was tested.

The analysis allowed for correlation between factors, as, presumably, for particular subjects to be engaged in relations in the virtual environment it is necessary to have motivation for action and to be capable of getting engaged in these relations. Availability of virtual tools presents the last factor that was indispensable for development of definite relations between subjects of the medical services market. The analysis revealed presence of correlations between particular constructs in both models.

Figure 1 shows path diagram of the confirmatory factor analysis of 3F model of patients market behavior and relation with medical units respectively. The diagrams show standardized regression values between hidden constructs and observable indexes, i.e. factor loadings – marked over one-direction arrows leading to factors symbolized by ellipses and to indexes symbolized by rectangles. At the two-way arches which link factor - covariance symbols, there are coefficient values of correlations existing between them.

FIGURE 1: Structure of dependence in the factor model of patients' market behavior and relation with medical units in the virtual environment (standardized coefficients)



In order to ensure identification of model, the variance of hidden variables was established at level 1, i.e. they were standardized variables. This solution is currently preferred over the establishment of the value of one of factor loadings at each construct at level 1 (Browne and Mels, 1996). Both methods produce the same standardized values of coefficients and model fit measures. Standardized values were estimated with the greatest credibility by means of AMOS program. Variables were treated as if they were intervallic, which usually generates good results at 5-point scales (Gorniak, 2000).

As a result of the confirmatory factor analysis, values of indexes being quality measures of model fit to the data were obtained. Consequently, value χ^2 together with the number of degrees of freedom, summarizing discrepancies between the observed matrix of covariance and the one implied by the model, constitutes a traditional measure allowing for verification of the hypothesis about lack of discrepancies between these matrices in a population. Test χ^2 applied in the model results in rejection of the hypothesis with respect to both models.

However, its utility, especially in the case of big test groups is limited as it too easily leads to rejection of true models (Mueller, 1996; Gatnar and Walusiak, 2004). Additionally, a calculation was made of a currently popular quality measure of model fit- χ^2 / *df*. The obtained value of the index equals 3.2 and 3.7, and is well below the upper limit for well-fitted models, established at level 5 by more „liberal" researchers. Nonetheless, the value of the index is higher at the „conservative" value of 2, assumed as a criterion. Among other fit measures, the Steiger- Lind RMSEA coefficient is highly thought of by experts (Gatnar, 1998; Gorniak, 2000) and shows how badly a model is fitted, including the number of its parameters requiring estimation. Therefore, the closer its value approaches 0, the better. In the case of analyzed models its value amounts to 0.012 and 0.011 and is below the preferred upper limit of 0.05 for well-fitted models and well below the limit of 0.1 for well-fitted models. Other measures used for determination of a fit degree of the developed model included: good fit index GFI and an adjusted good fit index AGFI elaborated by K.G. Joreskog and D. Sorbom. Values of these measures lie within the acceptance limit (>0,9), although the result of >0,95 would be more satisfying. A normalized fit index (NFI) was another measure used for the model fit. He index gauges a relative fall in the value of a fit function caused by transition form zero model to a more complex one. This index takes values from within 0 to 1. Values of the index for analyzed models equal 0.825 and 0.874 respectively, which is satisfying since at a very good fit, the index approaches single digits. It should be noted, however, that this index depends on the size of a test group. As a consequence, P.M. Bentler proposed to use

another fit index i.e. the so-called normalized comparative fit index - CFI. This index for the analyzed models equals 0.876 and 0.901, and as such is satisfying. The last test to be used in the research was Hoelter test which shows that analyzed models would not be rejected at the conventional level of 0.05, if the test group size would be 235 or less (Bentler, 1990).

Tables 1 present, in turn, non-standard regression coefficients and covariance values between factors obtained as a result of model estimation by means of the most credible method based on AMOS program. Interpretation of values of coefficients is more convenient thanks to establishment of factor variance at level 1. Determination of factor variance at level 1 leads to a situation where covariance between them has a value that equals correlation coefficients on the diagram. The Tables contain values of critical quotients_(relation of the parameter to its standard error), which allows instant verification of statistical significance of obtained indexes by referring to a traditionally set criterion of 1.96 (for p=0.05). In the case of researched models all factors were statistically significant.

TABLE 1: Confirmatory factor analysis of constructs defining patients' market behavior and relations with medial units in virtual environment (non-standard parameters and critical quotients)

	Evaluation	**Statistical error**	**Critical quotient**	**P**
P1_2 < -- abilities	1.230	0.026	33.942	0.000
P1_3 < -- abilities	0.243	0.037	29.574	0.000
P1_4 < -- abilities	1.517	0.022	46.107	0.000
P1_8 < -- abilities	1.673	0.040	59.076	0.000
P1_11 < -- abilities	1.499	0.039	44.529	0.000
P1_12 < -- abilities	2.348	0.052	51.741	0.000
P1_13 < -- abilities	0.942	0.047	62.001	0.000
P1_6 < -- opportunities	2.140	0.024	42.189	0.000
P1_14 < -- opportunities	1.098	0.028	37.705	0.000
P1_17 < -- opportunities	2.178	0.036	40.926	0.000
P1_7 < -- motivation	1.564	0.033	39.788	0.000
P1_15 < -- motivation	1.943	0.020	43.792	0,000
P1_18 < -- motivation	2.568	0.039	56.022	0,000
Opportunities < - > motivation	0.179	0.042	5,61	0,000
Abilities < - > motivation	0.195	0.037	4,22	0,000
Abilities < - > opportunities	0.164	0.051	4,507	0,000

Taking note of the above considerations, it can be concluded that the conducted confirmatory factor analysis has verified the hypotheses according to which patients market behavior and relations with medical units in virtual environment is determined by their motivation and ability as well as by market opportunities. Moreover, it has been proved that all these factors influence one another. In addition, except for χ^2 test, the model can be accepted, but it cannot be regarded as well-fitted. All indexes (distinguished on the basis of the explanatory factor analysis) are significantly related to constructs they measure, which leads to the conclusion that some definite patients relation with medical units is likely to appear in virtual environment provided that the patient is properly motivated, is able of get involved in the market behavior whereas market conditions are favorable. The exploratory factor analysis has shown that patients ability are of particular significance, so it can be concluded that the process of using medical services in virtual environment requires greater market ability and certain electronic experience on the part of the patient.

For the second study also the exploratory factor analysis was applied in order to identify factors describing market behavior and relations of medical units with patients. KMO index for 17 analyzed variables equaled 0.764. Next, the adequacy of variable selection was calculated by means of MSA_h index. Measures of sample selection adequacy showed that 8 variables had MSA_h lower than 0.5, and as such should be left out in the analysis. Consequently, the further analysis comprised 9 variables for which KMO coefficient was high and equaled 0.862. The eigenvalue criterion was bigger than single digits, which showed that the further analysis should include three factors which accounted for 66.2% of variance potential of all variables.

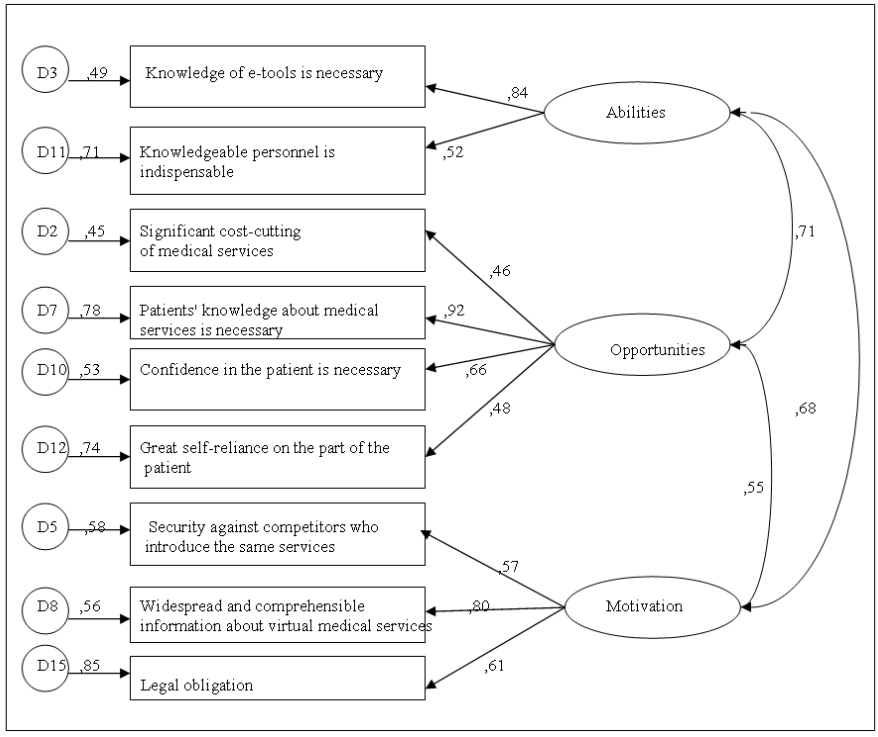
As a result of the analysis three factors describing market behavior of medical units and their relations with patients in the virtual environment have been obtained:

- the first factor is described by variables which inform that in order to become engaged in the market of medical services in the e-environment it is necessary to: (3) have adequate knowledge about electronic tools and (11) employ personnel that is knowledgeable about the subject; this factor was called medical unit abilities,
- the second factor is characterized by variables which reveal conditions favorable for engagement in relations with patients in the e- environment, namely: (2) significant reduction of costs of service provision to patients, (7) patients must have sound knowledge about medical services, (10) patients' confidence, and (12) patients great self-reliance; this factor was referred to as market opportunities,

- the third factor describes variables which encourage a medical unit to get engaged in development of relations with the patient in the virtual environment i.e.: (5) security against competition that introduces such services, (8) widespread and comprehensible information about virtual medical services and (15) a legal obligation; this factor were referred to as motivation of a medical unit.

Figure 2 shows path diagram of the confirmatory factor analysis of 3F model of market behavior of medical units and their relation with patients in virtual environment. The diagram shows standardized regression values between hidden constructs and observable indexes, i.e. factor loadings – marked over one-direction arrows leading to factors symbolized by ellipses and to indexes symbolized by rectangles. At the two-way arches which link factor - covariance symbols, there are coefficient values of correlations existing between them.

FIGURE 2: Structure of dependence in the factor model of medical units market behavior and relation with patients in the virtual environment (standardized coefficients)



χ^2 = 296,145; *df* = 79; significance level α = 0,000; χ^2 / *df* = 3,74; *GFI* = 0,912; *AGFI* = 0,906; NFI = 0,874; *CFI* = 0,901; *RMSEA* = 0,011; Hoelter 0,05 = 262.

In the exploratory factor analysis indexes were assigned to hidden, substantially justified constructs (factors). Further on, models assuming existence of these constructs were subject to fathomed analysis with the use of confirmatory factor analysis (CFA) which allowed for measuring the fit of obtained factor models to the data (Szamberg, 2000). Moreover, unlike in the exploratory analysis where each factor can be related to all indexes, in these models particular indexes were assigned to a concrete construct (in other words, it is possible to use non-zero regression coefficients only between a given construct and test-attributed indexes). In CFA the quality of the measuring model was tested.

Tables 2 presents non-standard regression coefficients and covariance values between factors obtained as a result of model estimation by means of the most credible method based on AMOS program. Interpretation of values of coefficients is more convenient thanks to establishment of factor variance at level 1. Determination of factor variance at level 1 leads to a situation where covariance between them has a value that equals correlation coefficients on the diagram. The Tables contain values of critical quotients_(relation of the parameter to its standard error), which allows instant verification of statistical significance of obtained indexes by referring to a traditionally set criterion of 1.96 (for p=0.05). In the case of researched models all factors were statistically significant.

TABLE 2: Confirmatory factor analysis of constructs defining market behavior of medical units and relations with patients in the virtual environment (non-standard parameters and critical quotients)

	Evaluation	Statistical error	Critical quotient	P
P1_3 < -- abilities	0,753	0.020	34.278	0.000
P1_11 < -- abilities	1,364	0.037	32.134	0.000
P1_2 < -- opportunities	1,349	0.028	29.173	0.000
P1_7 < -- opportunities	1,237	0.043	22.573	0.000
P1_10 < -- opportunities	0,958	0.019	45.411	0.000
P1_12 < -- opportunities	2,0459	0.026	33.429	0.000
P1_5 < -- motivation	0,829	0.034	40.728	0.000
P1_8 < -- motivation	1,216	0.022	39.154	0.000
P1_15 < -- motivation	1,592	0.029	49.138	0.000
Opportunities < - > motivation	0,176	0.041	1.04.610	0.000
Abilities < - > motivation	0,182	0.027	5,142	0.000
Abilities < - > opportunities	0,159	0.036	3,554	0.000

Taking note of the above considerations, it can be concluded that the conducted confirmatory factor analysis has verified the hypotheses according to which medical units market behavior and relation with patients in virtual environment is determined by their motivation and ability as well as by market opportunities. Moreover, it has been proved that all these factors influence one another. In addition, except for χ^2 test, the model can be accepted, but it cannot be regarded as well-fitted. All indexes (distinguished on the basis of the explanatory factor analysis) are significantly related to constructs they measure, which leads to the conclusion that some definite medical units relation with patients is likely to appear in virtual environment provided that the managers of medical units are properly motivated, is able of get involved in the market behavior whereas market conditions are favorable. The exploratory factor analysis has shown that consumer ability are of particular significance, so it can be concluded that the process of using medical services in virtual environment requires greater market ability and certain electronic experience on the part of the patient.

Conclusions

The developed three factors models of market behavior and relationship between medial entities have many advantages as we all applications. In the first place, it can greatly contribute to development of scientific theories, especially consumer behavior and partnership marketing theories. In addition, the models constitutes significant support in understanding complex market behavior and relations between the patient and the medical units in virtual environment, and helps look upon the patient as well medical units manager decision-making process from another perspective (a perspective that is different from the one commonly presented in subject literature). Thus, it can be concluded that 3F model fulfills all scientific and practical functions.

The three-factors models of market behavior and relation between medical entities may be widely applied in the practical operation of those units, as it allows simple explanation of patients and medical managers market behavior. In the meantime, possessing knowledge of the patients, of patients needs and motivation to engage in behavior in virtual environment is indispensable for development of any marketing program, including marketing strategies of medical institutions, and for elaboration of methods of active modeling of behavior of a selected group of patients, i.e. selection of concrete operational activities pursued within a created strategy. Unlike the governmental policy, these activities are meant to serve not only patients, but also interests and profits of a medical institution.

It should be borne in mind that the research has some limitations, which, however, can be turned into advantage for future research. The key limitation of the study is it being focused solely on one market of medical services. Market entities behavior, especially on the market of consumption goods is certainly different, which affects significance of 3 selected factors defining market behavior. It should be also emphasized that the research was conducted in big Polish cities yet, patients and medical units managers behavior on the medical market may differ in smaller towns or villages. Nonetheless, it is believed that focusing on different markets, analyzing the phenomenon in smaller population areas as well as sampling different segments will contribute to better understanding of market behavior. It would be also interesting to investigate the hypothesized model of market behavior in other countries so the results could be generalized cross-culturally.

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Corporate Governance and Firm Performance in Nepal

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Abstract

The purpose of this study is to construct a corporate governance index and examine the relationship between corporate governance practicealong with firms characteristics and firms' valuation (Tobin Q) and operating efficiency (Return on Assets). A corporate governance index (CGI) consisting of four governance mechanisms: commitment for effective corporate governance, shareholders right, disclosure quality, and board structure are constructed to measure the quality of corporate governance practices of 46 Nepalese listed firms from mid July 2005/06 to mid July 2009/10. Specifically, the study employs portfolio analysis and regression method to observe the empirical relationship between variables. The results show progress but industry wise larger variation in the field of corporate governance practice. Further, it indicates that the most of the firms in the sample is semi-governed followed by poorly governed and well governed. Surprisingly, the test shows no strong evidence to conclude that corporate governance is significant in determining firm valuation in Nepal. The result indicates that valuation is negatively related to the firm size but positively to age and lag return on equity and reveals that valuation is positively related to commitment for effective corporate governance and negatively to the disclosure, transparency and audit quality. Interestingly, it shows no relationship between Tobin Q and shareholders right, but positive relationship found with the level of commitment for corporate governance.

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Rationale for the Study

The recent wave of corporate financial scandals has raised substantial concerns about the effectiveness of corporate governance around the world. A commonly held view is that financial scandals are symptomatic of, and resulted from, massive deficiencies in corporate governance. This view has prompted widespread reform in most countries including Nepal. Several agencies have been actively promoting extensive reform agendas aimed at strengthening the quality of corporate governance in public corporations. Nepal also has been making efforts to improve corporate governance practices since the enactment of new Company Act (2006), Nepal Rastra Bank Act (2002) and Bank and Financial Institutions Act (2006). Many firms, in turn, have changed their corporate charters and altered their board structures. These responses raise the question whether such changes in legal framework are reflected in the improvements of corporate governance and ultimately on performance. Hence, this paper is directed to evaluate the impact of firm-level corporate governance practice on firm performance.

Corporate governance system has been a central issue in corporate finance for the last two decades and recently gaining impetus in the wake of corporate scandals that have exposed significant vulnerabilities in performance and subsequent far reaching regulatory changes (Sarbanes-Oxley, 2002). It is believed that good corporate governance reduces risk, stimulates performance, and improves access to capital markets, enhances the marketability of goods and services, improves leadership, demonstrates transparency and social accountability (CIPE, 2004). The recent financial crisis and corporate scandals have further highlighted the importance of promoting adequate corporate governance practices around the world including Nepal.

Corporate Governance and Firm Performance

Large number of studies such as Morck, Shleifer, and Vishny (1988), Byrd and Hickman (1992), Brickley, Coles and Terry (1994),Yermack (1996,1997), Core, Holthausen and Larcker (1999), Klein (2002), Gompers, Ishii and Metrick (2003), Bauer et al.(2004),Black et al.(2006) have been carried out to examine the relationship between governance system and organizational performance in developed countries like the US and UK etc. and developing countries like India, China, Brazil, south Korea etc. These empirical studies have documented recurring mysteries regarding the relationship between governance and firm's performance. La Porta, López-de-Silanes, and Shleifer (1998, 2000a, 2002) evaluate the influence of investor protection and ownership by the controlling shareholders on corporate valuation and

conclude that better shareholder protection is associated with higher valuation of corporate assets. Corporate governance, as indicated by Gompers et al. (2003), Bebchuk et al. (2005), Cremers and Nair (2005), Brown and Caylor (2006), and Black et al. (2006), is a crucial factor to dictate firm value and performance. Gompers et al. (2003) document shows strong correlation of governance with stock returns and conclude that firms with better corporate governance receive higher market valuations and have better operating performance and lower capital expenditures. Gompers, Ishii, and Metrick (GIM, 2003) find for the period 1990 to 1999 that firms with strong shareholder rights have risk-adjusted stock returns that are 8.5% higher per year than those of firms with weak shareholder rights. Core et al. (2006) provide evidence that firm with weak shareholders rights subsequently have lower operating performance. Drobetz et al. (2004) document a positive relationship between governance practice and firm valuation for German public firms. They find an investment strategy that is buying high-CGR firms and short selling low-CGR firms earns abnormal returns of around 12 per cent on annual basis during the sample period.

The relationship between corporate governance and financial performance has become one of the most controversial issues faced by policymakers today (Maher and Anderson, 2000). Although the literature is large and expanding, there is no unified theory linking governance and performance (John and Senbet 1998). Many studies conclude that good practice of corporate governance leads to better financial performance and firm value while some studies provide the evidence of unclear and inconclusive relationship between level of governance and organizational performance. Typical research studies examine whether different corporate governance structures impact or constrain executive behavior and/or have an impact on organizational performance. Examples of these types of studies are Morck, Shleifer, and Vishny (1988), Byrd and Hickman (1992), Brickley, Coles and Terry (1994), Yermack (1996,1997), Core, Holthausen, and Larcker (1999), Klein (2002), Gompers, Ishii, and Metrick (2003), Black et al.(2006) etc.

Klapper and Love (2004) study suggest that firms having better governance also have higher market valuation. Brown and Caylor (2006) discover that firms in the top and bottom deciles of GOV-Score have a Tobin's Q of 0.104 above the industry average (or 0.267 below the industry average), with a spread of 0.371 which is significant at the 1% level. Black et al. (2006) regress Tobin's Q against the result of their governance index and find that the coefficient is highly significant with a coefficient of 0.0064 ($t = 6.12$). They offer an explanation for the causes of the association between corporate governance and firm market value. Likewise, Bauer et al. (2004) find that

higher corporate governance ratings leads to higher common stock returns and enhance firm value. Black et al. (2006) also find a positive relation between their governance index and Tobin's Q for a sample of Korean firms. Similarly, Collins G. Ntim, Kwaku K. Opong and Jo Danbolt (2010) in South African context show a statistically significant and positive association between broad CG index and firm value, as proxied by Tobin's Q. But Lamport M. J, Latona M. N, Seetanah B and Sannassee R. V. (2011) report no significant relationship between corporate governance and financial performance. Surprisingly, and contrary to Gompers et al. (2003), Bauer et al. (2004) find a negative relationship between governance standards and earnings-based performance ratios.

Bhagatet. al. (1999) show that the quantity of stock owned by individual outside directors is significantly correlated with various measures of firm performance as well. Ellingson (1996); Millstein and MacAvoy (1998); Rosenstein and Wyatt (1990); and Weisbach (1988) find better performance for firms with boards of directors dominated by outsiders. But Bhagat and Black (2000); Hermalin and Weisbach (1991); Johnson et al. (1996); Klein (1998); MacAvoy and others (1983); Mehran (1995); Rosenstein and Wyatt (1997); and Weir and Laing (2001) do not find such relationship in terms of accounting profits or firm value. Dalton and others (1998) find little evidence of a relationship between board composition or leadership and financial performance. Liang and Li (1999) report that the presence of outside directors is positively associated with higher returns on investment, though they do not find such relationship for board size or the separation of the positions of CEO and board chairperson. Nesbitt (1994) report positive performance effects for the shareholder activism. Karpoff, Malatesta, and Walking (1996) find little evidence that corporate governance resolutions initiated by shareholders lead to better firm performance. Gillan and Starks (2000) find that shareholder proposals by individuals have small, positive announcement effects, while proposals by institutional investors have a small but significant negative effect on stock prices. Overall, the empirical literature on shareholder activism seems to indicate that it has a negligible impact on corporate performance (Gillan and Starks 2000; Karpoff 1998; Romano 2001). Unlike board composition, Eisenberg, Sundgren, and Wells (1998), Yermack (1996) report a clear negative relationship between board size and firm value. Baysinger and Butler (1985), Byrd and Hickman (1992) and Brickley et al. (1994) find supporting evidence of the positive relationship between outside board membership and corporate performance. In contrast, Yermack (1996) and Agrawal and Knoeber (1996) find a negative correlation between board independence and Tobin's Q.

Studies on the relationship between broad measure of governance practice and firm value are not extensive in Nepalese context. A study on the compliance of the legal provisions on listed companies conducted by SEBO/N during 1997/98 revealed that a fair and transparent disclosure is still a continuing problem. At the same time, the failure of some financial institutions in Nepal has raise questions on corporate governance practices in Nepal. The paper attempts to investigate the association between CG and firm performance, and value in a distinct way by incorporating the number of governance aspects applicable in Nepalese context. This paper examines the firm's governance practices and performance during a five year period of 2005/06 to 2009/10. It first considers the construction of governance index and links it to the firm's performance. Hence, this work will be a new contribution to the Nepalese corporate governance literature. Specifically, this paper focuses on roles different aspect of governance play in the performance of the firm and directed to deal with the issue like what is the overall quality of corporate governance practice in Nepal? What is the average corporate governance index value for selected firms? Is there any evidence of weak/strong corporate governance practice in Nepal? Whether there exists a relationship between overall corporate governance and firm performance? What is the interrelationship among specific governance mechanisms? Which specific governance measure explains more in firm valuation and performance? in the context of NepalHence,the main objective of this study is to examine the level and structure of corporate governance in Nepal, and test the relationship between CG practice and performance. The specific objectives of the study are: i) analyze the structure and status of governance practice, ii) examine the interrelationship between different mechanisms of corporate governance and firm performance, iii) assess the trend and direction of change in the governance practice in Nepal.

Research Design

Descriptive and causal comparative research designed to understand the fact finding of governance related issues and variables used for the study. Causal comparative research design is used to determine the effects of corporate governance index, firm size, age of the firm, return on equity and its lag on the firm valuation as measured by Tobin Q and performance measure like ROA. Correlation is also used to show the directions and relationship between sub indexes, performance variables and control variables. Specifically, the research methodology in this study more or less follows the approach of the study by Gompers, Ishii and Metrick (2003), Black, Jang and Kim (2006), and Bauer et al. (2004) for objectively assessment and construction

of index and for analysis. Based on secondary data, the study examines the firm's governance practices and performance during the period of 2005/06 to 2009/10. It first considers the construction of governance index and links it to the firm's performance. The required data have been collected from annual reports and financial statements of the firms, company charters, securities board (SEBO/N) database and NEPSE database. Besides, various issues of bank and financial statistics report published by NRB are also used to complete the data. Equal observations from each enterprise will be taken in total of 138. Firstly, raw data are collected and then processed to make them usable.

Out of 176 firms listed in the NEPSE by the end of mid-July 2010, which is regarded as the population, 46 firms are included into the sample representing 26%. In order to make the sample more representatives, 10 from commercial banks, 2 from manufacturing and processing companies, 3 from hotels, 2 from hydropower, 2 from trading, 5 from insurance, 12 from finance companies and 10 from development banks have been taken on the basis of completeness of required information. Since the stock market trading and disclosures practice of financial sector is dominating in Nepal, the sample is also dominated by financial sector.

Distribution of Population and Sample Enterprises

S.N	Industries categories	Population (N)	Sample		Number of observations
			n	%	
1	Commercial banks	23	10	43.47	30
2	Mfg. processing	18	2	11.11	6
3	Hotels	4	3	75.00	9
4	Hydro	4	2	50.00	6
5	Trading	4	2	50.00	6
6	Insurance	19	5	26.31	15
7	Finance	62	12	19.35	36
8	Development banks	40	10	25.00	30
	Total	**176**	**46**	**26.13**	**138**

Source: www.nepalstock.com

Construction of Corporate Governance Index

There is no detailed corporate governance ratings database for all firms listed in Nepal Stock Exchange. Therefore, it is very hard to construct corporate

governance index and portfolios of firms based on a corporate governance ratings database. However, there is a practice of collecting information on firm level corporate governance and construct the governance index (Black et al., 2001). Most studies on firm level corporate governance practices collect their information using questionnaires filled by the companies themselves. This methodology has various potential problems like; low response rate, self selection bias and self support bias especially from those companies whose corporate practices are poor (Leal and Carvalhal- da-Silva. 2005). Here a different course has been followed to construct corporate governance index. Especially the approach used by Silva (2005) is used where mostly publicly available information is used objectively.

To construct the sub-indexes, the major governance aspects have been approached following the Principles of Corporate Governance issued by OECD. From Silva (2005)'s 24 questions, Beiner S. et al. (2006)'s 38 questions and Iain Clacher, ElirehemaDoriye, and David Hillier (2008)'s 22 questions andothers, this study uses checklist of 26 questions that are applicable to the Nepalese environment. Then these questions have been grouped in to four sub index groups viz. commitment for effective corporate governance (5 questions), shareholders rights (7 Questions), auditing, transparency and disclosures (8 questions), and board structure, size and responsibilities (6 questions). Each of these 26 questions has been answered using publicly available information list. If the required information is not available publicly, then only the firm's management has been consulted. Construction of the index is based on the methodology used by Gompers et al. (2003) and Black et al. (2006) where yes/ no type questions are used to assign the value of corporate governance index of selected firms. The index construction is straightforward: for every firm, one point is added for every provision that includes corporate governance practice. If the firm is found to have the provision of governance, it is assigned 1 and otherwise 0. Finally the sum score of these 26 questions is taken. Thus, total score has a possible range from 1 to 26.

Although this simple binary weighting scheme may fail to reflect the relative importance of different CG mechanisms (Gompers et al., 2003), it is adopted for a number of reasons. First, there is a general lack of a rigorously developed theoretical basis on which weights can be accurately assigned to the various CG provisions (Black et al., 2006). Second, an un-weighted index is transparent and easy to replicate (Beiner et al., 2006). Third, prior studies suggest that the use of weighted and un-weighted indices tend to give similar results (Beattie et al., 2004). Finally, an un-weighted coding scheme is a well-established line of scoring CG information disclosed in annual reports

(Gompers et al., 2003; Henry, 2008; Morey et al., 2009), and can also facilitate direct comparisons to be drawn with their results. Finally, the corporate governance index for each firm is estimated as:

$$CGI = (A + B + C + D)/4 \quad \ldots (I)$$

Where A, B, C and D are the sub index of commitment, shareholders right, disclosure transparency and audit and board structure and responsibility respectively. Sub index for each four categories is computed as the total score achieved by each firm divided by number of questions in each sub index. This approach uses the equally weighted method.

The Model

Apart from statistical tools, econometric models have also been used to analyze the relationship between cross section of firm's performance and corporate governance. Specially, regression analysis has been used by regressing Tobin Q and ROA on each and group of the explanatory variables. In line with prior studies (Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Khanna and Palepu, 2000) the following regression model that examines the relationship between corporate governance and firm performance has been specified.

$$\text{Performance} = f(\text{governance index, control variables}) \quad \ldots (II)$$

In the above equation, Return on Assets is used as measure of operating performance and Tobin Q is used as proxy for firm value. In line with Gompers et al. (2003), the following equation is estimated to explain the firm performance with respect to explanatory variables.

$$Q_{it} = \alpha + \beta_t CGI_{it} + \varepsilon_{it} \quad \ldots (1)$$

Since CGI is the composed of several sub indexes,

$$Q_{it} = \alpha + \beta_1 COM_{it} + \beta_2 SR_{it} + \beta_3 DTA_{it} + \beta_4 BSR_{it} + \varepsilon_{it}, \quad \ldots (2)$$

Where, $Q_{it}$is the Tobin's Q ,the valuation measure as proxy of value of firm i at time t, CGI_{it} is the firm's composite corporate governance score at time t, and $\varepsilon_{it}$is the residual error term expected to be normally distributed with mean value equal to 0 and standard deviation equal to 1. COM_{it} is commitment for effective corporate governance, SRit is shareholders right, $DTA_{it}$is disclosure, transparency and audit, BSR_{it} is Board structure and responsibility.

To minimize potential omitted variables bias and include firm's characteristics, several control variables have been used. Thus,

$$Q_{it} = \alpha + \beta_1 CGI_{it} + \beta_2 Cont_{it}. + \varepsilon_{it} \quad \ldots (3)$$

Following Gompers et al. (2003), Shin and Stulz (2000), Durnev and Kim (2002), the firms' book value of assets is accounted for firm size. Following Shin and Stulz (2000), firm's age is used as second control variable. Further, Daines (2001) and Yermack (1996) showed that current and past performance significantly affect firm valuation. Therefore, the firm's ROE in the current and the previous year are also included as control variables. Thus the following cross sectional regression equation is estimated.

$$Q_{it} = \alpha + \beta_1 CGI_{it} + \beta_2 BVA_{it} + \beta_3 AGE_{it} + \beta_4 ROE_{it} + \beta_5 ROE_{i(t-1)} + \varepsilon_i \quad \ldots (4)$$

Where, BVA_{it} is the natural logarithm of the firm's book value of assets at year t and AGE_{it} is the firm's age in years (since operation) at year t, ROE_{it} and $ROE_{i(t-1)}$ are the firms ROE in the current and previous year. The study also looks the predictive power of the corporate governance mechanisms to explain the variability in operating efficiency (ROA). In line with Gompers et al. (2003) the following regression equation is estimated.

$$ROA_{it} = \alpha + \beta_1 CGI_{it} + \beta_2 BM_{it} + \varepsilon_{it} \quad \ldots (5)$$

Where, $ROA_{it}$is the returnon assets of firm i at year t, calculated by dividing net income by total book value of assets, CGI_{it} is the firms' governance score at year t, BM_{it} is the firm's book–to-market value of equity at year t.

Variables

Theoretically, better-governed firms can be expected to reduce agency costs and increase the firm value (Jensen and Meckling, 1976), and hence, hypothesize a positive relationship between CGI and firm value. Similarly, a positive relationship is expected between age and the firm value assuming older firms are more experienced, receive the benefits of learning and are associated with first mover advantages. Following Bauer et al. (2004), Daines (2001) and Yermack (1996), positive relationship is expected between age, size, return on equity and its lag values with the Tobin's Q. The operating performance of the firm is expected to have positive relationship with the overall corporate governance ratings and book to market equity.

TABLE 1: Definition of variables

Variable	Definition
Dependent variables	
Tobin *Q*:	Market value of assets divided by book value of assets where market value of assets is the sum of market value of equity plus book value of debts.
ROA:	Net income divided by total assets.
Corporate governance variables	
COM:	Commitment for corporate governance
SR:	Right of shareholders
DTA:	Timely disclosure, transparency and audit
BSR:	Board structure and efficient functioning with non duality of CEO.
Control Variables/Explanatory Variables	
ROE:	Ratio of net income to the shareholders equity.
ME:	Total market value of common stock outstanding in million Rs.
B/M Ratio:	The ratio of book value of equity to the market value of equity.
AGE:	Firm's age (in years) since operation.
Size:	Yearend total assets. It is used as the proxy of the firm size.
BVD:	Yearend book value of total liabilities in million Rs.
BVA:	Yearend book value of assets in million Rs.
Book Value of Stock:	(Net worth), book value of assets - book value of debt.

Empirical Results

In order to examine the level of corporate governance in selected Nepalese firms over time, sub indexes of each corporate governance mechanisms have been constructed. The movement and trend in the score in each internal governance mechanism is shown in the Table 2.

TABLE 2: Average Score on Four CG Mechanisms during the Study Period

Year / CG categories	2005/06	2007/08	2009/10
A. Commitment	0.2086	0.2739	0.2739
B. Shareholders right	0.5496	0.5528	0.5559
C. Disclosures	0.5081	0.5679	0.5978
D. Board	0.3333	0.3478	0.4021
Overall CGI	0.3165	0.4356	0.4574

The overall index has been increased by 0.1409 during the study period. The score of each internal governance mechanism is in increasing trend and the score of disclosure was 0.5081 which increased to 0.5978 in 2009/10indicates the improvement in the disclosure quality of firms over the study period. Since some important questions like CEO duality and smaller size of the board have been included in this category, this variation indicates CEO duality and size of the board has been decreased and board is being efficient

in discharging its responsibility over the study period. It reveals not so improvement in the shareholders rights as increase in its score is just 0.0063. However, some improvement can be seen in the firm's commitment for effective corporate governance. Finally, the major finding of Table 2 is that the improvement in the corporate governance is much in 2007/08 than that of 2009/2010. Possibly, this could be the result of the enforcement of the new Company Act 2006.

TABLE 3: Distribution of Firms into the Three Portfolios Based on Governance Index

	2005/06		2007/08		2009/10	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Poorly governed (CGI = 0 - 0.34)	19	41.30	12	26.09	11	21.74
Semi governed (CGI= 0.35 - 0.60)	17	36.96	24	52.17	24	52.17
Well governed (CGI >0.60)	10	21.74	10	21.74	11	23.91
Total	46	100	46	100	46	100

Most of the firms in the sample are semi governed followed by poorly governed and well governed. The number of poorly governed firms over the study period has been decreased from 19 to 11 where as number of semi governed firms are increasing. The constant number of well governed firms clearly shows that Nepalese firms are still not fully ready to adopt the internationally recognized principle of good corporate governance. This could be possibly due to the fact that most firms, in Nepal, are family-owned with benevolent owner-managing directors. Besides, as such there is no corporate governance code of conduct except in financial sector. However, the decreasing number of poorly governed firms and increasing number of semi-governed firms implies some improvement in the governance practice in Nepalese firms.

Descriptive Statistics

In order to examine the variation in the governance of selected firms, Table 4 panel A summarizes the descriptive statistics of selected internal governance mechanisms used in the study. It reveals that the score of commitment sub index ranges from minimum 0 to maximum 1 with mean value 0.27 and standard deviation of 0.37. This wider range suggests that some Nepalese firms are totally committed for corporate governance and some are not meeting even only one of the provisions listed in the commitment categories. Regarding the shareholders right, the value ranges from minimum 0.43 to maximum 0.57 with average value of 0.55 and standard deviation of 0.05

respectively. The firms selected for the study also differs significantly in term of disclosure and transparency and timely audit. The value of disclosure, transparency and audit quality falls within the range of 0.04 to 0.96 with mean 0.56 and standard deviation of 0.25. This also implies that some are better managed and some firms are poor on timely disclosure and transparency. The board structure and responsibility component also varies in the sample firms with minimum value 0.06 and maximum value 0.83 suggesting wide variation in the board size, structures and CEO duality.

TABLE 4: Panel A: Descriptive Statistics of Composite Corporate Governance Index and Sub Indexes

Sub Group Indexes	Code	No. of Obs.	Mean	Median	Std. Deviation	Minimum	Maximum
COM	A	138	0.27	0.00	0.38	0.00	1.00
SR	B	138	0.55	0.57	0.05	0.43	0.57
DTA	C	138	0.56	0.63	0.27	0.00	1.00
BSR	D	138	0.36	0.33	0.22	0.00	0.83
Composite Governance Index	**CGI**	**138**	**0.44**	**0.41**	**0.19**	**0.11**	**0.85**

Theoretically the value of corporate governance can range from 0 to 1. As shown by the Table 4 panel A, CGI value ranges from 0.11 to 0.85 suggests that the best governed firms has meet at least 85 percent of the governance provisions under inquiry. On contrary, the worst governed firm has met only the 11 percent of the provisions. The average corporate governance index for the selected firms is 44 percent with standard deviation of 18 percent which suggests that there is wider variation between the firms in meeting the corporate governance provisions listed in the questions. Further, the summary statistics on overall CGI and other variables are summarized in Table 4 Panel B.

TABLE 4: Panel B: Descriptive Statistics of Composite Corporate Governance Index and other Variables

Variables	Mean	Median	Std. Deviation	Minimum	Maximum
Tobin Q	1.79	1.22	1.92	0.61	15.94
CGI	0.44	0.41	0.19	0.11	0.85
BVA	5905.17	1479.62	10651.80	95.86	59554.70
LBVA	7.46	7.30	1.60	4.56	10.99
AGE	12.08	12.00	6.23	1.08	31.50
LAGE	2.32	2.48	0.65	0.08	3.45
ROE_t	14.20	17.83	118.36	-966.76	459.79
ROE_{t-1}	17.75	15.70	38.75	-190.67	205.50
ROA	4.80	2.03	8.42	-11.90	50.81
B/M	0.88	0.31	2.48	-0.37	17.31

The value of performance variable, Tobin Q ranges from 0.61 to 15.94 with mean value of 1.79 and standard deviation of 1.92during the study period. This wide fluctuation indicates that different types of firms have been included in the sample. The wider range in size of the firm from minimum Rs. 95.86 million to maximum Rs.59554.70 million with a mean value Rs.5905.17 million and standard deviation of Rs.10651.80 million suggests that sample is inclusive. The minimum age is 1.08 year and the maximum age of the selected firms is 31.50 years. Regarding the equity return, the table shows the widest variation. But the variation in the return on assets and book-to –market equity is not so high. The comparison of ROE and ROA reveals that ROE is much fluctuating than that of ROA.

Correlation Analysis

The correlation matrix reveals that the disclosures and board structure and functioning quality are positively related with commitment for corporate governance and shareholders right. The relationship is also statistically significant at 1% in all cases which indicate that it firm come up with more commitment for governance, it carryout timely disclosures and audit. The size of the board tends to reduce and separates its chairman from the CEO.

TABLE 5: Panel A: Correlations between the Sub-indices

	Comt.	Right	DTA	BSR
Comt.	1.000			
Right	0.118	1.000		
DTA	0.562**	0.610**	1.000	
BSR	0.424**	0.423**	0.686**	1.000

The relationship of right with disclosure and board quality is also positive and statistically significant at one percent level. The disclosure and board are also positively related. However, no negative relationship is found between these sub indexes which is very natural. Overall, we conclude that the correlations are not sufficiently high to bias our results.

TABLE 5: Panel B: Correlation Matrix between Corporate Governance and Other Variable Selected for Study

Variables	Tobin Q	CGI	LBVA	LAGE	ROE_t	ROE_{t-1}	ROA	B/M
Tobin Q	1.000							
CGI	-0.166	1.000						
LBVA	-0.264**	0.765**	1.000					
LAGE	0.272**	0.165	0.280**	1.000				
ROE_t	0.059	-0.109	-0.053	0.061	1.000			
ROE_{t-1}	0.200*	-0.096	-0.046	0.076	0.187*	1.000		
ROA	0.603**	-0.161	-0.252**	0.267**	0.297**	0.409**	1.000	
B/M	-0.157	-0.303**	0.001	0.169	-0.010	-0.098	-0.113	1.000

The variables CGI, ROEt, ROEt-1 and ROA are expressed in percentage term. Tobin Q and B/M are measured in times. LAGE is natural logarithm firm's age in years since operation and LBVA is in natural logarithm of book value of assets in millions of NRS. All variables except ROEt-1 are measured at mid July of 2005/06, 2007/08 and 2009/10.CGI indicates corporate governance index. Tobin Q is a proxy for the firm's value. BM refers to the book-to-market ratio. The variables ROEt, ROEt-1 and ROA represent for return on equity, previous year's return on equity and return on assets. As it shows, Tobin Q is positively related with firm's age and previous years return on equity. The relationship is also statistically significant at 1 percent level. On the other hand, the correlation between Tobin Q with CGI and book-to-market ratio is negative but the relationship is not statistically significant. Similarly, the relationship of Tobin Q with the firm size is negative and statistically significant. Out of correlation coefficients among the explanatory variables, the highest correlation 0.765 is observed between corporate governance index and book value of assets. The interesting result is that Tobin Q is negatively related with firm size but positively related with age. Even though, firm size and age are positively related, much of the correlation of Tobin Q is captured by the age than firm size. In remaining most pairs of explanatory variables, no statistically significant relationship is noticed which may indicate the non existence of the problems of the multicollinearity.

Properties of Portfolios

This study uses the overall corporate governance index as a main explanatory variable. For the purpose of analyzing the direction of relation between Tobin Q with governance index and other control variables, five groups of portfolios were formed on corporate governance index. The descriptive statistics associated with these five portfolios with respect to corporate governance index are shown in the Table 6.

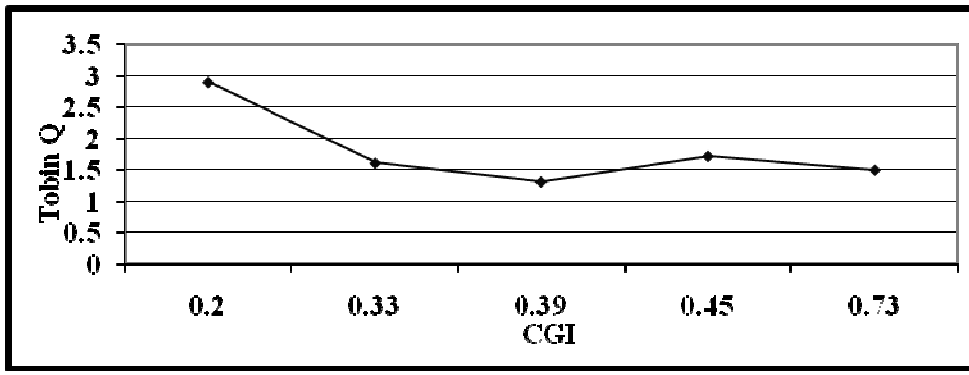
TABLE 6: Properties of Portfolios Sorted by Overall Corporate Governance Index (CGI)

Portfolios sorted by CGI (%)					
Variables	**1** **<0.28**	**2** **0.28-0.37**	**3** **0.37-0.42**	**4** **0.42-0.59**	**5** **>0.59**
CGI_{it}	0.20 (0.05)	0.33 (0.02)	0.39 (0.01)	0.45 (0.05)	0.73 (0.07)
Tobin Q_{it}	2.90 (3.70)	1.61 (1.33)	1.31 (0.42)	1.72 (1.48)	1.50 (0.63)
BVA_{it}	1252.43 (1308.97)	1078.25 (1503.19)	1555.80 (1165.98)	1901.82 (1675.32)	20633.36 (14239.71)
Age_{it}	14.93 (8.85)	9.70 (5.65)	10.73 (4.59)	10.26 (3.84)	14.40 (5.58)

ROE_{it}	32.34 (61.26)	14.46 (10.61)	36.34 (89.05)	17.37 (8.63)	-20.93 (225.03)
ROE_{it-1}	29.91 (65.56)	8.47 (25.66)	19.43 (15.57)	18.67 (10.43)	13.63 (47.22)
N	26	26	25	29	32

It shows Tobin Q for the smallest (low CGI) portfolio is 2.90 and 1.50 for the largest (High CGI) portfolio. The general trend of decrease in Tobin Qwith increase in corporate governance index suggests that better governed firms have no higher value in the market i.e. investors would not like to pay more for such firm's stock. This result is not consistent with earlier findings, such as by Black (2006), Gompers et al., (2003). This explanation supports the credibility to the steward theory which says that the company executives and managers working for the shareholders, protects and make profits for the shareholders and maximizes shareholders wealth through firm performance. However, it also reveals the inconsistent (mixed) relationship between Tobin Q and governance. With respect to variation in firm value, the results indicate that better governed firms in general have lower variations in value than poorly governed firms. The standard deviation of Tobin Q ranges from 3.70 percent for portfolio one to 0.63 percent for larger stock in portfolios five. In addition to the depiction of relationship between overall corporate governance index and subsequent Tobin Q, inspection of the Table 6 also indicates that there are certain patterns of relationship among variables. Figure 1 graphically shows the general trend of Tobin Q with CGI. The downward trend implies that firm value decreases with increase in corporate governance index. However, the movements in Tobin Q are not in a linear trend.

FIGURE 1: Trend of Movement in Tobin Q With Respect to Corporate Governance Index



Regression Analysis

Regression result of the model:$Q_{it}= \alpha +\beta_1 COM_{it} + \beta_2 SR_{it} + \beta_3 DTA_{it} + \beta_4 BSR_{it} + \varepsilon_{it}$, where Tobin Q has been regressed on all components of corporate governance index. The dependent variable Tobin Q is denoted by Q_{it}. The independent variables are the commitment for effective corporate governance (COM_{it}), shareholders right (SR_{it}), disclosure, transparency and audit (DTA_{it}) and board structure and responsibility (BSR_{it}) which are the different internal corporate governance mechanisms.

The coefficient of commitment for effective corporate governance sub index is 0.396 with t- value 3.896, implies that one point increase in commitment will lead to Tobin Q by 0.396 point. Hence, it confirms the priori hypothesis. The coefficient of shareholders right is not significant even at 10 percent. This finding is contradictory to the findings by Gompers *et al.* (2003). Therefore, it can be argued that Tobin Q is not affected by shareholders right in Nepal. Only giving more right to the shareholders does not necessarily enhance the firm value. But unexpectedly, the sign of disclosure, transparency and audit sub index is negative. The reported coefficient is also significant at 1 percent level. This simply suggests that even if Nepalese firms disclose their affairs in time, investors are not attracted. It means no Nepalese investors play in the capital market by analyzing the reports disclosed by the companies. Rather dividend declaration might be important factor to the shareholders. Hence, the expected relationship could not be achieved. Against the priori expectation, the sign of board structure and responsibility sub index is negative but not significant at 1 percent. This result is consistent with the findings by Black et al. (2009).

TABLE 7: Regression Results on the Relationship between Different Corporate Governance Indexes and Firm Valuation

Dependent variable :Tobin Q								
Model	**Intercept**	**COM_{it}**	**SR_{it}**	**DTA_{it}**	**BSR_{it}**	**F**	**R^2**	**D/W**
1.	1.425	0.396	0.100	-0.427	-0.217	7.953*	0.202	1.324
	(0.679)	(3.896*)	(.924)	(-2.925*)	(-1.976)			
	0.498	0.000	0.357	0.004	0.050			

Table 8 summarizes the regression results of simple and multiple regression of Tobin Q on explanatory variables. The simple regression on CGI shows a negative relationship between Tobin Q and CGI but the regression coefficient of CGI is not statistically significant at 1 percent level. This relationship is confirmed to that of observed in the univariate portfolio analysis based CGI sorted portfolio and correlation analysis. The F-statistics reported as 3.673 is

also statistically significant at 5 percent level which implies that the model explains better Tobin Q. However, this finding is in contradiction to the findings of earlier studies such as Klapper and Love (2004), Bauer et al. (2004).

TABLE 8: Regression Results of Overall Corporate Governance Index, Firm size, Age, Return on equity and 1 year Lag return on equity on Tobin Q

Dependent variable :Tobin Q								
Model	**Intercept**	**CGI**	**LBVA**	**AGE**	**ROE**	**Lag ROE**	**F**	**R^2**
I	2.536 (6.021*) 0.000	-0.166 (-1.917) 0.057					3.673**	0.028
II	4.211 (5.299*) 0.000		-0.264 (-3.107*) 0.002				9.654*	0.070
III	0.454 (1.222) 0.224			0.331 (3.987*) 0.000			15.900*	0.110
IV	1.781 (10.513*) 0.000				0.059 0.668 0.505		0.447	0.003
V	1.619 (8.823*) 0.000					0.200 (2.309**) 0.023	5.331**	0.040
VI	4.432 (5.121*) 0.000	0.086 (0.652) 0.515	-0.330 (-2.493**) 0.014				1.864*	.073
VII	1.241 (2.465**) 0.015	-0.186 (-2.274**) 0.025		0.342 (4.176*) 0.000			10.792*	.144
VIII	3.611 (4.452*) 0.000	0.155 (1.266) 0.208	-0.450 (-3.629*) 0.000	0.398 (4.990*) 0.000			12.270*	0.225
IX	3.457 (4.205*) 0.000	0.180 (1.485) 0.140	-0.453 (-3.723*) 0.000	0.385 (4.903*) 0.000		0.178 (2.289**) 0.024	10.739*	0.256
X	3.457 (4.188*) 0.000	0.178 (1.459) 0.147	-0.453 (-3.703*) 0.000	0.386 (4.883*) 0.000	-0.015 (-0.188) 0.851	0.180 (2.278**) 0.024	8.532*	0.256

The regression coefficient of age on Tobin Q is positive and significant at 1 percent level. This supports the priori hypothesis that more experienced firm receives the benefits of learning and is associated with first mover

advantages. So age can be the good predictor of the firm value. In equation II and III, F-statistics are significant which means the model is better fitted. Similarly, in equation IV, the coefficient of return on equity is positive but not significant which reveals that return on equity cannot be a good predictor of the firm value. But in equation V, the coefficient of lag return on equity appears as positive and statistically significant at 5 percent. This significant coefficient of lag return on equity indicates that firms' value is positively related with lag value of ROE. Investors tend to pay high price to the share of such firms with higher ROE in the previous year.

When both CGI and firm size are included as explanatory variables in the model, firm size still maintain its observed direction of relation with Tobin Q but CGI changes its sign and looses statistical significance. In equation VII, with the inclusion of age as other explanatory variable, the coefficient of CGI again changes its sign and shows its original direction and maintains statistical significance at 5 percent. When these three variables are jointly included into the equation, firm size and age still maintain their observed direction and statistical significance but coefficient of CGI takes insignificant positive sign. This shows the inconsistent relationship. When lag return on equity is also included, still CGI has positive sign. In final equation, inclusion of CGI and all control variables has provided an important insight into the regression results. In specification X, the results show that firm size, age and lag return on equity capture the significant variation in Tobin Q and relationship is statistically significant. But the predictive power of specification IX is stronger than specification X as F statistics is 10.739. However, as an additional check of the results, the regressions with logarithmic transformation of variables were also run in only two specifications. In the logarithmic transformation, only the positive values were considered. The insignificant variable return on equity has been omitted from the model. The results are given in Table 9.

TABLE 9: Log linear regression results of overall corporate governance index, firm size, age, return on equity and 1 year lag return on equity on Tobin Q for 46 sample firms during *mid-July* 2005/06 through *mid-July* 2009/10

Dependent variable: Natural logarithm of Tobin Q (LQ_{it})								
Model	**Intercept**	**CGI**	**LBVA**	**LAGE**	**Lag ROE**	**F**	**R^2**	**SEE**
I	0.390 (1.368) 0.174	0.205 (1.588) 0.115	-0.388 (-2.957*) 0.004	.299 (3.529*) 0.001		6.168*	0.127	0.516
II	0.280 (0.952) 0.343	0.234 (1.849) 0.067	-0.385 (-3.030*) 0.003	0.288 (3.513*) 0.001	0.230 (2.824*) 0.006	6.926*	0.181	0.503

It confirms the positive relationship of age and lag return on equity with the Tobin Q and negative relationship to firm size. However, one interesting result is that with the transformation of variables into log, the direction of CGI is again positive as noted in the previous multiple regressions and its coefficient now is statistically significant only at 10 percent which is inconsistent results. The R2 is 0.181 which implies that the explanatory variables can explain about 18.1 percent variation in the Tobin Q. This result indicates that corporate governance in general cannot predict the firm value in Nepal. Regarding the mixed relationship between the overall corporate governance and the firm values, the stock market crash could be the possible reason. Rather firm size, age and last year's return on equity can play better roles in the prediction of the firm's values. The results of secondary data analysis reveal the important picture in relation to the significance of corporate governance and other variables to predict the firm value. Although several studies such as Gompers et al. (2003), Bauer et al. (2004) and Black et al. (2006) document the positive relationship between corporate governance and firm's value, this study doesn't strongly support these findings. Rather it supports findings of Lamport M. J et al. (2011). It indicates that some more time is required to adjust the benefit of governance into the firm valuation.Implication of present study is that it establishes the need of corporate governance awareness program in Nepal.

Corporate Governance and Operating Performance

Several empirical evidences have reported the relationship between corporate governance and operating performance. Demsetz and Lehn (1985) reported inverse relation between accounting return and large shareholders. Klapper and Love (2004) demonstrated that better CG is highly correlated with better profitability and firm Valuation. But Bauer et al. (2004) documented a negative relation between corporate governance and operating performance as measured by return on equity and net profit margin. In line of these contradictory results, next attempt has been made to test the relationship between governance and firm's operating performance.

TABLE 10: Regression Results on the Relationship between Corporate Governance Sub-Indexes and Operating Performance

Dependent variable: Return on Assets(ROA)								
Model	**Intercept**	**COM_{it}**	**SR_{it}**	**DTA_{it}**	**BSR_i**	**F**	**R^2**	***D/W***
1.	19.335	0.247	-0.106	-0.013	-0.393	7.210*	0.178	1.554
	(2.094**)	(2.435**)	(-0.999)	(-0.091)	(-3.626*)			
	0.038	0.016	0.320	0.927	0.000			

The coefficient of shareholders right is negative but not significant even at 10 percent. This finding is contradictory to the findings by Gompers et al (2003). Therefore, it can be argued that return on assets is not affected by shareholders right. The provision on right to the shareholders does not necessarily enhance return on assets. In contrary to priori sign, the sign of disclosure, transparency and audit sub index is negative. But the reported coefficient is not significant even at 10 percent level. Hence it its effect is indeterminate. This simply suggests that even if Nepalese firms disclose their affairs in time, it doesn't necessarily support the higher profitability. Against the priori expectation, the sign of board structure and responsibility sub index is also negative that is significant at 1 percent level. This indicates small size of the board and non duality of CEO moves in opposite direction with the return on assets.This result suggests that only the commitment for effective corporate governance is the good predictor of the return on assets. The reported F-statistic of 7.953 is also statistically significant at 1 percent level which indicates that the model is better fitted.

TABLE 11: Regression Results on the Relationship between Overall Corporate Governance Index and Operating Performance

Dependent variable: Return on Assets(ROA)						
Model	**Intercept**	**$LCGI_{it}$**	**LB/M_{it}**	**F**	**R^2**	**D/W**
1.	-3.486 (-1.777) 0.078	-0.337 (-3.887*) 0.000	-0.356 (-4.108*) 0.000	12.116*	.163	1.453

Table 11 summarizes the results of the simple linear regression model of return on assets on corporate governance index and book-to-market equity. The coefficient is statistically significant at 1 percent level, implies that during the study period improvement in corporate governance failed to increase the return on assets. It might be due to increase in cost of establishing the governance measures. In the previous section where return on assets was regressed on each component of corporate governance, only the commitment sub index was recorded as positively related with return on assets (at 5 percent level). Rests three were observed as negatively related to the return on assets. Therefore it is not unnatural to have negative relationship with the return on assets. Regarding the predictive power of book-to-market equity along with corporate governance index, statistically significant negative coefficient indicates that larger books to market equity ratio result the lower return on assets.

Conclusions

The firm level corporate governance index shows the larger variation in corporate governance practice. Taking overall, average level of corporate governance in Nepal ranges from 0.11 to 0.85 during the study period. The highest score is recorded for banking, finance and hydropower sectors and the lowest is found on hotel sector.The level of corporate governance is highest in fiscal year 2009/10 where as it is lowest in fiscal year 2005/06. However, the level of governance practice in Nepal is increasing over the study period. The study reveals very poor status of corporate governance commitment among the selected firms. Score of each internal governance mechanism is in increasing trend. However, noticeable improvement is found in disclosure and board functioning practice over the study period. Most of the firms in the sample are semi governed followed by poorly governed. However, number of poorly governed firms has been decreasing.

The correlation result shows that the firm with good governance in one area have tendency to have good practice in another area as well.The results at the portfolio level suggest that Tobin Q has negative relationship with CGI and firm size but positive relationship with firm age, return on equity and its lag value.One of the major finding of this study is that CGI has a negative relationship with firm valuation when simple regression was used. But the multiple regression analysis reveals no stronger evidence of negative relation between CGI and firm value as it changes its sign when control variables are added in the model.In log linear regression model of firm valuation with CGI, firm size, firm age and lag return on equity, CGI again changed its sign and showed the positive relation with Tobin Q(even significant at 10 percent level). Hence, there is no conclusive evidence associated with the CGI effect on firm valuation in Nepal. Rather it is mixed. Hence, there is a scope for further studies taking more characteristics of firms.

The result consistently showed the negative relationship of firm size with the firm valuation in simple, multiple and log linear regression models. Hence, this study also establishes the size effects.The positive and significant coefficient of age across all models suggests that the firm valuation can be better explained by the age. The effect of return on equity on firm valuation is not strong. However, this study established the lag return on equity effect on valuation. Across analysis its coefficient was found positive and significant.The decomposition analysis reveals that firm's valuation is positively related with the level of commitment for corporate governance and negatively with the disclosure transparency and audit quality. Interestingly, the study documents no relationship between Tobin Q and shareholders

right. Similarly small size of the board with non duality of CEO is negatively related with the firm valuation which supports the resource dependency theory and stewardship theory of corporate governance.The operating performance (ROA) is positively related with only the level of commitment for corporate governance. Another unexpected finding of the present study is negative relationship between board structure and operating performance. However, role of shareholders right and disclosure quality on return on assets could not be established. The study reports the significant negative relationship between book-to market- equity and return on assets. However, wrapping up the result of all component of corporate governance on operating performance, a negative relationship was found between the corporate governance and return on assets. Thus, the result indicates that the significance of corporate governance is still not recognized in Nepal.

The major conclusion of this study is that corporate governance does not fully explain firm valuation and operating performance in Nepal and contradict with the findings of previous studies (such as Gompers et al.(2003), Black et al (2006)). The results show the inconsistent (mixed) relationship of overall corporate governance and firm valuation and hence the predictive power of firm level corporate governance is not conclusive. The corporate governance practice is better in banking and hydropower and worst in hotel sector. However, the decomposition analysis shows that firm's valuation and operating performance are positively related with the level of commitment for corporate governance and negatively with small size of the board with non duality of CEO which is similar to the findings of Brickleyet al. (1997). In contrast to Gompers et al. (2003) role of shareholders right and disclosure quality on return on assets is indeterminate. Further there is significant negative relationship between book-to market- equity and return on assets. The study establishes that size effect is negative in valuation of firm. Another conclusion is that age and lag return on equity are the most significant predictor of firm valuation in Nepalese context. Age and lag return on equity have consistently significant explanatory power in all the models indicating that more experienced firms which return on equity in the last year were higher have higher valuation in the market. These results, associated with positive and significant relationship of age and lag return on equity with Tobin Q, support the findings of some earlier studies such as by Shin and Stulz (2000), Daines (2001) and Yermack (1996) and others.

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Cognitive Approach and Its Application to the Strategic Modelling of Enterprises

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Abstract

One of the most difficult problem for management which works out the company development strategies, is the understanding of complicated causal chains, that determines the influence of external and internal conditions of the enterprises on aims and characteristics of worked out strategies. Nowadays this problem is getting more complicated by growing difficulty and instability of economic environment, which cause the numerous uncertainty and risks.

In these conditions application of popular support instruments meets with serious difficulties and restrictions. The necessity of new instruments occurs – instruments which are adequate to creative character of today's management that is based on research approach and long-term dynamic analysis of strategic decisions.

Ideas and methods of cognitive modelling (new direction in analysis theory and management complicated ill-structured problematic structures) open wide opportunities for creating new instruments.

In the paper is explored main definitions of cognitive modelling, its basic instruments – cognitive charts and their analysis methods. Meanwhile is offered dynamic analysis method of strategies, which consider the characteristics of enterprises activity in today's conditions. This method can be used for optimal strategy search in context of possible dynamics of external and internal factors of enterprises. The example of application of the method is also discussed.

The paper consists of three parts and one conclusion. The first parts reflects common characteristics of cognitive approach and strategy modelling, the second one shows common scheme of task of strategy working out from position of "model theory" of intellectual decision-makers, in the third part the example of application of cognitive approach to enterprises strategy modelling is given.

Common Characteristics Cognitive Strategy Modelling

Cognitive approach is a method of studying and managing situations basing on formation and study of cognitive models (cognitive charts). Cognitive chart is a structure (network) of cause and effect relations between the components of the system under survey and its surrounding environment, reflecting the conception of management person(s) about the structure and functioning of this system. The components of cognitive chart are: 1) basic factors – concepts characterizing the system and its surrounding environment according to the management person(s), as well as cause and effect relations between basic factors.

Such a factor division let realise wide range of model experiments, for instance,

- construction of different strategy versions,
- to prognose the utility's behaviour (its goal form) for every strategy version,
- to prognose the utility's behaviour in various dynamics of external environment factors and etc.

The level of factor activity and factor interaction strength are assessed by linguistic scale mentioned below:

TABLE 1: Linguistic scale for assessment of sign and interaction strength of cognitive chart factors.

X	Linguistic assessment (Z)
0,1	VERY_LOW | VERY_LITTLE | VERY_WEAK
0,3	LOW | LITTLE | WEAK
0,5	MEDIUM I MODERATE
0,7	HIGH | GOOD | STRONG
0,9	VERY_HIGH|VERY_GOOD| VERY_STRONG

Although the term "cognitive approach" began to be used from 1960s actively, the elements of this approach were used lots of years ago. These elements were used during the scientific schools such as behaviorists, mentalists and etc. However, the difficulties in clarifying the behavioral events on the basis of "stimulus-reaction" made the behaviorists to apply to interim variables such as "cognitive map". In the late 1950s and beginnings of 1960s the psychologists who were inspired with the successes in the field of computer, started researching the information processing by human intensively and offering the models for their explanation, which were the "prototypes" of cognitive approach. Cognitive approach was born in the

research field of cognitive processes, which led to establishment of cognitive psychology. However, it went through the different fields of science and at the moment is on one of the main dominating approach almost in the all spheres of the science.

Cognitive revolution happened in 1950-1960s. The first cognitive research center was established in Harvard in 1960. This date is indicated as development of cognitive science (cognitology), which includes philosophy, cognitive psychology, neurophysiology, anthropology, linguistics and theory of artificial intellect.

The latest direction of this approach is connectionism, which describes cognitive system like the network of correlative elements. However, this direction is not wide-spread yet.

The main issue of the representatives of cognitive approach was proof of the important role of the knowledge in human behavior. One of these representatives is J. Piaje, who was researching the cognitive stages of children development.

P. Jane was calling her cognitive approach to the personality as "behaviorist" and was paying more attention to the role of self-control. According to his approach self-control considered to be the result of permanent contact of individual with surrounding him/her people.

According to U. Nayser the cognition exists in every act of the person: in feelings, mind, thinking, imagination and etc.

A specific feature of the cognitive modeling method differing it from traditional methods is the possibility of conducting multi-factor and multi-criteria analysis and management of development of ill-structured situations (combining vitally important stages of divergence, convergence and transformation of project cycle (J. Jones)) that is not possible through traditional mathematical calculations.

Methodology of cognitive modeling is addressed for analysis and decision-making in complicated situations. This methodology was suggested by Axelrod. (Axelrod R., 1976). It is based on modeling of experts' subjective imaginations about situation.

Cognitive modeling is a periodic process and consists of several interrelated stages main of which are: cognitive structuring and development of cognitive model of surveyed situation; structural analysis of cognitive model of situation; scenario based modeling of development of situation.

A. Cognitive structuring

Identification of factors characterizing internal situation in the company and external processes (social and economic, political, technological and etc.) influencing its development. The cognitive structuration stage is formed as a cognitive chart (CC) describing a set of basic factors of the company and cause and effect relations between them. At present general feature for all works of cognitive approach is a cognitive chart as digraph (symbol or weighed) over a range of factors. (Pospelov D.A., 1986)

For each factor its value (or tendency of change) characterizing the subject, event or process associated with the given factor is determined. For cause and effect relations character and strength of interrelation between basic factors is determined. Values of appropriate variable are given on the basis of a linguistic scale, i.e. in words in a native language and each is denoted by a corresponding figure in the interval (0;1).

In this stage on the basis of set of basic factors also are determined: subset of target and subset of controlling factors, also, initial values and tendencies of change of basic factors. Factors relating to the company or to external environment, which the management of the company may influence on, are selected as controlling factors.

The basic factors are selected by **PEST-Analysis**, which divides these aspects into 4 main groups:

Policy
Economy
Society
Technology

B. Structural analysis of cognitive chart

This analysis is implemented to study structural features of CC which are important from the point of view of management practice. Such features include:

1. Non-conflicting purposes. The main point of the non-conflicting purposes vector is to ensure that desired change of some target factors does not result in undesirable change of others.
2. Non-conflicting purposes and controlling factors. Managing the situation is the change of controlling factors to the extent that would result in desired change of target factors, i.e. in the direction of planned dynamics. In connection with this, effectiveness of influence of controlling factors on targets of the company and conformity of controlling factors with the

targets of the company is surveyed. Acceptable effectiveness of controlling factors is determined by the degree and character of their influence on the target factors. Conformity of controlling factors with targets vector means that no change of them should cause change in any of the targets in undesired direction.

At present a range of mathematical methods of structural analysis of CC has been developed.[4] However, in practice, structural solutions achieved through these formal and mathematical methods require interpretations in the subject field, which are not always possible.

C. Scenario modeling of development of situation

This is conducted for comparative analysis of development of situation in different incoming managing impacts. Modeling may be conducted in self-development and controlled development situations. Development dynamics is modeled using F. Roberts' apparatus for linear dynamic system.(Pospelov D.A., 1986) *Self-development* implies maintaining existing tendencies of factors and in essence, it is extrapolation of current situation taking into account mutual influences of basic factors. *Controlled development* of situation implies purpose targeted influence on one or several controlling factors. Impulsive change of current value of the factor which is transferred to other factors through the chains of impacts serves as management.

Modern concepts of cognitive approach to the management (purposes and crucial definitions, CM structuring principals and adequacy criteria, types of CM and their analysis methods) are described in [2, 3, 4, 5]. In the framework of these concepts cognitive strategy modelling is strategy modelling based on cognitive charts (CC), which search for optimal strategies of the company. CC – is explicit model which reflects subjective ideas (individual or collective) of experts about conceptual structure of researched company strategy and its external environment.

For set of basis factors are set the subset of goal factors of the company X^c ($X^c \subseteq X$) and subset of managerial factors X^u ($X^u \subseteq X$) of internal and external environment of the company. The content of these factors are determined by well-known strategic diagnostics methods (PEST-analysis, SWOT-analysis and etc.). The existing CC analysis methods are oriented on the problems such as strategic dynamics prognosis of the company in unstable surroundings, scenario analysis and search for optimal strategic solutions, retro perspective analysis of adequacy of CC and etc.

Systemization of CC and their analysis methods, structure and reliability assessment principals, which make it possible to block typical mistakes of

explication of expert knowledge (Derner D., 1997) and to raise adequacy of CC are given in (Abramova, 2007).

Depending on conditions and restrictions of strategy working out task the appropriate CC types and their analysis methods can be chosen.

Conceptual Scheme of Strategy Working Out Task

Conceptual scheme of common task of the ill-structured objects management was offered by acad. D.A.Pospelov. Strategy development task is a particular case of common task and in terms of cognitive approach it can be presented as following:

$$P(G, M); S^0 \xrightarrow[U(P)]{} S^c,$$

where $P(G, M)$ – is full task knowledge, including G – cognitive chart of the task, M – strategy development methodology, which includes chart structure and analysis methods and scheme of issue solution management; S^o – company's current state; S^c – company's goal state; $U(P)$ – economic strategy that determine strategic steps sequence, leading from S^o to S^c.

Goal state S^c is formally presented as $C = (X^c, D(X^c))$, where $D(X^c)$ – is vector of dynamics assessment of goal factors, which determines desirable changes of goal factors:

$$D(x_i^c) = \begin{cases} (+1), \text{ if increase of importance and speed of goal factor } x_i^c \text{ changing is desirable,} \\ \approx 0, \text{ if stabilization of goal factor } x_i^c \text{ is desirable,} \\ (-1), \text{ if dicrease of importance and speed of goal factor changing } x_i^c \text{ is desirable.} \end{cases}$$

Depending on character of macroeconomic environment (stable/unstable) two task versions are possible: static and dynamical. In static version search for effective strategy conclude in selection of one of the strategic step leading from S^o to S^c. In dynamical version search for effective strategy conclude in selection of strategic steps sequence leading from S^o to Sc.

The search is realized by model experiments on strategy CC in regimes of self-development and controlled development (direct and inverse problem) of economic situation. This and other analysis methods are used: "impact analysis methods", "dynamics analysis methods", "scenario analysis methods", "management impact search methods" and etc.

Applied versions of dynamic analysis models, especially dynamic analysis models of company's strategy require the adjustment of the "strategic step" definition. Each of strategic steps is action which changes the situation. The

changes on each step can be realised by operators, which are described in the Table 2. Herewith the list of operators is divided into sign cognitive chart (SCC) and balanced cognitive chart (BCC).

TABLE 2: Operators of strategic steps

Operators	Types of CC	
	BCC	SCC
1. Change of some managing top sign in particular time.	•	•
2. Amendment in some new tops and new arches in particular time.	•	•
3. Change in some arch sign in particular time	•	•
4. Change in some arch weight in particular time	•	
5. Amendment of a new arch among existing tops.	•	•

Using these operators management can construct numerous strategic alternatives, which reflect various scenes of situation development. As soon as the fixed quantity of strategic alternatives is determined, you can define the structure of strategy selection problem. It may have different formulations and configurations of target form of PC. For example,

1. Finding optimal strategy (the shortest, the cheapest and etc.) which meets normative restrictions in some parameters of utility's internal and external environment

2. Finding a strategy, which maximizes (minimizes) the meaning of some tops (for instance, profit of enterprises, market share of enterprises, product quality, pollution of environment and etc.) in case of restrictions in signs of some other tops (for instance, financial resources, time resources, human resources and etc.)

3. Finding a strategy, which doesn't let every variable of entity have very big or very little meaning. (it is called "dynamically stable" strategies).

The strategy building process ends with achieving expected result, which is the possibility to achieve a condition appropriate to the goal form of PC in particular restrictions situation.

Examples of Cognitive Strategy Modelling

The attempts of cognitive strategy modelling we made were concerned with the solution of management tasks in three research projects:

Project 1. Strategy perspective assessment of offshore-oil company, functioning conditions which are characterized with typical current tendencies: slump of world oil prices, global financial crisis, increase of

governmental impact, toughening of ecological standards. The work was implemented together with Petroleum Engineering Department of A&M Texas University (College Station, Texas, USA) in the framework of constructive cooperation agreement.

Project 2. Exposure of crucial competences for strategic development task of telecommunication companies, which deal with development, installation and service of industrial, administrative and medical information systems, iP- and CTi- systems – telephoning for communication statement and corporative clients. .

Project 3. Management efficiency analysis in poultry enterprises of one of the holdings. The task was specified by critical situation, which occurred due to the increase of raw materials and feed prices, decrease of finished product prices, the raise of competitive pressure, the difficulties in obtaining of commercial credits, lack of qualification of managerial staff, drop of income share, which is considered for refinancing of the enterprises (especially because of corruptibility of controlling units and etc.).

Now let's learn brief characteristics of developed cognitive models for above mentioned projects. The main characteristics of developed cognitive models are: business-strategies, defined due to the results of strategic diagnosis of enterprises; structure type of cognitive chart, describing the logic of concept; cognitive chart building and analysis methods; the scale of signs and pace of cognitive charts factor changes.

Characteristics of models, which were developed in the mentioned projects, are described in the Table 3.

TABLE 3: Characteristics of CM, developed in Projects 1, 2, 3

Number of Project	Business-strategy concept	Structural type of CC	CC building and analysis methods	Scale of factor and tendencies assessment
Project 1.	"Resources-oriented" (Grant R., 1987)	Graph	*Building methods*: SWOT-analysis. PEST–analysis. Implicative repertory gratings of S. Hinkle. Interaction matrices *Dynamics analysis*: Models of lineal dynamics of F. Roberts. Scenario-analysis method.	Bipolar-linguistics Grade 5
Project 2.	"Competency school" (C. Prahalad, G. Hamel, 1990)	Matrices (Abbasov A.M., Karayev R.A., Safarli I.I., 2008)	*Building methods*: Isicava Diagrams. VRIO-analysis (Barney J., 1987). Business-process model eTOM.4.0 (Intern. Telecommunication Union/Standardization Sec-tor). "Consumer opinion model" (IBM, US). "Resources model" (American Society For Quality, US).	Linguistics Grade 9

			Impact analysis: Fuzzy casual matrices analysis (Abbasov A.M., Karayev R.A., Safarli I.I., 2008). Hierarchy analysis method of T. Saati.	
Project 3.	"Migration strategy" (Kleyner H. B., Tambovtsev V.L., Kachalov R.M., 1997)	Graphs	*Building methods*: SWOT–analysis. PEST–analysis. "Competitive analysis model" (M. Porter, 2003). Methods of psycho-semantics and multidimensional non-metric scaling. (M. Davidson, 2003). *Dynamics analysis*: Dynamics quality models based on time rules and logic.	Bipolar-linguistics Grade 5

Conclusion

The experiments of cognitive strategy modelling development and testing in the above-mentioned projects showed that in practical tasks of economic spheres cognitive modelling faces the same issues which the other intellectual technologies meet. These are "the width of problem definition", robustness by "paradigm shift", necessity of specialist-mediator (knowledge engineer, meta-interpreter-cognitologist, specificator), necessity of support means in development and maintenance stages and etc. In general, the experiments of cognitive strategy models development and testing showed the following:

1. In case of strategy modeling general principals of cognitive map building offered in (works of Institute of Management Problems of RAS, 2007) requires modification which reflects methodological characteristics and concept determined by enterprises of strategic planning [1, 10].
2. Cognitive strategy modelling acquires a practical importance only in the framework of strategy planning methodology which includes phases of macro-economic and marketing analysis (Karayev R.A., 2004). Ignorance of these phases reduces cognitive strategy models into mathematical objects which are far from reality of economic practice.
3. The issue of selection of scheme of problem solution management caused wide discussion. Firstly, we applied the scheme offered by specialists of Institute of Management Problems of RAS (Avdeyeva Z.K., Kovriga S.V., Makarenco D.I., Maksimov V.I., 2007). However, the analysis showed that particular scheme realizes "situation-decision" algorithm type, i.e. realizes not strategic, but reactive style of management and can't be used for generization of economic strategy in unstable environment. For such kind of problems are needed the schemes which realize "situation-strategy-decision" algorithm type. Consequent researches showed that the issue of development of such scheme type is not trivial and it can be considered as one of directions of further improvement of cognitive approach.

4. Cooperation with employees of the enterprises showed that they didn't have well-defined opinion regarding adequacy and efficiency of cognitive strategy map. Beside of it, 8 of 11 displayed active interest and considered that cognitive modeling – is perspective and useful technology. Our observations showed that cognitive modeling is useful support means, which stimulates perceptive and creative activity of strategy developers in harder phase of "strategic thinking" (Mintzberg H., 1994) – in phase of strategy synthesis.

5. Set of methods of structural-conceptual formalization of cognitive maps directed to the increase of reliability of cognitive models, can be enhanced at the expenses of including popular methods developed for analogous purposes in industrial and architectural projecting theory, in experimental psychology and knowledge engineering.

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Analysis of Efficient Pricing Mechanism: An Indian Perspective

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Abstract

Indian capital market witnessed at least three broad regimes of different kinds of Initial Public Offer (IPO) pricing mechanisms over the past two decades starting from a regulated pricing regime to the current bookbuilding process. The process of liberalization has affected this market in several ways. Till the early nineties like many other markets in India, capital markets in general and IPO pricing in particular, was a thoroughly regulated activity with the Office of the Controller of Capital Issues (CCI) determining the price at which a company sell its shares to the investors. As reforms set in, CCI was abolished paving way for Securities and Exchange Board of India (SEBI). IPO pricing had also undergone a change with the fixed price offer method to the Book-building process with the recommendation made by Y. H. Mahegam committee in the year 1995. This paper is a process to analyze the Indian IPO issue and their pricing mechanism with empirical studies on the valuation of IPOs and both theoretical and empirical work on the determinants of short –run under pricing. The study period was from 1st April' 2000- 31st March' 2011 considering 480 IPOs listed at the Bombay Stock Exchange (BSE). The existence of underpricing is measured assuming MAAR equals zero computed through paired t- statistic. The study reported the existence of underpricing both in fixed price offerings and book-building offerings where as no case was reported for auction pricing. The short run underpricing for fixed price offerings was 15.30 per cent and for book-building offerings was 19.03 per cent. Underpricing under book-building offers found to be more amongst any other method for the Initial Public Offerings.

Introduction

The transaction from being a private company to a public is one of the most important events in the life of a firm and it is facilitated through the Initial Public Offering (IPO) process. There are three distinct reasons for a company to go public. First, the firm is able to raise capital at lower cost. Second, IPO provided a fresh source of capital and provides a liquid market for the capitalists and the investors. Third, it brings the firm into spotlight and increases the chances of potential mergers and acquisitions in the near future. The main objectives of the firm are to raise funds from the market to invest in a project, promoting a new company, or to expand by diffusing ownership through listing on the stock exchange (Agrawal, 2009). Initial public offering consisting of two kind of issues- the primary issue (coming up for the first time) and follow-on issue (already listed on the stock exchanges). Initial public offering is a first equity offering to the public and IPO are a major source of capital for firms (Kumar, 2010). There are atleast three distinct mechanisms available for an issuing firm i.e. fixed price offer, auctions and book-building. Available literature confirms about atleast two of the methods in the various countries. Fixed Price formula is the oldest method of public issue under which the issuer and the bankers agree on the issue price before making the actual issue. Investors have to fill the application form before subscribing public issue. Benveniste and Wilhelm (1990) and Loughran et al. (1994) early discuss about the concept of Fixed Price offerings in details. Gehrig and Stromberg (2009) suggested in his work about the working of fixed price issues.

The two main advantages of fixed – price offerings are low costs and simplicity. They are easier to implement then other procedures. They allow, investors to know, before submitting orders the actual price of the offerings which they will have to pay in case of receive an allocation. Allocation is non discretionary and does not favor any particular investor. The offer price is set before the actual demand is known and it may differ substantially from its optimal value (Franc et al., 2006).

The most frequently used IPO method over the past decades is Book-building. The merchant bankers/book runners determine the price of the issue and the company receives bids from the investors within the price band and allotment is made on the basis of price determined by the issuer. Sherman (2001) states, that in a bookbuilding IPO offering in the pre-offering market stage, the underwriting firm surveys the market for indications of interest of potential investors by conducting road shows. The underwriter sets an analytic price range that reflects the market's valuation of the offer. Concept of Bookbuilding in the US, Europe and some other countries has

been discussed extensively by Hanley and Wilhelm (1995), Busaba and Chang (2002), Aggrawal, Prabhala and Puri (2002), Ritter (2003), Jenkinson and Jones (2004) and Kumar (2010).

Major way of evaluating IPO efficiency is through first day (initial) return. Aggrawal (2009) in his book define the initial return as the difference between the offer price and the first day opening price of an IPO. Academics use the term first-day returns and underpricing interchangeably. Majority of the IPO valuation studies focus on the listing day return. Early writers, notably Logue (1973) and Ibbotson (1975), documented that when companies go public, the shares they sell tend to be underpriced, in that the share price jumps substantially on the first day of trading. Enough empirical evidence suggests that IPOs are underpriced on the listing day (Kim, Krinsky and Lee, 1995; Sullivan and Unite, 1999; Omran, 2005; Vong, 2006; Reber and Fong, 2006; Khurshed, Pande and Singh, 2008 and Sahoo and Rajib, 2010).

Many theories are developed to explain the underpricing of IPOs, e.g., signaling hypothesis Leland and Pyle (1977); information asymmetry model (Rock, 1986); institutional explanation and deliberate underpricing (Hughes and Thakor, 1992; Ruud, 1993; Hensler, 1995 and Taranto, 2003). Recently, Datar and Mao (2006) have suggested that the issuer company deliberately underpriced the IPOs to encourage a wider subscription of the IPO. These theoretical models almost always end with the conclusion that the average IPO is undervalued at the offer price and initial investors in most cases benefited by receiving allocation of shares in IPOs and earn the largest initial-day returns (Guray, 2008).

The remaining part of this paper is organized in four sections. Section 2 describes the IPO pricing mechanism followed in India. Section 3 covers a brief review of theoretical and empirical research on IPOs followed in India and other countries. Section 4 contents the objectives and hypothesis of the study. Section 5 describes the methodology covers the description of data, nature of research and tools used for data analysis for underpricing and comparison of various pricing mechanism used in India. Section 6 covers the initial returns of the IPOs and short-run performance of the IPOs offered through fixed price, auction and book building. Section 7 includes the conclusions of the research work and Section 8 ends with scope for further research.

IPO Pricing Mechanism in India

In the Indian context the performance of Indian Primary Market is carried out by the various authors. Until the early 1990s the Indian primary issue market

was regulated by the Controller of Capital Issues (CCI), a government regulator, who also determined the price at which IPO firms offered their shares to the market. In 1992 the Capital Issues (Control) Act was abolished bringing an end to the control on pricing of new issues and the Securities and Exchange Board of India (SEBI) took over as the new market regulator.

Even though SEBI introduced bookbuilding guidelines for primary markets as early as 1995, almost no bookbuilding activity was seen in the Indian IPO markets until 1999- 2000. However, by 2006-07, bookbuilding had come to dominate the fixed-price method and now more than 80% of Indian IPOs price their shares using the bookbuilding mechanism, with some important differences from its US version (Kurshed, Pandey and Singh (2011). Unlike in US the price band is not freely determined by Book Running Lead manager (BRLM); as only the lower price limit known as Floor Price is specified by the BRLM and the upper price level known as Cap Price is automatically capped at 120 per cent of the floor price (SEBI Guidelines' 2000) [1]. Company can make either 100 per cent offer to public through book building process or can 75 per cent offer through book building and remaining 25 per cent at the price determined through book building.

Underpricing and Abnormal Returns in Indian Primary Market

Various studies made to suggest about IPO underpricing exists almost in every country of the world. Fewer studies documented about the underpricing and abnormal returns in the Indian sub-continent. Shah (1995) documents a phenomenal 105.6% excess return over the offer price in a study of 2056 new listings over the period January1991 to May 1995. However, this study provides evidence on the short run performance only while Madhusoodanan and Thiripalraju (1997) from a study on IPOs offered on BSE during the period 1992 to 1995 disclose that under pricing was higher than the international experiences in the short run.

Kakati (1999) analyzed the performance of a sample of 500 IPOs that came to the market during January 1993 to March 1996 and document that the short run under pricing was 36.6 per cent and in the long-run the overpricing was 40.8 per cent.

Krishnamurti and Kumar (2002) worked on IPOs that hit the market during 1992 to1994 and demonstrate that the under pricing is to the extent of 72.34 per cent (market adjusted returns).

1 For details please refer to SEBI Guidelines of Book Building (2000) revised 2009 Chapter 11.3 (ii) a and b.

Sashi Kumar (2010) reviews the performance of Indian IPO during 2004-2008. Out 275 IPOs including 71 new equity issues offered and listed at National Stock Exchange (NSE) of India. Short run performance indicates the existence of extreme underpricing.

Literature Review

The efficiency of the IPO methods has been the subject of an academic research over a decade. Both, empirical and theoretical studies try to explain the importance and advantages of one over the method. Researchers studying the efficiency of the IPO methods try to answer the most challenging questions, "Which one of the IPO pricing mechanisms is most efficient"? The existing literature review will try out to search for the most relevant answers for the same. The early studies made by Logue (1973), Ibbotson (1975), Ritter (1984), Rock (1986), Miller and Reilly (1987), discuss about the mechanism by which initial issues are sold has largely been ignored until Benvensite and Spindt (1989) compare the efficiency of the IPO mechanisms. Guray (2008) in his research work discuss about this matter in detail.

Book Building v/s. Fixed Price Offer

Loungran, et al. (1994) presents the first international evidence on the short-run performance of companies going public in many stock markets around the globe. They document that the fixed price method is associated with greater underpricing because of greater probability of the failure of the issue and the increased uncertainty associated with the longer time delay between offer and issuance time.

Chowdhry and Sherman (1996) point two features of fixed price offers tend to lead greater underpricing in comparison to book building method. First is the length of bidding process. As the spread (time gap) between the offer day and first day widens, price information leakage occurs that widens the market price. Second is the common requirement that the potential investor has to pay in advance the entire amount without being assured about the allotment of the offer.

Benvensite and Busba (1997) model for information cascades in investment decisions and present a theoretical comparison of the fixed price and book building mechanisms. The issuer with greater concern for risk will prefer a fixed price offer as book building may often generate higher expected proceeds and may provide opportunity to sell additional shares at full value but also leads to higher risk.

According to Busba and Cheng (2002) book building educe more information from informed traders at the IPO stage and therefore reduces adverse selection problems in the aftermarket trading. However, at the same large proportion of expenses to be incurred for the road shows. As such underpricing should be larger for IPOs carried out through book building method rather than fixed price method.

Pandey (2004) examines the initial returns to the long run performance of the Indian IPOs on a sample of 84 Indian IPOs during the study period 1999 to 2002. He finds that fixed price offerings yield higher initial returns in comparison to book building offers. Small amount of money is accumulated with large offering. In contrast, under book building issues large sum of money is accumulated with small portion of offer.

Fixed Price Offer v/s. Auctions

Comparing the fixed price method to the open auction method, it can be said that the fixed price method is more expensive and also leads to short term gains to the investors but not long term. This is so because the company will hire an agent to estimate how much investors will pay for the shares. Then the company agrees to sell its shares at a fixed price which is below this estimate. Generally, the initial investors can gain profit by immediately selling it for a higher price in the market in the coming few days. While open auction ensures future gains too.

Derrien and Womack (2003) examined the French IPOs over the period 1992-1998 offered through fixed price, book building and auctions. The underpricing levels recorded was 8.9 per cent, 16.9 per cent 6. 5 per cent respectively conclude that auctions are better way of pricing IPOs. Under auction has ability to incorporate more information about recent market performance into the offer price. This result has provided empirical support by Biais, Bossaerts and Rochet (2002) where auctions were the only method allowed in Israel for a decade. After December' 2003 issuers were allowed to effectively choose a fixed price offering by setting a maximum price for the auction. Many of the IPOs between 2004 and mid-2007 chose to set a relatively low maximum price for their offerings, thus effectively choosing fixed price over auction.

Book Building v/s. Auctions

Ritter (2003) in his statement the book building method was once rare outside the US but is now common. Auctions have been tried in more than 20

countries but are rare today. Auctions were used in Italy, Portugal, Sweden, Switzerland and the UK in the 1980s and in Argentina, Malaysia, Singapore, France and Turkey in the 1990s, but they were abandoned in all of these countries well before book building was introduced. Auctions were required for many years in Japan, yet quickly vanished once book building was allowed.

Nevertheless, Goldreich (2005) shows that the auction have been frequently used for new preferred stock issues in the United Kingdom particularly for government-owned utilities. They found supporting evidence for their prediction and as even uniform price IPOs leads to underpricing.

Hybrid Options

When a firm goes public via hybrid offering, it uses a combination of different pricing techniques. The most frequently used hybrid offering is a combination of bookbuilding method for institutional investors and a fixed priced offering to retail investors (Sherman 2001; Agrawal, 2006; Guray, 2008). In this way, the institutional investors reveal their information during the bookbuilding phase and the price is set. The uninformed retail investors can obtain a fair allocation in the shares of a firm via the fixed price offering, while not participating in the price-setting process.

Many countries have used hybrids – combinations of any two of the three methods.

There have been hybrid auction/fixed offer and auction/book building IPOs, but the most common combination is book building/fixed offer. In the US auction method got much publicity when Google chose to use the auction method for its August, 2004 IPO, but still the auction method is not popular in the US.

Kaneko and Pettway (2003) examine the Japanese initial returns through the various pricing mechanisms. Auctions were initially popular but lost market share over time, with more and more issuers returning to fixed price public offers. Book building was originally allowed only in certain restrictive circumstances but has gained popularity in the last few years.

Agrawal (2009), in Latin America, auctions have been used in Brazil and Peru. Latin American markets however, saw delisting outnumbering listings in Brazil, Argentina and Chile. Thus, it was hard to predict if auctions were successful or not. However, Brazilian, Chilean and later Argentinean IPO markets began picking up in 2004- 2005, with even stronger activity in 2006, and book building has become the dominant method, with auctions become redundant.

Agrawal (2009), Kumar (2010), Bansal and Khanna (2012) evaluate the process of offerings in the Indian Stock Market and determine the procedure of hybrid offerings where either offers made through 100 book-building mechanism or either offers through 75 per cent book-building and remaining 25 per cent through price determined under book building.

From the literature review we can infer that there is mixed evidence of the efficacy of IPO pricing mechanism which is mainly evaluated on the basis of initial returns often consider as underpricing. The research concludes that Book building is gaining popularity or is already the dominant method at the major part of the world. Fixed price public offer is still used in smaller countries and for smaller offerings, auctions and nearly washed out and book building still retains its superiority and is common for the retail tranche of hybrids. IPO auctions were used as an alternative to traditional, fixed-price public offers in Italy, Portugal, Sweden, Switzerland, and the United Kingdom in the 1980s and in Argentina, Malaysia, Singapore, and Turkey in the 1990s. However, they were abandoned in all of these countries long before bookbuilding was introduced from the United States.

Objectives of the Study

The objectives of the study are:

- To determine the efficiency of the various pricing mechanism of the Indian IPOs.
- To measure the initial returns of IPOs in India from the date of offer to the date of listing.
- To examine the extent of short-run underpricing of IPOs in India.

Hypothesis

H_1 = There is significant difference between the efficiency of the pricing mechanism of the Indian IPOs.

H_2= There is the existence of underpricing in the Indian IPOs.

Methodology

The Study: The present study is an exploratory investigation undertaken to examine the efficiency of IPO pricing in India. The study highlighted the mechanism popular in IPO pricing, the efficiency of IPO pricing mechanism on the day of listing and the level of underpricing exists in India.

Data Description

The entire population of IPOs issued by the Companies in the Indian Share market during the period from 1st April 2000 to 31st March 2011 listed at Bombay Stock Exchange (BSE) was selected for the purpose of the study. BSE sensitive Index has been considered as representative of the capital market for the sample IPOs. Total 484 IPOs listed during the period from this list we omitted 4 IPOs whose information was not available so the total sample size consists of 480 IPOs (see table 1). The sample selection criterion is based upon the securities classified on the basis of methods of pricing of the issues. The various pricing method of companies going public broadly classified as Fixed Price, Auction and Book Building.

Tools for Data collection

The data has been collected from the secondary sources. IPO related data have been taken from the official website http://www.bseindia.com of Bombay Stock Exchange (BSE). Newspaper, magazines, journals and online web resources have also been refereed for the study.

Tools for Data Analysis

In order to measure the underpricing the initial returns of the issues are calculated for each IPO by using the methodology adopted by Aggarwal, Leal and Hernandez (1993), Sehgal & Singh (2007), Kumar (2010). IPOs are divided on the basis of initial returns as overpriced issues, fairly priced issues and underpricing issues. Overpriced issues are those issues, which generate losses, fairly priced issues generate zero returns and underpriced issues generate profits for shareholders on the first day of trading.

The total return for stock " R_{it}" at the first trading day is calculated as :

$$R_{it} = \left[\frac{P_{it} - O_i}{O_i} \right] \times 100$$

Where R_{it} is the total return for the stock "i" at the first trading day "t".

Whereas P_{it} is the opening (list) price of the stock 'i' at the time 't' and 'O_i' is the offer price of the 'i^{th}' stock.

The return on the market index during the same period is calculated as :

$$R_{mt} = \left[\frac{P_{mt} - O_{mi}}{O_{mi}} \right] \times 100$$

Where R_{mt} is the return on the market index "m" during the same period "t" determined above.

Whereas P_{mt} is the market index value at the first trading day and O_{mi} is the market index return on the offering day of the appropriate stock.

Combined the measure of under-pricing i.e. R_{it} and R_m, the realized initial excess return, is calculated as the return on listing adjusted for the overall market index (SENSEX) performance during the corresponding period.

Using these two returns, the Mark Adjusted Abnormal Return (MAAR) for each IPO of the first trading day is computed as:

$$MAAR_{it} = R_{it} - R_{mt}$$

Where, $MAAR_{it}$, is the benchmark-adjusted abnormal return for stock.

To test the hypothesis that *MAAR* equals zero, we compute the paired-t statistic:

$$t = \frac{\overline{MAAR}}{S} \times \sqrt{N}$$

Where *S* is the standard deviation of *MAAR* across the companies. The calculated value of *t* is compared with the table value at 5 per cent level of significance.

If the calculated value is more than the tabulated value we reject the Null Hypothesis that is MAAR is not equals to Zero which confirms about the existence of the underpricing in IPOs.

Significance of the pricing mechanism is compared through mean returns of the IPOs priced through fixed price, auction and book building. Descriptive statistics is used to determine the magnitude of the pricing mechanism. The collected data is analyzed by using the Microsoft© MS Office software 'EXCEL'.

Result, Analysis and Discussions

The objective of the study is to determine the efficiency of the various pricing mechanism of the Indian IPOs.

A comparative study has been conducted to determine the current trend of the companies in choosing the form of mechanism to sell their IPOs in the

Indian primary market. Table 1 discloses the issues made through various price mechanisms.

TABLE 1: Number of IPOs Listed at BSE India

Period	Number of IPOs	Fixed Price Issue	Book-Building Issue	Issue through Auction
2000-2001	53	44	9	0
2001-2002	11	8	3	0
2002-2003	07	5	2	0
2003-2004	18	8	10	0
2004-2005	29	10	19	0
2005-2006	65	2	63	0
2006-2007	80	3	77	0
2007-2008	91	12	79	0
2008-2009	25	4	21	0
2009-2010	43	2	41	0
2010-2011	58	4	54	0
Total	**480**	**102**	**378**	**0**

During the period of study a total of 480 initial public offerings were made by issuers. Out of it 102 offerings were made through fixed price regime and rest by book-building process, no evidence has been reported for issue made through auction. There has been a persistent shift in the mechanism by the companies to opt their IPOs. Fixed price mechanism was more prevalent with the first half of the year 2003 and after that Book-building took the lead. As can be seen from the table 1 the number of book- building issues has been small in the initial period of study although their proportion has increased in the recent years.

The main reason for this movement was due to initiative taken by SEBI to make the system more transparent. With the introduction of book-building mechanism the investor is allowed to bid the shares where the price range is based upon the competitive position of the company and the level of risk a company can bear in the market. The pricing of the issue is based upon issue related characteristics like profitability, ROI, utilization of the funds, EPS, underwriting arrangements, size of the issue. The investor is having a fix range to invest so as information leakage can be controlled up to certain extent. Book building mechanism is also favored as having win -win situation for both as the investors is getting fair price of the issue and the company receives fair compensation. Auction fails to register because of its typical characteristics as often found difficult to be understood by the common investors.

Comparison of Minimum and Maximum Returns

The listing day minimum and maximum returns are evaluated of the different pricing mechanism. The maximum initial return on investment made through fixed price offers was 148.50 per cent and through book building were 260 per cent. The minimum return found to be negative 83.13 per cent under fixed price issues and negative 53.45 per cent in book building issues.

TABLE 2: Initial Performance of IPOs at BSE during 2000- 2011

Characteristics	Fixed Price Issue	Book-Building Issue	Issue through Auction
Mean (per cent)	13.92	17.19	0
Maximum (per cent)	148.50	260	0
Minimum (per cent)	-83.13	-53.45	0

Table 2 figures itself shows the scope of the wide range for the profit available to investors under book building mechanism. If invested in IPOs with equal opportunities comparison to earn profit is quite high as compared to the losing end.

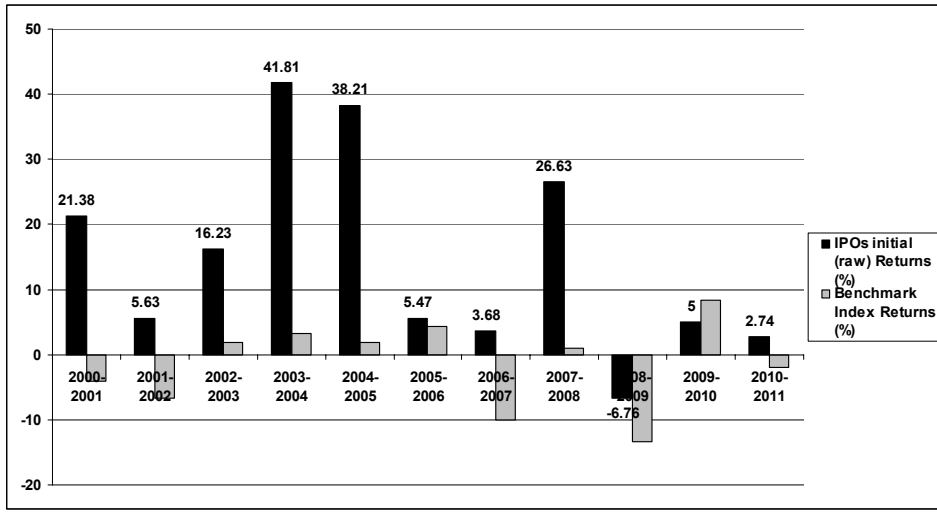
Second objective of the study is to determine initial returns (underpricing) of the IPOs.

The following tables disclose the performance of the historical data of IPOs evaluated from the date of offer to the date of listing from April 01, 2000 to March 31, 2011. Average mean returns (raw returns) of the stock listed on BSE are compared with the Benchmark-index returns i.e. BSE SENSEX.

TABLE 3: Summary of the Initial Performance of Fixed Price IPOs

Duration	IPOs initial (raw) Returns (%)	Benchmark Index Returns (%)
2000-2001	21.38	-4.11
2001-2002	5.63	-6.67
2002-2003	16.23	1.80
2003-2004	41.81	3.27
2004-2005	38.21	1.87
2005-2006	5.47	4.41
2006-2007	3.68	-10.01
2007-2008	26.63	1.03
2008-2009	-6.76	-13.37
2009-2010	5.00	8.32
2010-2011	2.74	-1.91

FIGURE 1: Mean Returns of the Fixed Price IPOs and the Sensex



The raw returns under fixed price mechanism is disclosed in table 3 the maximum IPO raw returns was 41.81 per cent in the year 2003-04 as it was the period of high industrial growth in the country. GDP witnessed a growth of 8.1 per cent (almost doubled) during the year 2003-04 as compared to 4.0 per cent growth in the year 2002-03. Globalizations of economies and rapid changes in information technology have made transactions less costly and faster. These developments had made significant impact on the market. The year 2008-09 registered minimum growth of negative 6.76 per cent and negative 13.37 per cent for benchmark index due to uncertainties in international financial market. Due to US sub- prime cause, hike in domestic and international fuel prices, rise in inflation rate, net sales by FII in the equity segment, rupee depreciation and a general decline in international stock markets generate negative impact in the primary market of the country. Benchmark returns found to be maximum 8.32 per cent in 2009-10 as aftermarket recovery of sub-prime crises along with several amendments made by the SEBI to have better control and management over the market.

TABLE 4: Summary of the Initial Performance of Book Building IPOs

Duration	IPOs initial (raw) Returns (%)	Benchmark Index Returns (%)
2000-2001	20.20	-6.05
2001-2002	-8.62	-9.30
2002-2003	9.29	-4.78
2003-2004	38.60	-0.84
2004-2005	35.19	-0.01

2005-2006	24.09	3.34
2006-2007	18.42	-1.18
2007-2008	27.38	1.72
2008-2009	4.39	-4.78
2009-2010	7.66	1.37
2010-2011	9.41	0.43

FIGURE 2: Mean Returns of the Book- Build IPOs and the Sensex

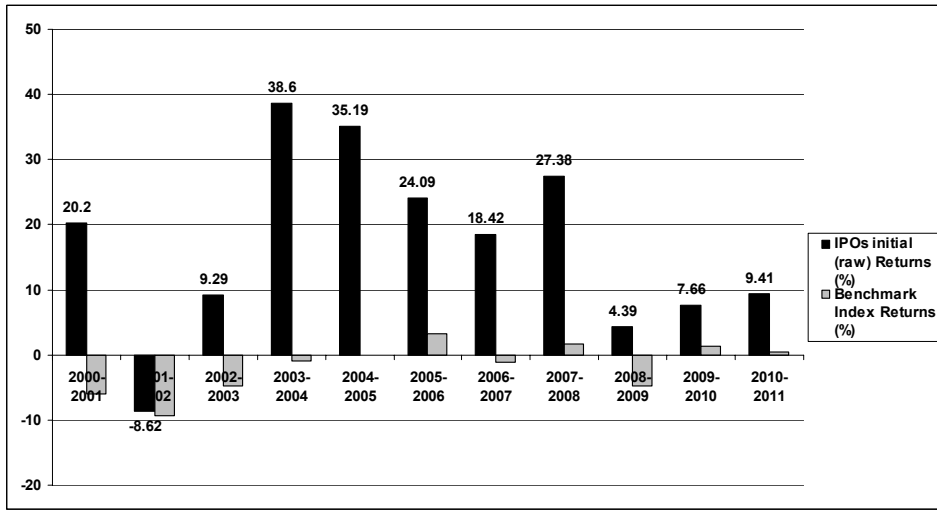


Table 4 discloses the initial performance of Book-building IPOs in India. The maximum return under bookbuilding mechanism was 38.60 per cent in the year 2003-04. This growth was registered due to promising growth factors in the Indian economy. The maximum Benchmark return of 3.34 per cent recorded in the year 2005-06. The revival of the primary market, which started in 2003-04, gathered momentum in 2004-05, and was further invigorated in 2005-06. Due to strong macro-economic fundamentals Indian economy continued to sustain a high rate of growth of 8 per cent during 2005-06.

The year 2001-02 registered minimum loss of 8.62 per cent for book building issues and 9.30 per cent for benchmark index. The earth quake in Gujarat, devaluation of rupee against dollar, raising oil prices, raising interest rate lead to the high rate of inflation, Ketan Parek scam in the stock market and internationally attack on World Trade Center on 9/11 resulted in the big default to the stock exchanges of the country.

TABLE 5: Summary of the Initial Performance of Auction Price IPOs

Duration	IPOs initial (raw) Returns (%)	Benchmark Index Returns (%)	Benchmark-adjusted Returns (%)
2000-2011	0	0	0

No action of auction pricing was reported in the sample data. The prime reason for its unpopularity is auction found to be very complex mechanism and even sophisticated investors have difficulty in getting prices right in it. Under book building mechanism underwriter sets the issue price after observing all orders. Where in an auction, bidders must place their bids before knowing about the number of bids to be offer and at what price it will be allocated and those who invest time and money evaluating an offering risk being press out by hundreds of free riders. Another reason for its failure was lack of interest by underwriters due to difference in their underwriting fees.

Short Run Performance

Third objective of the study is to measure the extent of short-run underpricing in the Indian IPOs.

For reporting initial returns or under pricing unadjusted returns on listing is calculated. The initial return is based on the difference on the opening price of first day when the stock gets listed and the issue price of the IPO. To determine the existence of underpricing Mark Adjusted Abnormal Return (MAAR) for each IPO of the first trading day is computed. In earlier studies it has been found and tested the investors on average outperform the market through buying IPOs at issue prices and selling them on the first trading day. Table 6 and 7 gives the average first day returns for the entire sample of the securities listed at BSE during the period 2000-2001 to 2010-2011. Table 9 discloses the mean of the MAAR found to be 15.30 per cent for fixed price issues and 19.03 per cent for book building issues with an associated t-statistic of 3.559 and 5.077 respectively, which is significantly different from zero at the 5% level of significance.

TABLE 6: Short run underpricing of Indian Fixed Price IPOs at BSE during 2000-2001 to 2010-2011.

Period	Net Issues*	MAAR %	MAAR SD	MAAR Paired- t Test	Table value at 5 per cent sig.	Ho Accepted Rejected
2000-2001	44	25.49	33.01	5.122	1.960**	Rejected
2001-2002	8	15.60	44.79	0.98	2.365	Accepted
2002-2003	5	14.43	11.18	2.885	2.776	Rejected

2003-2004	8	38.54	49.18	2.216	2.365	Accepted
2004-2005	10	36.64	30.92	3.717	2.262	Rejected
2005-2006	2	1.06	7.41	0.202	12.706	Accepted
2006-2007	3	6.34	8.78	1.249	4.303	Accepted
2007-2008	12	25.6	30.96	2.865	2.201	Rejected
2008-2009	4	6.60	44.97	0.293	3.182	Accepted
2009-2010	2	-3.32	7.39	-0.635	12.706	Accepted
2010-2011	4	4.65	7.38	1.261	3.182	Accepted
Total	**102**					

TABLE 7: Short run underpricing of Indian Book-Build IPOs at BSE during 2000-2001 to 2010-2011.

Period	Net Issues*	MAAR %	MAAR SD SD	MAAR Paired- t Test	Table value at 5 per cent sig.	Ho Accepted Rejected
2000-2001	9	26.25	22.56	3.49	2.306	Rejected
2001-2002	3	0.68	11.92	0.098	4.303	Accepted
2002-2003	2	14.07	9.88	2.014	12.706	Accepted
2003-2004	10	39.44	47.65	2.617	2.228	Rejected
2004-2005	19	38.43	32.04	5.228	2.101	Rejected
2005-2006	63	20.76	22.01	7.484	1.960**	Rejected
2006-2007	77	19.59	34.24	5.022	1.960**	Rejected
2007-2008	79	25.66	28.37	8.037	1.960**	Rejected
2008-2009	21	9.17	11.49	3.657	2.086	Rejected
2009-2010	41	6.29	14.97	2.691	1.960**	Rejected
2010-2011	54	8.99	17.52	3.77	1.960**	Rejected
Total	378					

* excluding unavailable data for issues. ** 1.96 is constant value after 29 d.f.

Analysis and Discussions

A comparative study between Fixed Price regime, Auction and Book-building mechanism has been conducted to find out and highlight the current trend of the companies in chasing the form of mechanism in which they would like to sell their IPOs in the primary market. The Table 8 provides the number of IPOs made through various pricing mechanism during the study period of April 01, 2000 to March 31, 2011and listed at the Bombay Stock Exchange.

TABLE 8: Total Number of IPOs made through various pricing mechanism

Number of IPOs	Fixed Price Issue	Book-Building Issue	Issue through Auction
480	102	378	00

The average initial returns computed for the sample period on the basis of first day of trading to the day of issue. The returns found to be positive for the fixed price and book building issues. No issues were made through auction. High level of underpricing was observed under book building offer with a mean of 19.03 per cent. Underpricing under fixed price offer found at lower level of 15.30 per cent. International studies to measure underpricing observed by various authors. Ritter (1998) studied the offerings from different countries. The average underpricing of the fixed price offers was 37 per cent, 27 per cent for offer for sale, 12 per cent for book building and 9 per cent for auctions. Ljungqvist et al (2000) studied the sample of 2051 IPOs from various countries for the period 1992-1999, underpricing was 20.51 per cent for fixed price offers and 20.1 per cent almost similar to book building offers. Study of France IPOs by Derrien and Womack (2003) for the period 1992-98 underpricing for fixed price offers, book building and auctions was 8.9 per cent, 16.9 per cent and 6.5 per cent respectively. They attribute the result to the auctions found to be better way of pricing IPOs.

However IPO underpricing in the Indian capital market found to be mixed. Ranjan and Madhusoodan (2004) studied the 92 IPOs offered during 1999-2003. The average initial returns were 392 per cent, 38 per cent for fixed price and book building issues. Fixed price offers were underpriced to a larger extent than the book building issues. Fixed price offers were underpriced to a larger extent than the book building issues. Study by Bubna and Prabhalal (2007) for the period 2000-2006 documents larger underpricing 30.53 per cent to 21.99 per cent for book building IPOs. Kumar (2010) studied 208 Indian IPOs listed at BSE and NSE for the period 2003-2007 results underpricing of 19.15 per cent for fixed price issues and 17.65 per cent of book building issues. Results of our study are significantly different as initial returns (underpricing) of book building offer is higher than that of fixed price offers.

First Day Return

Table 6 and 7 gives the average first day returns for the entire sample of Indian stock made through various pricing mechanism. MAAR under fixed price mechanism found to be 15.30 per cent with standard deviation of 14.22 per cent. MAAR under book building mechanism is 19.03 per cent with standard deviation of 12.24 per cent which is significantly lower as compared to fixed price mechanism. Low degree of standard deviation indicated lesser volatility. Our result indicates low volatility in book building mechanism in comparison to fixed price issues.

Underpricing

Table 9 discloses the result of underpricing.

TABLE 9: Result of Associated – *t* statistics

	MAAR Returns Fixed Price Issues (FPP)	MAAR Returns Book-Building Issues (BBP)	MAAR Returns Auction Issues (AUP)
Mean (per cent)	15.30	19.03	0
SD	14.22	12.24	0
t- value	03.559*	5.077*	0
Significant value @ 5 per cent level (2- tailed)	02.228	2.228	0
P value	0.000	0.000	0
H_o	Rejected	Rejected	0

* H_0 rejected at 5% level of significance

The *p*-value of the sample studded is 0.000 which is significantly less than the 0.0500 at 5 per cent level of significance rejects the Null hypothesis i.e. underpricing does not exists in the Indian IPOs.

Under fixed price mechanism associated t-statistic found to be 3.559 and under book building mechanism are 5.077, which is significantly different from table value of 2.228 at 5 per cent level of significance. This rejects the null hypothesis that there is no significant difference between the efficiency of the pricing mechanism of the Indian IPOs.

Conclusions

This study ends with a conclusion that under-pricing exists in Indian IPOs irrespective of different issue mechanism. An average IPO is underpriced at the offer price and initial returns in most cases benefited by receiving allocation of shares in IPOs and can earn maximum initial-day returns. The average returns are maximum under book-building offer of 19.03 per cent in comparison to fixed price offerings of 15.30 per cent. Fixed price offers have lost out but not completely as the auction method did. The literature on the efficiency of the IPO mechanisms suggests that, fixed price offerings and auction method seems to be less favorable method in comparison to book building mechanism across many countries around the world. However, book building mechanism is the optimal method as our results indicate the comparison on the value of listing day returns book building outperforms the sale through fixed price mechanism.

To summarise, bookbuilding results in underpricing IPOs. Such a pricing bias leads to a scramble for allotment. Under these circumstances, no matter how vigilant or efficient the regulating agencies, it is difficult if not impossible to trudge out wrongdoing. This is particularly true in India as we do not have national identity numbers, and our justice system finds it difficult to secure convictions. Consequently, we need to try out IPO auctions, on an experimental basis, as a way of improving price discovery.

Scopes for Further Research

Significant difference is found between the level of underpricing and overpricing under the various primary issue mechanisms. The study provides important implications for investors who subscribe to difference IPOs specially retail investors for initial day returns and would help them in understanding the nature and types of firms are most likely to be underpriced. Further research could be done on the influence of the book building method on Initial Return. Effects of underwriting firms and the role of governing bodies to be studded along with the effects of auctions on IPOs remains the subject of research. More Research to be done on the behavior of long term performance of the IPO firms.

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Trade Liberalization and Custom Revenue: An Assessment of the Impact on Nepalese Economy

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Abstract

The purpose of this study is to assess the impact of trade liberalization policy on Nepalese trade tax revenues in both the pre- and post-liberalization periods applying Auto-Regressive Distributed Lag (ARDL) Estimates (Johansen Co-integration Test and error correction modeling) to examine the long- and short-run relationships between tariff liberalization and custom revenues. This analysis indicates that the impact of trade liberalization on and its revenue consequences for Nepalese economy yields the results expected partly, considering some of the empirical implications of tariff liberalization for the developing and low income countries. As several studies indicate, the elasticity coefficients of trade tax revenues with respect to trade revenue index are found to be less in the post-liberalization period than during the pre-liberalization period. Also, the Johansen Co-integration Test as well as short run ARDL equations do not indicate the impact of trade openness variables on trade tax revenue. But the trade openness variables demonstrate that Nepalese economy has become more open in the post-liberalization period than in the pre-liberalization period. The main empirical outcome of this study yields the uncomfortable result that trade openness has no significant positive impact on custom revenues.

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Background

In the last few decades, both the developing and the least developed countries have experienced extensive and rapid reforms toward economic liberalization, spurred by both multilateral trade negotiation and the conditionality related to Structural Adjustment Programs agreed by the Brettonwood Institutions. Liberalization policies have been introduced in these countries with trade liberalization characterized by a rapid elimination of quantitative restrictions and significant reductions in tariff to low and uniform levels. Multilateral and regional integration have also continued in those countries. However, in most of the developing and least developed countries (LDCs) which undertook trade reforms, the extent and path of reforms was diverse, and in many cases, these processes are still ongoing.

After successive Uruguay Round negotiations and the creation of the WTO, a number of developing and LDCs chose to dismantle their trade barriers and open their economies to international competition. As liberalization of the economies was instrumental in lowering import tariffs and removing import restrictions, these countries remained in dire straits for fiscal adjustment and maintaining a favorable balance of payment, which are crucial for macroeconomic stability. Tariff revenue concerns have also emerged as an important issue in multilateral trade negotiations under the Doha Development Agenda (DDA). The July agreement of DDA explicitly identified the tariff revenue issue as a challenge for countries dependent on revenues from import tariffs.

Tariff liberalization, as a policy of development and economic integration for low income country has therefore been claimed to be a potential source of fiscal instability because of its high dependence on trade taxes for public revenue. For instance, in Africa as a whole, international trade taxes generated on average 28.2 percent of total current revenues over the last decade; for sub-Saharan Africa the share goes up to 30.5 percent. This compares to 0.8 percent for the high-income OECD countries, 18.42 percent for the lower medium-income countries, and 22.5 percent for the low income countries (ATPC, 2004).

The impact of tariff cuts on a particular country is largely an empirical issue, as it depends *inter alia* on the initial trade value and tariff level, the size and mode of the tariff cut, and import demand and supply elasticities. While the impact of trade liberalization on trade tax revenue for the low income countries is crucial for budgetary and trade deficits, such an outcome is not unavoidable and demands in-depth analysis. In such a context, the objective of this paper is to assass the impact of trade liberalization on Nepalese custom revenues.

Implication of Trade Liberalization for Nepalese Custom Revenue

Nepal, like many other developing countries, continues to rely heavily on trade taxes as a source of revenue. One of the concerns for such economies amidst continuous trade liberalization is the potential impact of trade liberalization on public revenues with the risk of escalating phenomena of widening budgetary and trade deficits. However, surprisingly, in the pre-liberalization period when Nepalese economy was characterized by inward-looking and state-led development strategies with policy measures of the protection to domestic industries, import substitution, state-led industrialization, and government monopolies in the major industries, trade performance was not favorable for Nepal due to import heavyweight compared to export. Even after the integration of Nepalese economy into the WTO, the share of export in total trade decreased from 28.2 percent in 2004-05 to 14.5 in 2010-11 compared to the increase in import from 71.8 percent to 85.9 percent during the same period (GoN, 2012).

Nepal's import revenue performance after tariff liberalization hovers between two different schools of thoughts – comprehensive liberalism and progressive liberalism. This is because trade liberalization on custom revenue in terms of its growth in absolute figure, unlike in some developing and least developed countries, has been found almost stable in both the pre- and post-liberalization periods with growth rates at 6.81 and 6.26 respectively. But, when it is measured through midway elasticity coefficient the average elasticity coefficients in the post-liberalization period (2.07) is found to be less than during the pre-liberalization period (2.31) (Appendix I).

Review of Literature

The regime of trade liberalization implies substantial revenue implications for governments of low income countries since the impact of this policy framework has, *prima facie,* been experienced to be negative in trade tax collections (Rajaraman; 2006) as there seems statistically significant negative correlation between trade tax revenue and economic openness (Khattry, 2006). Since many developing countries rely heavily on trade tax revenue (Nicholls, Shelton, Janice, and Colthrust, 1999), a reduction or elimination of these taxes may bring fiscal instability as the trade tax revenue typically remains between one-quarter and one-third of the total tax revenue in the low- and middle-income countries, and only a negligible share in high income countries (IMF, 2005). Even countries with higher and more dispersed tariff barriers, while in a position to benefit from tariff reform, are also more

vulnerable to revenue loss (Kowalski, 2005). This may, at the same time, lead to an unambiguous decline in the GDP growth rate as it generally results in a reduction of the surplus of the government's primary account (Yap, 1997).

Moreover, the fundamental proposition on the advantage of economic openness with respect to tariff liberalization that it ensures increased trade flows – both export and import – is also contested. Studies show very often that the unilateral flow of trade has posed adverse effects on domestic import-competing sectors (Jones and Morrissey, 2008). Hence, the loss of tariff revenues even from inter participant trade can exceed the net gains usually identified in the Harberger-Johnson triangles resulting in an overall welfare loss (Bhagwati, Greenway, and Panagariya, 1998). Studies also show budgetary adversity from liberalization as the developing and low income countries are bound to remain under deficit budget operation due to declining custom revenues (Bevan, 1995), and this revenue shortfall can undermine macroeconomic stabilization and development programs that may cause a reversal of the trade reform itself (Younas and Bandyopadhyay, 2009). Thus a sharp fall in fiscal revenues could also reduce the government's abilities to meet the very large developmental and social needs of these countries (Hallaert, 2009). Cagé and Gadenne (2012) also provide evidences on the adverse fiscal consequences of opening up to trade on tax revenues.

However, some studies do assert that trade liberalization does not necessarily reduce revenue from trade taxes if prudentially matched by identifying alternative revenue sources (IMF, 2005) although, in the early stages of liberalization, the revenue consequences of reform may be relatively minor (Baunsgaard and Keen, 2005). This is most likely to be the case when liberalization involves reducing non-tariff barriers, by converting them into explicit tariffs; reducing distorting exemptions, or raising low tariffs to establish a more uniform structure; cutting tariffs that are initially set, for protective reasons, at such high levels that a reduction would cause trade volumes to increase by more than enough to offset the direct revenue loss from lower rates; and reducing most favored nation tariff rates toward preferential rates, tending to shift import demand toward more heavily tariffed items (IMF, 2005). Trade revenues, however, may not fall with trade tariff cuts, especially if the starting point is highly tariff-protected, yielding high percentage increases in import volume starting from a low base, in response to small percentage reductions in the tariff. High import protection might have engendered a flourishing tax-evaded smuggled flow of goods, so that reduced tariffs may transfer import traffic from the smuggled to the tariff-bearing channel because of the reduced gain from avoiding taxation to offset the risk, even if border vigilance remains unchanged (Ebrill, Stotsky,

and Gropp, 1999; Agbeyegbe and Mariam, 2004; and.Rajaraman, 2006). Indeed, the first steps of trade policy reform – often involving the reduction of prohibitively high tariffs, tariffication of quotas, elimination of exemptions, and raising of low tariff rates in moving toward a more uniform tariff – may plausibly lead to an increase in trade tax revenues (Baunsgaard and Keen, 2005).

For some, the main objective of trade liberalization is to enhance allocative efficiency (and hence welfare), and not to preserve government revenue (Younas and Bandyopadhyay, 2009). The reduction in tariffs can also lead to higher import volumes, as a result of both income and substitution effects; demand could shift to items with higher tariff rates as a result of an income effect; a depreciation of the exchange rate following trade liberalization could raise the value of imports and tariff revenues in local currency; and over the longer term, revenue could be expected to increase as a result of higher economic growth (Woytek, Hallaert, Lankes, Sadikov, Azim, and Smith, 2006). Thus the policy should focus on the importance of concomitant fiscal adjustment to make trade reform sustainable in terms of the size of the tariff cut, the response of imports to the tax change, and the relative importance of import tariffs as a source of government revenue (Branson et al., 1992; and Worrell, 1993).

Data and Method

This study has followed multivariate regression to measure trade tax revenue within the tariff liberalization framework. For this purpose, a comparable set of macroeconomic data for the period 1974-75 to 20010-11 has been used. To check the stationary properties of variables, the most widely used Dickey Fuller (DF) Augmented Dickey-Fuller (ADF) tests and the newly formulated Phillips-Perron (PP) test have been employed. To test DF, the following equation has been used:

$$\Delta Z_t = \mu + (\rho - 1)Z_{t-1} + \gamma T + e_t$$

Likewise, ADF test has also been employed to minimize the correlation of error term u_t:

$$\Delta Z_t = \mu + (\rho - 1)Z_{t-1} + \gamma T + ee_t$$

The PP test has been run to make a correction to the t-statistic of the γ coefficient from the regression to account for the serial correlation in ε as:

$$\Delta Z_t = \varphi + (\rho - 1)Z_{t-1} + \gamma(t - \frac{T}{2}) + \psi\Delta Z_{t-i} + e_{3t}$$

After employing the unit root test, econometric analysis has been carried out following Auto-Regressive Distributed Lag (ARDL) Estimates (Johansen Co-integration Test and error correction modeling) to test for valid long- and short-run relationships between the variables. For this purpose, the ARDL bounds testing approach has been applied to estimate equation (iv) and (v) by ordinary least squares (OLS) in order to test for the existence of the long-run relationship among the variables by conducting an F-test for the joint significance of the coefficients of the lagged levels of the variables, i.e., the null hypothesis $\delta_1 = \delta_2 = \delta_3 = 0$ against the alternative hypothesis $\delta_1 \neq \delta_2 \neq \delta_3 \neq 0$. The long-run impact of trade liberalization on trade tax revenue has been assessed as:

$$TT = \alpha_0 + \sum_{i=1}^{p_1} \delta_1 \ln pop_{t-i} + \sum_{i=0}^{q_2} \delta_2 \ln pcrgdp_{t-i} + \sum_{i=0}^{q_3} \delta_3 tt_{1t-i} + \varepsilon_t \quad \ldots \text{(iv)}$$

$$TT = \alpha_0 + \sum_{i=1}^{p_1} \delta_1 \ln pop_{t-i} + \sum_{i=0}^{q_2} \delta_2 \ln pcrgdp_{t-i} + \sum_{i=0}^{q_3} \delta_3 tt_{2t-i} + \varepsilon_t \quad \ldots \text{(v)}$$

Likewise, to examine the short-run impact based on error correction model, the following equation has been used:

$$\Delta TT_t = \mu + \sum_{i=1}^{p} \varphi_i \Delta TT_{t-i} + \sum_{j=1}^{q} \eta_j \Delta \ln Pop_{t-j} + \sum_{l=1}^{q} \theta_l \Delta \ln PCRgdp_{t-1} + \sum_{m=1}^{q} \gamma_m \Delta tt_{1t-m} + \varepsilon_t \quad \ldots \text{(vi)}$$

$$\Delta TT_t = \mu + \sum_{i=1}^{p} \varphi_i \Delta TT_{t-i} + \sum_{j=1}^{q} \eta_j \Delta \ln Pop_{t-j} + \sum_{l=1}^{q} \theta_l \Delta \ln PCRgdp_{t-1} + \sum_{m=1}^{q} \gamma_m \Delta tt_{2t-m} + \varepsilon_t \quad \ldots \text{(vii)}$$

where φ, η, θ, and γ are the short-run dynamic coefficients of the model's convergence to equilibrium.

Trade Liberalisation and Structural Changes in Custom Earnings

Assessments of the revenue effects of trade liberalization have been analyzed using various policy variables. Among them, removing trade restrictions, doing away with import licensing, reducing tariff rates, removing quantitative restrictions, and dismantling the erstwhile system of foreign exchange rationing have come to be recognized as the standard measures of trade liberalization. A number of trade liberalization measures have been used for empirical research, including trade dependency ratio, growth rate of exports, tariff rate averages, tariff-GDP ratios, coverage of quantitative restrictions, black market premium, trade bias index, anti-export biasness, Sachs and Warner index, Leamer's openness index etc (Razzaque et al., 2003).

Considering the nature and availability of the data, this section has tried to explain the implication of Nepalese trade liberalization policy for revenue performance comparing the changes of various indicators between the pre- and post-liberalization periods. For this purpose, some popular indicators to measure the direction and impact of trade liberalization have been presented. These measures include the comparative averages of the percentages between the pre- and post- liberalization periods such as trade revenue as a percentage of GDP, trade as a percentage of GDP, and trade tax revenue as a percentage of imports.

Regarding the trade tax revenue as a percentage of GDP, the results are as expected, following many studies of the developing countries regarding the trade revenue as a percentage of GDP. It seems relatively stable in both the pre- and post-liberalization periods.

TABLE 1: Trade Revenue as a Percentage of GDP: 1974-75 to 2010-11

Rs. in millions (average) and %

Fiscal Year	Trade Revenue	GDP	Trade Revenue as % of GDP
1974/75-1977/78	383.00	17750.58	2.15
1978/79-1981/82	718.93	26943.50	2.66
1982/83-1985/86	970.57	43858.08	2.21
1986/87-1989/90	2173.80	83364.02	2.60
1990-91	3044.28	120370.27	2.53
Average			**2.43**
1991/92-1994/95	4894.26	184852.01	2.60
1995/96-1998/99	8414.10	293076.75	2.88
1999/00-2002/03	12565.14	443170.27	2.83
2003/04-2006/07	15826.99	627017.86	2.55
2007/08-2010/11	29679.45	1086261.50	2.73
Average			**2.72**

Source: Author's calculation from Economic Survey *(various years)*

Table 1 indicates a relatively stable share of trade tax revenue for GDP, which is found to be on an average 2.43 percent during the period of 1974-75 to 1990-91 while it is marginally decreased to an average 2.72 during the period of 1991-92 to 2010-11. The period of 1991-92 to 2010-11 is considered to be the phase of extensive economic liberalization in Nepal.

While examining the trade as a percentage of GDP, popularly taken as a primary indicator to measure the openness of the economy, the figure can be seen as a marked variation in both periods, i.e., before and after the trade liberalization periods. Nepalese economy and hence the trade, in this respect,

is seen to have become more open as trade as a percentage of GDP in the post-liberalization period substantially increased compared to the pre--liberalization period.

TABLE 2: Total Trade as Percentage of GDP: 1974-75 to 2010-11

Rs. in millions (average) and %

Fiscal Year	Total Trade	GDP	Total Trade as % of GDP
1974/75-1977/78	3140.05	17750.58	17.67
1978/79-1981/82	5317.70	26943.50	19.67
1982/83-1985/86	9641.55	43858.08	21.93
1986/87-1989/90	18955.20	83364.02	22.69
1990-91	30614.00	120370.27	25.43
Average			**21.48**
1991/92-1994/95	63575.38	184852.01	34.03
1995/96-1998/99	112560.65	293076.75	38.52
1999/00-2002/03	164571.33	443170.27	37.38
2003/04-2006/07	221614.80	627017.86	35.36
2007/08-2010/11	382261.13	1086261.50	35.22
Average			**36.10**

Source: Author's calculation from Economic Survey (various years)

As Table 2 bears out, total trade as a percentage of GDP is 21.48 from 1974-75 to 1990-91 and the percentage is increased rapidly afterwards reaching about 36.10 during the post-liberalization period from 1991-92 to 2010-11. Although this increase corresponds with the pace and extent of trade liberalization in Nepal, it is, however, difficult to draw any causal relationship.

TABLE 3: Import Tax as Percentage of Import: 1974-75 to 2010-11

Rs. in millions (average) and %

Fiscal Year	Import Tax	Imports	Import Tax as % of Imports
1974/75-1977/78	383.00	2068.48	18.50
1978/79-1981/82	718.93	3930.83	18.59
1982/83-1985/86	970.57	7477.90	12.91
1986/87-1989/90	2173.80	14840.85	14.63
1990-91	3044.28	23226.50	13.11
Average			**15.55**
1991/92-1994/95	4894.26	46598.98	10.45
1995/96-1998/99	8414.10	86133.80	9.79
1999/00-2002/03	12565.14	113983.28	11.01
2003/04-2006/07	15826.99	163556.40	9.83
2007/08-2010/11	29679.45	319229.50	9.33
Average			**10.08**

Source: Author's calculation from Economic Survey (various years)

Table 3 shows import tax as a percentage of import volume. The ratio of import tax to import volume in the post-liberalization period of 1991-92 to 2010-11 is found to be decreased to 10.08 from 15.55 in the pre-liberalization period of 1974-75 to 1990-91. While assessing the impact of trade liberalization on the government's revenue, it has been clearly reflected on the trade tax to import ratio.

ARDL Estimation of Trade Revenue Implication for Trade Liberalization

Estimation Results of Unit Root Test

Before analyzing the relationships among the variables mentioned above to measure the impact of trade liberalization on trade tax revenue, this study first examined the unit root of the variables to determine the stationary properties of the variables. The results of DF, ADF, and PP tests for both level and their first difference with and without trend term are reported in Table 4 considering the following hypothesis:

H_0: The variable under the test is non-stationary against stationary
H_1: The variable under the test is stationary

The unit root tests for all independent variables of the equations mentioned above, viz., natural log of population (lnpop), natural log of per capita real GDP (lnpcrgdp), trade tax revenues as a percentage of import (tt_1), and total trade as a percentage of GDP (tt_2) presented in Table 4 suggest that they are non-stationary in both with and without trend at level as their DF, ADF, and PP tests could not reject the null hypothesis of non-stationary except for tt_1, which appeares to be stationary in with trend at a 5 percent critical value. But, they appeare to be stationary in their respective first difference at 1 percent critical value. Surprisingly, the unit roots for the dependent variable – trade tax revenue as a percentage of GDP (TT) – is found to be stationary in its intercept (without trend) for all DF, ADF, and PP at a 5 percent critical value, while it is significant only for ADF in trend at 5 percent critical value.

TABLE 4: Results of the DF, ADF and PP Tests

	Without Trend			Trend and Intercept		
Variables	**DF**	**ADF**	**PP**	**DF**	**ADF**	**PP**
TT	-3.03	-3.56	-3.02	-3.09	-3.79	-3.08
ΔTT	-5.17	-4.73	-5.08	-5.14	-4.71	-5.04
lnPOP	-0.83	-0.92	]	-1.77	-1.87	-1.85

ΔlnPOP	-5.76	-3.82	-5.76	-5.77	-3.88	-5.77
ln pcRGDP	0.35	0.14	0.35	-1.93	-1.63	-2.08
ΔlnpcRGDP	-6.35	-4.33	-6.33	-6.27	-4.25	-6.26
tt_1	-1.66	-1.54	-1.74	-3.29	-3.58	-3.29
Δtt_1	-6.19	-4.39	-6.20	-6.14	-4.35	-6.14
tt_2	-1.51	-1.33	-1.50	-1.22	-1.12	-1.21
Δtt_2	-5.80	-5.11	-5.80	-5.85	-5.26	-5.84
Significance of Unit Root Test (MacKinnon critical values)						
Critical Value at		Intercept		Trend and Intercept		
* 1% level		-3.6228		-4.2324		
** 5% level		-2.9446		-3.5386		

Impact of Trade Liberalization on Trade Tax Revenues

Although, evidences on the possible revenue consequence of tariff liberalization are varied, there is a general agreement that the revenue consequences of trade liberalization will hinge, to a considerable extent, on the share of tariff revenue in the total revenue of a country (ATPC, 2004 and Kubota, 2000). The impact of trade liberalization and its revenue consequences for the Nepalese economy has also given the expected outcome, considering that some of the theoretical references of tariff liberalization have an adverse impact on revenue as shown in the following ARDL results.

The estimation results of trade tax revenue impact of trade liberalization model are presented below. Two regressions have been estimated using four variables to measure the openness impact: natural log of population (*lnpop)*, natural log of per capita real GDP (*lnpcrGDP),* import taxes as a percentage of total import as an index of openness (tt_1), and total trade as a percentage of GDP (tt_2) as another index of openness.

Effects in the Pre-Liberalization Period

As hypothesized, the impact of trade openness has no impact on custom revenue due to insignificant value of F-statistics in both regressions indicated in Table 5. The effects on trade tax revenues thus in protective trade regime in the pre-liberalization period are not found to be significant as also the coefficients of the determinants are found to be meaningless due to their insignificant t-values in both regressions. The population and per capita real GDP variables, which are not necessarily the trade openness measures, also have not shown impact on custom revenue. The regression has produced an interesting outcome regarding the population and per capita real GDP coefficients. As Nepalese trade was almost open with India, which was and is Nepal's largest trade partner, the population and per capita real GDP might have positive impacts.

TABLE 5: Long-run ARDL Estimates of Revenue Impact in the Pre- Liberalization Period

Regression 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.48	1.50	0.99	0.34
$Lnpop_{t-1}$	-1.52	2.06	-0.74	0.48
$lnpcrgdp_{t-1}$	0.57	0.61	0.94	0.37
$tt_{1\ t-1}$	0.05	0.03	1.62	0.13
F-Statistics	2.26	Prob.(F-Statistics)	0.13	
R-squared	0.36			

Regression 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.74	2.18	1.71	0.11
lnpop t-1	-4.35	2.76	-1.57	0.14
lnpcrgdp t-1	1.22	0.66	1.84	0.09
tt2 t-1	0.05	0.06	0.81	0.44
F-Statistics	1.41	Prob.(F-Statistics)	2.28	
R-squared	0.26			

Source: Author's calculation from Economic Survey (various years)

The short-run error-correction ARDL equation corresponding to the long-run model showing effects of trade liberalization on trade tax revenue is given in Table 6. The result followed the 'general-to-specific' approach where the first lags of the first differenced variables along with the lagged dependent variable have been inserted into the model. The results of the first regression show that trade openness policy has no impact on custom revenue due to insignificant value of F-statistics in the first regression, however there seems the impact of openness on trade tax revenues as the coefficient of tt_1 is significant at 10 percent critical value while explaining the individual variable. But, in the second regression, the impact of trade openness on custom revenue is found to be positive due to significant F-statistics. When considering the impact of individual variables, all independent variables have positive impact on trade revenues as the coefficient of lnpop is significant at 5 percent, while it is significant at 10 percent for lnpcrgdp and tt_2.

TABLE 6: Short-run ARDL Test Corresponding to the Long-run Equations of the Trade Tax Revenue Impact in the Pre-Liberalization Period

Regression 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	0.58	0.33	1.75	0.14
ΔTT_{t-1}	-0.46	0.39	-1.16	0.30
ΔTT_{t-2}	-0.25	0.56	-0.44	0.68

$\Delta lnpop_{t-1}$	-12.57	7.06	-1.78	0.14
$\Delta lnpop_{t-2}$	-8.19	9.88	-0.83	0.44
$\Delta lnpcrgdp_{t-1}$	-0.62	2.14	-0.29	0.78
$\Delta lnpcrgdp_{t-2}$	1.08	2.13	0.51	0.63
$\Delta tt_{1\ t-1}$	0.01	0.10	0.12	0.91
$\Delta tt_{1\ t-2}$	0.01	0.09	0.09	0.93

R-squared 0.67, Serial Correlation 0.13, Functional Form 4.29, Normality 2.81, Heteroscedasticity 0.33

Regression 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.50	0.34	1.48	0.20
ΔTT_{t-1}	0.03	0.50	0.06	0.95
ΔTT_{t-2}	-0.12	0.29	-0.41	0.70
$\Delta lnpop_{t-1}$	-13.89	4.99	-2.79	0.04
$\Delta lnpop_{t-2}$	-2.30	8.14	-0.28	0.79
$\Delta lnpcrgdp_{t-1}$	-1.33	0.93	-1.43	0.21
$\Delta lnpcrgdp_{t-2}$	1.43	1.13	1.27	0.26
$\Delta tt_{2\ t-1}$	-0.10	0.07	-1.36	0.23
$\Delta tt_{2\ t-2}$	0.01	0.07	0.09	0.93

R-squared 0.75, Serial Correlation 0.17, Functional Form 8.85, Normality 0.63, Heteroscedasticity 0.54

Source: Author's calculation based on Appendix II

Effects in Post-Liberalization Period

Those who support the neo-liberal model advocate long-term gains from trade and investment liberalization through the growth of GDP and thus the export trade along with the decline in import. They are of the opinion that even if there are some negative fiscal impacts in the short term, liberalization will compensate and, lead eventually, to larger fiscal revenue derived from the growth of economic activity that serves as a base for taxation (Caliari, 2007). But, when the Johansen Co-integration ARDL test was run to measure the long-run impact of trade liberalization on Nepalese trade tax revenues in the post-liberalization period, the regression produced a mixed result. The impact of trade openness on custom revenue is found to be positive due to significant F-statistics in first regression. But, the regression failed to produce the impact of a trade openness variable, i.e., (tt_1) on trade tax revenue as its coefficient bears insignificant t-value, which contestes the basic proposition of economic liberalization. Surpringly, there seems a positive impact of population and per capita real GDP on custom revenue in the first regression as the coefficient of these variables have insignificant t-values.

Likewise, there seems the impact of trade openness on custom revenue in the second regression with its significant value of F-statistics. But, when considering the impact of individual variables on trade tax revenue, all

independent variables could not produce positive effecst on trade revenues due to their insignificant t-values.

TABLE 7: Long-run ARDL Estimates of Revenue Impact in the Post- Liberalization Period

Regression 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.59	1.70	3.29	0.00
$Lnpop_{t-1}$	-6.43	1.87	-3.43	0.00
$lnpcrgdp_{t-1}$	1.70	0.51	3.32	0.00
$tt_{1\ t-1}$	0.06	0.07	0.85	0.41
F-Statistics	4.08	Prob.(F-Statistics)	0.02	
R-squared	0.43			

Regression 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.05	2.58	2.35	0.03
$Lnpop_{t-1}$	-5.46	3.18	-1.72	0.11
$lnpcrgdp_{t-1}$	1.38	0.86	1.62	0.13
$Tt_{2\ t-1}$	0.00	0.03	0.12	0.91
F-Statistics	3.68	Prob.(F-Statistics)	0.03	
R-squared	0.41			

Source: Author's calculation based on Appendix II

The short ARDL test of the trade tax revenue consequences for trade liberalization regime presented in Table 8 reiterates the findings of several studies that tariff liberalization does not increase custom revenues in the short run. Like the long run function presented above, the short-run error-correction equation corresponding to the long-run model showing effects of trade liberalization on trade tax revenue indicates that there is no impact of openness on custom revenue due to insignificant value of F-statistics in both regressions. The effects of trade liberalization policy on trade tax revenues thus in the post-liberalization period are not found to be significant as also the coefficients of the determinants are found to be meaningless due to their insignificant t-values in both regressions.

TABLE 8: Short-run ARDL Test Corresponding to the Long-run Equations of the Trade Rax Revenue Impact in the Post-Liberalization Period

Regression 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	0.07	0.70	0.10	0.92
ΔTT_{t-1}	0.13	0.39	0.33	0.75
ΔTT_{t-2}	-0.19	0.37	-0.52	0.61
$\Delta lnpop_{t-1}$	4.16	14.40	0.29	0.78

$\Delta lnpop_{t-2}$	-8.06	11.98	-0.67	0.51
$\Delta lnpcrgdp_{t-1}$	1.69	2.29	0.74	0.48
$\Delta lnpcrgdp_{t-2}$	-1.63	2.50	-0.65	0.53
$\Delta tt_{1\ t-1}$	0.02	0.09	0.26	0.80
$\Delta tt_{1\ t-2}$	-0.04	0.12	-0.31	0.76

R-squared 0.21, Serial Correlation 0.55, Functional Form 0.08, Normality 0.06, Heteroscedasticity0.86

Regression 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	0.37	0.54	0.68	0.51
ΔTT_{t-1}	0.26	0.33	0.81	0.44
ΔTT_{t-2}	-0.15	0.34	-0.45	0.66
$\Delta lnpop_{t-1}$	-2.34	10.27	-0.23	0.82
$\Delta lnpop_{t-2}$	-14.80	10.27	-1.44	0.18
$\Delta lnpcrgdp_{t-1}$	1.84	2.17	0.85	0.42
$\Delta lnpcrgdp_{t-2}$	-1.70	2.27	-0.75	0.47
$\Delta tt_{2\ t-1}$	-0.02	0.03	-0.75	0.47
$\Delta tt_{2\ t-2}$	-0.03	0.03	-0.85	0.41

R-squared 0.26, Serial Correlation 0.89, Functional Form 0.28, Normality 0.10, Heteroscedasticity 1.02

Source: Author's calculation based on Appendix II

From the analysis done above, the impact of trade liberalization and its revenue consequences for Nepalese economy appears to give the results expected results to some extent, taking into consideration some of the theoretical references of tariff liberalization such as:

- The elasticity coefficients of trade tax revenues with respect to trade revenue index are found to be less (2.07) in the post-liberalization period than during the pre-liberalization one (2.31).
- Both indexes of trade openness variables, i.e., tt_1 and tt_2, indicate that Nepal has become more open in the post-liberalization period than in the pre-liberalization period.
- However, the impact of trade openness variables, i.e., tt_1 and tt_2 on trade tax revenue was not found significant in both the pre- and post-liberalization periods, which is supported by the Johansen Co-integration Test as well as short-run ARDL equations as the coefficients of all variables were found to be meaningless due to their insignificant t-values.

Conclusion

Amidst a growing concern that in the course of intensive trade liberalization there might be unexpected revenue losses in the developing countries if

liberalization is confined to reducing tariff rates in which case trade taxes constitute the major source of revenue, Nepal has been able to upset the possible revenue loss partly by the nature of elastic import demand or accompanied by a more than compensating import volume increase with respect to trade tariff cuts. This is because the growth of custom revenues is found to be almost stable in both the pre- and post-liberalization periods with the growth rates at 6.81 and 6.26 respectively. As in many countries of where trade was highly protected in the pre-liberalization period, the impact on custom revenue due to reduced tariff regime has been compensiated by the tariffication system. On the other hand, Nepalese tax revenues have been supported by value added tax levied after the custom duties and reform initiated on the domestic taxes systems. Likewise, reduction of tariff dispersion might actually raise the tariff rate on previously untaxed imports. The other factors behind positive tariff revenue to GDP ratio may come from the fact that the revenues need not necessarily fall with trade tariff cuts, especially if the starting point is highly tariff-protected, yielding high percentage increases in import volume starting from a low base, in response to a small percentage reduction in the tariff.

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Consumer Purchase Behavior for Green Products

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Abstract

The concern for climate change and global warming is increasing at global level which results in stimulating the interest of firms toward environmental protection and sustainable development. Many firms have started developing green products to meet the demand of environmentally conscious consumers. These firms are now interested in finding the determinants of environmentally conscious consumers' behaviour in order to develop effective marketing strategy to ensure the green purchase commitments. Demographic factors, psychographic factors, environmental awareness, environmental concern, price & quality of the green products, Perceived Consumer Effectiveness (PCE), environmental attitude, information, promotional activity, and availability, are major factors in motivating one's behavioural change to engage in environmental behaviour. These factors have been tested in the past, but they have never been tested together in the context of green purchase behaviour of consumers in Central India.

Therefore, this paper reviews the conceptual and empirical literatures of the abovementioned variables in explaining the green purchase behaviour. To indentify the factors which influence the consumer purchase behaviour for green products, factor analysis has been used. And convenient sampling method was used to collect the data from the five major cities of Madhya Pradesh. Over 650 questionnaires were circulated out of which a total of 390 questionnaires were considered for the final research purpose with 5 % error of margin and 5 % level of significance. The research has came out with seven major factors, (1. Awareness & Concern, 2. Price & Quality, 3. PCE, 4. Information, 5. Attitude, 6. Promotional activity, and 7. Information), which influence the green purchase behaviour in central India.

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Introduction

Though Indian government has not made it mandatory for corporate social responsibility but to survive in today's competitive business environment, where consumers are going very concern about the environmental issues, both profit oriented and socially responsible firms have started adopting the concept of green marketing and address the environmental issues as a source of competitive advantage (Tan, 2011; Roberts, 1996). These firms have started developing and promoting the green products to meet the demand of environmentally conscious consumers (Tan, 2011; Kassaye, 2001; Polonsky and Kilboume, 2005). Even environmental or green marketing, a strategic marketing approach is a recent focus in business endeavors (Chen and Chai, 2010; Ottman, 1998).

Increasing focus on environmental issues can be seen as an indication that concerns for the environment have emerged as a potential strategic concern for businesses (Polonsky & Kilboume, 2005; Menon & Menon, 1997). The belief is that the consumers' pro-environmental concern is one of the determinants of their 'green buying' behaviour i.e., buying and consuming products that are environmentally beneficial (Mainieri et al., 1997).

Green marketing is considered as one of the major trends in modem businesses (Kassaye, 2001; McDaniel & Rylander, 1993; Pujari & Wright, 1996). Environmental ecological or green marketing are similar terms used in literature, is a way to use the environmental benefits of a product or service to promote sales. According (Belz & Peattie, 2008), green marketing and environmental marketing in the late 198O's focused on green consumers who would be willing to pay premium prices for more environmentally friendly products. Many consumers choose products that do not damage the environment over less environmentally friendly products, even if they cost more. With green marketing, advertisers focus on environmental benefits to sell products such as biodegradable diapers, energy-efficient light bulbs, and environmentally safe detergents. Green marketing encourages consumers to use eco-friendly products and manufacturers to develop more environmentally beneficial products (Tan, 2011).

To influence the interest of consumer for purchasing green products, green advertising messages must be informative and persuasive enough in obtaining the desirable targeted business outcomes (Belz and Peattie, 2008). Peattie, (2001), identified that the advertising claims such as 'eco-friendly' is the most common terms being used in the market but its effectiveness in convincing green purchase action is still insignificant. As a result, firms have started identifying and understanding the factors which consumers' purchase

behaviour for green product in order to deliver an effective and persuasive advertisement in their marketing and communication strategies (Chen and Chai, 2010; Tan, 2011).

As India is the fastest developing country, facing great challenges in ensuring a balance between development and environmental sustainability. Any remedy to preserve the Earth's resources requires not only a radical rethink and action of government and business, but also the immediate changes in attitudes and buying behaviour of consumers to contribute to the sustainable and diminished use of nature resources (Nema, 2011).

Therefore, the purpose of this paper is to identify the factors influencing purchasing behaviour of consumer for green products. The structure of the paper is as follows: we first review the literature pertaining to the conceptual theories of variables. Second, identifying factors affecting the consumer purchase behaviour for green products through factor analysis in SPSS. This leads to the development of propositions for this study. Finally, the research objectives to be considered for future research undertaking in the context of consumer buying behaviour for green products are proposed.

Review of Literature

Businesses are globally coming up with the new responsibility of promoting sustainable development by preserving the limited natural resources and conserve them to meet the needs of the future generation. Continuous changes in natural resources and the over consumption has led to some realization about human responsibility towards nature. This realization has led to development of eco-friendly consumption patterns or green purchase behaviour among consumers.

Green purchase behaviour is one Green purchase behaviour of the pro-environmental behaviours (Chan, 2001; Kim, 2002; Kim and Choi, 2003; 2005; Mostafa, 2007). It refers to the purchasing and consuming products that have minimal impacts on environment (Mainieri, et al, 1997). Obviously, firms are willing to operate in a sustainable manner but provided by doing so could enable them to gain competitive advantage. However, it is still questionable on the green purchase commitment if there are sufficient green products available in the market (Chan, 1996) as the share of green market activities is still lacking (Peattie, 2001; Kalafatis, Pollard, et al, 1999; McCarty & Shrum,, 1995).

As a result, it is essential to encourage and promote the environmental responsible consumption behaviour such as purchasing the green products to minimize the direct and indirect impacts from the individual consumption decision on the environmental degradation, especially in the trend of urbanization, changing lifestyle as well as increasingly number of affluence people in India.

Environmental Awareness & Concern

Consumers who have awareness and concern for the essentials of environmental issues are known as green consumers (Soonthorsmai, 2007). Roberts (1996) indicated that environmentally conscious consumers and consumers who believe the specific ecological activities can improve the environmental issues are more likely to perform green consumer behaviors. Krause (1993), in his research found that consumers were becoming more concerned about their everyday habits and the impact on the environment. The outcome of the study this is that some of the consumers translated their environmental concern into actively purchasing green products commitment (Martin and Simintiras, 1995). Some studies suggest that there is a positive relationship between environmental concern and green buying behaviour (Arbuthnot & Lingg, 1975). To extend the discussion we can say that;

Environmental Attitude

Allport (1935) defined attitude as: "A mental and neural state of readiness, which exerts a directing, influence upon the individual's response to all objects and situations with which it is related". According to Schultz and Zelezny (2000), "attitudes of environmental concern are rooted in a person's concept of self and the degree to which an individual perceives him or herself to be an integral part of the natural environment". Schultz et al, (2004) defined environmental attitude as "the collection of beliefs, affect, and behavioural intentions a person holds regarding environmentally related activities or issues". Milfont (2007) defined the environmental attitude as the "psychological tendency that is expressed by evaluating perceptions of or beliefs regarding the natural environment, including factors affecting its quality, with some degree of favour or disfavour". In conclusion we can say that, attitude represents what consumers like and dislike (Blackwell et al., 2006) and consumers' product purchasing decisions are often based on their environmental attitudes (Irland, 1993; Schwepker and Cornwell, 1991). Schultz and Zelezny (2000); (Blackwell et al., 2006); Milfont (2007)

Perceived Consumer Effectiveness (PCE)

Perceived Consumer Effectiveness (PCE) refers to the extent to which individuals believe that their actions make a difference in solving a problem (Kim, 2005; Ellen et al, 1991). Initially, PCE was measured as an element of personality variable to predict ecological concern (Kinnear *et al*., 1974) and ecological consumption responsible patterns (Balderjahn, 1988; Berger and Corbin, 1992; Tesser and Shaffer 1990).

Ellen et al, (1991) revealed that PCE for environmental issues are also different from environmental concerns or attitudes and make a unique contribution to the prediction of environmentally conscious behaviours such as green purchase. Consumer concerns about the environmental issues might not easily translate into pro-environmental behaviours; however, individuals with a strong belief that their environmentally conscious behaviour will result in a positive outcome are more likely to engage in such behaviours in support of their concerns for the environment. Accordingly, self-efficacy beliefs may influence the likelihood of performing green purchase behaviour (Tan and Lau, 2011; Kim, 2005).

Brown (1979) and Thompson (1981), concluded that PCE is determined by knowledge as well as direct and indirect experiences and varies with individuals as their personal knowledge and experiences differ. On other hand, Straughan and Roberts (1999) examined that PCE as an attitudinal variable to predict environmental behaviour. They found that PCE was a strong attitudinal variable to predict ecologically conscious consumer behaviour (EECB) which explained 33 % of the variation in ECCB. In addition, Kim and Choi (2003) concluded that PCE have different impacts on different types of pro-environmental behaviour and an indirect effect on green purchase behaviour via environmental attitudes. It supported the notion proposed by Ellen *et al*. (1991) that PCE should be used to predict specific types of pro-environmental behaviour and not the general pro-environmental behaviour.

Further research by Kim and Choi (2005) also confirmed the role of PCE as a predictor on green purchase behaviour. Webb *et al*. (2008) reported that when consumers believed that their actions made a difference; they would be more likely to be influenced by the environmental impact in their purchase and usage decisions to recycle. In their study, the PCE scale was found to be a key variable associated with socially responsible behaviour. Another research conducted by Tan and Lau (2011) found that the PCE is significantly related to the green purchase behaviour.

Marketing Mix

Roper Organization Inc. (1990) conducted a research to examine the impact of green marketing efforts on the implementation of green products and services. In a study on the American consumer's environmental behaviours and attitudes, found some of the following marketing mix related reasons for not behaving in an environmentally-friendly manner;

- The green products were not functionally superior
- The price of the green products were too exclusive
- The promotional activities were not very influential and even the labels claiming that the product was environmentally-safe were not believable and
- The green products were not extensively available so it was too difficult to find them.

Mostafa, (2007), identified in his research that, the promotion and distribution of green products give awareness to the consumer's for the selection and availability of green alternatives. This awareness, however, does not always lead to ecologically-friendly consumption decisions. A recent survey of conducted by Business Standard (2011) on Indian consumer's, showed that majority of the respondents interviewed indicated that they would like to know more about the environmental friendly products and the products should be easily available.

Ottman (1992) found that, consumers purchase green products when their primary needs and wants for quality, availability, convenience, performance, and affordability are met. Consumers also purchase green products when they realized that green products can help to solve the environment problems. The researcher and environmentalist belief that through purchasing environmental friendly products, with recyclable packaging consumers can take important steps to improve the quality of the environment (Abdul-Muhmim, 2007).

According to Mintel's latest report on green living, the environment remains a concern for the majority of Americans. More than one-third (35%) of survey respondents say they would pay more for 'environmentally friendly' products (Chicago, 2010). Another survey conducted by Mckinsey, in 2007, on around 7,751 people in Brazil, Canada, China, France, Germany, India, United Kingdom, and the United States, which shows that 87 percent of consumers are aware and concerned about the environmental and social impact of the products they buy. But when it comes to actually buying green goods, no more than 33 percent of the consumers in our survey say they are ready to buy green products or they are purchasing.

Methodology of the Study

A questionnaire was developed to study and identify the factors affecting the purchase behavior of consumer for green products. To develop the questionnaire the study of (Chen and Chai, 2010); (Chan, 2001); (Manafi, Hojabri, Hooman, Borousan and Khatibi, 2011) and (Tan and Lau, 2011) were considered. The questionnaire consists of 39 questions, which was divided in two parts. The first part consists of demographic features, which includes Age, Gender, Marital Status, Education, Profession, and Income. The second part consists of 27 variables which influence the purchase behavior of consumers.

The Objectives of the Study

The main objective the research was to identify the factors affecting the consumer purchase behavior for green products in Central India (Madhya Pradesh).

Population of the Study

The population of Madhya Pradesh in 2011 survey was 72597565 (www.censusindia.gov.in). For the study data was collected from the five major cities (Indore, Bhopal, Gwalior, Jabalpur, and Rewa) of the state. Over six hundred and fifty questionnaires were circulated for the data collection in the above mentioned cities out of which a total of three hundred and ninety questionnaires were considered for the final research purpose.

Sample Size

The sample size for the study with 5 % error of margin and 5 % level of significance is 385 as per the formula given by Krejcie and Morgan in their article (Krejcie and Morgan, 1970). A convenient sampling method was used to collect the data from the five major cities of Madhya Pradesh.

Statistical Data Analysis

In order to find the factors/components which influence the consumer purchases behavior for green products, factor analysis has been used. The statistical approach involves finding a way of condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information is factor analysis.

Bartlett's test of Spericity, it is a test statistics used to examine whether factor analysis is applicable on the data set or not. In other words, the population

correlation matrix is an identity matrix where each variable correlates perfectly with itself but has no correlation with other variables. A large value rejects the hypothesis and makes the factor analysis appropriate.

KMO measure of sampling is an index used to examine the appropriateness of the factor analysis. High value (0.5 -1.0) makes the factor analysis appropriate From the table 5 KMO and Bartlett's test of Spericity it is clear that factor analysis is appropriate since both the criterion are satisfied by the data

TABLE 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.745
Bartlett's Test of Sphericity	Approx. Chi-Square	3653.462
	Df	300
	Sig.	.000

From the table 2 Total Variance Explained it is clear that the 62% of the variance is explained by the seven components

TABLE 2: Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3.463	13.850	13.850
2	2.323	9.294	23.144
3	2.289	9.156	32.300
4	2.232	8.927	41.227
5	1.972	7.888	49.115
6	1.878	7.512	56.627
7	1.524	6.095	62.722

Extraction Method: Principal Component Analysis

The factors are rotated in order to find new factors that are easier to interpret. Here we have used varimax rotation. Varimax rotation tries to maximize the variance of each of the factors, so the total amount of variance accounted for is redistributed over the extracted factors.

The table 3 shows the rotated component matrix with the variables and there loadings

TABLE 3: Rotated Component Matrix (a)

	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
I can write more than three brand names selling under the green tag.	.781					.303		
I have a thorough knowledge about green products.	.722							
I purchase green products because it is considered to be a status symbol.	.682					.421		
I am extremely worried about the state of the world's environment and what it will mean for my future.	.679							
I am very much concern about the environment.	.666		.338					
Mankind is severely abusing the environment.	.501	.333						
Price is the major concern for me to go for green products.	.455	.432					.410	.328
Though I like to buy green products but I cannot afford them.		.746						
I will switch to green product if it is available at the same price compare to my favourite brands.		.590	.468					
Quality is one of the most important factors what influences me for purchase of green products?		.588					.329	
I may buy green products provided it is easily available.			.861					
I am ready to buy green products but I don't know from where to buy.			.672		.422			
I may buy green products provided I have sufficient information about it.			.583			.314	.319	
I can protect the environment by buying the environment friendly products.				.829				
There is not much that I can do about the environment.				.826				
I feel I can help in solving natural resource problem by conserving water and energy.		.461		.481	.401			
I may buy green products but I am not sure about the quality of the product.					.820			
I feel for environment but I don't have any information about the green products.					.684			
I am satisfied with the quality of green products.		.407		.383	-.408	.308		
I think green products suits to my life style also.						.769		

I do recommend to my friends and family members to buy green products			.417		-.316	.536		
I am ready to pay extra for the green product.	.395	-.329				.455		
Advertisement influences me more for purchasing green products.							.738	
I Feel I am more respected for using green products.							.488	
It gives me better feeling when I use green products.								.850

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

A Rotation converged in 35 iterations.

Discussion of Finding

From the factor analysis we can conclude that the 62% of the variance of the data is due to the seven factors which are as below;

Factor 1: Environmental Awareness & Concern

The result confirms that the awareness and concern for the environment significantly influence of consumer purchase behaviour for green products in Central India, hence we can say that Environmental Awareness & Concern is one of the factors which influence the consumer purchase behaviour for green products. This factor will result in enhanced emphasis on the communication strategies for influencing consumer purchase behaviour in favour of their products. This means only creating green products is not enough for companies but level of awareness among the consumers has to go us substantially for influencing their buying behaviour. There for communication strategies as well as budget have to be changed looking to the requirement of consumers and target to be covered.

This means that with the increase in consumer awareness the concern for environmental consequences will go up resulting in increased acceptance of green products. This result reiterate the points put forward by Grunert and Juhl (1995); Shim (1995); Aoyagi-Usui (2001); Kim and Choi (2003; 2005); Soonthorsmai, (2007) and Tilikidou (2007).

Factor 2: Quality & Price

The result confirms that quality and price of the green products has significant influence on consumer purchase behaviour. The result of this research leads to two types of conclusions regarding the pricing of green

products. In our survey 32% consumers would not mind to pay premium for green products. In this case our findings, the Indian consumers seems to be consistent with the studies conducted by Accenture Global Auto Consumer Survey, (2010); Chicago, (2010), Abdul-Muhmim, (2007) where consumers are ready to pay premium. While on other hand 59% consumers are not willing to pay anything extra for the green products. In this case our finding is consistent with the study conducted by Mckinsey, (2007), Ottman (1992). But in both the cases consumers are not ready to compromise on the quality of the green products which is expected to be at par with existing products.

Factor 3: Availability

The study confirms that availability of the green product has a positive and significant influence on consumer purchase behaviour. This finding is showing the consistency with the Roper Organization Inc. (1990); Mostafa, (2007); Business Standard (2011); and Ottman (1992). It has been observed that companies are generally selling the green products under the premium tag. This premium tag leads to the premium cost and hence, hampers the availability spectrum of the product because small retailers avoid storing the costly products. The more sales can be generated if companies make sure the easy and wide availability the green product.

Factor 4: Perceived Consumer Effectiveness (PCE)

The result confirms that there is a significant and positive relationship between perceived consumer effectiveness (PCE) and consumer purchase behaviour for green products. It means that respondents who were engaged in buying environmentally friendly products do so because they believed that their actions or efforts by purchasing such products were able to help minimise the environment from further deterioration. To take the advantage of this positive relationship, company should try to convert highly committed consumers into PEC.

This finding was a supporter of previous findings that PCE can be used as a strong predictor on pro-environmental behaviour (Ellen *et al*., 1991; Berger and Corbin, 1992; Roberts, 1996; Straughan and Roberts, 1999; Lee and Holden, 1999; Kim, 2002; Kim and Choi, 2003; 2005; Tan and Lau, 2011; Webb *et al*., 2008). However, most importantly, besides acting as a predictor, several researchers have also confirmed its moderating roles between attitude and behaviour (Berger and Corbin, 1992; Kim, 2003; Gupta and Ogden, 2006; Laskova, 2007). However, the moderating role of PCE was not tested in this research.

Factor 5: Information

The result confirms that the information of the green product directly influence the consumer purchase behaviour for a green product. This means that companies are required to give more emphasis on the amount of information, type of information, media used for transfer of information and style and language used for the information to be communicated by the companies for the consumers for taking decisions in favour of purchasing green products. In nutshell, comprehensive information strategy is required to be built and deployed for promoting sale of green products to more and more consumers.

Factor 6: Environmental Attitude

As per the finding, there is a significant and positive relationship between environmental attitude and consumer purchase behaviour for green products. This finding was consistent with the result from Mainieri et al. (1997); Irland, 1993; Schwepker and Cornwell, (1991); Schultz and Zelezny (2000); (Blackwell et al., 2006); Milfont (2007). Hence we can say that Environmental Attitude is one of the factors which influence the consumer purchase behaviour for green products.

Attitude plays an important in selecting green products in comparison to non green products. Building attitude will result in positive purchase behaviour. There for companies should make conscious efforts for building positive attitude towards environmental friendly products. And this can be done by running environment education program.

Factor 7: Promotional Activity

The study confirms that the promotional activities of the organization for green products have a significant influence on consumer purchase behaviour. Studies conducted by Roper Organization Inc. (1990); Mostafa, (2007); Business Standard (2011) identified in their research that, the promotional activities of the organization for the green products increases the awareness and knowledge of the consumer. As literature has confirmed that this increased knowledge and awareness creates the concern for the environment and ultimately the concern for the environment may lead to the behavioural change in the customer. This means that green product manufacturers are required to put greater emphasis on promotional aspects which may increase their budget and cost of acquiring customers. But in long run green products will be prefer once they are accepted by the consumers.

Conclusion

As per the finding, there are seven factors which influence the consumer purchase behaviour for the green product in Central India. These seven factors are environmental awareness and concern, quality and price, availability, perceived consumer effectiveness (PCE), information, environmental attitude, and promotional activity.

The consumer purchase behaviour for green product is different from the conventional product purchase related behaviour. Now firms are required to decide on the viability of entering and expanding operations in the green markets. They are also required to develop an understanding of the factors affecting the consumer purchase behaviour so that they create better communication strategies and position their green brand in the appropriate target market in order to create a better customer value, while preserving the environment. Moreover, advertising messages need to be convincing enough to arouse the green purchase actions and commitment which will help in motivating the behavioural change of consumers to shift from buying conventional products to environmentally friendly products.

This research has identified that environmental attitude plays very role in behavioural change. But it does not guarantee the actual purchase. So it is important for the organizations to increase the level of awareness on the environmental issues through different media. This awareness and knowledge will arouse the fear and threat of environmental deterioration on the health and well-being. This fear will lead to concern and will increase the chances of change in behaviour for actual purchase green products. Moreover, firms also require to make sure the quality, price and availability of the green products. The higher perceived consumer effectiveness helps in solving the environmental problems while lower perceived consumer effectiveness will result indifferent buying behaviour of green products.

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Important Factors for Successful Technology Entrepreneurship; Evidence from Indian SMEs

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Abstract

Entrepreneurs are the centre of focus for many nations for last decades, especially when it is merged with the technology factors. A considerable amount of research looked at different perspectives of entrepreneurship to suggest scientific solutions to enhance the success rate of entrepreneurship. The national and cross cultural study would enhance the liabilities of these studies. This research work is a study of technology entrepreneurship in Indian SMEs and aims to find out important factors contributing to entrepreneurship success. The sample of 42 Indian SMEs in Delhi and NCR (National Capital Region) is taken for the research purpose. The questionnaire based survey is done after an extensive literature review and experts' opinions and pilot study of the questionnaire. Suitable statistical methods and techniques is used to analysis the outcomes. The result reveals that professional risk taking, courage and innovation are top three important entrepreneur's related factors. Superior strategies in organization's strategy related factor, finances and industrializations plus advanced supports in business environment related, accessibility to stakeholders in market related factors beside business core techniques and business management in organization related factors are most contributing components towards success of entrepreneurship The only group of factors which is found to be correlated with all other groups is organization related factors.

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Introduction

Whether an entrepreneur is viewed as a "captain of industry," a hard-headed risk bearer (Mill, 1848), risk taker (Palmer, 1971) or a "rapacious risk avoider" (Webster, 1976); whether he merely metamorphoses into an entrepreneur at certain moments and is something else the rest of the time (Danhoff, 1949), or whether his need for achievement (McClelland, 1961) and capacity for innovation (Schumpeter, 1934) are always ticking away; whether he is a "displaced person" (Shapero, 1975), something close to a juvenile delinquent (Gould, 1969), or a "man apart" (Liles, 1974) with an absolutely clear-headed (veridical) perception of reality (Schrage, 1965), an aberrant "artist" with an "innate sense of impending change" (Hill, 1982); or whether he is, indeed, that completely political animal, a community builder (Schell & Davig, 1981), the entrepreneur is overwhelmingly perceived to be different in important ways from the non entrepreneur. This study aims to find out important factors leading this type of people into success.

Review of Literature

MacMillan et al. (1987) used 38 criteria in four groups and Kakati (2003) added two more and studied characteristics of entrepreneurs, resource-based capability and competitive strategy of the ventures, Product characteristics, Market characteristics, Financial consideration. Song et al. (2008) believed that founder marketing experience and founder industry experience are significantly correlated with the firm performance. On the other hand founders' research and development (R&D) experience, founder experience with start ups are not significantly correlated with the firms' performance. Study by Walker and Brown (2004) reveals that both financial and non-financial lifestyle criteria are used to judge business success, with the latter being more important. Personal satisfaction and achievement, pride in the job and a flexible lifestyle are generally valued higher than wealth creation. Tirupati (2008) believes on technological innovations as an important source of competitive strength, and argues firms in many industries have achieved success by competing through innovation. Omrani et. al. (2011) did an extensive literature review and found some factors are pointed more than others by scholar. Education and training, experiences, innovation, network and communication, managerial skills, need for achievement, age of entrepreneur, commitment and source of control are among important factors contributing to success if entrepreneurs. They study organizational factors too and found Marketing (Chorev and Anderson 2006, Sharir and Lerner 2006, Karakaya and Kobu 1994, Fabling and Grimes 2007, Song and Noh 2006,

Panda 2000, Benzing et. al. 2009), Human Resources and Team Management (Song et. al. 2008, Roure and Maidique 1986, Sharir and Lerner 2006, Gurdun and Samson 2010, Li and Chen 2009, Lussier and Pfeifer 2001, Benzing et. al. 2009), Finance (Sharir and Lerner 2006, Fabling and Grimes 2007, Fiedler et. al. 2010) and finally Strategies (Chorev and Anderson 2006, Song and Noh 2006, Lin 1998, Kakati 2003) are respectively important factors. They found Economy (Chorev and Anderson 2006, Gurdun and Samson 2010, Song et. al. 2008, Harbi et. al. 2009, Benzing et. al. 2009, Panda 2000), Industry (Fabling and Grimes 2007, Chorev and Anderson 2006, Song et. al. 2008, Karakaya and Kobu 1994), Society (Schwartz and Malach-Pines 2007, Nair and Pandey 2006), Market (Papzan et. al. 2008, Song et. al. 2008), Culture (Sharir and Lerner 2006) and Political (Chorev and Anderson 2006, Benzing et. al. 2009, Papzan et. al. 2008) related factor are influencing the success of entrepreneurship. Success was defined as the achievement of something desired, planned or attempted by many scholars (Maidique and Zirger, 1985; MacMillan et al., 1987). MacMillan et al. also used the same measures in their study.

Methodology

This paper aims to find out the important factors of successful entrepreneurship among technology SMEs in India. For the purpose of the research a questionnaire survey is conducted on 42 SMEs in Delhi and NCR in India. The questionnaire is developed after an extensive literature review and consulting experts on the topic. The pilot study is done to test the reliability of the questionnaire. The definition used in the research for SMEs is as per Government of India defines it. They were asked about the activity of the firm as well as technology orientation of their firm. They were asked on four point scale (None, little, average and significant) about 9 indicators of technology for their firm. a) firm's intention to exploit an invention or technological innovation, b) number of scientists and engineers among your employees, c) R&D investment, d) new products/ services, e) firm's competition with technological innovation, f) rate of technology change in the industry, g) technology for rapid growth, h) threat in firm survival by the emergence of new technologies and i) patents. Those firms which are running at least for last five years have been taken for study. Entrepreneurs were asked for the performance of the firm in last 5 years on five indicators; market share, sales, profitability, return on Investment, cost reduction on five point scale (1, Far below expectation; 2, Below expectation; 3, Just met expectation; 4, Above expectation; 5, Far above expectation). Questionnaire is included of 20 factors related to entrepreneurs, 8 factors related to organization's strategy,

23 factors related to the business environment, 10 factors related to the market and 13 factors related to organization. Respondent are asked to rate the contribution of any factor on five point scale (unfavorable, none, little favorable, moderately favorable, highly favorable). Further suitable statistical method is applied for the analysis.

Analysis

Performance and Technology Orientation of the Firms

The mean value for the performance of the firms in our sample is shown in Table 1. The value is 2.9 which show a close value to satisfactory performance as it was planned five years back by the entrepreneur. The entrepreneurs were asked on four point scale of (None: 0, little: 1, moderate: 2 and 3: significant) about 9 indicators of technology for their firms. Table 2 shows mean values for the technology orientation of the sample. The value is 2.19 which make us to believe the sample contains technology oriented firms.

TABLE 1: Performance Mean

N	Valid	42
	Missing	0
Mean		2.9000

TABLE 2: Technology Mean

N	Valid	42
	Missing	0
Mean		2.1984

The factor analysis applied to technology indicators for the firms' technology orientation. The result shrinks nine indicators to four as shown in Table 3 and Table 4.

TABLE 3: Technology Indicators

	Component			
	1	**2**	**3**	**4**
TSEE-Scientists and engineers employment among your employees	.915			
TETI-Firm's intention to exploit an invention or technological innovation	.770			
TTCT-Firm survival threatened by the emergence of competing technology (ies)	.630			

TNP-New products/ Services launched in last 5 years		.894		
TCTI-Firm compete with technological innovation		.876		
TTRG-The firm potential to use technology (ies) for rapid growth			.867	
TTC-How fast is the technology (ies) in your industry changing compare to other industries			.865	
FP-Filed Patents				.850
TRDI-Approximate ratio of science/ technology R&D investment to the firm's annual sale				.733

TABLE 4: Component for Technology Indicators

Component		Component	
1	Technology Approach	3	Technology Influence
2	Technology Adoption	4	R&D

Further analysis is done to test the significance of any four technology indicators in two groups of technology oriented firms and technology intensive firms in our sample. The result of regression analysis shows R&D is significantly related to firms' performance in both technology groups of the firms. The t-value in the analysis reveals the power of relationship between two variables is more in case of technology intensive firms (Table 5, Table 6).

TABLE 5: Technology Oriented Firms

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.965	2.104		.459	.653
Technology Approach	-.276	.578	-.141	-.477	.639
Technology Adoption	-.562	.436	-.398	-1.288	.216
Technology Influence	-.586	.296	-.424	-1.983	.065
R & D	1.483	.678	.454	2.187	.044

TABLE 6 Technology Intensive Firms

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.625	3.338		-.187	.854
Technology Approach	-.595	.626	-.203	-.951	.356
Technology Adoption	-.211	.405	-.127	-.522	.609
Technology Influence	.090	.814	.028	.111	.913
R & D	1.494	.475	.596	3.144	.006

Contributed Factors towards Success of Entrepreneur

Factors Analysis is used to suggest entrepreneurs, organization's strategy, business environment, market and organization related factors which contribute to success of entrepreneurship in our study. The mean of output factors is used to find out how different factors are responsible towards success of entrepreneurs. It is illustrated from Table 7 to Table 21. Entrepreneurs related factors are illustrated in Table 7 and Table 8. Components are Hard Worker, Talented marketer, Professional Risk Taking, Innovation, Competency, Professionalism, Courage and Generation. Using mean value for the factors found by the analysis reveals relative importance of the factors from respondent perspective. This show the most contributing entrepreneurs related factors towards success of entrepreneurs is third factors which is called Professional Risk Taking and the least one in technology firms is Hard Worker.

TABLE 7: Entrepreneurs Related Factors

	1	2	3	4	5	6	7	8
EF11-Need for achievement	.862							
EF16-Unsatisfaction about last job	-.818							
EF2-Capability of sustained intense effort	.667							
EF8-Leadership quality		.839						
EF7-Younger in age		.689						
EF9-Communication and Networkability		.678						
EF20-Familiarity with the target market		.592						
EF18-Risk taking propensity			.836					
EF15-Work Experiences			.755					
EF12-Commitment			.596					
EF10-Innovation				.866				
EF5-Creativity				.766				
EF14-Entrepreneurs' Education					-.826			
EF3-Competence in the field of profession					.645			
EF13-Internal locus of control						.844		
EF19-Familiarity with the industry Structure						.527		
EF1-Attention to details						-.452		
EF6-Desire for success						-.444		
EF4-Courage							.876	
EF17-Entrepreneurial parents								.900

TABLE 8: Component for Entrepreneurs Related Factors

Component		Component	
1	Hard Worker	5	Competency
2	Talented marketer	6	Professionalism
3	Professional Risk Taking	7	Courage
4	Innovation	8	Generation

TABLE 9: Mean value for Entrepreneurs Related Components

		Hard Worker	Talented Marketer	Professional Risk Taking	Innovation	Competency	Professionalism	Courage	Generation
N	Valid	42	42	42	42	42	42	42	42
	Missing	0	0	0	0	0	0	0	0
Mean		3.6905	4.2024	4.4206	4.3333	4.3333	4.0833	4.3571	4.2143

Analysis of Strategy Related Factors indicates two components; Competitive Strategies and Superior Strategies, for this group of factors as shown in Table 10 and Table 11.

TABLE 10: Organization's Strategy Related Factors

	Component	
	1	2
SF4-Customization	.825	
SF6-Strategy towards achieving higher Quality	.739	
SF8-Technology Strategic Management	.696	
SF3-Strategic competitive advantages for entering an established market	.592	
SF7-Focus strategy	.479	
SF2-Differentiation strategy		.908
SF1-Overall Cost Leadership		.682
SF5-Strategy towards achieving Innovation		.667

TABLE 1.11 Components for Organization's Strategy Related Factors

Component		Component	
1	Competitive Strategies	2	Superior Strategies

Table 12 shows the mean value of the respondents' answers to the two components of organization strategy factors. The result shows in technology firms the factor which is named as Superior Strategies is relatively more responsible towards entrepreneurship success.

TABLE 12 Mean value for Organization's Strategy Related Components

		Competitive Strategies	Superior Strategies
N	Valid	42	42
	Missing	0	0
Mean		3.8762	3.9365

Environment Related Factors are taken into analysis and Factor Analysis reveals seven components could be found out of the questionnaire survey. These components are illustrated on the Table 13 and 14. These components are; Industrialized Society, Advanced Supports, Finances and Industrialization, Facilitate and Accelerate, Social Conditions, Basic Supports and Access to HR. Table 1.15 discuss the importance of the components from respondent perspectives. Using mean of the factors reveals that the components which is called Social Condition is the most favorable factors leading entrepreneurship towards success among all other factors. The factor which is called Industrialized Society is having the least favorable effect.

TABLE 13 Business Environment Related Factors

	Component						
	1	2	3	4	5	6	7
EnF13-Fair distribution of value-added manufacture, over industry classes	.848						
EnF14-High percentage of recent immigrants in the population	.742						
EnF17-Availability of supporting services	.684						
EnF18-Social and cultural support	.679						
EnF16-Patent Protection	.598						
EnF19-Developed Infrastructure		.792					
EnF15-Network and Alliances		.773					
EnF20-Education system		.652					
EnF8-Availability of capital and financial resources			.866				
EnF11-Large industrial base			.730				
EnF21-Availability of venture capital			.636				
EnF22-Cost of operation				.860			
EnF1-Presence of experienced entrepreneurs				.819			
EnF9-Barriers to entry				.590			
EnF3-Proximity of universities				.494			
EnF23-Availability of Technically skilled labor force				.484			
EnF6-Attitude of area population					.745		
EnF7-Social living condition					.738		
EnF10-Large size urban area					.539		
EnF2-Governmental influences						.820	
EnF5-Accessibility of transportation						.704	
EnF4-Availability of land and facilities						.603	
EnF12-Fair distribution of individuals among occupational categories							.862

Table 14: Components for Business Environment Related Factors

Comp.		Comp.	
1	Industrialized Society	5	Social Conditions
2	Advanced Supports	6	Basic Supports
3	Finances and Industrialization	7	Access to HR
4	Facilitate and Accelerate		

TABLE 15: Mean value for Business Environment Related Components

		Industrialized Society	Advanced Supports	Finances and Industrializations	Facilitate and Accelerate	Social Conditions	Basic Supports	Access to HR
N	Valid	42	42	42	42	42	42	42
	Missing	0	0	0	0	0	0	0
Mean		3.3952	3.7619	3.7619	3.4333	3.7381	3.6349	3.6905

Market Related Factors are illustrated in Table 16 and Table 17. They are found to be four components. They are Competition, Accessibility to Stakeholders, Challenges and Potential Market. According to Table 18 on mean value of the responses to the market related factors, the Competition is the least favorable as far as market is concerns and Accessibility to Stake Holders is appreciating by respondent at most.

TABLE 16: Market Related Factors

	Component			
	1	2	3	4
MC4-Pressure from substitute products	.867			
MC3-Rivalry among existing competitors	.834			
MC5-Bargaining power of buyer over the business	.823			
MC2-Accessibility to customers or new markets		.870		
MC1-Accessibility to suppliers		.843		
MC7-Market significant growth rate			.805	
MC6-Bargaining power of supplier			.733	
MC8-Established distribution channel				.850
MC9-Untapped market potential				.645
MC10-Product/service superiority				.581

TABLE 17: Components for Market Related Factors

Component		Component	
1	Competition	3	Challenges
2	Accessibility to Stakeholders	4	Potential Market

TABLE 18: Mean value for Market Related Components

		Competition	Accessibility to Stakeholders	Challenges	Potential Market
N	Valid	42	42	42	42
	Missing	0	0	0	0
Mean		3.7460	4.0714	3.8095	3.9206

Analysis for Organization Related Factors are shown is Table 19 and Table 20. It is shown the five components is the result of Factor analysis. They are Organizational and Marketing management, Business Management, IT and Cross Functional team, Business Core Techniques, Firms' Criteria and Market Stimulation Ability. Table 21 shows Business Core Techniques is favoring the entrepreneurs towards their success at most.

TABLE 19: Organization Related Factors

	Component				
	1	2	3	4	5
RBC8-Marketing capability	.912				
RBC6-The ability to build an organization	.894				
RBC7-The ability to respond to government and society	.551				
RBC3-The ability to locate a business opportunity		.822			
RBC2-Managerial capability		.777			
RBC4-The ability to accumulate resources		.653			
RBC11-Information and Telecommunication Technology usage			.830		
RBC12-Well balanced and cross functional entrepreneurial/venture team			.806		
RBC9-Technical capability				.938	
RBC5-The ability to produce the product or service				.467	
RBC10-Facility (Firm) location					.698
RBC13-Firm specification (Size, Type and age)					.682
RBC1-The ability to stimulates the existing market					-.555

TABLE 20: Components for Organization Related Factors

Component		Component	
1	Organizational and Marketing management	4	Business Core Techniques
2	Business Management	5	Firms' Criteria and Market Stimulation Ability
3	IT and Cross Functional team		

Table 21: Mean value for Organization Related Components

		Organizational and Marketing Management	Business Management	IT and Cross Functional Team	Business Core Techniques	Firms' Criteria and Market Stimulation Ability
N	Valid	42	42	42	42	42
	Missing	0	0	0	0	0
Mean		4.0714	4.2937	4.1548	4.3690	4.0079

Correlation between Groups of Factors

The correlation test is adopted to find out the most important group of factors leading to success which is correlated with other factors. Having identified these factors leads entrepreneurs to prioritized limited resources on different group of factors which would leads to have some controls on other factors.

Correlation result shows organization factors correlated with all every other group of factors. Organization contribution towards success is proportionally related to every other factor. Pearson Correlation indicates this relationship is more in case of entrepreneur's factor.

TABLE 22: Correlations Between Groups of Factors

		Entrepreneur's Factor	O-Strategy Factor	B-Environment Factor	Market Factor	Organization Factor
Entrepreneurs' Factors	Pearson Correlation	1	.182	.129	.095	.512**
	Sig. (2-tailed)		.248	.417	.549	.001
	N	42	42	42	42	42
Strategy Factors	Pearson Correlation	.182	1	.389*	-.089	.427**
	Sig. (2-tailed)	.248		.011	.576	.005
	N	42	42	42	42	42
Environment Factors	Pearson Correlation	.129	.389*	1	.267	.411**
	Sig. (2-tailed)	.417	.011		.088	.007
	N	42	42	42	42	42
Market Factors	Pearson Correlation	.095	-.089	.267	1	.288
	Sig. (2-tailed)	.549	.576	.088		.064
	N	42	42	42	42	42
Organization Factors	Pearson Correlation	.512**	.427**	.411**	.288	1
	Sig. (2-tailed)	.001	.005	.007	.064	
	N	42	42	42	42	42

Discussion

This study is an exploratory research work on SMEs in Delhi and NCR, India. The sample of 42 SMEs in the region has been studied to find out important factors contributing to their success. The SMEs has been selected based on the industries and business activity which they are doing. They were asked about the technology orientation of their firm based on nine technology indicators. The analysis of the sample suggests the overall sample to be technology oriented. The mean for the technology orientation of the sample is found to be 2.19 which mean the sample orientation in overall technology indicators is more than what has been called "moderate". In order to find out the level of success for the entrepreneurs the performance of their firm is asked on the five indicators for last five years of their performance, the mean value of the sample on the indicators reveals the sample is close to what is called "Just met expectation". Remembering the economy recession in the world which started in 2008 and our study is in the same 5 years period make us believe the firms in our sample has done a really good job. It is important to remember many firms in different industries has been shut down or bankrupt due to the recession so survival out of this situation as many entrepreneurs believes is in itself a big success beside satisfactory performance which add value to their success. The factor analysis is applied on technology indicators and the result is left us by four components which is called; 1) Technology Approach, 2) Technology Adoption, 3) Technology Influence, 4) R&D. The sample is divided to two groups of technology oriented and intensive firms to test the significance of the components for further analysis using regression. The result indicates R&D to be significantly influencing success of both groups of the firms whereas it is more in case of technology intensive firms. Factor analysis is applied to five groups of factors, entrepreneurs, organization's strategy, business environment, market and organization related factors to find out the best components which are resulted out of those factors. It is followed by taking mean value for component to suggest the importance of their contribution towards success of firms from respondent perspectives without imposing contribution of other factors. In case of entrepreneur's related factors the component in respect to their importance on the entrepreneurship success are respectively; 1) Professional Risk Taking, 2) Courage, 3) Innovation and Competency-are at the same level of importance, 4) Generation, 5) Talented Marketer and finally 6) Hard Worker. It is interestingly shown in technology firms risk taking and courage plus innovation are important factors to lead entrepreneurs to success. The next group of factors is organization's strategy related factors which is found to be best defined by two components. Superior strategies followed by Competitive strategies are important components for this group of factors. The other

group which has been studied is factors related to business environment for the entrepreneur. Factor analysis shows seven components for this group. The mean for these components shows the Finances and Industrializations plus Advanced Supports are the most influencing factor favoring entrepreneurs it is followed by Social Conditions, Access to HR, Basic Supports, Facilitate and Accelerate and finally Industrialized Society is the least contributed factor. The important point in this analysis which needs to be paid attention by policy makers is the overall means of this type of variables are less than other group. It is important to improve upon many of these factors or enhance awareness of entrepreneurs on access to these types of factors in case of their availability in order to promote entrepreneurs. Market related factors are found to be best described in four components by factor analysis. Accessibility to stakeholders is the most favoring factors followed by Potential Market, Challenges and Competition at subsequent levels. Finally the Organization related factors which focus on the organization and its resources towards entrepreneurship success. Business Core Techniques, Business Management, IT and Cross Functional Team, Organizational and Marketing Management, Firms' Criteria and Market Stimulation Ability are respectively important factors leading entrepreneurs to success as far as technology firms are concerned in our sample. The next step of analysis is done using correlation analysis on five groups of factors by adopting means of concluded components in preceding analysis. The purpose of this analysis is to find out the core group of factors which is correlated to other groups in order to lead the entrepreneurs to success. The correlation analysis is shown Organization factors are correlated significantly with all other group of factors and at the most with entrepreneur's related factors. It is also reveals significant correlation between Organization's strategy and Business Environment factors. It is important for the entrepreneurs to focus on a part of variables which could affect other variables directly or indirectly to enhance his/ her success keeping in mind limited resources.

Conclusion

Looking at five groups of factors and their relation within the group factors and between groups which are responsible for firm's performance i technology entrepreneurship in Delhi and NCR, India is discussed in this paper. R&D is found to be significantly related to entrepreneurship success. It is very interesting to find out Professional Risk Taking, Courage and Innovation are the top three important Entrepreneur's related factors for technology entrepreneurs. It shows the importance of these three factors as it has been emphasized by literature especially when we talk about technology

entrepreneurship. Analysis on Organizations Strategy reveals more importance on Superior Strategy for these type of entrepreneurship where again Strategy towards Achieving Innovation in among these group of strategies. The analysis on Business Environment related factors emphasis on importance of Finances and Industrializations plus Advanced Supports among other factors. Accessibility to Stakeholders in Market related factors and Business Core Techniques beside Business Management in Organization related factors found to be most contributing components towards success of entrepreneurship. The only group of factors which is found to be correlated with all other groups is Organization related factors. The very crucial point is to emphasis on the fact that the importance of above factor is what contributed towards entrepreneurship success in real scenario. Thus the point to consider is how to improve upon many other factors which seems to have less contribution on entrepreneurship success although many of them are necessary for their growth. A part of these factors has to be taken care of by entrepreneurs themselves and would be improved upon through their own efforts whereas many other factors needs to be provided favorably by policy makers and administrative of the country.

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Co-movements of Returns in Commodity Markets and Equity Markets

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Abstract

This paper examines the co movements of few important macro-variables in the world economy over a period of more than two decades. Long-term co movements are examined by tracking the vector auto regression analysis, common trend factor, Granger causality and the spillover effect for the rate of returns from three variables (gold price, stock price, and the price of crude oil). Preliminary examination suggests the possibility of dependent relationship based on vector auto regression indicating co movements, and also the spillover indices are found to be fairly large. These results seem to support the inference we have drawn from weak exogeneity tests and the test for co movement/spillover as suggested by Diebold and Yilmaz. As for copula estimation our preliminary results does indicate fairly strong dependence among the marginal distributions of gold price and oil price, and between oil price and stock price, but not so strong between gold price and stock price.

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Introduction

The financial markets are getting more integrated and co-movements in financial markets (i.e., interdependence of equity markets of several countries), as well as in financial indices (i.e., interdependence of returns and return volatilities in different financial assets) have become of immense interest to financial analysts and portfolio managers. High volatility of oil prices and their exorbitant increase in prices sometimes have serious impact on other macroeconomic economic variables and policy makers and business in oil consuming countries express serious concerns about it. Similarly, recent upsurge in the price of gold has also serious impact on the equity market as many financial experts are advising their clients to change the texture of their portfolios. Several researchers (for example, Johnson and Soenen (2002), King et al (1994), Ewing et al (1997), and Forbes and Rigobon (2002), Engsted and Tanggaard (2007), and Anderson et al (2007), among others) have analyzed different aspects of this interdependence among the macroeconomic variables over the recent years. Most of the studies have used co-integration and error correction modeling techniques to isolate and identify the long-run equilibrium relationships among these variables. These studies are an important addition to our understanding of the co-movements of these variables and allow us to make appropriate prediction about the future co-movements.

Recently, Diebold and Yilmaz (2009) have used a simple but different technique to capture the so-called spillover effects or the interdependence among the economic variables using the forecast error variance decomposition methodology. They have noted that spillover effects are time varying and the nature of the spillover indices depends on the measurement standards used.

Another different approach we use in this paper to capture the incidence of interdependence is the application of copula methodology. The application of copula method to financial data is a very recent development, although the concept of copulas has been around since 1959. While there is extensive literature studying the co-movements between the international equity markets and commodity markets, there is little empirical analysis of using copulas to study the co movements across markets of assets of different types. In this paper we intend to investigate the so called "dependence" between the returns from the equity markets and the commodity markets. Thus, the copula method also allows us to estimate a different measure of co movements and the types of dependence between the variables involved, while it does not impose any dependence structure.

In this paper, we use spillover mechanism developed by Diebold and Yilmaz, and copula methodology, in addition to traditional econometric methodologies based on vector auto regression techniques, to analyze the interdependence of returns and volatilities of three important macro-variables: these are gold prices, price of oil, and the stock prices as measured by Standard and Poor's 500 index (henceforth S&P 500). Understanding these relationships is important for the portfolio investors who want to diversify their investment opportunities and the policy makers pursuing stabilization of the economy. We intend to examine to what extent these variables are interrelated, and whether returns/volatilities of one index can predict movements in other indexes. We intend to examine the behavior of both returns and return volatilities of the aforementioned indexes using measures of return spillovers and volatility spillovers. We also want to examine the recently observed inverse relationship (reverse causality) between the gold price and equity price. Similarly, previous studies showed that after 1979, rise in oil price, with increasing value of the US dollar, has a serious negative effect on the equity prices, the examination of the recently (in the last decade) observed relationship is certainly of interest. In addition, we also want to explore the other statistical properties of these variables such as exogeneity, common trend and Granger causality using vector autoregressive moving average (VARMA) procedure. This procedure can be used to analyze the contemporaneous correlations as well as correlations to each other's past values.

We plan to use daily data for several years and employ the appropriate econometric techniques to identify and extricate new information regarding the relationship among these variables. Data was collected on the daily price of NYMEX crude oil futures, the price of gold and S&P 500 index. The data was obtained from a Bloomberg terminal using daily closing prices from January 1989 through September 2009. It has more than 5200 observations. It is quite apparent that appropriate estimation and inferences from this statistical study will enhance our understanding about the co-movement of such important economic variables.

Methodology

This study analyzes the relationships or the co-movements among return and return volatilities of three major indexes (i.e., gold prices, price of oil, and the stock prices as measured by S&P 500) and examines the behavior of these indices using the vector auto-regression method and by spillover index

discussed by Diebold and Yilmaz (2009). This is a brief summary of the modeling process.

Let $y_t = (y_{1t}, y_{2t}, \ldots, y_{kt})'$ where t=1,2,3 …., denote a k dimensional time series vector of random variable of interest denoted by y. The p-th order VAR (or the VARMA model) can be written as

$$Y_t = \alpha + \varphi_1 y_{t-1} + \ldots.. + \varphi_p y_{t-p} + \varepsilon_t$$

where ε_t is a vector of white noise process with $\varepsilon_t = (\varepsilon_{1t}, \varepsilon_{2t}, \ldots. \varepsilon_{kt})'$ with properties: $E(\varepsilon_t)= 0$, $E(\varepsilon_t \varepsilon_t') = \sum$, a non negative matrix, and $E(\varepsilon_t \varepsilon_s') = 0$ for $t \neq s$, $\alpha=(\alpha_1, \ldots.\alpha_k)'$ is a constant, and φ_i is a k×k matrix of parameters. It is well known that a finite autoregressive process can be represented by an infinite moving average process as follows,

$$Y_t= \beta+ \theta_0 v_t + \theta_1 v_{t-1} + \theta_2 v_{t-2} + \ldots,$$

where β is a vector of constant and v_t is a transformation of ε_t, and θ_i is a matrix of constants. It should be pointed out that VARMA models may not be uniquely defined or identified, which requires structural specifications. However, analyzing and modeling the series jointly by the VARMA models enables us to understand the dynamic relationships among the series over time, and it also allows us to make improvements on the forecasting of these variables. Typical analysis based on VARMA procedure provides us with various tests of the long-run effects and adjustments of coefficients among the variables included in the model. We will consider the traditional tests such as the Dicky-Fuller test for stationarity, Johansen co-integration test, and the Stock-Watson common trend test for the possibility of co-integration among nonstationary vector processes among others. Stock-Watson (1988) proposed a method for testing the common trend among k dimensional time series. The null hypothesis is that the vector time series Y_t has m common trends where $m \leq k$ and the alternative is that it has s common trend where $s < m$. The test procedure and the test statistics is computed from first order serial correlation matrix of Y_t. We also consider the forecast error variance decomposition method (and or the impulse functions) to capture the extent of interdependence among these variables.

Next we will examine the specific spillover index developed by Diebold and Yilmaz (2009). They have shown that the one step ahead forecast error vector can be written as

$$e_{t+1,t} = y_{t+1} - y_{t+1,t} = A_0 u_{t+1,}$$

where y_{t+1} is the actual value of y at time $_{t+1,}$and $y_{t+1,t}$ is the predicted value of y_{t+1}, (prediction made at time t), A_0 is a matrix of parameters, u_t is a

transformation of ε_t, and $e_{t+1,t}$ is the forecast error. The variance covariance matrix for the forecast error can be written as A_0A_0'. They have analyzed the forecast error variance decomposition to compute the spillover index, since the forecast error variance decomposition reveals the proportion of the movements of a variable due to its own shocks versus shocks due to other variables. Diebold and Yilmaz estimated the spillover effect and calculating the spillover ratio (index) by combining the cross variances relative to total forecast error variations in the following way.`Let us define *own variance shares* to be the fractions of the 1-step-ahead error variances in forecasting x_i due to shocks to x_i, for i= 1, 2, and *cross variance shares, or spillovers*, to be the fractions of the one-step-ahead error variances in forecasting x_i due to shocks to x_j, for i, j= 1, 2, $i \neq j$. There are two possible spillovers in our simple two-variable example: x_{1t} shocks that affect the forecast error variance of x_{2t} with relative contribution

$$a_{0,21}^{-2} = \frac{a_{0,21}^2}{a_{0,21}^2 + a_{0,22}^2}$$

and x_{2t} shocks that affect the forecast error variance of x_{1t} with relative contribution,

$$a_{0,12}^{-2} = \frac{a_{0,12}^2}{a_{0,11}^2 + a_{0,12}^2}$$

Hence the total spillover is

$$a_{0,12}^{-2} + a_{0,21}^{-2} = \frac{a_{0,12}^2}{a_{0,11}^2 + a_{0,12}^2} + \frac{a_{0,21}^2}{a_{0,21}^2 + a_{0,22}^2}$$

In particular, total spillover effect is defined as the sum of cross covariances, while the total forecast error variation is represented by the trace of the matrix A_0A_0'. For a 2 by 2 matrix A_0A_0' the Spillover Index can written as $\{(a_{0,12}^2+a_{0,21}^2) / \text{trace}(A_0A_0')\}*100$. This can be generalized for higher order A_0A_0' matrix reflecting more than one step-ahead forecast.

The Copula Method of Measuring Dependence

Copulas are useful for examining the dependence structure of multivariate random vector. Copula representation of joint distribution function $F(x_1, x_2,\ldots..,x_p)$ is written as a function of its marginal and the conditional copula function $C(.,.)$ such that

$$F(x_1, x_2,\ldots..,x_p) = C(F_1(x_1),F_2(x_2),\ldots.,F_p(x_p)).$$

The importance of copula is that it can capture the dependence structure of a multivariate distribution. This is justified by the fundamental fact known as Sklar (1959) theorem, which has showed that if marginal are continuous, then C is uniquely determined. This suggests that a natural way of specifying the distribution function is to examine the copulas and marginal separately. The advantage of using copulas in analyzing co movement is fairly obvious, as it allows us to model the marginal behavior and the dependence structure. As the case of independence is a special from of the copula, we are concerned here with the correlation measures. We have used Spearman's correlation measure, and intend to analyze the data in terms of correlation using T-copula. We also intend to analyze the data in terms of rank correlation using Frank copula and Clayton copula. It is well known that correlation measures summarize information in copula concerning the dependence or association between random variables.

Data

Data for this empirical investigation was collected on the daily price of NYMEX crude oil futures in terms of US Dollar. To further the study data was also collected on the price of gold and standard and poor's 500 indexes. The data was obtained from a Bloomberg terminal using daily closing prices from January 1989 through September 2009. It has more than 5200 observations. Typically, these indices exhibit the changes in an economy over a period of time. A futures contract is an agreement made on the floor of a futures exchange to buy or sell a commodity or financial instrument at a predetermined price. When you purchase a futures contract you are agreeing to pay the pre-determined price for future delivery. When you purchase the contract, the item for future delivery has not yet been produced.

Crude Oil Price: Crude oil is the world's most actively traded commodity. Typically, the NYMEX Division light, sweet crude oil futures contract is the world's most liquid forum for crude oil trading and also the world's largest-volume futures contract trading on a physical commodity and therefore is used as a principal international pricing benchmark. Because of its standard on pricing, additional options are available on the futures contract, including trading opportunities, risk management, calendar spread options, crack spread options (on pricing differentials), and average pricing options. This futures contract is traded in units at 1000 barrels to an international delivery point, Cushing, Oklahoma, and provides several grades of domestically and internationally traded crude oil. However, light sweet crudes are preferred

for their low-sulfur content and high yield of viable products for transportation and heating.

Gold Price: Gold futures are hedging tools for producers and users of gold. They provide several amenities: global price discovery, portfolio diversification, continuous trading opportunities, and are alternatives to gold bullion, coins, and mining stocks. In addition gold futures contracts are physically delivered, block-trade eligible, American-style options, and can be traded off-exchange for clearing. Gold is such a valuable commodity because it's a precious metal, meaning it is somewhat rare and has other desirable qualities like conductivity, malleability, and luster. Because of these qualities it is an international medium of wealth and a constant presence in markets. It is used as insurance in unstable markets because it will remain a valuable commodity.

The **Standard & Poor's 500** index (henceforth S&P 500) is a stock market index based on the common stock prices of 500 top publicly traded companies. It differs from other stock market indices like the Dow Jones Industrial Average and the NASDAQ composite because it tracks a different number of stocks and weights stocks differently. It is one of the most commonly followed indices and many consider it the best representation of the market and a bellwether for the U.S. economy. The National Bureau of Economic Research has also classified index of such common stocks listed in S&P 500 as a leading indicator of business cycles in the economy.

Analysis of the Results

Descriptive analysis of the original data is summarized in Table 1. Initial examination suggests that sample observations are not symmetric, neither mesokurtic. J-B test statistics implies that probability distributions are also not normal. In Table 2, we have presented the results of the tests of non-stationarity. Comparing the traditional Dickey-Fuller Test results with the critical values we find that all of these variables are non-stationary in nature. These inferences are also corroborated by the graphs on Figure 1 where vector time series has been graphed. In the next step we have compute the rate of returns from these markets (computed as $r_t = \text{Log}(y_t)-\text{log}(y_{t-1})$ or $(Y_t-Y_{t-1})/Y_{t-1}$. Descriptive analysis of the returns is presented in the summary statistics in Table 3. Again, J-B statistics implies that implicit marginal distributions are not normal. Vector series plot is given in figure 2, where we notice the fluctuations of volatility. The Dickey Fuller test statistics (presented in Table 4) reveal that the time series are stationary and we can estimate the time series by a traditional VARMA (vector autoregressive and moving average model)

model to capture the nature of the relationship. Comparing the standard criteria of selection of appropriate model (on the basis of Akaike Information Criterion(AIC statistic), Hannan-Quin Criterion (HQC Statistic), Final prediction error (FPE statistic), Schwartz Bayesian Criterion(SBC statistic). The selected model is a VARMA model of a lag length of two:

$$Y_{1t} = \alpha_{10} + \alpha_{11}(y_{1,t-1}) + \alpha_{12}(y_{1,t-2}) + \alpha_{21}(y_{2,t-1}) + \alpha_{22}(y_{2,t-2}) + \alpha_{31}(y_{3,t-1}) + \alpha_{32}(y_{3,t-2}) + \varepsilon_{1t}$$

$$Y_{2t} = \beta_{20} + \beta_{11}(y_{1,t-1}) + \beta_{12}(y_{1,t-2}) + \beta_{21}(y_{2,t-1}) + \beta_{22}(y_{2,t-2}) + \beta_{31}(y_{3,t-1}) + \beta_{32}(y_{3,t-2}) + \varepsilon_{2t}$$

$$Y_{3t} = \gamma_{30} + \gamma_{11}(y_{1,t-1}) + \gamma_{12}(y_{1,t-2}) + \gamma_{21}(y_{2,t-1}) + \gamma_{22}(y_{2,t-2}) + \gamma_{31}(y_{3,t-1}) + \gamma_{32}(y_{3,t-2}) + \varepsilon_{3t}$$

where Y_i is the i-th variable (rate of returns from Gold, Oil and S&P). The estimation results are presented in Table 5. For example, the estimated equation for the return of gold is

$$Y_{1t} = \underset{t\,(1.22)}{0.0168} - \underset{(-1.13)}{0.016}y_{1,t-1} - \underset{(-1.19)}{0.0168}y_{1,t-2} + \underset{(1.05)}{0.0058}y_{2,t-1} - \underset{(-0.14)}{0.00075}y_{2,t-2} + \underset{(2.78)}{0.03316}y_{3,t-1} - \underset{(-0.58)}{0.00692}y_{3,t-2}$$

(Y_1 =retg or return from gold stock, Y_2 = reto, return from oil stock and Y_3 =retsp, return from S&P 500 stock). Initial examination of these results indicates that there exist some cross effects among these variables. For examples, in the case of gold return, S&P index has significant impact; same is true for the price of oil. In the case of the returns from Oil stock, both the lagged values of the oil price and stock prices have significant effects. In the case of returns from the equity market(S&P index) returns on gold and oil market have significant impacts. It is therefore implying that there exist some type of interrelationships among the returns from commodity market and equity market. Since the examined time series are found to be stationary these multiple regression results are meaningful and they indeed signify the existence of dependence of the variables across time. This is further corroborated by the Stock –Watson's common trend test given in Table 6, where common trend appears to exist.

The first column of Table 6 is the null hypothesis that Y_t has m≤k common trends; the second column is the alternative hypothesis that Y_t has s≤m common trends; the third column contains eigenvalues used for the test statistics ; the fourth column contains the test statistics using AR(p) filtering the data. The table shows p or lag=2. The test statistic for testing for 2 versus 1 common trends shows that is more negative than the critical values, which means that series has significant common trends.

Next, we have also used the Granger causality tests to analyze the nature of relationship among these variables. The causality test results are reported in Table7. These statistical results imply the existence of causality: *retg* is caused by the other variables (*reto, retsp*); as we reject the null hypothesis of Granger noncausality from reto, retsp to retg. Similarly test 2 reveals that *reto* is caused by the other variables (*retg, retsp). But test 3 shows that retsp is not caused by other variables. Thus* gold price is caused by other variables (oil price and stock market), oil price is caused gold price and stock price, but stock prices are influenced by itself only. This obviously implies the existence of causality among the variables and existence of volatility transmission or spillover between financial markets and stock markets but with asymmetric relationships.

In the following Table 8, we have reported the test results for testing for exogeneity for these variables. It shows whether each variable is the weak exogeneity of other variables. Test statistics and the corresponding critical values show that variable retg is the weak exogeneity of other two variables, reto and retsp. The variable reto is not the weak exogeneity of other two variables, similarly, retsp is not the weak exogeneity of other two variables, retg and reto.

It seems gold price is seemingly exogenous to other variables while other variables are not.

In the figures 3a, 3b and 3c we have presented the impulse response functions for a shock in these variables. It seems there exist significant fluctuation in the relation initially, but it dies does down over time.

In the next Table 9, (Tables a, b and c)a11 and 12) we have presented the specific spillover index following Diebold and Yilmaz methodology. In 8a we have presented the spillover index based on five step or five day ahead forecast, while in Table 8b and 8c, we have extended forecast horizon to 10 steps and 15 steps ahead. Since we are analyzing daily data, it seems 10 and 15 steps ahead may provide more reliable information regarding movement of these macro variables. Apparently, over all spillover index change very significantly. It is more than 55% for five day forecast and for 15 day ahead forecast it is over 70%. Thus, one thing is eminently clear. There is significant spillover effect among these variables.

We have done very preliminary copula estimation using T distribution. Summary results about the correlation among the variables are presented in table 10. and the scatter plots of these correlations among bivariate framework is presented in figure 4a. Tentative study of the results suggests

strong relationships between Y_1 and Y_2 and also between Y_2 and Y_3. Scatter plot is positive and very close to being diagonal in nature. On the other hand, correlation between Y_1 and Y_3 is very small, implying lesser degree of dependence among their marginal distributions. We have also presented the scatter diagram from Frank Copula estimation in Figures 5a, 5b and 5c. All of these scatter plots exhibit serious dependence among these variables. In Figures 6a, 6b and 6c we have presented the scatterplot based on Gumbel copula estimation. These graphs also seem to support the inference we have drawn Frank Copula and T-copula. It should be noted here that both Frank Copula and Gumbel copula employ non parametric method to compute the correlations among the marginal distributions.

Conclusion

This paper conducts an investigation about the co-movements of several economic variables over a period of time. These variables are: World Gold price, World Oil price, US Stock price (measured by S&P 500 Index). Using daily data for over twenty years, it examines the existence of cross effects, common trend, Granger causality and volatility spillover index for these macro variables. Initial statistical results indicate the possible existence of co-movements among them, however, not all of them are moving simultaneously. It seems likely that stock price and gold price are more likely to move on their own while oil price is likely to be influenced by other variables. We have also done a very preliminary copula estimation using T copula, Frank and Gumbel copula. Summary results about the correlation among the variables are presented in Table 10, and the scatter plots of these correlations among bivariate framework is presented in the figures following the table. As for copula estimation, our tentative results indicate strong dependence relationship between gold and oil price, and oil price and stock price, but very small correlation between gold price and stock price. (implying lesser degree of dependence among the marginal distributions of these variables). Scatter plots from Frank Copula and Gumbel copula seem to support the inference we have drawn from Granger causality tests and test for co movement using Diebold-Yilmaz statistics. Obviously, further statistical analysis using other forms of copula as well as VARMA models may corroborate our conclusions.

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Recovery from Turbulence by Innovative Model: A Study of Investigation Revolving Fund (IRF) for Supply Chain Management in a Hospital

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Abstract

The services may remain interrupted due to non-availability of right materials at right time, even funds are available some times. The similar situation was faced by Sanjay Gandhi Post Graduate Institute of Medical Sciences Lucknow, India, as most of the investigations were deprived due to non-availability of reagent/ kits/ chemicals for investigations leading into suboptimal treatment and flourishing of laboratories outside the institute. Consequence to this, an innovative model "Investigation Revolving Fund" (IRF) was established in 2002 with an aim "mission investigation all' by mobilizing INR 01 million from institute non plan budget. The paper aimed to study and evaluate IRF system with special reference to its supply chain management, cost-containment and financial sustainability. A retrospective study of IRF structure, functioning, revenue generation, expenditures and sustainability was carried out in Nov. 2011 to conduct the study. The institute catered 314362 outpatients, 33705 inpatients, 2282945 investigations and 7724 surgical procedures in 2010-11. The materials as divided in chemicals/ reagents/kits etc. were procured by IRF from reputed firms directly on concessional rates (8-35%) and made available to laboratories at lesser rates vis-à-vis market rates, levying minimal maintenance charges. Only 50% of revenue generated from investigations was remitted to IRF. In addition to accomplishment of objective , IRF is in position to have a sales of Rs. 13, 80, 57, 977.00 with an operating profit of Rs. 2, 45, 58, 960.00 in FY 2010-2011, and Rs. 7, 29, 28, 125.00 as fixed deposit by the end of FY 2010-2011. Current ratio and the Quick ratio for last five financial years are greater than the recommended norm (average 23 & 24 respectively). It reached into the conclusion that detailed analysis of financial statements / ratio analysis for last four fiscal years reaffirms IRF as a financially self-sustainable and viable supply chain mechanism. Thus innovations like IRF have proved robust in rendering quality healthcare at an affordable cost with better financial management.

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Introduction

A supply chain is a network of facilities and distribution options responsible for performing the functions of procurement of materials, transformation of these materials into finished products and finally distribution of these products to customers. However any complexity in this chain can lead to major faults. The services may remain interrupted due to non- availability of right materials at right time. More ironically, due to insufficient impetus towards system development situation remains dismal even when funds are inadequate. Similar situation was faced by Sanjay Gandhi Post Graduate Institute of Medical Sciences Lucknow, India, as most of the investigations were deprived due to non-availability of reagent/ kits/ chemicals for investigations leading into suboptimal treatment and flourishing of laboratories outside the institute. Consequence to this, an innovative model "Investigation Revolving Fund"(IRF) was established in 2002 with an aim "mission investigation all'. In a tertiary care institute like SGPGIMS, laboratory services are major revenue earner. Approximately 60 percent of the total revenue is generated through Patient-care investigations performed by the laboratories and Departments like Pathology, Microbiology, Medical Genetics, Immunology, Endocrinology, Nephrology, Gastroenterology, Transfusion Medicine and non-laboratory departments like Radiology, Urology (Stone lab), Nuclear Medicine, Radiotherapy etc. Despite of the above mentioned fact, the investigation facilities available in the hospital were not up to the mark due to paucity of major consumable items required in various diagnostic procedures. Many investigations of the patients were being sent to private laboratories outside. This in turn resulted in escalation of the treatment cost as the rates of the investigations were high in private laboratories. Many times the reports generated by the private investigators were not reliable leading to adverse clinical outcomes and unnecessary increase in the Average Length of Stay of patients. Besides, this also led to increased thefts and pilferages. The market reputation of the hospital also went down. This in turn resulted in lowering down of the Patients Satisfaction Level leading to decrease in inventory turnover. To cope up with this dismal scenario, the institute contemplated the idea of offering consumables required in investigation within the hospital premises. Thus an alternative solution for this problem was given by establishment of Investigation Revolving Fund (IRF) in the hospital. This scientific paper evaluates IRF system with an objective to gauge its effectiveness in terms of Supply chain management, cost containment and financial sustainability.

Review of Literature

A Hospital, or any business for that matter, cannot operate in isolation. Right from the procurement of raw material to providing the service and finally to the concluding transaction where service/ goods delivery is completed and exchange of money takes place, it is a chain of interconnected businesses and business processes. Every time a requirement is communicated, order is placed and inventory is stocked, there is a potential opportunity of value addition, waste reduction and process. Supply chain management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption (Bolstorff, & Rosenbaum, 2003). standardization. Supply chain Management practices that are implemented to improve supply chain performance require internal cross functional integration within a firm and external integration with suppliers or customers in order to be successful (Narasimhan, 1997). Quality management practices results in setup time reduction, allowing the use of smaller lots, which reduces cycle stock. Because quality management practices reduce the number of items requiring rework, cycle times are shortened by speeding product output (Mefford, 1989; Flynn, Schroeder and Sakakibara, 1995), allowing improved schedule attainment and correspondingly faster response to market demands (Flynn and Flynn, 2005). This allows a greater extent of synchronization across the entire supply chain (Ferdows, Lewis and Machuca, 2004). Quality management applications help reduce process variance, which has a direct impact on supply chain performance measures, such as cycle time and delivery dependability (Flynn, Schroeder and Sakakibara, 1995). As process variance is reduced, there is less need for safety stock and cycle stock inventory. Total quality management ensures processes are followed and customers are satisfied. In the processing and post-processing phases, quality at the source (Hayes and Wheelwright, 1984), feedback, statistical process control and effective product designs reduce or eliminate time delays for rework and process inspection of in-process and finished goods, respectively, and transportation times (Flynn et al., 1997). The use of certified suppliers and long-term supplier relationships based on quality criteria reduces pre-processing cycle time delays for incoming inspection (Heiko, 1990). Materials management plays a crucial role in providing efficient healthcare by touching three vital aspects of medical supplies used in the hospital viz. availability, safety and affordability (Versha Kaushal) Sound material management or supply management positively contributes to the performance of an organization, especially in a hospital

(Chandra, 2002). Materials Management means many things to many people. Materials Management means many things to many people. This is because of the organizational fragmentation and complete compartmentalization of some of the basic management functions concerned with materials in corporate activity. Materials Management can be said to be that process of management, which coordinates, supervises and executes the tasks associated with the flow of materials to, through, and out of an organization in an integrated fashion (Datta, 1998). Expenditure on materials approximates 30-35% of the annual operating budget of most hospitals. Set on a task of cost containment, a hospital administrator's attention is drawn first to reduction of material costs. The main and basic resources in a hospital are men, material, money, machine and methodology. Out of these, material is such an important component, which is utilized in bulk and very frequently consumed in the hospital (Chandra, Barthwal, & Jamaluddin, 2007). The term supply chain management (SCM) was coined by consultant Keith Oliver, of strategy consulting firm Booz Allen Hamilton in 1982. Supply chain management (SCM) is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible. Supply chain management spans all movement and storage of raw materials, work-in-process inventory, and finished goods from point-of-origin to point-of-consumption (Bolstorff, & Rosenbaum, 2003). According to American Professional Association, SCM encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, SCM integrates supply and demand management within and across companies. Supply chain event management (SCEM) is consideration of all possible occurring events and factors that can cause a disruption in a supply chain. With SCEM, possible scenarios can be created and solutions can be planned in Material Management.

Supply chain management must address the following problems:

- Distribution Network Configuration: Number and location of suppliers, production facilities, distribution centers, warehouses and customers.
- Distribution Strategy: Centralized versus decentralized, direct shipment, Cross docking, pull or push strategies, third party logistics.
- Information: Integrate systems and processes through the supply chain to share valuable information, including demand signals, forecasts, inventory and transportation etc.

- Inventory Management: Quantity and location of inventory including raw materials, work-in-process and finished goods.

Supply chain execution is managing and coordinating the movement of materials information and funds across the supply chain. The flow is bi-directional (Stephens, 2001).

Method

A retrospective holistic study of IRF was carried out in February 2012 with an objective to gauge its effectiveness in terms of supply chain maintenance, cost-containment and financial sustainability. Supply chain maintenance was analyzed by physical verification of the stock and studying the trend in the inventory by perusing the records for last four financial years. The average annual inventory and the annual inventory turnover were used for the same. Additionally, feedback was collected from the user ends in various investigative departments, doctors etc. Cost-containment was scrutinized by comparing the billing rates of the items issued from the IRF with the prevailing market rates/Maximum Retail Price (MRP). The Balance Sheet, for last four financial years (as on 31st March of each fiscal year-end), was assiduously analyzed to get a comprehensive idea about the financial health of the fund. Income and Expenditure Statement of the fund was also diligently studied to gauze various financial indicators. Current Assets, Quick Assets and Current Liabilities of the fund were calculated for last four financial_years from the Balance Sheet of each fiscal year. Current Ratio (Current Assets/Current Liabilities) and Quick Ratio (Quick Assets/Current Liabilities) were then calculated for each of these years to comment on the 'liquidity' (a measure of IRF's ability to meet its current liabilities out of its Current Assets/ Quick Assets) trend of the fund over last four financial years. Operating Profit of the IRF was finally calculated for each of the eight financial years by analyzing the Income and Expenditure Statement of the fund for that year. The trend of all these financial indicators over the years was cogently discussed in the light of abstruse practicalities involved in the healthcare delivery sector.

Observations, Results and Discussion

SGPGIMS, Lucknow is a 868 bed tertiary care super specialty hospital. It is a premier public medical research institute in India. The institute is dedicated to quality tertiary care at an affordable cost. Over the years, it has strived to become a robust centre of excellence for providing super specialty care,

medical education and research facilities of highest order. The institute was established under an Act of state legislature of Uttar Pradesh in 1983, and functions as a university. At present, the institute caters to approximately 3, 00, 000 outpatients and 35, 000 inpatients per year. More than 20, 00, 000 investigations were done on these patients annually. On an average, in a year, about 7, 000 surgical procedures are performed including more than 80 renal transplants. This is made possible by a team of highly dexterous doctors using state of the art technology and high-end sophisticated equipments.

In view of the already mentioned problems faced by SGPGIMS and its patients on account of non-availability of investigative material supplies, the institute decided to go for a holistic study of the problem in the following chronology:

- The problem was identified, & confirmed by making questionnaire, & asking all stakeholders face to face.
- The magnitude of the problem was ascertained by interviewing the clinicians, investigative department consultants, patient's relatives & other health care providers.
- The ill-effects of non-availability of supplies were observed and confirmed practically.
- The quality care affected by non-availability of in house investigations was also felt indirectly as narrated by the health care providers specially doctors & nurses.
- Different methods of making available the supplies at right time, right place and right cost were discussed & ultimately after a robust situational analysis (SWOT MATRIX), the decision was taken to develop and run a separate purchase department under the Hospital Administration christened as Investigation Revolving Fund (IRF).
- The system was monitored and evaluated periodically, and improvement in the situation (problem solving and quality care) was achieved by floating the questionnaires among the consultants, investigative departments , patient & other health care providers.
- Since SGPGIMS is a paid hospital, therefore return on investment, with profit/loss was also monitored. However IRF was never established with an aim of profitability. Its only motto was to ascertain right quantity of material of right quality at right cost at the right time in the right place of the hospital.

In order to maximize the strengths and opportunities, and minimize the weaknesses & threats, following initial steps were taken:

- The initial investment of 1.00 million INR was mobilized from the non - planned budget of the institute. This fund was deposited in IRF as seed money, to be revolved in future.
- User friendly channels of time & payment were made to motivate the vendors.

IRF fully came into existence in all the laboratories of SGPGIMS in January 2004.The first phase of IRF became operational in Microbiology Lab in March 2003. The Governing Body of the Institute approved the IRF on 4th January, 2003 as a means to bolster hospital services and to protect the patients from exploitation by unethical business practices of outside retailers. The IRF is a blend of several attributes viz. qualified personnel, modern facilities, efficient organization and operations, sound budgeting, and the support and cooperation of the medical, non-medical and para-medical staffs of the hospital. IRF came into being in the hospital with the main aim of providing sufficient funds for procurement of all lab consumables to run patients tests and investigation facility in different departments of the institute. Forecasting the future picture of IRF, the far-sighted planners included enough flexibility and upgradability options in initial planning of the fund itself so that expansion programs can be carried out with minimum disruption in future. The IRF is a specialized area whose operation calls for intimate knowledge of diagnostic techniques. Because of this and the enormous quantum of services involved, the IRF usually handles its own purchase.

The IRF is under the overall supervision of the Director, SGPGIMS. The In-charge Hospital Administration (IHA) is the In-charge of IRF management. Both of them are actually ex-officio members. Apart from these, the Accounts Officer is for financial guidance and supervision. The task forces for IRF are dealing with specific jobs to avoid duplication of work and representatives are largely constituted from amongst High Power Committee HPC members. IRF procurement cell deals with all IRF related purchases, manages main IRF store, supervises IRF area-stores, and prepares expenditure reports of all areas covered by IRF. IRF Accounts Cell deals with pre-purchase and other audits, releases payments to suppliers, and prepares income expenditure reports of all areas covered by IRF. A separate well-framed organizational hierarchy was made in hospital administration department for the IRF & the duties were prudently assigned to all concerned staff. Further to avoid work overload and to optimize human resource utilization, the staff form the material management department itself was transferred to IRF.

'Investigation Revolving Fund' operates on the "***Principle of Self-Sustainability***". It neither makes a profit nor incurs a loss since the actual expenditure on tests & investigations are charged or recovered from the patients. No cuts are given to any doctor, nurses, technicians etcThe fund was used as seed money for running the purchase of the materials for investigations. This kept on revolving in future. One time financial assistance of ten Lack (INR one million) was initially provided from the Hospital Revolving Fund of the institute.

Salient milestones in the evolution of IRF can be listed as follows:

1. General information and guidelines for IRF system were formulated and circulated to the all concerned stakeholders.
2. Monthly/annual requirement of items was estimated. This was revised periodically depending upon fluctuations in consumption and other factors.
3. Procurement of estimated supplies was done as per a laid down criteria giving due diligence to:
    - Vender identification & Registration
    - Tender/Quotation/Limited Enquiry
    - Finalization of Rates
    - Rate Contract & Preparation of list containing price of each item

All these protocols, which were adopted over time, are meticulously updated periodically vis-à-vis feedback obtained from the patients and the healthcare providers, and are punctiliously followed by all concerned.

Investigation Revolving Fund is acting as a new Purchase Mantra for smooth & cost effective functioning of the Laboratories of the Institute. With ascendance of IRF in the hospital, a self sustainable system for ensuring round the clock availability of laboratory consumables at highly subsidized rates was ensured. Facility of Installation of maintenance free equipments could be availed free of cost. IRF, since its infancy is facilitating the hospital supplies by better accountability and monitoring of funds. An estimation of the required items from different departments, on the basis of utilization of goods against listed tests and investigations is raised. Though profitability was never the driving force behind the concept of IRF, otherwise It is imperative for any system to be financially sustainable to achieve its mission statement. The IRF is not a profit-making agency as only minimal overheads

(maintenance Charges) are charged and included in investigation charges. The charges of investigations carried out are recovered through computerized HIS in advance. Only 50% of investigation charges recovered from patients is remitted to the IRF and remaining 50% are deposited in institute account. Since IRF facility is available on prepayment basis, therefore bad debts are almost negligible. IRF procures supplies from reputed firms on concessional rates (8-25%) and make them available for investigations. In 2010-11, total annual purchases of Rs.11 95 97 009.21 were made. The balance sheet reflected Rs.11 95 97 009.21 as fixed deposit investment. The present investigation chares are quite subsidized and less than market rates. Despite of this the IRF is in position to earn some profit which is sufficient to pay for recurring expenses related to IRF viz. manpower salary, securities, stationery etc..The Balance Sheet, for last four financial years (as on 31st March of each fiscal year-end), has been assiduously analyzed to get a comprehensive idea about the financial health of the fund. Income and Expenditure Statement of the fund has also been diligently studied to gauze various financial indicators.

Figure 1, Figure 2 and Figure 3 below show the trend in current liabilities, current assets and quick assets respectively in last four fiscal years. Figure 4 and Figure 5 calculates the current ratio and the quick ratio for last four financial years. Here it is noteworthy that both these ratios are conspicuously greater than the recommended norm of 1:1. It goes on to show that HRF is not only a cost containment tool but also is financially sustainable.

Figure 1: Showing trend in current liabilities in last four financial years

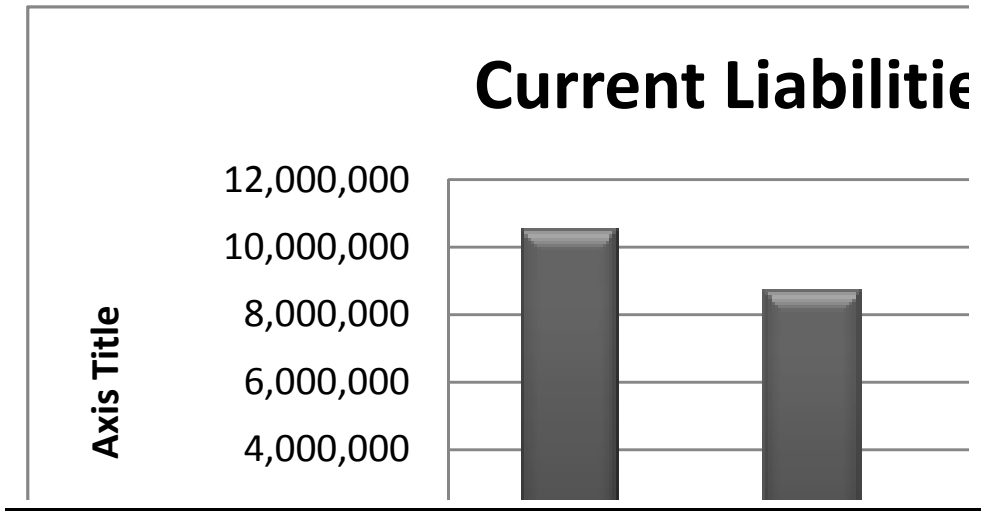


Figure 2: Showing trend in current assets in last four financial years

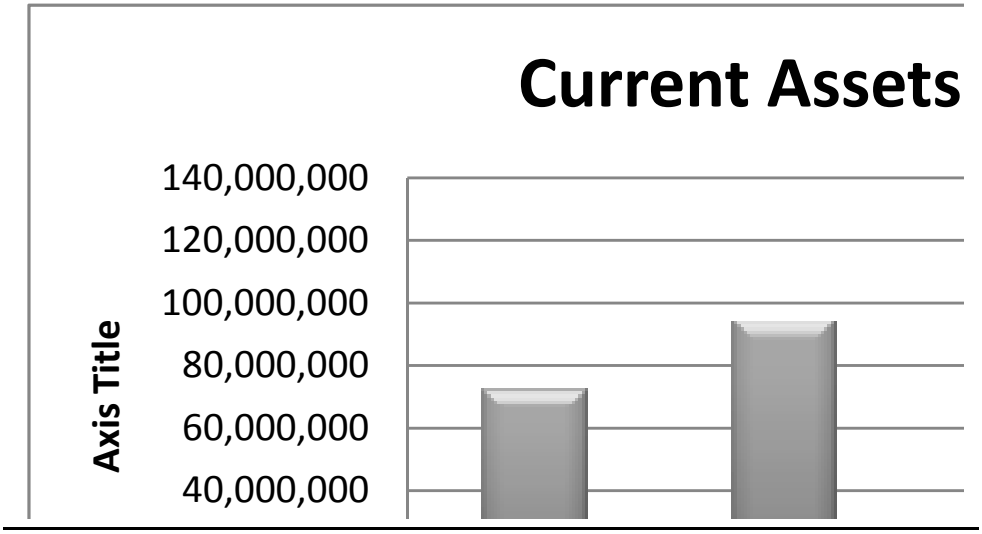


Figure 3: Showing trend in quick assets (in Rupees) in last four financial years

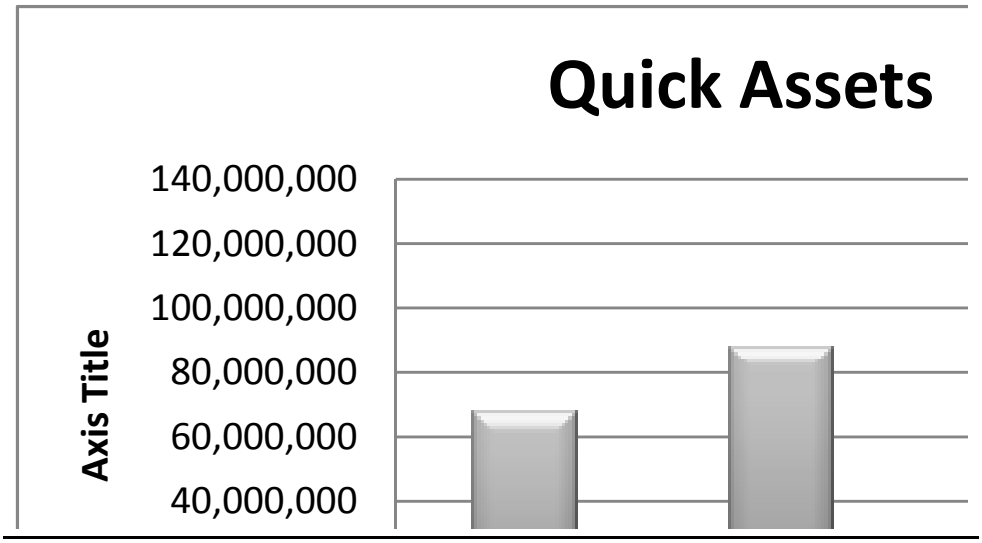


Figure 4: Showing trend of current ratio in last four financial years

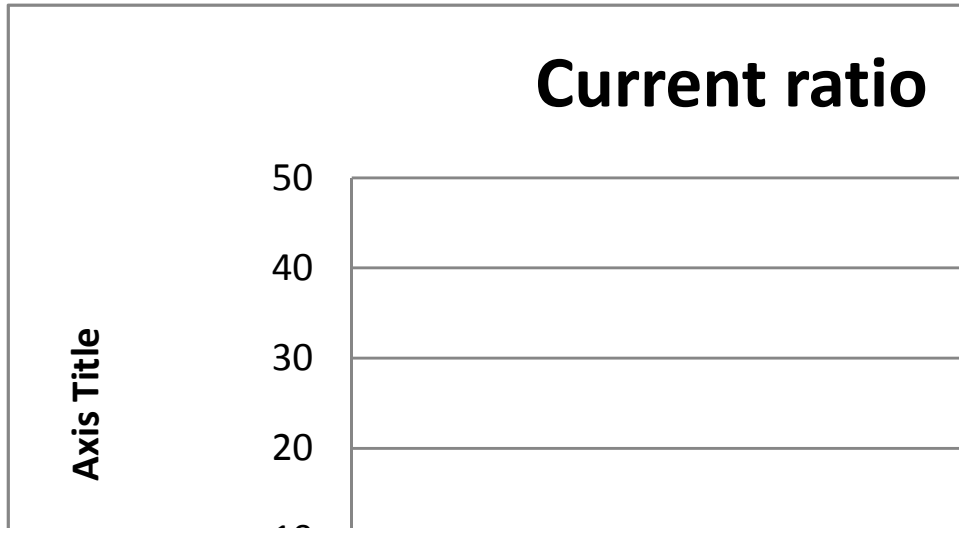


Figure 5: Showing trend of quick ratio in last four financial years

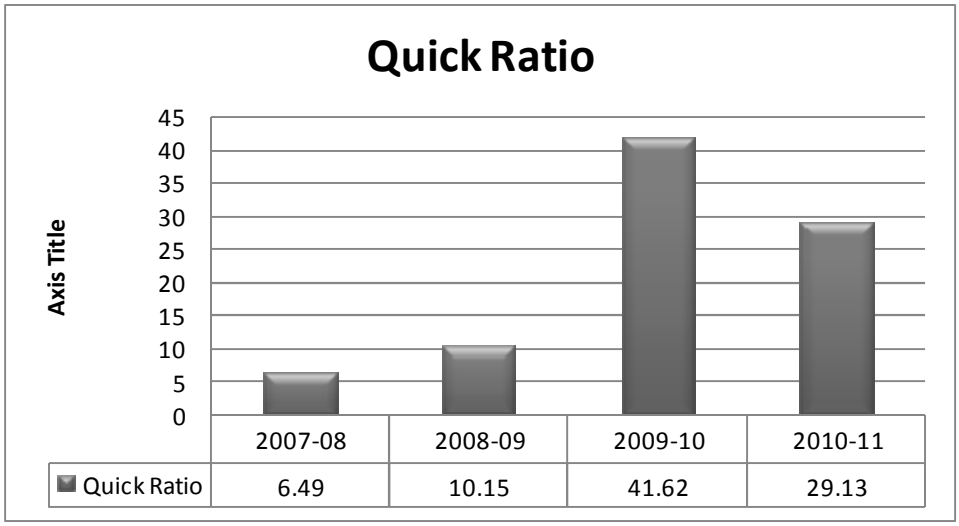


Figure 6 & 7 gives the average annual inventory and annual inventory turnover for the last four financial years. Here it is interesting to note that the inventory swelled up unabatedly between of 2007-08 to 2010-11. Thus it was decided for the year 2009-10 to implement the principles of inventory management punctiliously. The reversal of trend in 2009-10 in the annual inventory turnover further corroborates this fact. The increase in average

annual inventory in 2009-10 was due to commissioning of a new block of 300 beds in the hospital. As a proactive measure, the materials for the same were procured through IRF. However, theses beds were not commissioned on time and this delay led to the swelling up of the inventory.. This affirmation is further corroborated by the unabated increase in patient as well as staff satisfaction, as shown by feedback periodically gathered by the public relations department of the hospital through a perspicuous questionnaire, over recent-years vis-à-vis availability of right materials of right quality at the right cost in the right place of the hospital.

Figure 6: Showing trend of average annual inventory in last four financial years

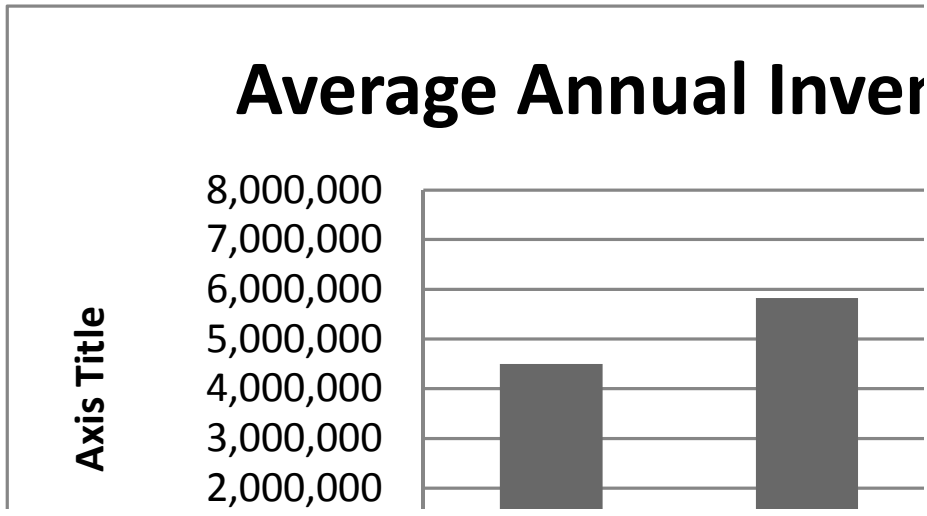


Figure 7: Showing trend of annual inventory turnover in last four financial years

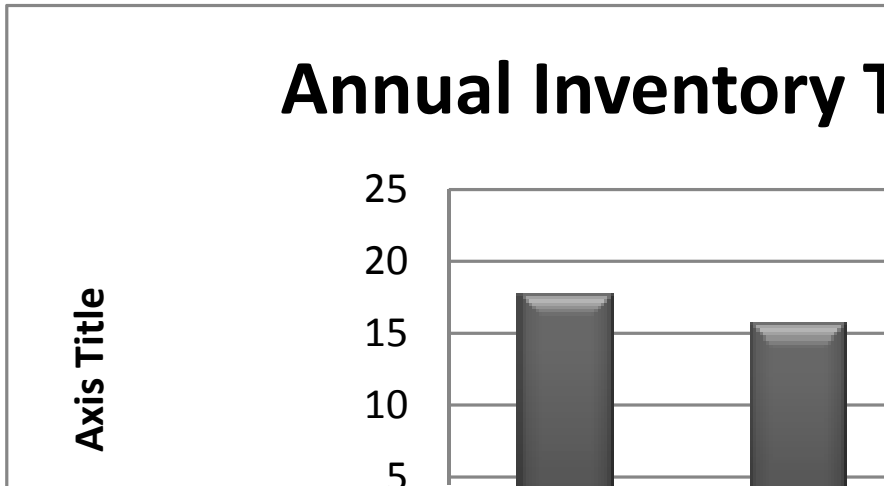


Figure 8 shows the unabated increase in sales in last four fiscal years. Figure 9 gives the operating profit earned by the IRF in last four years. Here it is worth mentioning that earning profit was not the aim behind the conceptualization of IRF at SGPGIMS. Instead the aim was to streamline the supply chain of the materials for investigations so as to facilitate optimal quality healthcare delivery at an affordable cost.

Figure 8: Showing trend in sales (in Million USD) in last four financial years

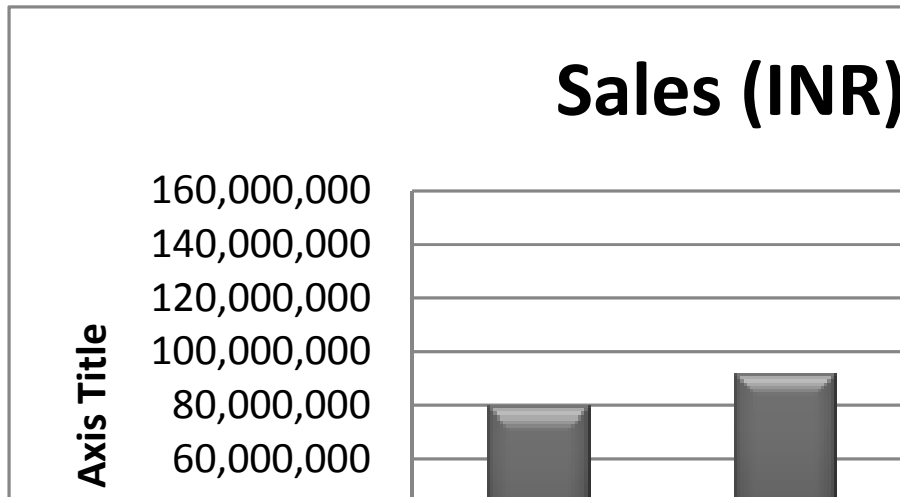
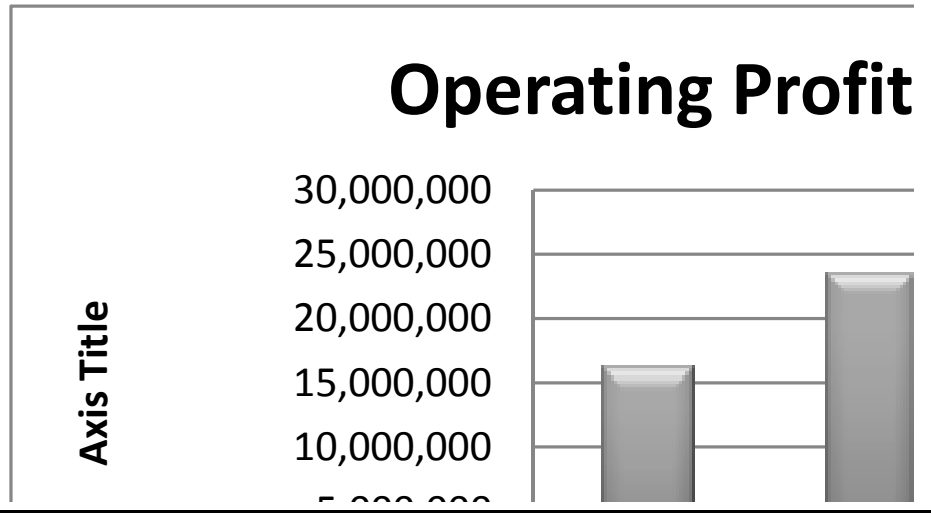


Figure 9: Showing trend in operating profit in last five financial years



Thus, it can be eloquently avowed that IRF is a self-sustainable and viable supply chain mechanism to ensure availability of right materials at right time at reasonable cost in a healthcare setting. Healthcare institutions worldwide striving for optimal healthcare delivery system at an affordable cost should apotheosize IRF type model of supply chain management practiced at SGPGIMS.

Conclusion

Total Quality Management is the major aim of most of the hospitals in today's world. Quality medical care in tertiary care hospitals like SGPGIMS depends, to a major extent upon quick and reliable laboratory services. The present study Perspicuously describes an innovative model Investigation Revolving Fund developed at SGPGIMS. A retrospective study of IRF's structure, functioning, revenue generation, expenditures and sustainability was carried out in February 2012. The Balance Sheet, for last four financial years (as on 31st March of each fiscal year--end), was assiduously analyzed to get a comprehensive idea about the financial health of the fund. Income and Expenditure Statement of the fund was also studied to find out various financial indicators. **:** The institute catered 314362 outpatients, 33705 inpatients, 2282945 investigations and 7724surgical procedures in 2010-11. The materials as divided in chemicals/ reagents/kits etc. were procured by IRF procures supplies from reputed firms on concessional rates (8-25%) and make them available to patients at much lesser rates as compared to market rates, levying minimal maintenance charges. Only 50% of revenue generated from investigations was remitted to IRF. In addition to accomplishment of objective , IRF is in position to have a sales of Rs. 13, 80, 57, 977.00 with an operating profit of Rs. 2, 45, 58, 960.00 in FY 2010-20111., and Rs. 7, 29, 28, 125.00 fixed deposit by the end of FY 2010-2011. Current ratio and the Quick ratio for last five financial years are greater than the recommended norm (average 23 & 24 respectively). **-** Detailed analysis of financial statements / ratio analysis for last four fiscal years re affirms IRF as a financially self-sustainable and viable supply chain mechanism. Thus innovations like IRF have proved robust in rendering quality healthcare at an affordable cost with better financial management

Recommendations - In addition to quality investigations and treatment, the institute can now think to reduce the cost of investigations/ treatment and better utilisation of fixed deposit based on financial statement / ratios analysis.

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Estimating Project Performance Using Speed, Safety, and Quality: A Study of Indian National Highways

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Abstract

Project performance has been always a matter of research among academician and industry expert. In past attempt has been made to study factors influencing success or failure of project in order to improve the project performance in construction industry. But, it is still a matter of debate among academician and practitioners that how the performance of the project could be improved in terms of different metrics. This research is an attempt to study the contribution of selective factors, viz. Speed, Safety and Quality on project performance in Indian National Highway projects. The questionnaire based survey has been done among practitioners involved in highway projects or related field under National Highway Authority of India (NHAI). Having done factor analysis and applying logistic regression, it has been concluded that two factors i.e. safety and speed are directly proportional while quality is inversely proportional to the project performance. Performance of project has been assessed in term of completion of project on time.

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Introduction

Project performance has been considered to be tied to project success and this is also tied to project objectives (Chan and Chan, 2004). The success of a construction project is the sole goal of project investors, including the owners and contractors, and is the subject of many researches analyzing the factors that influence the success of a construction project. According to past study the factors and characteristics which effects project performance can be classified as: factors related to project, factors related to top management and owner, factors related to external environment, factors related to manager and team members, factors that has been identified under "factors related to project" are: Project Size (Scale), Project Schedule (Duration), Project Cost (Adequate Funding to Completion), Urgency of Project, Clear Goal of Project (Objective), Project Complexity, Number of Activities in Project, Accurate Initial Cost Estimation, Number of Personnel Involved in Project, Restriction of Resources (Labor, Capital), Safety of Project and Quality.

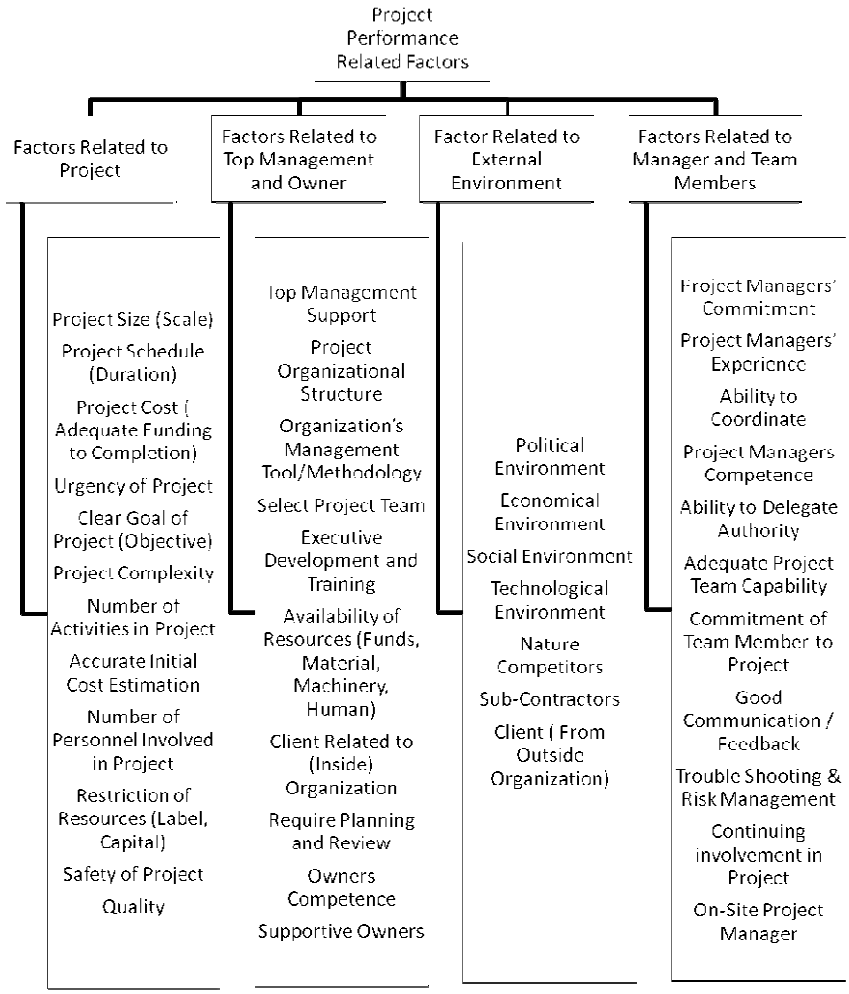
Similarly, there are several factors which have been categorized under "factors related to manager and team members", are Project managers' commitment, Project managers' experience, Ability to coordinate, Project managers competence, Ability to delegate authority, Adequate project team capability, Commitment of team member to project, Good communication / feedback, Trouble shooting and risk management, Continuing involvement in project, and On-site project management. Rubin and Seeling (1967) identified that project manager's experience influence the performance of project. Avot (1969) advocated that choices of selecting wrong manager, unsupportive top management are the main reasons for the failure of project. Cleland and King (1983) suggested that top management support and communication channel also affects project performance. Schultz et al. (1987) identified personnel selection and training as tactical group and top management support as strategic group.

In the similar way, various factors that have been elaborated under "factors related to top management and owners" are Top management support, Project organizational structure, Organization's management tool/ methodology, Select project team, Executive development and training, Availability of resources (funds, material, machinery, human), Client related to (inside) organization, Require planning and review, Owners competence and Supportive owners. Out of all these mentioned factors the "Top management support" has been identified as a critical factor in project performance by Avots (1969), Cleland and King (1983), Pinto and Slevin (1989), Morris and Hough (1986), Magal et al. (1988), Pinto and Mantel (1990),

Munns and Bjeirmi (1996) and Belassi and Tukel (1996). An incompetence owner will go ahead with the project even with an inadequately formulated project. He will freeze the completion date without proper planning, and also will not be able to recruit a competent person to look after his interest. Harsh climatic condition causes difficulties in mobilizing the resources in time (Iyer and Jha, 2006)

Finally, factors that directly come under "factors related to external environment" are listed as: Political environment, Economical environment, Social environment, Technological environment, Nature, Competitors, Sub-contractors and Client (from outside organization). Morris and Hugh (1986), Pinto and Kharbanda (1996), have suggested political stability as a critical factor for project performance. Pinto and Slevin (1989) found that most of the environmental factors affect project during planning stage of project life cycle. Competitor in the market and subcontractors are the factors that influence the availability of resources and thus the project performance. Recently, Iyer and Jha (2005) identified many that influence project cost performance. These factors are project manager's competence, top management support, project manager's leadership skills, monitoring and feedback by the participants, decision-making approach, and coordination among project participants, owners' competence, social condition, economic condition, and climatic condition. Coordination among project participants, however, has been identified as the most significant of all the factors, having maximum influence on the cost performance. Figure 1 present the categorical classification of various factors that influence project performance directly or indirectly. This study is conducted on National Indian Highways that comes under NHAI Ltd. where it is observed that there are failures in terms of time which subsequently results to cost overrun such as in the case of Chennai Bypass Phase II, Hapur-Garhmukteshwar, Garhmukteshwar- Muradabad, NH Connectivity to ICTT Vallarpadam.

The rest of paper is organized as follows section 2 presents literature review of the past work. In section 3, problem description is given. Section 4 provides the research methodology adopted in the study. Statistical results are shown in section 5 followed by conclusion.



Literature Review

One of the most widely researched topics in project management is the study of project success factors and the criteria to measure project success refer (Ashley et al., 1987, Pinto and Slevin, 1988, Chua et al.1999, Chan et al.2001and Zhang 2005). Iyer and Jha (2006) identified 55 attributes which impact performance of the projects. After analyzing the responses they concluded two success factors (1) commitment of project participant, and (2) owner's competence. Pinto and Covin (1989) also identified critical success factors in project implementation which are vision and mission, top management support, project schedule/plans, client consultation-communication, personnel selection, recruitment, and training of the necessary personnel for the project team, technical tasks, client acceptance,

monitoring and feedback, communication, trouble shooting, characteristics of project team leader, power and politics, environmental affects and urgency. Belassi and Tukel (1996) suggested the framework by grouping critical factors which helps project managers to understand the inter relationship between the factors in different groups. They grouped these factors into four headings: Factors related to project, Factors related to the project manager and the team members, Factors related to the organization and Factors related to the external environment. Rubin and Seeling (1967) investigated the impact of project managers' experience on the project's success. Hughes (1986) conducted a survey to identify the factors that affect project performance. He concluded that project fails because of improper basic managerial principles such as the improper focus on the management system, by rewarding the wrong actions, and lack of communication of goals. Schultz et al. (1987) classified factors as strategic or tactical. These two groups of factors affect project performance at different phases of implementation. The strategic group includes factors such as "project mission", "top management support" and "project scheduling" whereas the tactical group consist of factors such as "client consultation" and "personnel selection and training". Time, cost and quality are the three basic criteria to any project success, and these factors have been addressed widely in the published literature such as that of Belassi and Tukel (1996), Hatush and Skitmore (1997), and Walker (1995, 1996). Atkinson (1999) called these three criteria as the “Iron Triangle”. Pocock et al. (1996) further suggested including the absence of legal claims as an indicator of project success. This then calls for including “safety” as a success indicator as well, since it is reasonable to expect that if accidents occur, both contractors and clients may be subjected to legal claims, as well as financial loss and contract delay in the construction project. Songer and Molenaar (1997) considered a project as successful if it is completed on budget, on schedule, conforms to user’s expectations, meets specifications, attains quality workmanship and minimizes construction aggravation. Kumaraswamy and Thorpe (1996) included a variety of criteria in their study of project evaluation. These include meeting budget, schedule, and quality of workmanship, client and project manager’s satisfaction, transfer of technology, friendliness of environment, health and safety. Shenhar et al. (1997) proposed that project success is divided into four dimensions: Project efficiency, impact on customer, business success and preparing for the future. Atkinson (1999) divided project success into three stages. The first stage is "the delivery stage: the process". The second stage is "post Key performance indicators delivery stage: the system". The last stage is "the post delivery stage: the benefits". Lim and Mohamed (1999) advocated that project success should be viewed from different perspectives of an individual owner, developer, contractor, user, and the general public, and so on. Sadeh et al. (2000) divided project success into four dimensions. The first dimension is

meeting design goals, which applies to contract that is signed by the customer. The second dimension is the benefit to the end user, which refers to the benefit to the customers from the end products. The third dimension is benefit to the developing organization, which refers to the benefit gained by the developing organization as a result of executing the project. The last dimension is the benefit to the technological infrastructure of the country and of firms involved in the development process. The combination of all these dimensions gives the overall assessment of project success. Chan and Chan (2004) developed a consolidated framework for measuring project success. The framework is comprised of the following eight project success dimensions: cost, environmental performance, quality, time, commercial/ profitable value, user expectation/satisfaction, health and safety, participants' satisfaction. Han et al. (2007) adopts 64 performance influencing variables on project performance, which are set up into five categories: condition of host country and project owner, bidding process, project characteristics and contractual conditions, characteristics of organization and participants, contractor's ability. Kim et al. (2009) have done study on hypothesized 14 latent variables affecting performances of overseas projects. In developing a conceptual SEM model he categorized ''condition of host country,'' ''quality of project information collected at the early stage of the project,'' ''relationship in a joint venture,'' and ''bidding competition'' as exogenous latent variables. He believed that the environment of the host country, bidding competition, and early project information as boundary conditions for overseas construction projects. Kaming et al. (1997) identified the relationship among the project characteristics (i.e. change orders, experience, and resources) through a factor analysis of the variables affecting the overrun of the project such as time and cost. The study conducted by Ling et al. (2004) presented the project characteristics affecting project performances, which were divided into three categories: project characteristics, owner and consultant characteristics, and the contractor characteristics. Alhazmi and McCaffer (2000) presented the type of project, the time constraints, the degree of flexibility and complexity, the payment method, and the integration of the design and construction as project characteristics affecting project performance. In the study conducted by Kaming et al. (1997) the project characteristics that overrun the construction duration and cost were divided into six categories (weather, cost data, resource shortages, experience, design changes, and labor productivity). In the research conducted by Cho et al. (2009), he has identified the various characteristics which affect the performance of projects (project scale, time to budget fixed, type of project, level of construction complexity, percentage of repetitive elements, project scope definition completion when bids are invited, flexibility of the work scope, level of design preparation by owner, location of site, and time given to contractors to prepare their bids). According to Fortune and White (2006)

around 63 published report listed the critical success factors(CSF). They also agreed that there is limited agreement among authors and researcher on the factors that influence project success. Also they mentioned three widely cited success factors are: the importance of a project receiving support from senior management, having clear and realistic objectives, and producing an efficient plan. Ahadzie et al. (2008) has identified the success factor on Mass House Building Projects (MHBP) into four clusters namely, Environmental impact, Quality, Customer satisfaction, Cost and Time. Various researchers support ''environment'' as a factor affecting the project success (refer Akinsola et al. 1997; Kaming et al. 1997; Songer and Molenaar 1997; Chua et al. 1999; Walker and Vines 2000). A number of researchers identified the importance of procurement factors (Pocock et al. 1997a, 1997b; Walker 1997; Kumaraswamy and Chan 1999; Walker and Vines 2000). Jaselskis and Ashley (1991) suggested that by using the management tools, the project managers would be able to plan and execute their construction projects to maximize the project's chances of success. Then the variables in project management include adequate communication, control mechanisms, feedback capabilities, troubleshooting, coordination effectiveness, decision making effectiveness, monitoring, project organization structure, plan and schedule followed, and related previous management experience (Belout 1998; Chua et al. 1999; Walker and Vines 2000). Chua et al. (1999) defined project participants as the key players, including project manager, client, contractor, consultants, subcontractor, supplier, and manufacturers. Walker (1995) considered influence of client and client's representative as a significant factor on construction time performance. The project manager is another key stakeholder in a construction project and his competence is a critical factor affecting project planning, scheduling, and communication (Belassi and Tukel 1996). A construction project requires team spirit; therefore team building is important among different parties. Team effort by all parties to a contract-owner, architect, construction manager, contractor, and subcontractors is a crucial ingredient for the successful completion of a project (Hassan 1995).Construction duration, and thus the speed with which building proceeds(construction speed), plays an important role in the commercial success of a construction project (Bordoli and Baldwin, 1998). A construction duration that is too long, as well as one that is too short, can have a negative impact on the project's success. For this reason, planning the construction duration must be included in addition to cost and quality planning as one of the major tasks of construction project management, particularly since all three areas are closely linked (Nkado, 1995, Walker, 1995). Pocock et al. (1996) suggested including the absence of legal claims as an indicator of project success. This then calls for including "safety" as a success indicator. Health and safety are defined as the degrees to which the general conditions promote the completion of a project without major accidents or injuries (Bubshait and

Almohawis, 1994). The issue of safety has been raised for a long time (Kometa et al., 1995; Parfitt and Sanvido, 1993; Sanvido et al., 1992). Aksorn and Hadikusumo (2008) identified and ranked 16 CSFs of safety program implementation based on their degree of influence. It revealed that ''management support'' was the most influential factor for safety program implementation in the Thai construction industry. Baxendale and Jones (2000) point to the inefficient role played by management in influencing site safety. Kartam (1997) identifies workers themselves as being liable to perform unsafe acts and cause accidents. he also highlighted poor planning and poor site conditions as hazards to project safety. Researchers have investigated how the safety climate contributes to site performance (Zohar 1980; Gonzalez et al. 1999; Mohamed 2002).

The aim of the paper is to study the affect of safety, speed and quality on the project performance. In the proposed work, author has considered these three factors to measure the performance of the project. To validate the proposed work, the study has been conducted in the India national highways directly governed by NHAI Ltd. the officials involved in the construction of highways on these three factors.

Based on the review work carried out, it is found that no work so far has been conducted to study the performance of the project considering safety, speed, and quality (SSQ) as broad parameters all together. Author strongly believes that these factors are vital (include many other sub-factors and affects the project performance to a large extend. Safety includes all factors that provide safe working conditions to human, material and machine (all resources). Speed includes all factors such as technology, climatic condition, and relation with workers, etc. Quality includes all factors such as material quality updated technology, training and education of employee involved in project, skill level of manager etc.

Problem Description

There are many researches done by different scholars/practitioners on factors affecting performance of the project, among them some researchers have study the effect of individual factors separately and in more details in some specific construction projects, in different countries, which are mostly run in developed countries and has been made less attention within developing countries resulting time over run, cost overrun, delays and so on as a part of construction project but found rarely any way to solve it. Safety, Speed and quality are three vital factors to project performance as they have been discussed earlier and are most significant factors to make the project performance success in terms of time, cost and quality. India as a very large

country is having many construction project which are running at state or planned to be run in near future. Some has been already done and faced some failure with the regards of success criteria in terms of cost, time and quality. It seems very important to fill such gaps and make some focused research study on three important factors of safety, quality and speed and their effect on project success. This research aims to make some contribution to the gap and study the selective factors of speed, quality and safety with focus on projects run at National Indian Highway.

Research Methodology

An exploratory study has been done on existing literature and factors affecting project performance have been identified. The gap in literature has been identified based on literature review and hypothesis designed. The questionnaire based survey on Likert five point scales has been designed based on three factors i.e. safety, speed and quality. Questionnaires have been distributed among different authorities and managers dealing with different projects in highways. Out of fifty questionnaires, thirty six have been responded and about twenty eight questionnaires have been considered effective and remaining has been rejected due to error. The methodology applied to analyze data in order to fulfill the objective and hypothesis of the study is logistic regression and the tool adopted is PASW STATISTICS 18 program.

Statistical Analysis

Factor Analysis

Factor analysis has been performed on the dependent variables, which is "project performance" and three independent variables (safety, speed and quality). The varimax rotation method was used to determine any underlying components for each variable. The success of project performance was measured based on completion of project in schedule time. As a result factor 1 was relabeled as on time project and 0 relabeled as project which they have not been completed within time.

Rotation Methods

Rotation serves to make the output more understandable and is usually necessary to facilitate the interpretation of factors. Varimax rotation is an orthogonal rotation of the factor axes to maximize the variance of the squared loadings of a factor (column).

On all the variables (rows) in a factor matrix, which has the effect of differentiating the original variables by extracted factor, each factor will tend to have either large or small loadings of any particular variable. A varimax solution yields results which make it as easy as possible to identify each variable with a single factor. This is the most common rotation option. Factor analysis which has been done through PASW STATISTICS 18 is as shown in table 1; table 2 and table3 for factors Safety, Speed and Quality, respectively.

TABLE 1: Rotated Component Matrix for independent variable; safety

	Component				
	1	2	3	4	5
Reportable accident rate	.896				
Noise level on construction site	.825				
Unsafe method in construction process	.635				
Displayed standard site rules and hazard signs on construction site	.556				
First Aid in construction site		.833			
Examine construction worker for drugs and alcohol		.780			
Basic hygiene on site		.778			
Safety training			.864		
Standard safety program			.815		
Safety inspectors			.782		
Safe equipment and machinery				.820	
Proper communication among team work				.713	
Trouble shooting by on-site managers				.663	
Socio-political environment					.800

TABLE 2: Rotated Component Matrix for independent variable-quality

	Component			
	1	2	3	4
Contractors commitment	.879			
Project managers characteristics	.856			
Team member commitment	.801			
Quality control		.857		
Quality assessment		.612		
Quality training		.545		
Quality of raw material		.534		
Quality assurance		.485		
Review of failures in construction projects			.640	
up to dare risk management			.610	
Methods which are used in construction project			.598	
clear mission and objectives			.555	
Socio-political environment				.862

TABLE 3: Rotated Component Matrix for independent variable; speed

	Component				
	1	2	3	4	5
Level of project complexity	.814				
Number of activities in project	.797				
Precise project schedule	.723				
Communication/Feed back		.847			
Easy access to sources		.747			
Clear goal and objective			.788		
Up to date risk management			.758		
Urgency of project			.735		
Socio-political environment				.865	
Climate condition				.805	
Supplier loyalty					.568
Sequencing of construction work					.557
Lack of adequate technology					.755

Logistic Regression

After applying factor analysis on data in this study, on each selective factors of speed, safety and quality, some indicators have been identified as most indicators loading on each of those factors. These indicators have been further analyzed by taking them into logistic regression (LR) analysis in order to check the hypotheses of the research and suggesting any feasible model. The result of logistic regression is shown in table 4.

TABLE 4: Variables in the Equation

1	2	3	4	5	6	7
	B	S.E.	Wald	df	Sig.	Exp(B)
Speed	1.937	1.060	3.337	1	.05	6.939
Safety	3.024	1.296	5.443	1	.020	20.581
Quality	-5.997	2.896	4.289	1	.038	.002
Constant	6.959	10.549	.435	1	.509	1052.145

Table 4 shows the estimated coefficient (see under column B) and related statistics of the developed LR model. The table also shows the combination of a constant and the variables that statistically significant identified in the developed LR model, i.e., Speed, Safety and Quality. Given these coefficients, the following equation can be written:

$$Y = 6.959 + 1.937(\text{speed}) + 3.024(\text{safety}) - 5.997(\text{quality}) \quad \ldots (1)$$

The equation (1) is derived on the basis of logistic regression analysis performed on the data collected through questionnaire using 5 point likert scale.

The equation (1) shows following salient features which are given below.

1. There is strong relationship between speed, safety, quality and project performance (in terms of success of project based on schedule) but it seems that there is need of much larger sample size in order to get significant value, as shown in 6th column of the table 4.
2. Speed is directly proportional to performance of the project by the coefficient of 1.937.
3. Safety is directly proportional to performance of the project by the coefficient of 3.024.
4. Quality is inversely proportional to performance of the project by the coefficient of 5.997.

There is a constant of 6.959 in the equation as per logistic regression analysis.

Conclusion and Future Scope of Work

Based on findings, it can be concluded that there are different factors that influence success of project. But there is almost .no consensus which factors are most significant. Among various factors available in literature, we identified. Previously three factors i.e. safety, speed and quality which have not been taken under consideration to study the impact of these factors on project performance. The aim of the paper is to study the effect of safety, speed and quality on performance of project. Here the study has been done on National Indian Highways come under control of NHAI. To carryout study, a questionnaire based survey has been conducted among managers, practitioners and industrial professionals dealing with the related projects (i.e. road construction) or directly related with NHAI. After collecting the data, the statistical analysis is done and using logistic regression an expression is derived which shows the relation of Safety, Speed and Quality on project performance. The statistical findings conclude that two factors i.e. speed and safety is proportionally related and quality is adversely related to the project performance (in term of completing project in time). This means that implementing standard safety program on construction site, providing safe equipment/machinery, and providing safety training for workmen will contribute to project performance success. The speed of project includes

important factors such as updated technology and favorable socio-political environment will affect project performance positively. It also means when speed increases there will be favorable impact on project performance also lack of speed would hamper performance of project. Whereas quality is desirable to the project but research shows paying so much attention to the quality of the project will adversely impact performance of project in terms of completion of project in time.

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Consumer Protection Models on Financial Services Market as Tool for Creating Corporate Social Responsibility

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Abstract

Financial services have become one of the most important subjects of consumer law. Compared to other products, financial services are characterized by higher economic risk, and as such are extremely difficult to measure in terms of their transparency. Moreover, consumers of financial services market lack proper knowledge about stage preceding contract conclusion, duration of contractual obligation, and even period after consumption. At the same time, consumer risk is not proportionately spread between contract parties. Hence, problem arises about protection of consumer privacy and transaction security. This issue is particularly significant when matters get tough financial crisis triggered by financial institutions affected not only financial sector but most of all consumers. Main objectives of paper are: 1) identification and evaluation protecting consumer rights models existing in European market and 2) determine level of knowledge of rights by consumer. In paper authors presents results of empirical research that took place in selected European markets.

Introduction

Financial services have become one of the most interesting subjects of the consumer law. They constitute a driving force of the modern economy and form its economic basis. Their significance is constantly growing along with the ongoing commercialization of economies of states and international communities. Together with consumer selling, financial services (especially credit facilities) have paved the way for legal regulation of relations between professionals and individual clients.

Compared to other products, financial services are characterized by higher economic risk to be borne by consumers, and as such are extremely difficult to measure in terms of their transparency. Moreover, consumers of the financial services market lack proper knowledge about the stage preceding the contract conclusion (when the consumer must decide if he or she will use a financial service), about duration of the contractual obligation (whereby the consumer can react to events in due time and in a proper way), and even about the period after service consumption (deferred-in-time effects, concerning e.g. reaction to automatic extension of the contract). Even more so, these transactions bear higher economic risk for the consumer than other purchases on the market. At the same time, this risk is not proportionately spread between the contract parties, as one unsuccessful transaction for the customer may gravely destabilize his or her household budget, whereas the same failed transaction for the financial institution may result in a marginal decrease of its economic indices. An additional and a relatively new (or rather recently recognized) danger of financial services is connected with a possibility of accessing the services by means of electronic media. Hence, the problem arises about protection of consumer privacy and transaction security.

Consumer protection on financial market is particularly significant when matters get tough financial crisis triggered by financial institutions affected not only financial sector but most of all consumers. Main objectives of paper are: 1) identification and evaluation protecting consumer rights models existing in European market and 2) determine level of knowledge of rights by consumer. In paper authors presents results of empirical research that took place in selected European markets.

Consumer Protection on Market – Historical Background

In market economy the consumer should have the possibility of selecting the right product, as well as the form, place, and time of its purchase, and should have proper conditions for making the right decision (Schiffman and Kanuk,

2010). Such goals are achieved by means of various methods. This is why the importance of marketing for consumers should be considered in terms of both advantages and threats. The threats to consumer interests are usually connected with the following (Niepokulczycka, 1998):

- lack of transparency in the market (many diverse products, introduction of new products, etc.);
- depersonalisation of the market;
- selling products in large shopping facilities;
- using sophisticated methods to seduce buyers, e.g., by arousing emotional motives to purchase a product;
- artificially provoked needs, e.g., through promotional activity of enterprises;
- increasing prices through manipulating the assortment of goods and by means of a well-developed brokering network; and
- over-function of packing, which often causes an increase in prices and has ecological consequences, etc.

Highly developed countries have to face problems connected with the standard and quality of living of the whole society, limiting of competition, threats to the natural environment, and overly careless use of non-renewable sources of raw materials and energy. These are associated with marketing activities perceived as contradicting the original philosophy (Davies and Pardey, 1994). The complaints usually refer to quality, price, or consumer service; and they may, for instance, be related to the abuse of certain techniques and marketing instruments (Kaleta, 2006). Since most of the time the decisions related to buying goods are subconscious, it is both advisable and necessary to protect consumer interests. Consumers do not have the possibility of carefully analysing every purchase, and so there are many ways of provoking consumer behavior based on subconscious reflexes (Bishop, 2010).

Consumer interests are threatened in many ways. Four spheres of operation of such threats are axiological, economic, qualitative, and commercial. The axiological sphere involves such activities of the producers as creating excessive needs, wrong needs, and the need for restitution. The economic sphere refers to threats caused by the purchase of goods of reduced mass and/or at an increased price. The qualitative sphere refers to latent defects of goods, legal defects, and contents that are harmful substances and

components. In the commercial sphere, the consumer may suffer losses due to mismanagement arising from style of living, habits, lack of planning, and so on (Vizer, 2010).

Some of the threats to consumer interests are observed throughout the whole country, while others refer only to certain social groups. The countrywide threats are caused by civilization processes, industrial and technological processes as well as organizational processes in the economy, and lack of appropriate laws for consumer protection. Threats to the interests of social groups are usually connected with solutions adopted in the economy to settle certain problems. The premises for consumer interest protection as well as the number of various types of threats justify the need for those interests to be protected.

The term consumer interest protection is a descriptive term and is used to characterise a set of activities directed at the protection of consumers when their rights and interests are being threatened (Blackwell, Miniard and Engel, 2001). The descriptive nature of the term has, however, some significant consequences. The manner of perceiving that set of activities, which is crucial for consumer interests, varies depending on the field the author specializes in, on the perspective taken to observe phenomena, and on the current socio-economic situation. The idea of consumer protection emerged in the 19th century when the market economy was born. The first activities aimed at the protection of buyers against exploitation and unfair trade practices were undertaken by the developing cooperative movement (Maliszewska-Nienartowicz, 2004). The consumer movement, as well as other social movements originated in the period of rapid industrialisation in the second part of the 19th century, mainly in the U.S. The key event for the process was John F. Kennedy's address to the Congress on March 15, 1962, when four basic consumer rights were pronounced: the right to safety, the right to be informed, the right to choose, and the right to be heard. These rights were later developed by Consumers International until they became the basis for the Guidelines of the General Assembly of the UNO on consumer protection (adopted in 1985). The issue of consumer protection was also discussed in European Communities. The formation of community consumer protection was a multi-stage process (Kiezel, 2007).

What ought to be considered, then, is the scope of consumer interest protection. This protection covers the most precious things, such as life, health, material interest, and position in the market. The subjects of protection are the consumer and the institutions organizing activities in the area of consumer interest protection. The latter include the state, self-governing

bodies, social organizations, and consumers themselves. The activity of all those groups of subjects acting in favor of consumer interest protection should form an overall system of protection.

An important term related to consumer protection is consumerism. It is an umbrella term for all the activities undertaken by state, social, and private institutions for the benefit of consumers. In a broader sense, consumerism is a movement designed to increase the rights of consumers in their relation with producers and providers of goods and services (Raymond, 2003). It is a mixture of people, ideas, and organizations representing groups and needs that were not represented before, trying to induce some changes or a reform of the existing rules. The movement defends basic consumer rights and these include (Doole, Lancaster and Lowe, 2005) the following:

- The right to protection against products and services that are dangerous for health and life. No such products and services should be present on the market. For this purpose safety requirements need to be stipulated, and consumers need to be informed of the possible risks connected with the use of particular products or services. Consumers also need to be protected against accidents.
- The right to protection of economic interests. This ought to provide consumer protection against the producers, brokers, or retailers abusing their position. It involves a ban on unfair competition and on imposing unfavorable terms of contracts, the idea of improving the quality of goods and services and caring for environmental protection.
- The right to information and to consumer education. The consumer should have the actual possibility of making a conscious choice in the market. This requires reliable information on the characteristics of products and information on the prices of goods and the methods of their use. Another important issue is information on procedures of executing consumer rights.
- The right to an effective system of pursuing claims. In the case of a complaint, the consumer should have access to professional aid.
- The right to representation. Consumers have the right to present their opinion on all matters concerning their individual as well as collective interests, i.e., the interests of a consumer community. Voluntary consumer associations constitute such representation.

The basic objective of consumerism is to extend the rights and powers of buyers in their relationship with sellers of goods and service providers. Thus consumerism motivates all subjects participating in economic life to be active

in educating and informing consumers as well as in protecting consumer rights (Harris, 2010). What needs to be considered are the forms of protection and their instruments. The multiplicity of threats to consumer interests makes it difficult to apply a single method of protection. The forms of consumer protection include pro-consumer legislation and institutional forms. Those legal and extra-legal forms of protection are closely related and they intermingle. In the countries where a market economy is well developed, the governments create a system of laws and institutions to protect consumer interests. These nicely supplement the basic and effective protection provided by the market mechanisms, competition, and business ethics.

The instruments of consumer protection can be divided into three groups: state instruments, individual instruments, and mixed (Sawyer, 2010). The state instruments are activities of the state that, either directly or indirectly, protect the consumer without his/her active participation, e.g., obligatory standards of quality and safety, labelling food, anti-trust law, etc. The state acts on behalf of the consumer. Individual instruments are types of consumer behavior that protect him/her. Whether a consumer uses them or not depends entirely on him/her. They include all kinds of decisions made by the consumers, such as where to buy, for what price, how to use the product, how to treat a trademark, etc. Mixed instruments are the laws that vest in consumers the right to protect their interests, such as the part of the Civil Code that refers to warranty and others.

It is worth noting that it is the consumers who bear the greatest responsibility for their own protection. The state, on the other hand, should provide proper conditions by providing legal norms and regulations, education, and broad access to information. Economic processes undergo globalization and thus become more and more complex, technology changes rapidly, and economic pathology spreads. All these factors make state intervention on behalf of a consumer practically indispensable (Keay, 2010). Thus, consumer actions to protect their interests ought to be supported by the state.

The protection instruments may also be divided into the following groups: legal, economic, psychological, and ethical. Legal instruments are the laws that objectively concern consumers, the goods they buy, or the entities offering those goods, and such enactments that do not directly refer to the consumer, but that provide the conditions for the proper functioning of the market (packages of laws protecting fair competition and anti-trust laws). Economic instruments are those that are used by the consumers themselves as well as those that are used by the producers and vendors. This group of instruments includes some that are related to quality protection, such as

trade-marks, quality standards, certificates, etc. Psychological and ethical instruments may also be of considerable importance, though their practical significance in present conditions is rather small (Wells and Prensky, 1996).

Models of Consumer Protection on European Financial Services Market

Forming consumer rights sealed the development of institutional forms of consumer interest protection. Activities in this matter on financial services market are conducted, apart from consumer organizations, by specialised state bodies, self-governing bodies, social organisations, and others. Consumer rights on financial services market ought to be represented in every country by all economic entities and organizations. Institutional forms of consumer interest protection in European countries create a complex and coherent organizational system, which is gradually evolving along with economic development. What is characteristic of this system is the functioning of specialized institutions, situated high in the governmental hierarchy, that shape and execute consumer policy. The activities of such entities supplement those of regional and local governments; civil organizations, including consumer organizations; and cooperative organizations (Groom, 2010).

Four models of institutional consumer protection systems are present in the European Union (Kiezel, 2007):

- ombudsman model – in which the crucial role in consumer protection is that of a single-person institution, a consumer advocate or ombudsman. He/she is administration-independent, appointed for a fixed term, usually by the Parliament. A consumer advocate is usually vested with specified powers.
- administrative model – in which it is the administration that exercises the consumer policy. Consumer protection is usually performed by a single, specialized administrative body (usually situated in economic ministries), which usually has a well-developed structure throughout the country.
- court model – based on a highly advanced operation of courts, where common access and short procedures (the so called courts of petty matters, courts of small claims) guarantee quick compensation. This model also assumes the functioning of various public institutions executing and coordinating the consumer protection policy. The most characteristic feature for this model, however, is the presence of fast-operating courts, which only deal with deciding consumer litigation.

- German model – in this model the consumer policy is executed by means of strong consumer organizations. Consumer organizations are state-independent citizen associations that deal with the protection of buyer rights. They are present on the local and national level, and they have a joint representation in community institutions, which allows them to act on particular issues arising between buyers and vendors. They also fight to bring about changes in legal regulations that favor producers and traders.

There are many countries in the European Union where institutional systems of consumer protection on financial services market are usually mixed, like Poland, Czech Republic or Hungary. However, the ombudsman model is dominant in Scandinavia; the administrative model, in France; and the court model is common in Anglo-Saxon countries.

Legal System of Consumer Protection on the EU Financial Services Market

Consumer protection on the financial services market of European Union countries share considerable similarities, although these similarities mainly refer to general assumptions rather than to concrete institutional legal and judicial constructions. With respect to the latter, the differences are more visible, which is a result of differentiation of definite consumer legislations, as well as legal and traditional „culture" of particular countries. Some of them have directly implemented the Directive about unlawful contractual clauses in consumer contracts (Directive 13, 1993), into special laws and have extended its resolutions by various legal acts (e.g. Germany, Austria, France, Belgium). Other states have failed to develop laws which could ensure their consumers special protection, whereas courts base their consumer jurisdiction mainly on regulations governing the whole civil law – civil code, etc. (e.g. Greece, Italy). In some other cases, one can observe a process of transition – often under influence of jurisdiction of domestic courts - from the first solution to the second one (Dziemaszkiewicz, et al., 2005: 248). Quite logically, courts of countries with separate and well-developed consumer legislation have provided their individual consumers with wider protection on the financial services market than courts of countries which lack such legislation. This state of affairs results from the fact that separate acts of the consumer law were elaborated when the problem of consumer protection was recognized in the European law and when it was necessary to transfer this law into the domestic one. The traditional civil law in countries such as Italy or Spain have not guaranteed their consumer sufficient protection, and big

financial institutions have won cases which, in the light of the Scandinavian or German law, would be considered grave breach of justice and fair trading committed by professionals.

The jurisdiction of the European courts concerning contracts of consumer financial services is characterized by great abundance. In the light of the basic relevant legislation and Directive 13 (1993), financial services comprise all services of capital turnover or services connected therewith which are provided to individual customers. Basically, these contracts do not include services of „material" character or of goods provision, with an exception of contracts of safe deposit box rental services. Financial services comprise mainly services which are rendered by financial institutions and which mainly consist in managing capital turnover on behalf of customers, ensuring safety of customers' money, granting all kinds of credit facilities, etc. A similar activity conducted by other professional entities should be also regarded as a financial service. It should be emphasized that in the European law the approach to consumer credit facilities is very broad (economic approach), which means that the range of financial services reach far beyond banking services (in Poland there is a tendency for referring to the concepts as equivalents).

Consequently, the Austrian law has a distinctively pro-consumer character with respect to financial services. Interestingly, already in 1970s, when the consumer legislation was only in its infancy, Austrian courts tried to provide additional protection for individual customers by passing verdicts condemning "immoral" conduct of professionals. There is no doubt that their work influenced nature of the contemporary Austrian consumer law. Also, after elaboration of relevant laws, Austrian courts have fought the most frequent cases of abuse of positions held by financial institutions, such as exclusion or considerable limitation of their liability towards the customer, inclusion of the so-called clauses which are quite surprising and unexpected to he customer, imposing „constraints" on the customer by adding numerous and additional clauses to contracts. A similar scope of consumer protection on the financial services market can be observed in Belgium. However, in this country many lawsuits relating to violation of consumer rights concern disputes between customers and professionals over validity of various penalty clauses which, in case of contract breach, specify contractual fines and duties of the parties. Belgian courts have confirmed the principle that this type of contractual resolutions cannot constitute an excessive burden for the consumer. Interestingly, the courts have set forth rules of monitoring a permissible limit of a contractual penalty independently of the statutory interest amount. Such an approach is hardly flexible and confines consumer

protection within one level, whilst determination of a permissible contractual penalty limit should be adapted to a definite situation. The Danish law, in turn, sets the consumer protection on a relatively high level, thus preventing banks and other financial institutions from abusing their rights. The limitation of consumer rights is allowed only in exceptional situations which are clearly stipulated in a contract. Danish courts emphasize significance of trust placed by the consumer in a financial institution (Letowska, 2006).

Whilst analyzing the Finnish legislation on consumer protection on the financial services market, one can observe that a great role in settling consumer matters has been assigned to the Consumer Spokesperson, an institution which is characteristic of all Scandinavian countries. The spokesperson has wide competencies with respect to making preventive appeals of contractual clauses used in general contractual terms and conditions. In such cases the spokesperson can exercise his or her rights if a given clause is found out of compliance with the law or with the principle of honesty and fair trading. The Finnish jurisdiction itself deals mainly with disputes between customers and financial institutions over validity of guarantee clauses which put an unlimited burden on a guarantor for other people's financial commitments. The courts can adjudicate that, due to broad and common employment of the institution of spokesperson, consumers cannot be excused on account of a "surprising and unexpected" character of claims of financial institutions for customer default on guarantee obligations. However, judicial authorities strictly prohibit professionals to abuse their position while concluding multilateral financial transactions such as lease-sale contracts (ADNS, 2010).

The French legislation, on the one hand, strongly prohibits typical abuse, such as imposing an exclusive interpretation of contractual resolutions or depriving the customer of possibilities of defending his or her rights; on the other hand it emphasizes that consumer contracts come under rules of the civil code and, as such are governed by the principle of free establishment of rights and duties by both parties. Consequently, financial institutions cannot be imposed with additional contract-irrelevant obligations under the pretext of consumer protection. A similar concern for balance between the interest of consumers and that of financial institutions can be observed in the Greek legislation. Yet, it is noteworthy that in some verdicts Greek courts are lenient with big financial institutions. In case of any dispute, the most important are these verdicts which relate to matters concerning force of evidence of all kinds of bank accounts or issues connected with the proper informing of customers about their obligations (Letowska, 2005).

The Spanish law presents a very complicated system, comprising numerous judicial decisions. The basic issues addressed by Spanish courts concern the possibility of exclusion and limitation of liability borne by a financial institution, as well as introduction of secondary modifications to contractual resolutions. The first type of clauses is especially numerous, with Spanish financial institutions trying, on a mass scale, to exclude their liability for any damage suffered by the consumer. The courts strongly protest against this procedure. They also forcefully oppose the practice of including contractual clauses which enable financial institutions to make secondary modifications to contractual terms and resolutions. The courts are, however, very strict with customers who default on fulfilling contractual terms. Penalty clauses which burden customers with big fines are considered fair and are broadly used. The courts have even gone as far as to criticize the law - the Law on Consumer and User Protection- for being too general and allowing for infringement of professionals' interests. It is valuable in adding that, unlike the Belgian courts, the Spanish ones have come up with a different solution to the problem of penalty interest, according to which the permissible amount of penalty interest depends on a definite situation and is not limited in any way whatsoever (Federacja Konsumentow, 2010.

With respect to consumer protection on the financial services market, the Dutch legislation is relatively liberal. Here, a great role is played by common courts whose responsibility is to investigate if a consumer right has been infringed or if a given clause is permissible or not. In this respect the court must examine the type and weight of guilt by analyzing the amount and type of money involved, the nature and content of the contract which contains the examined clause, the social status and mutual relations of contract parties, the position of the clause in the contract, and if, or to what extent, the party bound by the clause was aware of its content and significance for itself (ADNS, 2010).

In Island the legal system of consumer protection is very rigorous. As a result, there is only one case of a judicial decision relating to infringement of consumer rights on the financial services market. This decision may exemplify how jurisdiction of a particular country can affect the practice of legal turnover. In order to avoid disputes connected with certain ambiguities in standard contract forms, Icelandic financial institutions have changed the manner of contract formulation – exactly in items which were found unclear or disputable by the court (Letkowska, 2006).

In the Luxembourgian jurisdiction, two elements are worth special attention. First, courts of this country have provided a clear answer to the question

whether, in the light of the consumer law, a given institution is professional if it concludes a contract for services with a definite employee – in such a situation the employee is fully protected by the consumer law. Second, Luxembourgian courts have formed a conclusion that contractual penalties stipulated in consumer contracts cannot be irreducible - contract parties are obliged to predict certain situations where claiming the contractual penalty can be unfair. This, of course, mainly refers to professionals (Federacja Konsumentow, 2010).

The German legislation attaches great significance to consumer protection on the financial services market. It should be emphasized that the German court jurisdiction also assumes a pro-consumer attitude endeavoring to implement all assumptions of Directive 13 (1993). However – following justifications of the financial services market - the excessive claims for consumer protection may disturb the stability of turnover and ”stifle the business activity”. Some issues are especially interesting. First, German courts have considerably extended the range of protection over individual consumers who act as a third party in consumer contracts, and who are bound with the professional by a certain accessory or similar obligation (this refers mainly to guarantors). Their rights must be protected in, at least, the same way as in the case of consumer rights, as it is easier to burden such consumers with additional obligations which are beyond their control. Besides, it is noteworthy that preparation of contract forms is very rigorous, especially with respect to their clarity and intelligibility, as well as to the duty of informing the customer about his or her contractual obligations, etc. The German jurisdiction has a tendency for checking on the accuracy of clause incorporation into contracts and for making the most adverse interpretation of standard clauses contained in contract specimens elaborated by financial institutions. Thanks to this technique, German courts can declare a given clause abusive with respect to consumer rights (their abusiveness being a result of the aforementioned interpretation), and consequently prevent its use by relevant laws (ADNS, 2010).

In Poland, the legislation on consumer protection is subject to a specific consumer legal regime of financial services for banking activities, including bank accounts and consumer credit facilities, electronic payment instruments and insurance services. The development of an effective consumer protection system is strongly supported by state institutions, consumer organizations and industry sector institutions. Main organizations responsible for consumer protection are represented by The Office of Fair Trading and Consumer Protection, the Trade Inspection and regional (municipal) Consumer Spokespersons. The role of the latter is particularly significant, with almost

8% of cases of consumer rights infringement on the market of financial services, especially banking and insurance service (UOKiK, 2006). In Poland, apart from state institutions, the protection of consumer rights is provided by social organizations, including Consumer Federation, Society of Polish Consumers and Polish Society of Household Economics. These organizations provide support to consumers on the financial services market mainly through representing them in writing before financial institutions, providing written, direct, as well as phone counseling services, making phone interventions, preparing suits and directing cases to conciliatory courts. Special attention should be also paid to the activity of arbitration of industry sectors on the financial services market, as well as that of the Spokesperson for the Insured.

Bearing in mind the above-presented considerations, it should be underlined that according to EU standards contained in Directive 13 (1993), the consumer protection in particular EU Member States has been guaranteed on a high level. However, market specificity and market traditions of each country give rise to many differences in jurisdiction and in some institutional solutions. Nevertheless, it is worth emphasizing the fact that much is being done by EU officials to introduce new, more favorable and more consumer-friendly solutions into various areas of financial services, and Poland, as a full EU Member, is actively participating in elaboration and implementation thereof.

Level of Consumer Knowledge about Rights on Financial Services Market

In order to identify level of consumer knowledge about rights on financial services market in Europe as well as level of consumer satisfaction with protection system in their countries a survey was conducted with the use of a structured questionnaire. The questionnaire was designed with the use of a 5 degree scale which referred to level of knowledge and level of satisfaction of consumers, where 5 was the highest level of knowledge and the most satisfied consumer. After the questionnaire preparation, the measurements were submitted for evaluation by three experts – marketing and statistic professors – in terms of wording/meaning and consistency. The survey was conducted in period between October and December 2010 in five European countries, which represent different model of consumer protection: France, which represent administrative model, Finland, which represent ombudsman model, England – count model, Germany and finally in Poland which represent mixed system. Research were carried out on a sample of respondents selected by means of a quota-sample method - assumed quotas

included age and education (Smyczek, 2007) in all countries. A total of 600 questionnaires were distributed to respondents in each country. The usable response rate was between 64 - 78 per cent.

Results of research shows that in all tested countries level of knowledge about consumer rights is smaller that level of satisfaction from protecting system on this market. However, consumers represent court model declared very low knowledge about protecting system in their country. It wart to mention also about administrative model which, in consumer opinion is the worst in Europe. The best model in consumer opinion is based on ombudsman. This model also provide consumer higher level of knowledge about their rights on market. Mixed system also was evaluate by consumer positively.

TABLE 1: Evaluation of consumer protection models on the European markets

Country / Model of consumer protection	Level of knowledge	Level of satisfaction
England / court	1.4	3.2
Finland / ombudsman	3.8	4.4
France / administrative	2.3	2.7
Germany / organizations	3.5	3.9
Poland / mixed	3.0	4.1

Principle of Good Practices on the Financial Services Market – Case Study of Poland

The Principle of Good Practices constitutes the ethical code which came into force in 2005 and was developed by the Conference of Finance Companies in Poland. The Conference is an organization of employers from miscellaneous economic sectors, including banking, financial and credit brokerage, economic information management, receivables management, insurance, etc. The aim of the organization is to advocate competitiveness on the financial services market with simultaneous observance of consumer rights (Roter, 2006), as it is the consumer who is the main causative subject accepting and verifying the whole system of the market demand, especially its forms, prices, information, promotion, availability and offer complexity (Struzycki, 2005).

By introducing the code - the Principles of Good Practice, the Conference wanted to achieve two goals. First, it intended to develop a code which, as an integral part of modern management, could contribute to fulfillment of European ethical standards, as well as to development of social responsibility, and could foster the perception of Poland as a reliable partner. Second, members of the Conference wanted to raise the awareness that each business

association operating in Poland and following principles of the code of ethics acts as a lodestar leading other associations and companies towards a good economic practice. These intentions were significantly reinforced by the fact that members of the Conference represent a big share of the financial services market. The members concluded that the best code of ethics constitutes a combination of codes which include the code of values, of conduct and norms to be observed by companies (Gasparski, 2004). It represents some kind of metacode which can apply to members of the Conference, as well as to consumers. This code, in some way strikes a balance between different parties involved in the competitive processes.

The Principles of Good Practice is focused on the mission adopted by the Conference and its members. The aim of the mission is to set high standards of conduct in economic operations and in all relations with customers and trading partners, as well as to supervise financial institutions in terms of their compliance with the standards, so as to create and confirm that they deserve the opinion of public trust institutions.

With respect to customer service, these institutions commit themselves to conduct their business activity not only in conformity with relevant laws, but also with due care and diligence, putting great emphasis on consumer protection at each stage of the relation with the customer. Even more so, the institutions are obliged to cooperate with one another in order to reduce risk connected with activities of unfair and unreliable entities on the market (Roter, 2006).

It is noteworthy that the Principle of Good Practice includes information concerning sales of credit services, credit service complaints, customers' defaults on contract terms and customer complaints. With respect to activities accompanying credit services, the Code of Good Practice stipulates, among others, that a financial institution does not sell a credit facility upon determining that the customer will be unable to meet his or her commitments. Moreover, in the case of an inculpable customer's default on timely fulfillment of financial commitments, and upon the customer's application, a financial institution offers a new schedule of debt repayment with respect to the customer's current financial condition. In addition, the code of ethics comprises such issues as rules of communication with debtors, debtor complaints, information and data protection, as well as unlawful and banned activities. With regard to rules of communication, there is an obligation to conduct all activities related to debtors in a manner that protects consumer rights and respects the law, good manners and debtors' relevant rights. Communication with the debtor involves three communicative channels,

including correspondence, phone contact and field vindication, each of which is supplied with thorough description of practices to follow. Also, a detailed catalog of banned and unlawful activities leaves no room for doubts about proper and lawful business practices in contacts with customers on the financial services market (Roter, 2006). In 2006 the Principles were amended and extended by other issues which previously, were not taken into consideration, including decent relations between employees, and between financial institutions and local, as well as natural environments.

It should be underlined that the Conference of Finance Companies is actively involved in promoting ethical behaviors inside financial institutions. To this end, it has organized an in-company program to certify internal audits, since each institution belonging to the Conference is committed to carry out the ethical audit once a year. A positive opinion about the audit is rewarded with a one-year-validity certificate. Another element of the program refers to constant monitoring of corporate compliance with relevant principles and rules. Within this element, directors of the Conference branches throughout Poland are involved in monitoring all issues related to respecting or violating ethical commitments under the code of ethics.

Another significant component of the ethical program refers to external popularization of the Principles of Good Practice, which is effected through meetings and presentations organized in e.g. the Polish Vindication Association, the Polish Association of Exchange Offices and Pawnshops and through electronic document presentations disseminated to all Consumer Spokespersons in Poland. The Conference is also an organizer of competitions for the best, doctoral, master or bachelor dissertations on business ethics.

Conclusions

To sum up, it should be emphasized that the system of consumer protection on the European financial services market is organized in a relatively decent way. Within the last few years, the European Union has introduced many legislative changes which regulate the financial services market, whereas particular EU Member States have created various institutions of consumer protection. However, observing the dynamic development of the financial markets across Europe, and taking into consideration the phenomenon of inter-penetration of various European financial submarkets, it would be worth considering the possibility of setting up one institution responsible for complex consumer protection and consumer education on a broadly understood financial services market. It should be borne in mind, however,

that any legal and institutional solutions can be applied to the extent determined by consumer awareness of their existence on the market.

Results of research shows that the best model of consumer protection on European financial services markets is in Finland. This model based on ombudsman. Also Polish system which represent mixed model, but with very strong Scandinavian influence is evaluated very high. Those systems stimulate also consumers to increase knowledge about their rights on market and make more rational decisions.

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Organisation Structure, Education Profile of Human Capital, Output and Productivity of Electrical Manufacturing Industry of India:
A Study of Selected Enterprises

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Abstract

This paper examines the inter-relations between productivity and output of organisations with different Structures and Education profiles of Human Capital in the Electrical manufacturing Industry of India. Structure of an organisation is indexed by Labour to Capital, blue collar to white collar workers, and white collar workers to Capital ratios. Human Capital is indexed in terms of completed years of education. Estimates of Productivity are derived from Cobb- Douglous production functions. The findings suggest that both Organisation Structure and Human Capital significantly determine output and productivity in an organisation.

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Introduction

This paper evaluates inter-relations between the Output and Productivity of organisations with different structures and education profiles of human capital in electrical manufacturing Industry of India. The study specifies structure of organisations and education profile of human capital as determinants of output and productivity. Productivity is, in fact, a derived variable; it is a ratio of output to capital/human capital. Differences in the magnitude and nature of physical capital reflect the hard technology embodied within the machines. Like machines and equipment, human beings are the carriers of human capital and its knowledge endowment. Both soft and hard technology affects output and productivity.

Only few studies have examined the relation between organization structure, and productivity. But we have not found any study which examines the impact of organisation structure and human capital on output and productivity. This study treats educational qualification of workforce as Human/Intellectual capital that directly contributes to the growth of output and productivity, which results in reduction in cost of production. Adam Smith, in as early as 1774, defined Human capital as productive power of labour. Productive power of labour is nothing but the capacity to produce goods and services. This comprises both strength and stamina on the physical side and ability to think rationally, knowledge and experience which displays intellectual capital on the mental side. Human capital endows companies with comparative advantage in a competitive market. It may be noted that both hard and soft technology are highly qualitative in nature which poses serious difficulties in precise measurement. Like many other qualitative variables, both these may be measured approximately or may be treated holistically. Solow (1958) treated the intercept of the production function as the outcome of the influence of hard technology on production. We follow Solow's tradition in this study. However, soft technology embodied in human capital is measured in completed years of education by employees.

Conceptual Framework

Concepts of Organisation, Structure, Human Capital and Productivity are briefly discussed. The concepts of Organisation, structure and productivity are discussed jointly as well as separately.

A social organization is a unit of society which has a collective goal and is linked to its internal dynamics and external environment. The basic component of an organisation is its people. There are different types of

organizations; Army, Hospital, School, Business, NGO etc. Our focus of study is on manufacturing organizations in the electrical industry.

The common-sense parlance of structure refers to a particular way something is made up of. There is a hierarchy in the arrangement of components and a well defined ordering. Structure comprises constraints, facilitators, strengths and weaknesses of a system. Structure also portrays certain essential features and facets of the system.

All organizations have a structure that determines relationships between the different activities and the members, and subdivides and assigns roles, responsibilities, and authority to carry out different tasks.

Individuals in an organization are located structurally. It limits the range of their experiences and behavior and their interrelations and interactions, all of which affect their performance and ultimately productivity.

Structure of a manufacturing organisation embodies its strengths and weaknesses, features and facets, opportunities and challenges, roles and functions, interrelations and their limitations. It may be therefore not too presumptive to assume that the structure of an organization directly affects its performance hence productivity.

Analysts have been directly or indirectly concerned with organization structure for long. Charles Babbage (1832), highlighted the importance of the 'division of labour', 'size', ' need and interdependence between departments'. All of these are essentially associated with structure. He frequently used the word 'arrangement' which in our view loosely connotes the essence of the concept of organization structure. The tradition of Babbage was kept alive by Alfred Marshall. Marshall (1890) postulated enterprises and organisations as two independent factors of production. He paid great attention to analyse the structural differences in the organisations of business activities of different scales on the one hand, and highlighted the role of organisation in the efficiency and productivity of an individual business enterprise on the other.

Mintzberg (1979) defined organisational structure as "the sum total of the ways in which it divides its labour into distinct tasks and then achieves coordination among them". Each configuration contains six components: operating core: the people directly related to the production of services or products; strategic apex: serves the needs of those people who control the organisation; middle line: the managers who connect the strategic apex with the operating core; techno structure: the analysts who design, plan, change or train the operating core; support staff: the specialists who provide support to

the organisation outside of the operating core's activities; ideology: the traditions and beliefs that make the organization unique. Perrow (1965) has defined it as the arrangement (formal system of relationship) which is necessary to pursue goals Another definition of organisational structure is "the way in which work is organised and control exercised" (Salaman, 1979).Westwood (1987) defines it as the metaphor for the power arrangement of an organization. Mullins (1996) suggests that organization structure enhances the economic and efficient performance of the organisation through equitable resource utilisation and monitoring of organisational activities.

In conclusion it may be stated that Organisation Structure is the arrangement of man and materials according to the principles of management in the pursuit of well defined goals of organisations. In organizations, like those in Electrical manufacturing, manpower comprises blue collar and white collar workers. Blue collar workers constitute the main workforce, where as white collar workers take major decisions, lend support and control the blue collar workers. In a technology driven organisation, performance of blue collar workers can be enhanced only by better methods and systems of organisation, the responsibility of which majorly lies in the hands of the white collar workers. Hence, white collar workers become a differentiating factor in the structure of an organization.

Among workforce of an organisation, there are two components: Labour or lower and physical level of human resources, endowed with good health, strength and stamina, ability to work over prolonged hours at non diminishing pace, ability to cope up with less physical facilities, adaptation to the working conditions to undertake productive activities where physical element of job performance is dominant.

Human capital may be taken to refer to the competencies and capabilities, embodied in knowledge acquired from education, on the job learning or experience, skills and know how to do the assigned task and mental abilities based productive work. Human capital refers to those human resources who are are deployed on productive work at any given point of time and place (Compare from, Prakash 2000).

The concept of human capital recognizes that not all labor is equal and that the quality of employees can be improved by investing in them. The education, experience and abilities of an employee have an economic value for employers and for the economy as a whole.

Due to the intrinsic role of Human Capital in the growth & development process of economies this concept has experienced continuous refinement &

extension. The role of man in production has been recognized even in primitive ages. In the agriculture age farmers were the main part of Human Capital. Physiocrats a group of French economist recognized farmers as the only productive people & hence Human Capital. In the early & late middle ages trading was recognized as the most productive activity particularly International Merchants. Hence merchants/traders were considered Human Capital. In the industrial age labour came to be recognized as an important factor as important as capital. Adam smith conceived even capital as embodied or stored labour of past. Marshall took the concept many steps further, he emphasized on seven different forms of Human capital accumulation for example he considered child bearing, rearing & migration as two important sources of human capital accumulation (Marshall, 1891). His explanation revolved around education, training & health. But the credit for formalizing the concept goes to TW Shultz though economist like C.N Vakil & P R Brahmanand have also emphasized the importance of investment in man as the pivot of development of an underdeveloped economy like India. They emphasized on Investment in training, education, food, nutrition etc.

So, we can say that Organisation Structure refers to the organisation of the work and its division among separate groups/ teams. In a manner of speaking, it reflects what Adma smith called division of labour amongst workers of an organisation. We have not been able to access data relating to the minute division of work in different organisation except that the total workforce classified into 3 broad categories, engineers, managers and production workers. The data difficulty has made us define structure in terms of a very broad and crude form..

Approach to quantification of Structure and Human Capital

This study uses employment of blue collar to white collar workers in workforce as a broad indication of structure. Scale of operation, denoted by level of output and stock of capital are the basic indicators of the size of the organization. Greater the scale of operation, greater is the capital requirement and more is the number of people in workforce. It is assumed that as scale of operations increases, division of labour also becomes finer than what is associated with small and medium scale. It also implies that there is an organic relationship between worker per unit of capital and Output per unit of Capital and output per unit of labour. Therefore the indicator of structure is composite index of Labour per unit of capital (L/K), number of blue collar workers per white collar worker(L_1/L_2) and white collar workers per unit of capital(L_2/K). The mean of the three ratios for each organization is taken as the index of its structure.

The data on employee wise education of blue collar and white collar workers is not available for a company. Therefore percentage distribution of production, administrative, executive and managerial employees by education level in private manufacturing industry (DGET report, 2008) is used to calculate total years spent on education by all the employees (blue collar and white collar workers) in an enterprise. The DGET data covers all manufacturing enterprises of different industries in private sector. It is assumed that the occupational and educational pattern of manpower in this report is relevant and applicable to the 12 companies. Total years in education of all the workers put together of an organisation is used as an indicator of Human capital of that organisation.

Productivity

Productivity is an abstract concept and derived variable as it is defined as the ratio of Output to Employment or Capital. This is an outcome of inter-related decisions: which affect efficiency and performance. Output depends upon choice of scale of operations which relates to employment and investment in capital.

Productivity in a country, industry, or enterprise is determined by a number of factors. These include the available supplies of labour, land, raw materials, capital, and mechanical aids of various kinds. This also includes education and skills of labour force; technology in use; methods of organizing production, zeal and and endeavours of managers and workers; A multiplicity of social, psychological, and cultural factors may also define attitudes, motivation and behaviour. Technology, labour and capital are considered to be the major determinants of productivity as the remaining factors may be taken as given by work environment.

According to Prakash and Balakrishnan, (2005, 2006) Productivity depends upon (i) structure of organisation, (ii) technology, (iii) managerial techniques, and (iv) improvement in quality of human capital

Alternative approaches to measure Productivity

The central problem of productivity analysis is in its measurement. Productivity is difficult to measure and can only be estimated indirectly.

There are 4 approaches for estimating Productivity.

1. **Data envelopment analysis (DEA):** DEA is a linear programming methodology to measure the efficiency of multiple decision-making units

(DMUs) when the production process presents a structure of multiple inputs and outputs. Productivity or efficiency in the context of DEA deals with producing the maximum quantity of outputs for any given amount of inputs or the minimum use of inputs for any given amount of outputs. No particular production function is assumed. Instead, productivity is defined as the ratio of a linear combination of outputs over a linear combination of inputs.

2. **Input Output model approach**. In this approach, production possibilities are described by input-output matrices. An example is the input output model proposed by Mathur (1967) that has been used to estimate productivity (ShriPrakash and Balakrishnan, 2008).This model could be represented by the following equation: $P'-P'A= V= wL +\pi$, where P' is the price vector, A is the matrix of input coefficient, V is the valued added per unit of output, w is the uniform wage rate, π the vector of profits per unit of output and L is the vector of coefficients of labour.

3. **Direct Method of Determination of Productivity** : The least effective method of estimating Productivity is Direct method, in which average of averages is computed for estimating productivity.

4. **Production Function Approach:** A production function is a function that specifies the output of a firm, an industry, or an entire economy for all combinations of inputs. This function is an assumed technological relationship. The estimation of total factor productivity may be analysed using a Cobb Douglas (1948) production function. The Cobb Douglous equation can be represented as below:

$$Q = AK^{\alpha} L^{\beta} \quad \ldots (1)$$

Where Q is the output, K is capital, L is labour employed and A is total factor productivity and $\alpha + \beta = 1$, α and β being the elasticities of output with respect to capital and labour. The logarithmic transformation of the production function provides a log-linear form which is convenient and commonly used in econometric analyses using linear regression techniques.

$$\log Q = \log A + \alpha \log K + \beta \log L + U_t \quad \ldots (2)$$

Another alternative of the production function approach is the Solow Production Function. To concentrate attention on what happens to Q / L or output per worker, Solow modified Cobb-Douglas production function as follows:

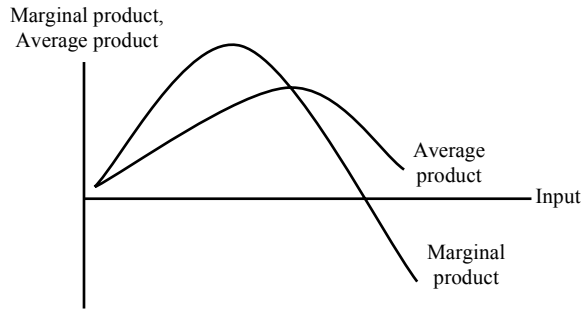
$\text{Log } (Y_t/L_t) = \alpha_o + \alpha_1 \log (F_t/L_t)$ ... (3)

This normalised C-D function by employment, therefore, Labour Productivity emerges as a function of capital per unit of labour.

Enterprises/Organisations are mostly interested in two types of Productivities: Marginal and Average. The calculation of both types often yields different answers as a result of the fundamental differences behind each measurement. Average Productivity of Labour/Capital (AP_L /AP_k) is directly calculated as the ratio of total output to labour/capital, (O/L) and O/K. The Cobb-Douglas production function has also facilitated the estimation of marginal productivity on the basis of entire data taken together. Marginal Productivity is estimated as a product of the output elasticity of labour/capital and corresponding average productivity of labour/capital. The AP of Labour and Capital is multiplied by the respective Output elasticities (α and β coefficients in equation2) to determine the Marginal productivities; $MP_L = AP_L . e_L$ and $MP_K = AP_K . e_k$.

The relationship between Marginal and Average productivities is graphically represented below in Graph 1.

GRAPH 1



If marginal product is less than average product, then average product declines. If marginal product is greater than average product, then average product rises. If marginal product is equal to average product, then average product does not change.

Literature Review

Studies conducted on relationship between (i) organisation structure and performance and ii) Human capital and performance are discussed below:

Organisation structure and performance

Marco and Zoetermeer (2004), present a quantitative study into the occurrence of various structures in small firms. An attempt is made to detect occurrence of typical organisational structures, the role of contingency factors, and the impact of small and medium- sized firms' structures on performance. Firstly, factor analysis is performed on the various items in the survey. Based on these factors, the authors highlight several key features of the organisational structures of SMEs. They classify types of SMEs on the basis of organisational structures for cluster analysis, and, discuss how the clusters are distributed across the economic sectors. Finally, they show whether there are any systematic consequences of being a particular type of firm. Relatively poor and good performance are analysed on the basis of size, sector and strategy.

Akintayo and Babalola (2008) observed that the size of organization is significantly correlated with workers behaviour with peculiar pattern in large scale and small-scale organizations. Thus effective management of people and other resources in an organization requires consideration for affective behaviour that could be of consequence to size and structure of an organization. Also, central and co-ordination of the task structure of an organization with implications on goal achievement require organizational support system that could lead to reduction of tension and stress, but facilitate attraction to organization among the workers.

Nagappan, Brendan Murphy & Basili (2008), have investigated the relationship between organizational structure and software quality. They propose eight measures that quantify organizational complexity. These eight measures provided a balanced view of complexity of an organizational from the computer program coding viewpoint. These eight measures are 1. Organization Intersection Factor (OIF): A measure of the number of different organizations that contribute greater than 10% of edits, as measured at the level of the overall organisational owners. 2. Overall Organization Ownership (OOW): This is the ratio of the percentage of people at the DMO level making edits to a binary relative to total engineers editing the binary. 3. Level of Organizational Code Ownership (OCO): The percent of edits from the organization that contains the binary owner or if there is no owner then the organization that made the majority of the edits to that binary. 4. Percentage of Organisation contributing to development (PO): The ratio of the number of people reporting at the DMO level owner relative to the Master owner org size. 5. Depth of Master Ownership (DMO): This metric determines the level of ownership of the binary depending on the number of edits done. The

organization level of the person whose reporting engineers perform more than 75% of the rolled up edits is deemed as the DMO. The DMO metric determines the binary owner based on activity on that binary. 6. Edit Frequency (EF): This is the total number times the source code, that makes up the binary, was edited. An edit is when an engineer checks code out of the VCS, alters it and checks it back in again. This is independent of the number of lines of code altered during the edit.

Though the above study's focus is on software development company, it becomes useful as in the above study the organizational structure has been determined and assessed primarily on the basis of Size, Division of labour and its overlap, Ownership and Frequency of Interaction. Moreover, it has been found that the structure does affect performance, and in this case, software quality.

Based on organization theory and the work of Roemer and Friedman, Shortell and T E Getzen (1979) proposed seven dimensions of hospital medical staff organization structure and examined them. The data was based on a 1973 nationwide survey of hospital medical staffs conducted by the America Hospital Association. Factor analysis yielded six relatively independent dimensions supporting a multidimensional view of medical staff organization structure. The six dimensions included 1) Resource Capability, 2) Generalist Physician Contractual Orientation, 3) Communication/Control, 4) Local Staff Orientation, 5) Participation in Decision Making and 6) Hospital-Based Physician Contractual Orientation

Human Capital and Performance

The Importance of Human Capital is growing in India today. An organization's success increasingly depend upon the knowledge, skills, abilities of employees particularly as they possess a set of core competencies and distinguish an organization from its competitors. (Bohlander, Snell). Organization gain competitive advantage if the collective competency of HR match those required for the jobs. Human capital is intangible and its management is far more intricate and complex than management of products, material & other resources. Companies cannot own Human capital assets the same way as they can raw material, products, and finances. They can only hire them. HR is quiet mobile between companies & industries. When employees leave the company they take his/her human capital with them which might include any investment they may have made in training & development, therefore it's important to value the knowledge, document the

skills & capabilities required for productive use of human capital(B, Balakrishnan). It is the optimal utilization of Human Capital which leads to the optimization of productivity & output.

Theoretical and Empirical analysis of growth emerged in the centre stage of post second world war era. Harrod Domer, (1948, 1957) model of growth highlighted capital as only factor of growth. But several other economists in empirical analysis of sources of growth focused on both capital & labour as twin sources of growth. In fact, Denison imputed growth of productivity to increase in educational qualifications of manpower or Human capital. Bossworth & Collins indicated that China's growth rate was due to three times more capital accumulation per worker, whereas in India's growth rate education per worker contributed three times more to growth(Production Function: $Y=AK\ \alpha\ (LH)\ 1-\alpha$ where A=Technology, K = Capital, L = Labour, H= Human Capital)

The link between education, and hence human capital, is forged through employment. Change in technology of production, which is inseparably associated with growth and development, brings about a change in the knowledge and skill requirement of jobs. Then, the up-gradation of current to desired level will depend upon availability of manpower with requisite qualifications. Supply of manpower is a function of education (See, Harbision and Myers,Prakash, S., 1976), Supply of high level professional manpower increases with the growth of economy and development of education.

Data Description

The data are secondary in nature and have been obtained from 2012 publication of Indian Electricals and Electronics Association of India (IEEMA). There are twelve companies whose relevant data were accessible to us. 5 were large enterprises, 6 are small enterprises and 1 is a micro enterprise. This is according to the e definitions of MSME Act 2006, which has classified Micro, Small and Medium Enterprises in the following way: a micro enterprise is one where the investment in plant and machinery does not exceed twenty five lakh rupees; a small enterprise is one where the investment in plant and machinery is more than twenty investment in plant and machinery is more than five crore rupees but does not exceed ten crore rupees. The data is year 2010. The units of data are as follows: Output in Million Rs, Capital in Million Rs, and Employment in No. of Employees.

Methods and Models

We have experimented with alternative models and specifications of regression models. The reason is that sample is small, there are only 12 observations. Therefore, we will prefer to select the model which best fits the data. The goodness of fit is examined by R^2. In multivariate regression analysis, multi- collinearity generally creates problems. So, with a view to detect location and magnitude of multi- collinearity, L.R. Klein's step-wise regression modeling is used. The step-wise regression is a procedure that inserts independent variables into a bi-variate regression model step-wise. Each time a new regression model is estimated by incorporating an additional predetermined variable in the function, the proportion of variation, which is reflected by R^2, is expected to increase. Inclusion of an additional explanatory factor cannot result in the reduction of explained proportion of variation, though it may remain unaltered. In that eventuality, the additional variable is redundant as an explanatory factor. If sign or significance of any coefficient is altered in the new regression model, it indicates that the additional variable is related to one or other explanatory variable in the function.

Empirical Results

Results are reported systematically and sequentially. Determination of total output is examined first. Structure and total years of education of workforce are treated as the main determinants of output, where as structure and total years of education per worker are considered as the main determinants of productivity. Completed years of education are a proxy of total employment. Physical capital has not been considered as a representative of hard technology, since technology changes in the long run, though technology may differ between the organisations. However, technology is expected to directly relate with the structure of the organisation. More advanced the technology, larger is the number of more educated workforce and greater is the division of labour (See, Sharma, Amit, 2012)

Output and its inter-ralations with Structure and Human Capital

Empirical analysis examines the inter-relations between the variables under focus in this study. OLS estimates of linear and log linear regression models for examining the determinants of output are reported below (table 1). $\mathbf{O_j}$ represents output, $\mathbf{I_j}$ represents Index of Structure and $\mathbf{E_j}$ represents completed years of education of total workforce.

TABLE 1

	Equation	Intercept	Coefficient for I_j	Coefficient for E_j	R square
1	$O_j = \alpha + \alpha_0 E_j + U_j$	-189.4 (-0.734)	N.A.	0.86 (3.89)	0.602043
2	$\text{Log } O_j = \alpha + \alpha_0 \log E_j + U_j$	-0.83 (-0.90)	N.A.	1.1 (3.3)	0.52
3	$O_j = \alpha + \alpha_0 I_j + \alpha_1 E_j + U_j$	53.2 (0.20)	-114.8 (-1.95)*	0.87 (4.45)	0.72
4	$\text{Log } O_j = \alpha + \alpha_0 \log I_j + \alpha_1 \log E_j + U_j$	-1.4 (-2.02)	-0.62 (-3.04)	1.34 (5.13)	0.77

*Critical value of t for 9 degrees of freedom for one tailed test is 1.833

A perusal of the results in the above table reveals that

- Linear specification is slightly superior to log linear specification of bi-variate relation of output either with completed years of education;
- Corresponding to an increase of one year of education, output increases by 0.86 units but output elasticity with respect to education is 1.1 which means that 1 % increase in completed school years leads to 1.1 % increase in output;
- Introduction of structure as an additional variable in function 1 raises the explanatory power by the second function by 12 % where as the explanatory power of the second function is increased by 25%. On this count log linear specification may be preferred.
- The coefficient attributed to completed education years is highly significant both in models 3 and 4. The coefficient of structure is also significant in the both the cases but its sign is negative. The coefficient of an explanatory variable may turn out to be negative or non significant if there is no sufficient variation in its value. It may also be due to improper or inadequate utilization of human or physical capital, both of which are incorporated in the determination of structure. This may also be caused due to multi-collinearity. This seems to be the case here. But, there is no remedy for multi-collinearity, and we have to live with it. We do not throw baby with the bath water. We do not accept that structure affects output inversely.
- The significance of intercept in model 4 indicates that technology also plays an important role in the determination of output.

However, the above hypotheses are examined more rigorously in the ensuing paragraphs.

The rigourous analysis directly focuses on productivity.

Productivity and its interralations with Structure and Human Capital

First CD production function is estimated. Results are reported in the table below (table 2). CD function is estimated for the determination of marginal productivity. Output is indicated by O, Labour by L and Capital by K.

TABLE 2

	Equation	α (t-stat.)	coeff of L (t-stat.)	coeffi of K (t-stat.)	R^2
5	$\log O = \alpha + \beta \log L + (1-\beta) \log K + U_j$	-0.019 (0.91)	0.88 (2.9)	0.39 (2.5)	.71

The above function reveals that i) both capital and labour significantly influence output of companies. ii) Corresponding to 1 % change in employment, output increases by 0.88 %, where as output increases by only by 0.39 % in case of 1 % change in Capital; iii) The function explains 71 % of total change in output; remaining 29% change in output is explained by random factors. Incidently, proportion of variation of output explained by this function is almost the same as explained by the function in equation 3. But the proportion of variation explained in function 4 is much higher at 77 % than the proportion explained by CD function. This shows that the explanatory power completed education years and structure is greater than the power of employment and capital in traditional CD function. These results show that labour is a more decisive determinant of output than capital. This is logical and conforms to commonsense understanding also. Fixed Capital represents productive capacity but actual output depends upon its exploitation by workforce. Besides, the sample is dominated by small and medium enterprises which cannot afford high capital investment.

Estimates of Marginal Productivity

The estimates of output elasticity with respect to labour and capital are used to determine marginal productivity of companies. Naturally, marginal productivities of labour and capital vary according to the corresponding average productivities. Higher the average productivity, greater shall be the marginal productivity of Labour and capital. The results are depicted below (table 3).

TABLE 3

	Average Productivity of Capital	Marginal Productivity of Capital	Average Productivity of Labour	Marginal Productivity of Labour
Organisation	AP_K	MP_K	AP_L	MP_L
1	0.0661	0.025115	1.4375	1.250625
2	0.9277	0.352524	13.6000	11.832
3	1.2612	0.479249	9.9633	8.6681
4	4.3006	1.634247	10.1892	8.864631
5	4.5522	1.729853	6.5222	5.674333
6	0.7875	0.29925	0.9844	0.856406
7	2.3671	0.899494	2.8769	2.502923
8	3.8184	1.450977	2.9325	2.551275
9	28.5769	10.85923	4.6438	4.040063
10	7.7419	2.941935	0.8727	0.759273
11	25.8235	9.812941	1.2194	1.060917
12	6.9221	2.63039	0.2747	0.239026

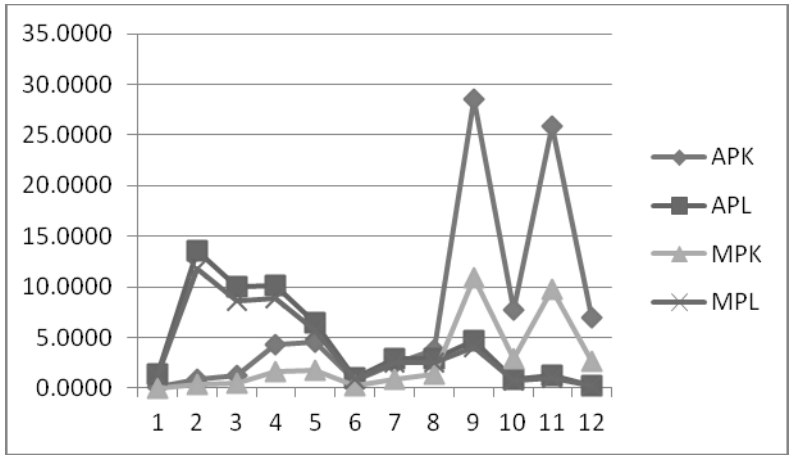
TABLE 4 Descriptive Statistics

	Average Productivity of Capital	Average Productivity of labour	Marginal Productivity of Capital	Marginal productivilty of Labour
Mean	7.262106	4.626396	2.7596	4.024964
Standard Error	2.781114	1.283773	1.056823	1.116882
Median	4.059504	2.904712	1.542612	2.527099
Standard Deviation	9.634063	4.44712	3.660944	3.868994
Sample Variance	92.81517	19.77687	13.40251	14.96912
Kurtosis	2.063211	-0.3047	2.063211	-0.3047
Skewness	1.800774	0.97714	1.800774	0.97714
Range	28.51083	13.32526	10.83412	11.59297
Confidence Level(95.0%)	6.121192	2.825565	2.326053	2.458242

A perusal of the above table (table 4) based on application of descriptive statistics reveals that i) Both average and marginal productivities of labour as well as capital vary greatly between the companies, but average productivity varies 5 times more than marginal productivity; ii) As expected average productivity in both cases is higher than the corresponding marginal productivity; iii) Mean of both average as well as marginal productivities is almost two times larger than their corresponding mediums. It implies that distribution of both average and marginal productivities diverges from normal distribution.

The variation of average and marginal productivities of the companies is also shown graphically below (graph 2):

GRAPH 2



This section examines inter- relation between productivity, structure and human capital

Estimates of regression models for examining the determinants of productivity

OLS estimates of linear and log linear regression models for examining the determinants of productivity are reported below (table 5). Average and marginal productivities of Capital/Labour are indicated by AP_K and MP_K /AP_L and MP_L. I_j represents Index of Structure and Ea_j represents years of completed education per employee.

TABLE 5

	Equation	Intercept	Coefficient for structure	Coefficient for human capital	R square
6	$AP_K = \alpha_0 + \alpha_1 I_j + U_j$	3.1 (.9)	1.8 (2.1)	NA	.30
7	$AP_K = \alpha_0 + \alpha_1 I_j + \alpha_2 Ea_j + U_j$	6.8 (1.6)	2.02 (2.3)	-.06 (-1.2)	.40
8	$\log AP_K = \alpha_0 + \alpha_1 \log I_j + \alpha_2 \log Ea_j + U_j$	.74 (.92)	.95 (4.2)	-.15 (-.32)	.67
9	$MP_K = \alpha_0 + \alpha_1 I_j + U_j$	1.17 (.98)	.72 (2.1)	NA	.30
10	$MP_K = \alpha_0 + \alpha_1 I_j + \alpha_2 Ea_j + U_j$	2.6 (1.5)	.76 (2.3)	-.2 (-1.2)	.40
11	$\log MP_K = \alpha_0 + \alpha_1 \log I_j + \alpha_2 \log Ea_j + U_j$	.32 (.4)	.95 (4.2)	-.15 (-.3)	.67

12	$MP_L = \alpha_0 + \alpha_1 I_j$	5.6 (4.4)	-.74 (-2.04)	NA	.30
13	$AP_L = \alpha_0 + \alpha_1 I_j + U_j$	6.5 (4.4) [.0012]	-.8 (-2.04) [.068]	NA	.30
14	$\text{Log } AP_L = \alpha_0 + \alpha_1 \log I_j + U_j$	.42 (3.5)	-.54 (-2.65)	NA	.41
15	$AP_L = \alpha_0 + \alpha_1 I_j + \alpha_1 Ea_j + U_j$	3.863558 (2.16)	-0.94301 (-2.5)	0.046477 (2.09)	.52
16	$\text{Log } AP_L = \alpha_0 + \alpha_1 \log I_j + \alpha_2 \log Ea_j + U_j$	0.409427 (.52)	-0.54376 (-2.5)	0.006772 (.01)	.41
17	$MP_L = \alpha_0 + \alpha_1 I_j + \alpha_2 Ea_j + U_j$	3.3 (2.16)	-.8 (-2.5)	.04 (2.09)	.52
18	$\text{Log } MP_L = \alpha_0 + \log \alpha_1 I_j + \alpha_2 \log Ea_j + U_j$	.34 (.45)	-.54 (-2.5)	.006 (.014)	.41

The above results show that i) Both marginal and average productivities of capital are significantly affected by Structure. Though human capital does not play a decisive role in productivities of capital, it is not a redundant explanatory factor, non significance of its coefficient not withstanding; ii) Log linear specifications of model for both average and marginal productivities of capital are superior than linear models (functions 8 &11); iii) Marginal and average productivities of labour are significantly affected by both structure and capital However, as in case of output the coefficient of structure is significant but negative, which is explained by multi-collinearity; iv) Linear specifications of models case of productivities of labour are superior than log linear models (functions 15 and 17)

Conclusion

Education of human capital is the main determinant of output as well as marginal and average productivities of labour and marginal and average productivities of capital are affected more by structure than by human capital.

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Impact of Marketing Communication and Price Promotion on Brand Equity: Evidence from Durable Goods

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Abstract

Companies are promoting their product aggressively to attain better position in the mind of the prospect. This study attempts to investigate the impact of marketing communication and price promotion on brand equity of durable goods (i.e., television) in Nepal. A sample of 175 respondents based on convenience sampling method is taken by means of questionnaire survey from different locations in Kathmandu valley. The research framework is based on sample respondents who have purchased television or are at least aware of television brands. This study employs reliability analysis, descriptive statistics, correlation analysis and regression analysis to check reliability, summarization and measuring casual relationships among marketing communication, price promotion and brand equity variables. Research result confirms that Samsung television brand is most popular brand in television market in Nepal. Findings reveal that perceived advertising spending has a favourable influence on brand equity. A negative relationship between use of price deals and brand equity was established. Managers should focus on advertising spending and at the same time cautiously handle the price promotions schemes while doing advertising campaign of television branding.

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Introduction

Brand equity is the value added to a product by a brand (Hanna & Wozniak, 2001; and Leone et al., 2006). Brand helps reduce the perceived risk and cost of searching the product for a customer. Whereas for the firms, strong brand equity enables them to charge higher price, to obtain larger market share, and to retain loyal customers (Anselmsson et al., 2007; Kayaman & Arasli, 2007; Kim et al., 2008; and Krishnan & Hartline, 2001). Empirical research shows that marketing activities are conducted to create brand equity. Goldfrab et al. (2009) emphasizes the need to study the impact of advertising expenditure and price promotions/deals on brand value to get better understanding of dimensions that form brand equity.

Brand equity is influenced by marketing communication activities through the creation of perceived quality, the construction of right associations in consumers' mind, brand awareness/image, the facilitation of stronger consumer-brand connection, and the formation of brand loyalty (Kotler et al., 2009; and Leone et al., 2006).

Villarejo-Ramos and Sanchez-Franco (2005) conducted the study on the impact of marketing communication and price promotion on brand equity in Spain. The objective of the study was to focus on determining the effects of advertising and price deals on washing machines brand equity, measured through consumer perceptions. The research was conducted at Seville (Spain) and 268 samples were taken for the study purpose. Questionnaire survey to people aged 18 and above was conducted as they are assumed to be the potential rational buyer. Structure Equation Modeling was done to analyze the model. It was confirmed that perceived spending on advertising has a favourable influence on brand equity. A negative relationship between the use of price deals and brand equity was established. Likewise, positive causal relationships were established between perceived advertising spending on durable goods (i.e., washing machines) and each of the dimensions of brand equity. While, an unfavourable influence was established between price deals, perceived quality and brand image.

Amaretta and Hendriana (2011) analyzed the effect of marketing communications and price promotions on brand equity in Indonesia. The purpose of the study was to examine the impact of marketing communication on brand equity of a low cost carrier in Indonesia. A closed-ended questionnaire was filled in by 133 adult passengers of a low cost carrier in Jakarta and Tangerang. Structural equation modelling with partial least square method was used to confirm the effect of perceived advertising spending and price promotion to four dimensions of brand equity: perceived quality, brand awareness, brand loyalty, and brand image. The result proved that marketing communication had positive and significant effect on brand equity, except price promotion was had insignificant impact on brand image.

This study attempts to analyze the impact of marketing communication and price promotion on brand equity of durable goods like television brands in Nepal. Research states that marketing activities in the television industry can be controlled in order to generate and manage brand equity. In this study, brand equity is affected by two variables of marketing communication that derived from marketing mix, which are perceived advertising spending and price promotion/deals.

Companies spend high costs in advertising so that it helps create a positive perception of the product in the eye of consumers. Perceived advertising spending has positive effect on each of brand equity elements: loyalty, awareness, perception of quality, and brand image. Advertising assists consumers in purchase decision making process and help the companies in building and maintaining brand equity (Goldfrab et al., 2009; Madhavaram et al., 2005; and Sriram & Kalwani, 2004). Advertisement is used to inform, to persuade, and to remind the consumers about a particular brand. Therefore, advertisement has positive effect on brand awareness and brand image as it provides some knowledge about a brand. It also has positive impact on maintaining brand loyalty of the consumers.

Price promotion is often used in marketing strategies. Its purpose is to stimulate consumers buying intention, regular price, and sales amount (Mulhern & Padgeet, 1995). Business must stimulate consumers to buy a product or a service immediately by using a lot of promotional activities because consumers are often affected by internal and external environment (Kotler, 2000). In addition to price reduction, there are many other ways promotion activities can be undertaken. Beem and Shaffer (1981) divided promotional inducements into three types: (i) providing inducements to equalize product itself, e.g., buy one get one (ii) providing inducements relate to price, e.g., coupons and discounts, and (iii) providing inducements that are not related to price, e.g., premium, contests, and sweepstakes.

Price promotion weakens brand equity, due to short-term benefits received by consumers (Keller, 2008; Sriram & Kalwani, 2004; Yoo et al., 2000). It is because price promotion can be identified and imitated by competitors easily. In the long term, consumers may perceive low price brand as low quality product, which reduces its brand image. According to Ailawadi et al. (2003), larger market share due to price promotion may not truly represent strong brand equity. Even though price promotions drive the consumers to repurchase, but this behavior is associated with their interest in price promotion rather than their loyalty. When the campaign is over, consumers may lose their interest on that brand. There is no documentation about relationship among price promotion, brand loyalty, and brand awareness (Villarejo-Ramos & Sanchez-Franco, 2005).

This study has chosen television brands as the research object because consumers' sensitivity to price was relatively high for television category and there was a fierce competition among different television brands in Nepal. In the Nepalese context, there is no prior study concerning the impact of marketing communication and prices promotions/deals on creation of brand equity of various television brands. This study addresses the following research issues for Nepalese television sector:

- Does marketing communication and price promotions/deals contribute to creation of brand equity?
- What is the relation between marketing communication and price promotions/deals with brand equity?

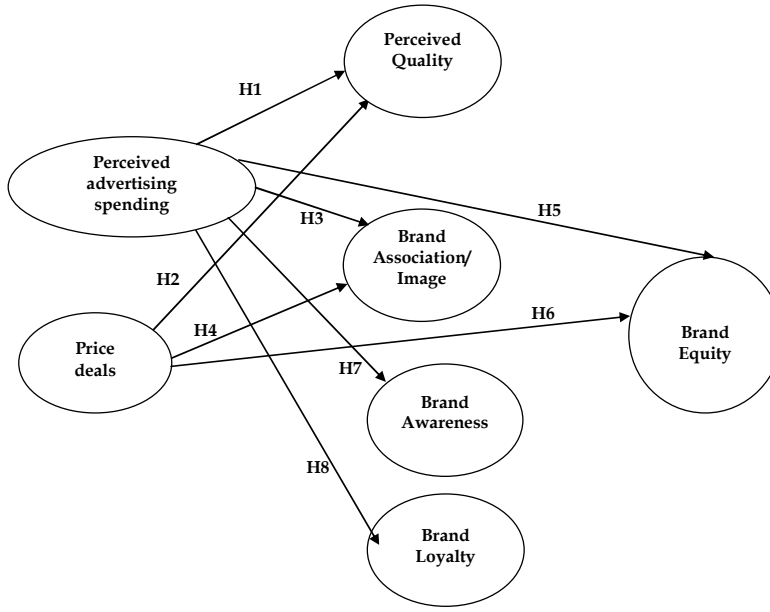
The present research emphasizes on consumers' perception about marketing communications and price promotions/deals on formation of brand equity in Nepalese television brands.

This study aims to achieve the following objectives:

- To measure the impact of marketing communication and price promotions/deals to creation of brand equity.
- To analyze the relations between marketing communications and price promotions/deals with brand equity.

This research framework of this study is shown below in Figure 1.

FIGURE 1: Research Framework



Research Hypotheses

The hypotheses are stated as follows:

H1: Perceived advertising spending has positive effect on perceived quality of the brand.

H2: Use of price deals for promoting the brand has a negative effect on its perceived quality.

H3: Perceived advertising spending has positive effect on brand association/image of the brand.

H4: Use of price deals for the brand has a negative effect on its brand association/ image.

H5: Perceived advertising spending has the positive effect on the brand equity.

H6: More frequent price deals have a negative effect on the brand equity.

H7: Perceived advertising spending has positive effect on brand awareness of the brand.

H8: Perceived advertising spending has positive effect on brand loyalty of the brand.

Methods

The research design of this study is descriptive as well as analytical. This study examines the impact of perceived advertising and price promotions/deals on creation of brand equity of television markets in Nepal.

Quantitative methods or survey research is applied for this study. Direct responses of the respondents were taken. Data were generated in five point Likert scale anchored by "Strongly Disagree" = '1' to "Strongly Agree" ='5'. This study proposed seven constructs, perceived advertising spending (PAS), price promotion/deals (PP), perceived quality (PQ), brand association/image (BAS), brand awareness (BAW), brand loyalty (BL) and overall brand equity (OBE) to develop the research framework.

Convenience sampling method has been used for sampling purpose. 200 questionnaires were distributed to the respondents in different territories in Kathmandu valley, but only 175 valid responses have been successfully obtained by the researcher. It is app. 87.5 percent success rate for this survey.

Among 175 respondents, 98 respondents are male whereas 77 the respondents are female. Majority of the respondents are age between 20-35 years old,

accounting for 53.1 percent. Likewise majority of the respondents are from bachelor and masters level respondents, accounting for 45.1 percent and 36.6 percent.

The primary variable of the study is Perceived Advertising Spending (PAS) and Price Promotions/Deals (PP). Here, overall brand equity (OBE) and its dimensions are dependent variable for model 1 to 5 to measure the impact.

The final version of the questionnaire is made up of three major parts: (i) top of mind questions (ii) evaluation of explanatory variables (perceived advertising spending and price promotions/deals) and explained variables (perceived quality, brand association/image, brand awareness, brand loyalty and overall brand equity) and, (iii) demographic questions. Databases such as SPSS 18.0, Word 2007 and Excel 2007 were used for this research.

In order to accomplish the objectives of the study, reliability analysis was done to check the scale item's reliability (George & Mallery, 2009). Descriptive statistics like mean and standard deviation was used. Multiple regression as well simple regression analysis was used for testing the hypotheses. The result of analysis has been properly tabulated, analyzed and interpreted.

Regression model

Model 1: $PQ = \alpha + \beta_1 PAS - \beta_2 PP + U$ . . . (1)

Model 2: $BAS = \alpha + \beta_1 PAS - \beta_2 PP + U$ . . . (2)

Model 3: $OBE = \alpha + \beta_1 PAS - \beta_2 PP + U$ . . . (3)

Model 4: $BAW = \alpha + \beta_1 PAS + U$ . . . (4)

Model 5: $BL = \alpha + \beta_1 PAS + U$ . . . (5)

Where, PQ = Perceived Quality; PAS = Perceived Advertising Spending; PP = Price Promotions/Deals; BAS = Brand Associations/Image; OBE = Overall Brand Equity; BAW = Brand Awareness; BL = Brand Loyalty and; α = Constant; β_i = Co-efficient or slope of regression model; U = Error term.

The study was narrowed to establishing the impact of marketing communication and price promotion on brand equity of durable goods like television brands in Nepal.

- Television brands are taken as product stimuli. Television brands are not biased as national or global brands.
- Convenience sampling is taken for participation.

- The study is based on the data available from the self administered questionnaire methods among the selected respondents.
- This study is conducted through cross-section data collection.
- Data are primary in nature.
- Integrated marketing communication is not included.
- The interaction of other marketing mix efforts such as pricing, distribution intensity and the store image, are not studied.

Data Analysis

Most Popular Television Brand

Table 1: Most popular Television Brand

Name	Frequency	Percent
Samsung	70	40
Sony	56	32
LG	42	24
Others	7	4
Total	175	100

Table 1 expresses that Samsung television brand is most popular television brand followed by Sony and LG television brand among respondents.

Reliability Analysis

The reliability of used measurement scales was tested using Cronbach's alpha coefficient.

TABLE 2: Reliability Analysis

Code	Particulars	Cronbach's Alpha
PQ	Perceived Quality	0.654
BAW	Brand Awareness/Image	0.708
BAS	Brand Association	0.642
BL	Brand Loyalty	0.880
OBE	Overall Brand Equity	0.890
PAS	Perceived Advertising Spending	0.808
PP	Price Promotions/Deals	0.802

Table 2 shows the results of reliability of measurement scales used for measuring independent and dependent variables of Overall Brand Equity, Perceived Advertising Spending and Price Promotions/Deals. The applied measurement scales exhibits satisfactory levels of reliability.

One scale item PQ1 (Among 5 items) was eliminated from Perceived Quality construct. Two scale items BAW 1 and BAW2 (Among 4 items) were eliminated from Brand Awareness construct.

One scale item PAS7 (Among 7 items) was eliminated from Perceived Advertising Spending construct. Two scale items PD1 and PD2 (among 7 items) were eliminated from Price Promotions/Deals construct. For Brand Association/Image construct, Brand Loyalty construct, and Overall Brand Equity construct, all the items were accepted to increase the value of the measurement.

Descriptive Statistics

TABLE 3: Descriptive Statistics of Constructs

Particulars	Mean	Std. Deviation
Perceived Quality	4.23	0.42
Brand Association	3.87	0.60
Brand Awareness	4.19	0.61
Brand Loyalty	3.87	0.82
Overall Brand Equity	3.69	0.78
Perceived Advertising Spending	3.56	0.64
Price Promotions/Deals	3.02	0.78

Table 3 shows the mean of Perceived Quality, Brand Association, Brand Awareness, Brand Loyalty, Overall Brand Equity, Perceived Advertising Spending and Price Promotions/Deals are above 3 and low standard deviation below 1. It means that the mean result is accurate. The mean value of Perceive Quality and Brand Awareness is reported highest as 4.23 and 4.19. This shows that the Perceived Quality and Brand Awareness construct has greater impact on forming television brand equity in Nepal.

Correlation Coefficient Analysis

Karl Pearson's Correlation coefficient is used to find out the relationship between dependent and independent variables.

TABLE 4: Correlation Analysis of Constructs

		Correlations		
		(1)	**(2)**	**(3)**
(1) OBE	Correlation	1		
	Sig.			
(2) PAS	Correlation	.46**	1	
	Sig.	0		
(3) PP	Pearson Correlation	0.04	0.122	1
	Sig.	0.585	0.107	

"**" Correlation is significant at the 0.01 level.

In table 4, overall brand equity and perceived advertising spending is moderately correlated (0.46) in the positive direction. The positive correlation overall brand equity and perceived advertising spending indicates advertising contributes positively to the formation of television brand equity. Overall brand equity and price promotions are poorly correlated and the relation is insignificant. It means price promotions have negative impact on formation of television brand equity.

Multiple Regression Analysis

TABLE 5: Regression Analysis of Explained and Explanatory Variables

Dependent: PQ			**Dependent: BAS**		
Explanatory Variables	**Coefficient value of B**	**Sig.**	**Explanatory Variable**	**Coefficient value of B**	**Sig.**
Constant	4.106	0.000	Constant	0.277	0.000
PAS	-0.049	0.327	PAS	0.285	0.000
PP	0.099	0.016	PP	-0.176	0.002
R	0.189	R^2= 0.223	R = 0.358; R^2=0 .182		
Adj. R^2	0.221		Adj. R^2	0.179	
S. E.	0.4139		S. E.	0.562	
F-Value	3.177		F-Value	12.654	
p-value of F test (2,172d.f.)		0.044	p-value of F test (2,172 d.f.)		0.000
Sig. at 5% level			Sig. at 5% level		
Model 1: PQ = 4.106 - 0.049PAS + 0.099PP + U			Model 2: BAS = 0.277 + 0.285PAS - 0.176PP + U		

From table 5, for Model1, F-value and p-value is 3.177 and 0.044 respectively which is significant at 5% level of significance. R square of this model is 0.223 or 22.3% which means 22.3% of variation in perceived quality is explained by variation in perceived advertising spending and price promotions/deals.

For Model2, F-value and p-value is 12.654 and 0.000 respectively which is significant at 5% level of significance. R square of this model is 0.182 or 18.2% which means 18.2% of variation in perceived quality is explained by variation in perceived advertising spending and price promotions/deals.

TABLE 6: Regression Analysis of Explained and Explanatory Variables

Dependent: OBE			Dependent: BAW		
Explanatory Variables	**Coefficient value of B**	**Sig.**	**Explanatory Variable**	**Coefficient value of B**	**Sig.**
Constant	1.747	0.000	Constant	3.681	0.000
PAS	0.557	0.000	PAS	0.142	0.000
PP	-0.014	0.000			
R	0.456	R^2= 0.208	R =0.150 ; R^2= 0.202		
Adj. R^2	0.198		Adj. R^2	0.20	
S. E.	0.697		S. E.	0.601	
F-Value	22.54		F-Value	11.984	
p-value of F test (2,172d.f.)		0.000	p-value of F test (2,17258 d.f.)		0.041
Sig. at 5% level			Sig. at 5% level		
Model 3: OBE = 1.747 + 0.557PAS - 0.014PP + U			Model 4: BAW = 3.681 + 0.142PAS + U		

For Model 3, F-value and p-value is 22.54 and 0.000 respectively which is significant at 5% level of significance. R square of this model is 0.208 or 20.8% which means 20.8% of variation in overall brand equity is explained by variation in perceived advertising spending and price promotions/deals.

For Model4, F-value and p-value is 11.984 and 0.041 respectively which is significant at 5% level of significance. R square of this model is 0.202 or 20.2% which means 20.2% of variation in brand awareness is explained by variation in perceived advertising spending.

TABLE 7: Regression Analysis of Explained and Explanatory Variables

Dependent: BL		
Explanatory Variables	**Coefficient value of B**	**Sig.**
Constant	1.90	0.000
PAS	0.553	0.000
R	0.433	R^2= 0.188
Adj. R^2	0.183	
S. E.	0.738	
F-Value	39.94	
p-value of F test (2,172d.f.)		0.000
	Sig. at 5% level	
Model 5: BL = 1.90 + 0.553PAS + U		

For Model5, F-value and p-value is 39.94 and 0.000 respectively which is significant at 5% level of significance. R square of this model is 0.188 or 18.8% which means 18.8% of variation in brand loyalty is explained by variation in perceived advertising spending.

Model 1: PQ = 4.106 - 0.049PAS + 0.099PP + U

Model 2: BAS = 0.277 + 0.285PAS - 0.176PP + U

Model 3: OBE = 1.747 + 0.557PAS - 0.014PP + U

Model 4: BAW = 3.681 + 0.142PAS + U

Model 5: BL = 1.90 + 0.553PAS + U

Testing of Hypotheses

For Model1, p-value of perceived advertising spending is 0.327 which is not significant at 5% level of significance. So, Hypothesis 1 is not accepted. Again, p-value of price promotions is 0.016 which is significant but violates the assumption of hypotheses. So, Hypothesis 2 is not accepted.

For Model2, p-value of perceived advertising spending is 0.000 which is significant at 5% level of significance. So, Hypothesis 3 is accepted. Again, p-value of price promotions is 0.002 which is significant at 5% level of significance. So, Hypothesis 4 is accepted.

For Model3, p-value of perceived advertising spending is 0.000 which is significant at 5% level of significance. So, Hypothesis 5 is accepted. Again, p-value of price promotions is 0.000 which is significant at 5% level of significance. So, Hypothesis 6 is accepted.

For Model4, p-value of perceived advertising spending is 0.000 which is significant at 5% level of significance. So, Hypothesis 7 is accepted.

For Model5, p-value of perceived advertising spending is 0.000 which is significant at 5% level of significance. So, Hypothesis 8 is accepted.

Major Findings

- Samsung television brand is most popular television brand followed by Sony and LG television.
- Analyzing descriptive statistics, perceived quality and brand awareness construct has greater impact on forming television brand equity in Nepal.

- Overall brand equity and perceived advertising spending is moderately correlated (0.46) in the positive direction and overall brand equity and price promotions are poorly correlated (0.04) and the relation is insignificant also. Perceived advertising spending contributes positively to the formation of television brand equity.
- Perceived advertising spending have negative effect on perceived quality. Likewise, price promotions/deals have positive effect on perceived quality. It is because, Nepalese consumers thinks more price means more quality.
- Perceived advertising spending has positive effect on brand associations/image, overall brand equity, brand awareness and brand loyalty.
- Price promotions/deals have negative effect on brand associations/ image, overall brand equity.

Conclusions

The objective of this study was to examine the impact of marketing communication and price promotion on brand equity of durable goods like television in Nepal.

This study is consistent with Villarejo-Ramos and Sanchez-Franco (2005) research that examined the impact of marketing communication and price promotion on brand equity, measured through consumer perceptions. The findings confirmed that perceived advertising spending has a favourable influence on brand equity. A negative relationship between use of price deals and brand equity was established. Positive casual relationships were established between perceived advertising spending on durable goods and each of the dimensions of brand equity except perceived quality. Finally, a negative influence was identified between price deals, brand associations/ image and overall brand equity. The study of Dillon et al. (2001) and Sriram and Kalwani (2004) also support these findings.

The study is consistent to Amaretta and Hendriana (2011) to analyze the effect of marketing communications and price promotions to brand equity dimensions. The findings express that marketing communication had positive and significant effect to brand equity except perceived quality in which the impact of price promotion on perceived quality violates the assumption of hypothesis.

The results from the present study suggest that marketing mix has an important role in creating brand equity in the Nepalese television markets. The aim of advertising is to generate brand awareness, to create consumer preferences toward a brand, and to drive repurchase. The higher the spending on advertising for the television brand, the better the quality of the product as perceived by the consumer, the higher the level of brand awareness and the more associations linked to the product, forming its brand image. Briefly speaking, if company adds advertising spending, the brand equity will increase. Price promotion as incentives to increase sales has been shown to have a negative effect on brand equity. Although they can cause a short-term benefit to the consumer, for the long-run they showed negative effects. Benefits gained from perceived quality are not enduring and do not secure brand with regard to its expected utility. Especially, marketers need to focus on advertising spending and cautiously manage the price promotions schemes while doing advertising campaign of branding the television.

The interaction of other marketing mix efforts needs to be studied, such as pricing, distribution intensity and the store image.

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Corporate Performance (CP) and Satisfaction in Public Health Service Organizations (PHSO) in Eastern Province of Sri Lanka: A Use of Balanced Score Card (BSC)

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Abstract

Employee satisfaction is achieved by fulfillment of respective needs in public health service organizations. When public health service organizations perform better they satisfy hospital employee who in turn satisfy hospital patients. Objectives of this research are to determine factors affecting public health service organizations' performance; to find out factors influencing employee satisfaction; to know the factors determining patient satisfaction; to establish a conceptual model to know the conceptual relationship between performance factors & satisfaction factors and to operationalise conceptual model. This research is designed in two stages. First stage is known as exploratory research design. Next stage is conclusive research design. Researcher collected 134 sample articles in corporate performance, employee satisfaction and patient satisfaction.

Analysis concluded that factors for corporate performance in public health service organizations are related to patient, key service line, learning & growth and resource factors. Factors for employee satisfaction are related to environment, psychology, structure and personal/ demography. Factors for patient satisfaction are related to core service, human element, non- human element, servicescapes and personal/ demography. Based on these factors, a conceptual model has been created to know the conceptual relationship between performance factors & satisfaction factors. A hypothetical relationship has been established between corporate performance in public health service organizations, employee satisfaction and customer/ patient satisfaction.

Introduction

Eastern Province (EP) of Sri Lanka consists of three cardinal districts such as Ampara, Batticaloa and Trincomalee. Public health service organisations (PHSO) are all sorts of government medical institutions (GMIs). GMIs are government hospitals (GHs). EP is comprised of teaching hospital, provincial hospital, base hospitals, district hospitals, peripheral units, rural hospitals, central dispensary & maternity homes and other hospital. Corporate performance is the performance of PHSOs existing in EP. Corporate performance of these PHSOs generates employee satisfaction and customer satisfaction. Employee satisfaction is the satisfaction of health personnel (HP) or health staff (HS) which incorporate medical officers (MOs), dentists, assistant medical officers (AMOs), nurses, medical recording officers (MROs), technologists & theraphists (T & T), inspectors, midwives, ECG, dispensers & field officers, technicians and attendants & labourers who work in GMIs. HP of GMIs have to be satisfied by way of environmental, psychological and social needs. Once HP are satisfied in their needs they can perform well in their key service lines to render better health services to their customers who in turn are satisfied. Customer satisfaction is the satisfaction of patients who receive treatment in GHs. Therefore, patient satisfaction is the satisfaction of general medicine, surgery, paediatrics/children disease, obsteristics/ gynaecology, psychiatry, eye, TB, cancer, leprosy, E. N. T., orthopaedic/ accident, thoracic surgery, communicable diseases, neurology, genito urinary, cardiology, skin, plastic surgery/ burns, rheumatology/ rehabilitation and dental patients (Annual Health Bulletin, 2006). When patients receive well treatment from HP for their diseases they get satisfied. The relationships among PHSOs' performance, satisfaction of HP and patients are continuously occurring. The population of Sri Lanka in 2003 was estimated at 19.25 million. The annual population growth rate was reduced to its current 1.3% level with an increase in Life Expectancy at birth. Sri Lanka is aging rapidly (Department of Census & Statistics, 2001). It is projected that by 2020, 20% of Sri Lanka's population will be 60 years of age or over, while the proportion in the young age group is decreasing. These symptoms indicate the need for performance of PHSOs in Sri Lanka. Epidemiological conditions too indicated tobacco, substance and alcohol abuse have increased in magnitude over the past two decades, and pesticide poisoning has been a long-term problem. There were significant geographical variations demanding focused interventions in high disease prevalence districts. Malnutrition existed amongst disadvantaged populations especially in parts of the North East, North-Central and Uva provinces.

Statement of Problem

Research problem is stated by secondary data analysis, previous literatures and focus group discussion (FGDs). Secondary data is collected from Health Sector Master Plan (HSMP) which covers New Country Corporate Strategy (CCS), National Strategic Framework for Health Development and Millennium Development Goals (MDGs). Regional and country World Health Organizations (WHO) officials and other stakeholders were also participated in the meeting. Six priority (strategic) areas were identified at that meeting for the new CCS. These six strategic areas are health system, human resources for health, communicable diseases, non- communicable diseases & mental health, child, adolescent & reproductive health and emergency preparedness & response. A number of previous studies highlight the performance in public sector. Contemporary management in public service organizations focuses on New Public Management (NPM). Hood (1991) suggested that NPM consists of a number of different key aspects. These aspects pay more emphasis on "professional" management, the introduction of explicit measures of performance and a focus on outputs and results. It is understood that public sector organizations should focus on measures for their service performances. Most of the developed countries try to get the experiences of private sectors in measuring performance in public sector. For example, Walshe (2001) drew attention to the UK's approach of learning from the USA about healthcare management, and suggested that this occurs because of the similarities international challenges are faced by healthcare professionals in terms of rising costs, technological change and growing public expectations. It can be argued that financial, innovation such as learning and growth and customer perspective can be considered important in public service provision. Public services are forced to take into account with respect to their corporate performance measures.

Two focus group discussions (FGDs) were conducted to know the opinions of public health services in EP. One is from the side of the HP. The other is from patients. In terms of the view of the hospital staff, they care patients' best, provision of free medicines, adequate resources such as medicines, inventories, buildings, equipments, etc. Number of processes such as diagnosing patients' diseases, prescription writing, dispensing drugs and dressing are handled manually. It can be understood that patients are happy. Hospitals have enough resources cum necessary equipments. There are limited Information Technology (IT) facilities. But, hospital staff are in need of salary, perks and non- financial rewards. This confirms that there are some unmet needs for the hospital staff in hospitals. To make hospital staff satisfied

in their needs, actions have to be taken to resolve their needs. It can be understood that patients are unhappy. They have to pay to buy medicines in pharmacies. Hospitals have not sufficient drugs of specific type and some specific equipment. Patients are happy with deficiencies. This is true because all types of hospitals have no fully- fledged facilities in it. These fully- fledged facilities will be fulfilled only when the hospitals perform better in terms of patient, resource allocation, key service line and learning & growth stated in BSC. Satisfaction of Hospital staff makes employees to perform better in their job. Job satisfaction of staff improves the key service lines better than earlier. Patient receives better services than earlier. Patient gets satisfied. Performance of PHSOs goes superior.

Research Questions and Objectives

Secondary data analysis, previous literatures and FGDs confirm that research issue exists on government hospitals' performance and hospital staff & patient satisfaction. It is known that PHSOs in Eastern Province pay lack of focus on corporate performance, hospital staff satisfaction & patient satisfaction. This main research issue is cascaded into three sub research questions. They are: what factors influence on Public Health Service Organizations' Performance?, what factors influence on employee satisfaction?, what factors influence on patient satisfaction?. and whether performance factors & satisfaction factors are related in Public Health Service Organizations' Performances?. These four research questions are converted into research objectives such as to determine factors affecting PHSOs' performance, to find out factors influencing employee satisfaction, to know the factors determining patient satisfaction, to establish a conceptual model to know the conceptual relationship between performance factors & satisfaction factors and to operationalise conceptual model.

Significances of the Research

This research plays vital significances in number of ways. This research looks at diverse performance measures for public health service organizations by customizing BSC measures. Different types of organizations prioritise and measure their performances on the basis of different measures. For- profit organizations measure their performance by focusing only on financial measures for their corporate performances. A marketing oriented company looks at customer measures, manufacturing company focuses on measures with respect to internal business processes. IT company focuses on learning

and growth measures. In reality, corporate performance of any organization should be measured on different perspectives. These measures have to be customized for the measurement purposes. PHSOs consider patient, resource, key service line and learning & growth (IT) performance measures. A number of researches have been done globally using BSC measures in different time periods and in different countries. For example, Zelma et al., (2003) stated that a number of articles has been published on the BSC in health care settings. A numerous articles have appeared in the health services and management literature. BSC appears to have gone into a growth phase. According to Zelman et al.'s (2003) study the BSC has been adopted by a broad range of health care organizations, including hospital systems, hospitals, psychiatric centres, and the national health care organizations. Chan and Ho (2000) conducted survey executives in nine provider organizations in USA. Chow et al., 1998; Stewart and Bestor, 2000; Pink et al. 2001; Oliveira, 2001; Fitzpatrick, 2002; Shutt, 2003; Tarantino, 2003; Rondor and Lovell, 2003a, b) stated that much of the literature relates to how to apply BSC successfully in health care. But there are less common are surveys about applying BSC in health care. There are few articles in BSC in Sri Lanka. This research is in the context of health service in GMIs in EP of Sri Lanka. Thus, this research fills the literature gap.

Review of Literature

Corporate Performance (CP)

The word performance has the meaning of "doing or working or functioning" (Hornby, 2000). Performance refers to how good or how bad an organization does its activities. Organizational activities are based on key service lines, customers, resources, and learning & growth. Key service lines are key disease treatment service lines rendered by hospital. Customers are patients in different key disease treatment service lines in hospital. Resources are financial (government fund), physical (hospital buildings & wards) and human resources (hospital staff). Learning & growth are opportunity for learning & development given by hospital to its staff. If these activities are done better or higher organisational performance is also higher or vice versa. Literature review identified four factors for corporate performance in public health service organisation.

Employee Satisfaction

Wikipedia (2012) defines employee satisfaction as a terminology used to describe whether employees are happy, contented and fulfilling their desires

and needs at work. Factors that support employee satisfaction are employee motivation, employee goal achievement, and positive employee morale in the workplace. While there is generally a positive attitude of employees in organization employee satisfaction can also be a downer if mediocre employees stay because they are satisfied with your work environment. Government hospitals must focus on all factors to make hospital staff satisfactory. Satisfaction of hospital staff is vital for the satisfaction of hospital patients. Literature review revealed four factors for employee satisfaction.

Customer/Patient Satisfaction

Satisfaction is satisfying the needs and desires of the consumer. Satisfaction is as a pleasure; satisfaction as a delight. These definitions show satisfaction makes happiness to customer sometimes satisfaction gives more happiness which is termed as delight. Thorton (2005) defined customer satisfaction as the degree to which customers perceives that their needs are fulfilled. Literature review revealed five factors for customer/ patient satisfaction.

Literature Gap and Methodological Gap

Literature review identified both literature and methodological gap A number of researchers have been carried out in different countries, in different organisations/ industry and in different time frames. Few studies were carried out in Sri Lankan context using BSC specially in public health service organisation & in Eastern Province. This study is conducted in public health service organisation & in Eastern Province using BSC. Researches have been done corporate performance, employee satisfaction and customer satisfaction separately. This study combines corporate performance, employee satisfaction and customer satisfaction together.

Previous studies used single stage sampling technique. This study uses a two stage sampling technique. Previous studies considered sample size on their own. This study calculates sample size using formula. A significant number of previous studies were done on case- study type. This study is a survey type that uses questionnaire.

Factors for Public Health Service Organization, Hospital Staff Satisfaction and Patient Satisfaction

Identified factors for public health service organization, hospital staff satisfaction and patient satisfaction are shown in table 1.

TABLE 1: Factors for public health service organization, hospital staff satisfaction and patient satisfaction

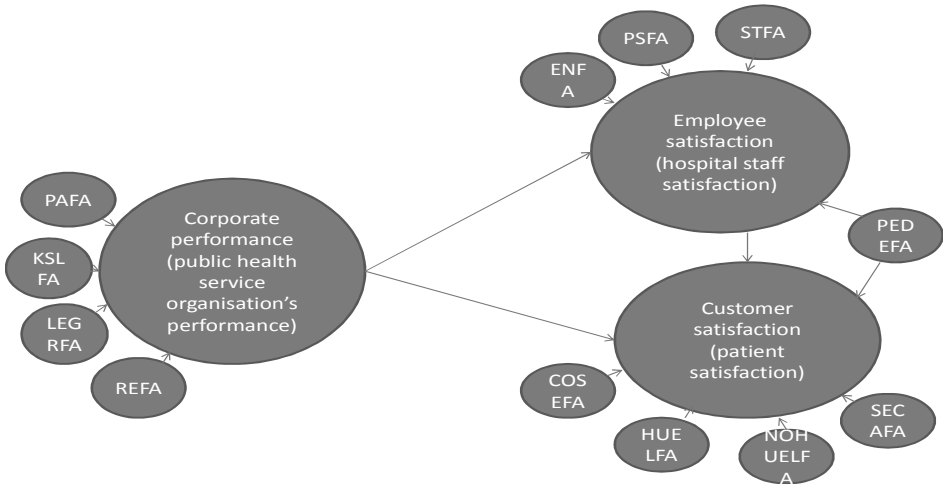
Corporate performance in public health service organizations	Employee satisfaction (hospital staff satisfaction)	Customer satisfaction (patient satisfaction)
Patient factors	Environmental factors	Core service factor
Key service line factors	Psychological factors	Human element factors
Learning & growth factors	Structural factors	Non- human element factors
Resource factors	Personal & demographic factors	Servicescape factors
---	---	Personal & demographic factors
04	04	05

Source: Literature review

Conceptual Model

A conceptual model has been created by researcher using identified factors for public health service organization, hospital staff satisfaction and patient satisfaction. This conceptual model is shown in figure 1.

FIGURE 1: Conceptual model



Source: Literature review

Acronyms in model are outlined below. PAFA refers to patient factors. KSLFA is key service line factors. LEGRFA means learning & growth factors. RSFA connotes resource factors. ENFA refers to environmental factors. PSFA is psychological factors. STFA means structural factors. COSEFA connotes core service factors. HUELFA is human element factors. NOHUELFA refers

to non- human element factors. SECAFA refers to servicescape factors. PEDEFA is personal/ demographic factors.

This model can be justified by several reasons. This model is a result of detailed and thorough literature review. Factors and measures have been taken from well- known, widely used and generally accepted models. Corporate performance is based on BSC. Employee satisfaction is based on content and process theories of motivation. Customer satisfaction is based on SERVQUAL and SERVPERF.

Hypotheses Development

The following three sets of hypotheses are set between independent and dependent variable in the conceptual model.

- Null hypothesis: Corporate performance is related to employee satisfaction
- Null hypothesis: Corporate performance is unrelated to employee satisfaction
- Null hypothesis: Corporate performance is related to customer/patient satisfaction
- Null hypothesis: Corporate performance is unrelated to customer/patient satisfaction
- Null hypothesis: Employee satisfaction is related to customer/patient satisfaction
- Null hypothesis: Employee satisfaction is unrelated to customer/ patient satisfaction

Researcher assumes that there is connection between corporate performance in public health service organization and employee satisfaction; between corporate performance in public health service organization and customer/ patient satisfaction and between employee satisfaction & customer/ patient satisfaction. These three sets of hypotheses are to be tested after data collection.

Operationalisation of Study

Operatioalisation for corporate performance in public health service organizations, employee satisfaction and customer/ patient satisfaction is shown in table 2, table 3 and table 4.

TABLE 2: Operatioalisation for corporate performance in public health service organizations

Concept	Factors	Measures	Number of measures
Corporate performance in public health service organisations	Patient	Waiting time, length of stay (LOS), bed occupancy, new drug brand, joined- up service, patient recommendation, hospital image and knowledge about BSC	08
	Key service line	Staff competency, patient complaint about staff, rework, readmission of case, infections, medical errors, occupational injuries, mortality rate, on- call attendance, emergency treatment of cases and knowledge about BSC	11
	Learning & growth	Interested in knowledge enhancement, knowledge transfer, availability of on- line computers, staff usage of intercom, enhancement of qualification, staff training, health publication and knowledge about BSC	08
	Resource	Funds, donations, buildings, staff, drug inventory and knowledge about BSC	07

Source: Literature review

TABLE 3: Operatioalisation for employee satisfaction

Concept	Factors	Measures	Number of measures
Employee satisfaction	Environmental factors	Early opportunity to job, work environment, working environment, social environment and participative environment	05
	Psychological factors	Positive attitude, negative attitude, assertiveness, agreeableness and workload	05
	Structural factors	Work autonomy, work stress, supervisory/ career support, job security, realization (self-actualisation), pay, promotional chances, distributive justice and flexi-time	09
	Personal/ demographic factors	Type of hospital where employee works, type off functioning unit in hospital, type of patient employee treat, gender, marital status, age, family size, education level, monthly income, title of employee job and experience	11

Source: Literature review

TABLE 4: Operatioalisation for customer/ patient satisfaction

Concept	Factors	Measures	Number of measures
Customer/ patient satisfaction	Core service	Core benefit, problem solving and core feature	03
	Human element of the service	Reliability, responsiveness, assurance, recovery, empathy and critical incidence	06
	Non- human element of the service	Process, procedure and system	03

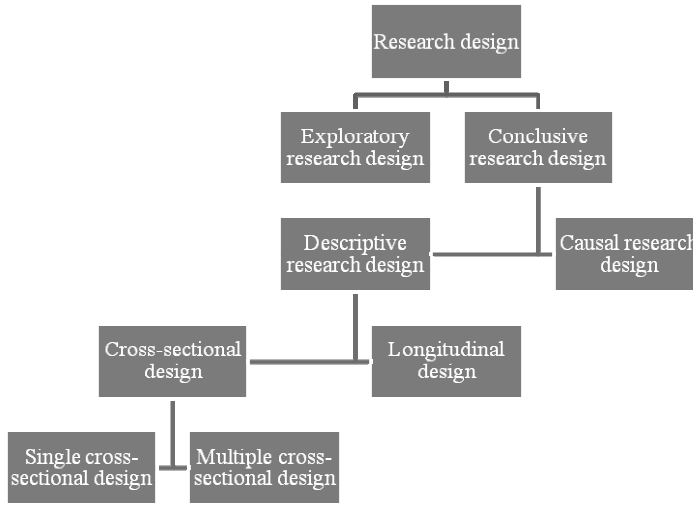
	Servicescapes	Sign/ symbol, space, layout of units, interior décor, exterior décor, entertainment/ music, food and condition of bed sheet & pillow	03
	Personal/ demographic factors	Type of hospital where patient get treatment, type of functioning unit patient get treatment in hospital, type of patient, gender, marital status, age, family size, educational level, monthly income and doctor from whom patient get treatment	08

Source: Literature review

Research Design and Methodology

This research adopts a blend of exploratory research design and conclusive research design. It is depicted in figure 2.

FIGURE 2: Research design



Source: Malhorta, 2006

Exploratory research design and conclusive research design

Exploratory research design is completed by researcher up- to- now. Exploratory research is designed to understand & define the research problem clearly. This stage ended up with literature review, conceptual model and operationalisation. Conclusive research is to be started right now. Conclusive research is designed by descriptive and causal research design. In one part, descriptive statistics are planned to use in this research. A multiple cross- sectional design is carried out since data are collected only once at a particular point in time from sample hospital employees and patients the sample out of the population. In another part, causal research is also designed

to test the relationship between independent and dependent variables. Three hypotheses are to be tested. Relationships between corporate performance and employee satisfaction, corporate performance and patient satisfaction and employee satisfaction and patient satisfaction are to be tested in this research.

Methodology

Data collection is made using secondary source and primary source. Secondary source was used for literature review. Primary data are to be collected using questionnaire.

Secondary data collection

Literature review was carried out using secondary data collection. Researcher collected 134 articles in corporate performance, employee satisfaction and patient satisfaction. 54, 41 and 39 articles were collected from corporate performance/ public health service organisations' performance, employee/ hospital staff satisfaction and customer/ patient satisfaction. Articles were categorized in terms of strata such as corporate performance, employee satisfaction and patient satisfaction.

Secondary data source and period

Secondary source of data collection was made to collect articles. Collected articles were from full text journal articles (indexed & refereed), extended abstracts & abstracts (indexed & refereed), books (reviewed) and Internet access. Corporate performance articles were from during the period of 2010 to 1996. Employee satisfaction articles were form 2012 to 1978 and customer satisfaction articles were from 2012 to 1999.

Secondary data presentation and analysis

Collected data are presented in tables as shown in table 1 to 4. In addition to this, a conceptual model is shown in figure 1. They are analysed qualitatively. They have been described in words.

Primary data collection

Data are to be collected from primary source using questionnaire as an instrument. Questionnaire is prepared in English language first. Then, it s to be translated in Tamil and Singhala languages. Sworn translator is to be used in translating questionnaire. Pilot study is to be conducted to test the questionnaire in government hospitals in Addalaichenai Divisional Secretariat, Ampara District, Eastern Province of Sri Lanka.

Primary sampling units (PSUs)

Primary sampling units are all government hospital units in all three districts of eastern province. There 65 government hospitals in eastern province. Sample size is determined using the sample size formula. Primary sampling units (PSUs) are research sites i.e. hospitals where research is carried out. There are 65 hospitals in all three districts of eastern province. Population size of the PSUs is shown in table 5.

TABLE 5: Population size of PSU

Districts in eastern province	Number of hospital units
Ampara	29
Batticaloa	18
Trincomalee	18
Total	65

Source: Annual health bulletin

Researcher wishes to know how many hospitals have to be taken from these 65 hospitals as primary sampling units. He estimates mean number of hospital units more precisely so that the estimate will be within ± 2 hospitals of mean number of true population of hospitals. The following formula is used to calculate sample size of hospital units.

$$n = \frac{\sigma^2 * z^2}{D^2} \quad \text{formula (1)}$$

Source: Malhorta, 2006

Where; σ^2 = variance of the population number of hospitals. z^2 = z value associated with 95 % of the confidence level. Associated z value is 1.96.

$$\frac{6.351^2 * 1.96^2}{2^2}$$

$$\frac{40.333 * 3.8416}{4}$$

$$\frac{154.9}{4}$$

38.73 Ω 39

Of the 65 hospitals, 39 hospitals should be taken as sample size of hospitals. Cumulative total method is used to select these 39 hospitals.

Secondary sampling units (SSUs) for employees

Secondary sampling units are health employees who are working in hospitals. There are 31420 health personnel in all three districts of Eastern Province. Population size of the SSUs is shown in table 6.

TABLE 6: Population size of SSUs for employees

Districts in Eastern Province	No. of hospital units	MOs & surgeons	Dentists	AMOs	Nurses	MROs	T & T	Inspectors	Midwives	ECG recorder	Dispensers	Technicians	Attendants	Total health personnel
Ampara	29	2266	73	128	5613	127	476	489	1796	147	379	18	7682	19194
Batticaloa	18	287	61	83	2222	113	62	268	1913	26	139	10	2351	7535
Trincomalee	18	898	40	43	699	23	110	110	331	13	127	0	2297	4691
Total	65	3451	174	254	8534	263	648	867	4040	186	645	28	12330	31420

Source: Annual Health Bulletin

Researcher wants to estimate mean number of health personnel more precisely so that the estimate will be within ± 275 health personnel of mean number of true population of health personnel. The following formula is used to calculate sample size of health personnel.

$$n = \frac{\sigma^2 * z^2}{D^2} \qquad \text{formula (2)}$$

Where: σ^2 = variance of the population number of health personnel. z^2 = z value associated with 95 % of the confidence level. Associated z value is 1.96.

$$\frac{7685.025^2 * 1.96^2}{275^2}$$

$$\frac{59059609.25 * 3.8416}{75625}$$

$$\frac{226883394.9}{75625}$$

$$3000.11 \; \Omega \; 3000$$

Of the 31420 health personnel, 3000 health personnel should be taken as sample size of SSUs of employees.

Secondary sampling units (SSUs) for customer/ patient

Secondary sampling units are customers/ patients who get treatment in hospitals. Patients are in- patient and out- patients. There is no statistics regarding in- and out- patient in hospitals. Therefore, researcher decides to collected number of in- and out- patients on the basis of number of beds available in hospitals. There are 5069 beds in all three districts of Eastern Province. In- patients are calculated using bed- capacity at hospital. Population size of the SSUs for in- patients is shown in table 7.

TABLE 7: Population size of the SSUs for in- patient.

Districts in Eastern Province	Number of hospital units	Number of beds
Ampara	29	2095
Batticaloa	18	1348
Trincomalee	18	1626
Total	65	5069

Source: Annual Health Bulletin

Researcher estimates number of beds (in- patients) in relation to number of beds. Researcher wants to estimate average number of beds for in- patients more precisely so that the estimate will be within ± 30 beds (in- patients) of average true population number of beds (in- patients). The following formula is used to calculate sample size of beds (in- patients).

$$n = \frac{\sigma^2 * z^2}{D^2} \quad \text{formula (3)}$$

Where; σ^2 = variance of the population number of beds. z^2 = z value associated with 95 % of the confidence level. Associated z value is 1.96.

$$\frac{377.548^2 * 1.96^2}{30^2}$$

$$\frac{142542.4923 * 3.8416}{900}$$

$$\frac{547591.2384}{900}$$

608.43 Ω 609

Of the 5069 beds (in- patient), 608 beds (in- patients) are taken as sample size of SSUs for in- patients. Researcher decides to take the same number of out-patients in hospitals.

Primary Data Source and Period

Primary source of data collection is to be made to collect questionnaires from hospital employees. A questionnaire has been prepared using identified measures above. Questionnaire consists of four sections such as personal & demographic variables [employees & patients], corporate performance in PHSOs, employee satisfaction and patient satisfaction. Instrument-questionnaire is scaled in 5 point likert- scale. Corporate performance in public health service organizations are scaled in agreement scale ranging from 5 to 1. Employee satisfaction is scaled in satisfaction scale ranging from 5 to 1. Patient satisfaction is also scaled in satisfaction scale ranging from 5 to 1.

Collected questionnaires will be cross checked and used in input for processing in SPSS. Data will be collected during the period of first quarter of 2013 to second quarter of 2013.

Primary Data Presentation and Analysis

Collected questionnaires will be presented using appropriate graphs. Researcher plans to carry out a factor analysis, correlation and regression analysis.

Conclusions

Qualitative analysis found that factors for corporate performance in public health service organizations are related to patient, key service line, learning & growth and resource factors. Factors for employee satisfaction are related to environment, psychology, structure and personal/ demography. Factors for patient satisfaction are related to core service, human element, non- human element, servicescapes and personal/ demography. Based on these factors, a conceptual model has been created by researcher. A hypothetical relationship has been established between corporate performance in public health service organizations & employee satisfaction; between corporate performance in public health service organizations & customer/ patient satisfaction; and between employee satisfaction & customer/ patient satisfaction. It has been found that 39 hospitals, 3000 employees, 609 in- patients and 609 out- patients should be sampled in this survey.

Limitations and Avenues for Future Research

This research is based on qualitative literature review type. This has been made up-to exploratory stage. Next stage is conclusive stage which is to be completed by researcher for quantitative findings shortly.

Value addition

This study fills the literature gap. In Sri Lanka, previous studies related to corporate performance in both health service organizations and in non- health service organizations are poor. Limited number of researches are found in Public Health Service Organisations in foreign and Sri Lanka. This literature gap motivated researcher to research PHSOs in Sri Lanka. A conceptual model has been created using identified factors for public health service organization, hospital staff satisfaction and patient satisfaction. An operationalisation has been done on the basis of conceptual model.

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Sharing HRM Responsibility to Line Management for Organizational Performance: Nepalese Practices

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Abstract

The purpose of this paper is to examine the situation of assignment of HRM roles and responsibility to the line management in business organizations of Nepal and to analyze the contribution of high devolved and less devolved organizations on overall organizational performance. This survey based exploratory research assumes individual organization as a unit of analysis. Data through structured questionnaire received from 105 organizations are inserted into SPSS and statistical tool like t test, f test, were used. The perceptual measurement of financial performance and market share is also verified with the support of published data. The results of this study highlights the assignment of HRM responsibility to the line management in listed companies of Nepal and shows the differences in between more assigned and less assigned organizations. It reaches into the conclusion that high-devolved organizations are significantly different from less devolved organizations in their performance in terms of quality of product, level of labor productivity, financial performance, employee satisfaction, rate of innovation, employee commitment and market share. The differences in perceptual measurement of organizational performance are also supported by the secondary data of financial performance of responding organizations.

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Background

The assignment of Human Resource Management (HRM) roles and responsibilities to line management has been increasing since 1990s (Cunningham and Hyman, 1995; Hutchinson, 1995; Hutchinson and Wood, 1995; IRS, 1994; Storey, 1992) and is gaining its recognition in the literature (Torrington, 1989; Schuler, 1990, 1991; Brewster and Soderstrom, 1994). It is defined as the degree of devolving employee management roles and responsibilities from personnel department to line management (Brewster and Soderstrom, 1994). The most common pattern of assignment is the sharing on decision-making issues of HRM between HR specialist and line management (Legge, 1995; Brewster et al. 1997, Larsen and Brewster, 2003), which is becoming a common trend among the large organizations (Cunningham et al., 1996; Lowe, 1992).

Earlier results of studies on assignment of HRM roles and responsibilities to line management conducted in developed countries of Western world proved how assignment leads to the organizational performance (Brewster and Larsen, 2000; Ulrich, 1998; Jackson and Schuler, 2000; Budhwar and Sparrow, 1997; Torrington, 1989). These authors argue that the assignment of HRM responsibility to line management reduces the operating costs, speeds up in decision-making process, integrates HR into organizational targets, motivates employees for efficiency, and facilitates to control people and other resources effectively. However, there is a dearth of such studies of assignment of HRM responsibility to line management in the context of developing countries of South Asia like Nepal. Few researchers of Nepal have initiated research in HR related issues like Adhikari and Mueller (2004), Adhikari (1999; 2001), Adhikari and Gautam (2007; 2008; 2009 forth coming), Gautam and Davis (2007). In Nepal Adhikari (2001) observed that "… the Nepalese context does not appear favorable to many aspects of American or European HRM concepts. Prescriptions for the devolvement of human resource management responsibility to line managers are one example. This is difficult because of the limited knowledge and skills of many managers. Furthermore, Nepalese decision-makers often prefer to hold the power rather than delegate and devolve it". With these caveats in mind, this article aims to identify the degree of devolvement of HR responsibilities to line managers and its impact on organizational performance in Nepalese organizations.

The Debate of Assignment of HRM Responsibility to Line Management

The classical relationship between HR specialists and line mangers has come under practical and scientific attack (Brewster et al., 1997). Given the concepts

like lean management or hierarchical organizations (Hedlund, 1986) the efficiency of large centralized units where HR "know-how" is concentrated has been questioned. Brewster et al. (1997) further state that:

> *"Rather than relying solely on central specialists, the argument is made that HR responsibilities should be moved towards line managers; and line mangers should undertake, and monitor, HR activates such as recruitment, performance assessment and reward." (pp5-6)*

In fact, there is a trend emerging in European nations that to give line managers to manage staff of their departments and reduce the size of HR department and its control (Brewster and Larsen, 2003). The reason of evolving the assignment of HRM responsibility to line management is that personnel practitioners are seen to be out of touch with commercial realities, and unable to comprehend the nature of business, its customers, or its corporate goals (Budhwar and Sparrow, 1997; Budhwar, 2000). The decisions formulated by personnel managers have little relevance for competitive prospects and hard to put into effect (Whittaker and Marchington, 2003). Line management has to involve with HR department to bear primary responsibility of people management in order to make closer link between strategy development and HR development, which will lead to a systematic and consistent use of human resource policies to achieve their operating goals (Cunningham and Hyman, 1999).

The HRM function is seen as playing the role of coordinator and catalyst for the activities of line managers – a management team player working jointly with the top management solving people related business issues (Schuler, 1990). The study of Guest (1989) found that line mangers accepted and used HRM practices as a part of their everyday work. Therefore, it is wise for line managers to take even greater responsibility for people management activities. The ultimate responsibility of HR by line management ownership may increase their commitment to integrate HR with business objectives (Whittaker and Marchington, 2003).

However, the assignment of HR responsibility to the line management is not seen unproblematic (Larsen and Brewster, 2003). The line managers need to understand HRM practices that build up organizational capabilities, which become a critical source of competitive advantage (Burke and Cooper, 2005). They have more pressing priorities than managing and developing the people working for them. Therefore, they take people management issues less seriously than production goals and they did not feel any institutional pressure to consider HR issues seriously (Gratton et al. 1999). They are not able to devote sufficient time (Cunningham and Hyman, 1999) and do not

possess the skills and competencies necessary to perform the HR issues. Line managers do not possess the skills and competencies necessary to perform the HR aspect of their jobs effectively without support from personnel practitioners (IRS 1994; 1995; 1996; 2000). They are often ignorant about recent development in the areas of HRM and are poor at making comprehensive longer-term views of HR policies (Larsen and Brewster, 2003). Similarly, they may not have time to deal with it properly and the relationship between HR specialists and line managers is not a simple one due to their different level of hierarchy that makes difficult to describe exactly senior or junior line or HR managers (Larsen, 2003; Larsen and Brewster, 2003). It is said that line managers are unlikely to acquire the primarily responsibility of human resource management without continuing support from HR specialists (Cunningham and Hyman, 1995). HR function could be disbanded if only line managers are given to accept this responsibility (Cooper, 2001). As Ulrich (1998) noted, 'to be truly tied to business outcomes, HR needs to join forces with operating managers to systematically assess the impact and importance of initiatives'.

The review of literature provides glimpse of development in the specific areas of devolvement of HR responsibility to the line managers.

TABLE 1: List of research in the area of assignment of HR responsibility with authors and main ideas

Authors	Main Premise
Barney & Wright (1998)	HR department should help line managers resolve business issues and align to achieve goals.
Brewster & Soderstrom (1994); Brewster & Larsen (1992; 2000)	Recognized the importance of devolvement of HRM practices to the line management, they found the increasing trend of devolution of HR responsibility to line management.
Budhwar & Sparrow (1997)	Low level of devolvement of HRM practices practiced in Indian organization
Budhwar (2000)	Low level of devolvement of HRM responsibility to line management in UK.
Cully et al. (1999)	Line managers are more likely to pay a part in HR decisions than they had previously.
Cunningham & Debrah (1995) Cunningham & Hyman (1995; 1999) Cunningham et al. (1996)	Line managers take over some of the function of HR managers because HR managers lacked the skills necessary to perform their duties competently. Line management has been viewed as increasingly taking responsibility for HRM initiatives and practices.
Earnshaw et al. (2000)	Line managers need continuous and systematic support and training from HR specialist.
Gennard & Kelly (1997)	Line managers are unlikely to acquire sufficient skills in the HR area without HR support.
Gratton et al. (1999)	Line managers do not feel any institutional pressure to consider HRM issues seriously.
Guest & King (2001)	Line management plays prominent role in HRM due to HR work devolved to them.
Guest (1989)	HRM practices are accepted and used by line managers as a part of their everyday work.
Hall & Torrington (1998)	Line managers make decisions in conjunction with HR specialist
Huang (2000)	Organizations that devolve HR activities to line managers outperform than less devolved.
Hutchinson & Wood (1995)	There is greater line management involvement in HRM issues compared to five years before.
Jackson & Schuler (2000)	Line management adopts a partnership approach between HR and line to manage HR issues.
Kirkpatrick et al. (1992)	Decentralization of responsibility to line management has been viewed as a key of HRM.
Legge (1989)	One component of HRM is the involvement of line managers.
Lowe (1992)	The role of line management should expand so that it incorporates people responsibility.

Marchington (1999)	Positive outcome depend on line managers being skilled in HRM as they are the interpreters.
McGovern et al. (1997)	Develop educational and technical base of line managers for effective devolution of HRM.
Millward et al. (1992)	Line managers are spending more of their time on personnel and related activities.
Othman (1996)	HRM department should facilitate the devolution of HRM responsibility to line managers.
Pool & Jenkins (1997)	The shift of HRM responsibility to the line management seems to be dominance.
Pool (1976)	Importance of line management in the management of people has been recognized.
Renwick (2000; 2003)	Significant organizational benefits exist from involving the line management in HR work.
Schuler & Walker (1990)	Jointly share by HR and line managers to solve people related business issues.
Schuler (1990; 1992) Storey & Sisson (1994)	HRM function is seen as playing role of coordinator and catalyst for the activities of line managers solving people related business issues.
Storey (1992; 2001)	There is an increased role of line managers in the management of HRs.
Torrington (1989)	Line management should give primary responsibility for HRM rather than personnel specialist.
Ulrich (1997;1998; 2001)	To be truly tied to business outcomes, HR needs to join forces with line managers.
Whittaker & Marchington (2003)	Line managers are satisfied with the HR responsibility that has devolved to them.

The review of literature clearly provides cases of the rising interest on assignment of HR responsibility to the line managers for achieving organizational benefits, business results and to solve people related business issues. Based on the review of research (Brewster and Larsen, 1992; Budhwar and Sparrow, 1997), some of the outcomes of assignment of HR responsibility to line management are: (a) It can result in better motivation of employees and more effective control, as line managers are constant contact with employees; (b) local managers are able to respond more quickly to local problems and conditions; (c) certain issues are too complex which can jointly solved; (d) it can help to reduce costs; (e) it can help to prepare future managers

Practices of Assignment

The practices of assignment of HR roles and responsibilities to line management in Western countries are varying among the countries and advocates divergence of practices. A study of Budhwar and Sparrow (1997) in India indicates the higher level of sole responsibility of HRM department for decision over pay and reward, industrial relations, and workforce expansion and reduction. Similarly, the practice in UK indicates higher sole responsibility of line managers to health and safety, and training and development (Budhwar, 2000, Atterbury et al. 2004). Hope-Hailey et al. (1997) concluded based on eight British –based organizations that all of them were shifting responsibility for people management towards line management. HR department alone has more responsibility in Ireland than U.K. (Atterbury et al 2004).

In Austria, there is an increase in the importance of line management on training, which is even above the EU overage. In Switzerland, the importance of line management is decreasing whereas the working together of HR with line management seems to be enforced much higher than the EU standard (Erten et al., 2004). The primary responsibility for major policy decisions on key aspects of HRM like recruitment and selection is slightly increasing in the responsibility of line management alone and line management together with HR department. In both the countries more than 80 percent organization's line management and HR department jointly bear the responsibility for recruitment and selection (Erten, et al. 2004).

Countries like Denmark and Norway are ranked very high to allocate HR responsibilities among line managers. In Norway, the primary responsibility for training and development lies with line management in consultation with HR department is much higher than the initiation of HR department, which indicates the main domination of line management (Rogaczewska et al., 2004). A survey shows that the HR responsibility of line managers in Bulgaria and, to some extent, in the Czech Republic was greater than in EU countries on an average (Koubek and Vatchkova, 2004).

Sweden and Finland have similar trend to bear primary responsibility for major decisions on key aspects of HRM. In these countries, almost half of the organization's responsibilities lie with line management in consultation with the HR department. The responsibility by HR department with line management is 20 percent and 14 percent respectively in both the countries (Lindeberg et al. 2004). Nevertheless, Spain has the greatest variation: it has the most line management involvement on pay issues, the least on health and safety and a wide range on other issues (Brewster et al., 1997). The study in France reported that 90 percent organizations share the responsibility for recruitment jointly by line management and HR Department and Belgium trying to follows the similar trend (Buyens et al. 2004).

The primary responsibility lies with line management alone for recruitment and selection in Italy, Greece and Cyprus is also quite divergent like zero percent, 11 percent and 24 percent respectively. Though they shared primarily responsibility for training and development between HR specialist and line management, the responsibility lies with the HR department alone seems to be above the EU average in Italian and Cypriot organizations, while those of Greek organizations are very close to the EU average (Papalexandris and Stavrou-Costea, E., 2004).

The above discussion shows the evidence that responsibility for HR is being increasingly allocated to line managers and international survey (Brewster

and Soderstrom 1994; Brewster and Larsen 1992; Brewster et al., 1997 Brewster and Larsen, 2000) confirms this more anecdotal data. However, there are no changes in the responsibility of line management in Switzerland in the last three years (Erten et al. 2004). Similarly, on average more than 65 percent organizations of Denmark and 55 percent organizations of Norway reported that there are no changes in line management responsibility on key aspects of HRM (Rogaczewska et al. 2004). In spite of these, Bulgarian and Czech organizations report a little increase in line management's responsibility for pay and benefits and for workforce expansion and reduction (Koubek and Vatchkova, 2004).

Regarding Nepal, the CRANET (2005) study revealed that: a) in 38 percent organizations the primary responsibility of recruitment and selection was on line management; b) in 55 percent organizations line managers were found to be involved in making pay and benefits decisions; c) in case of responsibility for training and development in 36 percent organizations line mangers are involved and d) in 41 percent organizations line mangers are involved in industrial relations issues; e) in 43 percent organizations line mangers are involved in workforce expansion/reduction. Following to this situation of sole line managers' involvement in different HR initiatives, in large number of organizations line managers are working in partnership with HR department in all these four HR initiatives. This clearly shows that in Nepalese organizations involvement of line managers is in practice while dealing with HR issues. Based on the above review of situation of line management involvement in HR practices in different countries the following main research hypothesis emerged:

a) ***There is an increasing trend of assignment of HRM responsibility to line management and sharing of some of the HR responsibilities in between line management and HR department in Nepal.***

Assignment of HRM Responsibility and HR Performance

In recent years, the line management has seen to play a more prominent role in HRM due to more HR work being 'devolved' to them (Brewster and Larsen, 2000; Currie and Procter, 2001; Guest and King, 2001; Storey, 1992; 2001; Ulrich 1997; 1998; 2001). The rationale of line management involvement in HRM has five main elements: to reduce costs; to provide a more comprehensive approach to HRM; to place responsibility for HRM with managers most responsible for it ; to speed up decision making; and to outsourcing the HR function (Brewster and Larson, 2000). Similarly, line managers are expected to do more of their own HRM and can benefit from cross training in HR processes (Mohrman and Lawler, 1999). They should

lead the way in fully integrating HR into the company's real work (Ulrich, 1998); and can adopt a 'partnership' approach between HR, line management and employees to manage HR issues – an HR triad (Jackson and Schuler, 2000).

The practice of assignment is becoming important in the increasing competitive business environment, which has led to large scale restructuring in organizations. As a result, line managers have been given primary responsibility for HRM (Budhwar, 2000). Assignment of HRM to line managers improves commitment of HR specialist towards organizations, motivates them and helps in maintaining good industrial relations (Torrington, 1989; Hope – Hailey et al. 1997). The major outcomes of assignment include more problems being solved at a lower level, better change management, more responsible line managers, improved efficiency of employees and more freedom for specialists to move away from routine activities (Budhwar, 2000). Such practice of assignment of HRM to line management certainly leads towards overall organizational performance like quality of product or service, labour productivity, financial performance, employee satisfaction, rate of innovation, employee commitment, and market share. From this reasons, we can reach into the fourth hypothesis as:

*b) **Firms that have high assignment and low assignment in HRM practices to line management are different in the major financial performance variables, such as quality of product or services, level of labor productivity, financial performance, employee satisfaction, rate of innovation, employee commitment, and market share.***

Methodology

A survey research design is applied to undertake this study in 121 listed companies of Nepal. The structured questionnaire survey was undertaken assuming an individual organization as a unit of analysis. To measure the assignment of HRM roles and responsibility to the line management, respondents were asked two major questions based on Brewster and Larsen (1992), Budhwar and Sparrow (1997), Budhwar (2000), and Brewster et al. (1997). a) With whom does the primarily responsibility lie for major policy decisions in the following seven HRM practices like recruitment and selection, pay and benefits, training and development, labor relation, health and safety, performance appraisal, and workforce expansion or reduction? All these seven questions have four options for the answers: line managers alone, HR department alone, Line management in consultation with HR department, HR department in consultation with line management, which are

coded as 1, 2, 3, 4 respectively. b) Has the responsibility of line management changed over the last three years for these seven HRM practices? The measurement of responsibility changed over three years is increased, same, and decreased which are coded as 1, 2, 3 respectively.

For the first question, every respondent has marked at least seven and maximum twenty-eight on these seven HR practices. The organizations which have the practices of partnership—consultation in between line management and HR department—and increased change of line management responsibility over three years or same in all these HR issues are recognized as high assigned organization. According to this cutoff line, those organizations, which have at least total twenty one score on these issues and have either increased or remained same of the line management responsibility in all these seven issues over the three years in question (ii) are considered high assigned organizations.

The variables studied to measure the impact of assignment on organizational performance are: i) quality of product or service, ii) level of labor productivity, iii) financial performance, iv) employee satisfaction, v) rate of innovation, vi) employee commitment, and vii) market share. Collected data were inserted into SPSS version 11.5, and descriptive statistics "t" test, "f" test were used to analyze. The Cronbach alpha of all fourteen items of measurement of assignment is .7133 and seven items of performance measurement is .8277 in 105 numbers of cases.

The details of responding organizations and respondents are presented in table 2.

TABLE 2: Details of responding organizations and respondents

Main Sector of Business	Total Population (N)	Number of Responding organizations (row wise %)	University Degree of respondents on Business Administration (row wise %)	Percentage of HR Manager as respondents
Commercial Banks	15	100	80	80
Manufacturing and Processing	21	57	42	33
Insurance Companies	15	100	60	67
Finance Companies	49	90	59	34
Development Banks	8	100	50	13
Others	13	85	18	27
Total	121	87	55	43
Employees Organizations (%) 25- 50 43 51-100 23 101-300 17 More than 300 17		Mean year of service of respondents Mean year of service of HR manager Mean year of age of organization		Years 7.57 5.82 13.60

Assignment of HR responsibility to Line Management in Nepal

The current situation of Nepalese organizations (Table 3 and 4) shows that there is a higher involvement of line management for decisions over most HRM practices like: pay and benefits, recruitment and selection, training and development, and labor relations. In contrast, the sole involvement of HRM department is comparatively lower to deal with major HR issues. The involvement of HRM department is noticed in lesser number of organizations. In spite of the fact that line management is in domination position, the partnership in between line management and HR is a common practice in Nepalese business sector while making HR decisions.

TABLE 3: Primary responsibility and decision on various HRM practices

Main sector of business	Primary responsibility on Pay and Benefits				Primary responsibility on recruitment and selection				Primary responsibility on training				Primary responsibility on Labor relation			
	L	L+HR	HR+L	HR	L	L+HR	HR+L	HR	L	L+HR	HR+L	HR	L	L+HR	HR+L	HR
Commercial Bank	7	47	33	13	13	34	40	13	7	27	53	13	7	33	53	7
Manufacturing and Processing	17	42	33	8	17	50	25	8	8	50	25	17	8	42	33	17
Insurance Company	33	33	27	7	33	27	33	7	20	33	40	7	20	40	27	13
Finance Companies	39	34	25	2	34	30	25	11	36	32	27	5	43	21	25	11
Development Banks	25	38	25	12	12	38	38	12	25	37	25	13	25	25	37	13
Others	27	37	27	9	19	36	36	9	9	46	27	18	18	37	27	18
Total	29	37	27	7	26	33	31	10	23	35	32	10	27	30	31	12

Note: L=Line management alone L+HR= Line management in consultation with HR Management
HR= HR management alone HR+L= HR Management in consultation with Line Management

From table 3 and 4 it appears that line managers are widely involved compared to HR managers taking responsibility and making decisions on various HR practices. Similarly, line and HR partnership is dominating than HR and line partnership. There might be different reasons for that. For example, first, in a study it was revealed that in 50% of banks and finance organizations there is no existence of a separate HR department (Adhikari and Gautam, 2008). Second, CEOs and line managers may be reluctant to give up HR related power to HR professional as described by Adhikari and Mueller, (2002) that Nepalese decision-makers often prefer to hold the power rather than delegate and devolve it. Third, professional HR departments are not capable enough to hold HR related responsibility and decisions. Fourth, In case of Nepalese organizations, CEOs are personally interested in HR related decisions such as, recruitment and selection, performance evaluation, work expansion/reduction and pay and benefits and thus largely attempt to gain influencing power in these issues.

TABLE 4: Primary responsibility and decision on various practices of HRM

Main sector of business	Primary responsibility on Health and Safety				Primary responsibility on Performance appraisal				Primary responsibility on work force expansion/reduction			
	L	L+HR	HR+L	HR	L	L+HR	HR+L	HR	L	L+HR	HR+L	HR
Commercial Bank	7	60	26	7	7	33	40	20	20	46	27	7
Manufacturing and Processing	8	42	42	8	17	25	42	16	25	42	25	8
Insurance Company	20	40	27	13	20	40	33	7	27	40	27	6
Finance Companies	43	32	16	9	30	32	25	13	43	32	20	5
Development Banks	13	37	25	25	25	37	25	13	25	38	25	12
Others	27	37	27	9	27	37	27	9	36	18	37	9
Total	27	39	24	10	23	33	31	13	33	35	25	7

Note: L=Line management alone L+HR= Line management in consultation with HR Management
HR= HR management alone, HR+L= HR Management in consultation with Line Management

Specifically, in more than one-fourth organizations' line managers play the sole role and bears full responsibility while making decisions on health and safety. Nearly in two-third organizations HRM responsibility has been jointly shared by line management and HRM department. Except in development banks, rest of other business organizations have minor role of HRM department. Line managers in these organizations are working in consultation with HRM department to deal with HRM issues.

Changes on Sharing Responsibility

The role of line management involvement in major HR practices is increasing in listed companies of Nepal. Except in Labor relations and Health and safety, there is a clear trend of increasing role of line management over the last three years. There are 45 to 51 percent of Nepalese organizations with increasing HR responsibility to the line management over HRM issues.

TABLE 5: Change of line management responsibility on HR issues over the last three years (%)

Main sector of business	Increased	Same	Decreased
Pay and Benefits	50	45	5
Recruitment and Selection	51	45	4
Training and Development	45	48	7
Performance Appraisal	50	43	7
Labor Relation	26	68	6
Health and Safety	35	60	5
Workforce Expansion/ Reduction	45	51	4

Table 5 depicts that majority of the organizations have indicated that there is either an "increased" or "same" trend of line management involvement while making decisions on different HR activities. This also reveals the fact about involvement of line managers while making HR related decisions and provides further impetus to our first research hypothesis.

Devolvement and Impact on Organizational Performance

In this study, more or less devolved organizations are differentiated asking to the respondents about the primary responsibility lying for major policy decisions on pay and benefits, recruitment and selection, training and development, labor relation, health and safety, and workforce expansion / reduction. The second hypothesis was about impact of high or low devolvement on organizational performance. Respondents were asked about the change of line management responsibility over three years on above-mentioned issues. Every respondent in organizations has marked their position in between seven to twenty eight on these seven HRM practices. The organizations, which have the practice of partnership – consultation in between line management and HR department, are recognized as high-devolved organizations. According to this cutoff line, those organizations, which have at least twenty one score on these issues and have either increased or remained same of the line management responsibility in all these issues over the three years are considered as more devolved organizations. Altogether 42 percent organizations fall into the category of more devolved organizations.

TABLE 6: Discriminant analysis for devolvement

S.N.	Primary responsibility and decision lie to line management on:	Group 1 High-Assigned Organization (N=44)		Group 2 Low-Assigned Organization (N=61)		F test
1	Pay and Benefits	3.1818	.81477	2.2131	1.22631	20.801**
2	Recruitment and Selection	3.1818	.89632	2.2787	1.18506	18.075**
3	Training and Development	3.2500	.81054	2.3770	1.19950	17.511**
4	Labor Relations	3.2500	.81054	2.2459	1.24707	21.837**
5	Health and Safety	3.2045	.70148	2.1311	1.14710	30.302**
6	Performance Appraisal	3.2045	1.09100	2.1311	1.14782	27.058**
7	Workforce Expansion/Reduction	3.3770	1.02273	2.1803	1.20427	17.669**
Note:**p<0.01 Chi-square=54.345 Sig. 0.000						

Partnership approach to some extent introduced on major policy areas of HRM in business sectors, it is not sufficient because majority of organizations focused on traditional HR function of line management domination ignoring HR department expertise. From the above table it is clear that the involvement of line managers is high in different HR responsibility. According to the respondents, organizations categorized as "more assigned" are involving line managers in different types of HR responsibilities.

Assignment of HRM Responsibility and Overall Organizational performance

Tables presented above show that even though some Nepalese organizations initiated sharing of HRM responsibility in between line management and HR department in majority of the organizations line management are responsible to implement HR practices.

TABLE 7: Assignment of HRM responsibility and firm performance

Perceptual organizational Performance in terms of:	Low Assigned Organization N=61			High Assigned Organization N=44			t. value*	P. value
	mean	S.D.	Std. Error Mean	mean	S.D.	Std. Error Mean		
Quality of product	3.3770	.66242	.08481	4.0682	.62497	.09422	-5.452	.000
Level of labor productivity	3.4098	.71594	.09167	3.8864	.68932	.10392	-3.439	.001
Financial performance	3.4754	.69777	.08934	3.9318	.72810	.10976	-3.225	.002
Employee satisfaction	3.3770	.71096	.09103	3.7045	.73388	.11064	-2.286	.025
Rate of innovation	3.1311	.78476	.10048	3.5909	.72555	.10938	-3.095	.003
Employee commitment	3.2787	.55170	.07064	4.0455	.56874	.08574	-6.902	.000
Market share	3.2951	.82349	.10544	3.7273	.81736	.12322	-2.665	.009
*Equal variance not assumed.								

Table 7 shows that high devolved organizations have achieved superior organizational performance in terms of quality of product, labor productivity, financial performance, employee satisfaction, rate of innovation, employee commitment, and market share than the less devolved organizations. The table presented above proved our second hypothesis that firms, which have high assignment of HRM practices to the line management, are better in organizational performance compared to low-assigned firms.

Conclusion

This research clearly highlighted that there is a higher level of sole responsibility enjoyed by the line management for decisions over workforce expansion / reduction, pay and benefits, labor relations, health and safety, and recruitment and selection. Much higher than international practice, in majority of organizations of Nepal, line management actively involved either alone or in consultation with HR department while making most of HRM decisions. The decision-making responsibility of HRM department alone is comparatively less as 7 percent in pay and benefits and workforce expansion/ reduction and almost the same as 10 to 12 percent in rest of all issues of HRM. Though line management is in dominating position, the partnership in

between line management and HRM department also exists while making HRM decisions.

Line managers' role in different HRM practices is dominating. This might be the reason that line managers in these organizations are more familiar with HR practices, and HR departments are weak alone to initiate HR practices. Some other reasons might be that professionally HR department needs to develop its HR management skills or HR staffs in the department are not motivated due to lower influence in making business strategy. In case of Nepalese organizations, line managers have time for HR initiatives and it is accepted in practice. As viewed by Guest (1989) line managers accepted and use HRM practices as part of their everyday work. There is the advantage of accepting HR responsibility by the line managers. For example, as described by Whittaker and Marchington (2003) involvement of line managers can help to fit business strategy development and HR development, which is primary gateway for achieving competitive advantage.

As stated by many authors including Brewster and Larsen (2000), Ulrich (1998) Budhwar and Sparrow (1997) that the rational for the assignment of HRM responsibility is that it has positive impact on organizational performance. It helps reduce costs, improves commitment, motivates in maintaining good industrial relation and supports to increase productivity. The result clearly provides evidence that high assignment organizations of Nepal are doing better firm performance than low assignment organizations. The most significant result of this study is that high assignment organizations are successfully increasing labor productivity, financial performance, rate of innovation, employee satisfaction and commitment, and extending market share. This study supports international practices that high-devolved organizations outperform than the less devolved organizations. These findings certainly contribute to decision makers involved in people management practices about the significance of partnership between HR experts and line management and its impact on overall organizational performance.

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Low Carbon Innovation and the Competitive Advantage of Japanese Companies Based on a Strategy of Building Relationships

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Introduction

According to J. A. Schumpeter's theory of economic cycles, low carbon innovation will be the innovation driving the economy of the first half of the 21st century. Low carbon products such as the hybrid car, the electric car and solar photovoltaic panels are being developed in rapid succession and successfully penetrating the market. As the pace of economic globalization accelerates, competition in the development of low carbon products such as these is intensifying, and countries in Asia such as Japan, Korea and China are all contenders for the leading position in this competition. Bearing in mind the challenges that lay ahead in this environment, this paper will consider how Japanese companies can secure a long-term competitive advantage in the market for low carbon products.

It is no secret that Japanese manufacturers of electronic products that once boasted overwhelming international competitiveness are currently struggling in today's market as large corporations like Sony, Panasonic and Sharp post enormous deficits. Numerous analyses by experts have attempted to explain the reasons for this reversal of fortune and following is a brief summary of the issues that emerged in the course of their research. During the 1970s and 1980s Japanese companies achieved unmatched worldwide competitiveness through ongoing improvement of their existing business models but in the 1990s, buoyed by the growth of the IT industry, the United States replaced the competitive superiority model with the creation of new models based on innovation, and in this changed environment Japanese companies found themselves in a difficult predicament. Japanese companies have a strong tendency to equate technological superiority with competitive superiority and lack an overall strategy for exploiting their technological superiority to ensure stable earnings.

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Despite possessing technological superiority in areas such as DRAM, liquid crystal displays and thin screen TVs, Japanese companies have lost out in the competition for these products to Korea and China and have consequently lost their superiority in the market. Many experts also hold the view that there is a strong possibility Japanese companies will also lose their competitiveness in the competition for low carbon products if they adhere to their current strategies.

With an understanding of the conditions Japanese companies are up against in the market today, this paper will propose a new concept in strategic thinking based on relationships.

Review of Existing Research

Kenichi Seno (2009) is a researcher who has been studying the competitive superiority and strategies of Japanese companies. According to his analyses, the model for competitive superiority in the global market began to change in the 1990s as new business models for establishing competitive superiority such as open innovation began to appear in rapid succession. Despite this, many Japanese companies were unable to break away from their experience of past success and, according to Seno, their delay in following trends is the reason for the severe situation they currently face in the market. Moreover, he says that competitiveness in today's market cannot be achieved solely through technological know-how but requires comprehensive strategic thinking that combines technological expertise, a business strategy and a business model.

In his evaluation of Japanese companies, Takahiro Okubo (2010) also points to the lack of strategic thinking among Japanese companies. Okubo analyzes the process by which Japanese products such as DRAM, liquid crystal displays and thin screen TVs, where Japanese companies until recently had a competitive advantage, lost out to Korean, Taiwanese and Chinese companies and lost their superiority. According to Okubo, the loss of competitiveness of these products in the past all followed the same pattern. In this pattern described by Okubo, Japanese companies were dominant in the market only during the period of advance investment. During the periods of product penetration, return on investment, and posting profits, Korean and Chinese companies suddenly went on the offensive and this resulted in a shakeout of the market where Japanese products lost their competitiveness. Both Seno and Okubo are in agreement on the point that Japanese companies did not lose out in the area technological capability but point to a different problem: the companies' lack of a strategy for exploiting their technological capability

to their advantage. The research of neither Seno nor Okubo, however, goes so far as to propose a clear grand design as to the specific type of strategy Japanese companies should adopt.

On the other hand, the research of Christensen does offer some insight as to why Japanese companies were late in responding to new trends in competitive superiority. According to Christensen, the reason leading companies representative of their industries were unable to respond to the trend in disruptive innovation and were consequently edged out of their coveted positions in the market was due to the strategies they had adopted up until the time they acquired their superior status, or the strategies they had chosen to maintain that status. In other words, all of the leading companies had experienced success in the past and, because of their adherence to their successful experience, they were late in responding to new trends. Hannan and Freeman (1977) also point to the same reason in their research. According to Hannan and Freeman, organizations inherently have strong inertia and are lacking in adaptability to change.

These indications by the above scholars offer useful suggestions in explaining the why Japanese companies, which had risen to positions of dominance through improvement of their existing models in the 1980s, lacked the momentum of their international counterparts in following new trends of the 1990s.

Research Tasks and Methodology

In this research, I have established the following two tasks as the focus of my research:

- To analyze the content of the strategies Japanese companies are adopting to successfully compete in the market for solar and lithium cells where competition with Korea and China at present is intensifying.
- In relation to (1), to examine the kind of strategy Japanese companies should adopt in the event the commoditization of products occurs and results in a price war.

To carry out the above tasks, in this study I adopted a field research approach based on qualitative research methods. The rationale for this was based on my judgment that in-depth interviews at the business site were essential in view of the nature of the research tasks. In preparation for the interviews, I sent questionnaires beforehand to the companies that were the subjects of the research and had the interviewees fill in their questionnaires and return them.

After analyzing their responses, I conducted the interviews in a manner that would encourage further elaboration on their responses. The interviews took place on four occasions: June and July in 2009 and March and September in 2010. The subjects of the research were four major companies involved in the production of solar cells and lithium ion cells. All four were typical companies representative of the industry in Japan, and all of them were based in Kansai. Since at the time of the interviews I did not request permission to disclose the names of the companies, in this paper the four companies are referred to as Company A, Company B, Company C and Company D. In the case of Company D, I not only visited the headquarters in Japan but also a local subsidiary in the United States. The field research of this study was undertaken as part of the "Research on an Environmental Strategy for Electrical Device Manufacturers in the Development of Cells" for which a Grant-in-Aid for Scientific Research (C) was provided from fiscal 2009 through 2011.

Road Map to a Low Carbon Society: Co-creation, Co-promotion, Resonance

Before commencing the discussion, I would like to mention the road map for the widespread penetration of low carbon innovation in society. In the establishment of a low carbon society, it is assumed that two innovations are created, and the establishment of the low carbon society is considered complete when these two innovations link organically. In this case, the two innovations are product innovation and social innovation. In other words, when changes in social systems and mechanisms as well as changes in people's values (social innovation) occur – that is, creative disruption in the socioeconomic systems in both soft and hard areas – as a result of the innovative creation and the widespread penetration of low carbon products (product innovation), causing the transition from a high to a low carbon society, low carbon innovation is complete. Society at present appears to be in the transitional phase of this dynamic process.

For example, a look at conditions in Japanese society shows that the development of low carbon products is well underway in key industries such as the automobile and electric appliance industries, and these products include the hybrid car, plug-in hybrid car, electric car, fuel cell car and solar photovoltaic panels. As products that are equated with being environmentally friendly because of their low carbon dioxide emissions, low carbon products enjoy a favorable image. On the other hand, in terms of performance and pricing, many of these products remain inferior to other

rival products and require "intended contrivances" to promote their widespread popularity in society and, hence their popularity in the market. This paper establishes a theoretical framework of "co-creation," "resonance," and "empathy" for promoting the popularity of low-carbon products in the market and proposes a road map to low carbon innovation. In doing so, it will clarify the issues Japanese companies face.

1. Creation of a market through co-creation of government and companies

The first step in promoting the development and widespread acceptance of low carbon products is the creation of a market through the co-creation of government and the corporate world. Why, one might ask, is there an expectation for government to play a role in the process of development of low carbon products and their penetration in the market? This is because in many cases low carbon products cannot stand up to the competition of other rival products particularly at the time of their introduction. As stated earlier, low carbon products have a more environmentally friendly image than their rival counterparts, and in this regard they do have competitiveness. On the other hand, competitiveness of a product is not ultimately determined by image alone but by a combination of composite factors such as price, performance, quality and brand power.

Therefore, if these other factors are significantly inferior to rival products, image alone will be insufficient to induce customer purchasing behavior. Take, for example, the electric car, which is currently attracting significant attention. It is overwhelmingly superior to the gasoline engine car and the hybrid car in terms of CO2 emission reduction but because it falls short of conventional cars in terms of price and performance, it has not had a significant impact on customer purchasing behavior.

In other words, carbon products at the time of their introduction are somewhat like a venture company at the time of start up. While the products may have superior technology and know-how to some extent, they are lacking in overall resilience to market forces and will require support from another source in their initial period until they can stand on their own. The most common support measures of government for low carbon products are subsidies and tax incentives. Because low carbon products are generally lacking in competitiveness in terms of price and performance in comparison with rival products, such support measures are necessary to overcome these weaknesses. In fact, government grants and tax incentives have been playing a significant role in the promotion of the widespread penetration of the

hybrid car and solar photovoltaic panels. Unless the electric car also receives this kind of support from the government, it will not achieve a price level that could compete in today's market. The renewable portfolio (RPS) system, where electric utility companies are required to buy a certain amount of natural energies, and the feed-in tariff (FIT) system, where electric utility companies are required to purchase natural energies at a certain price, have also been proven to be effective measures for promoting the use of natural energies such as solar energy, wind energy, and geothermal energy.

Creation of a market through the co-creation of government and companies is the first key to promoting progress in low carbon innovation. Once the market is created and progresses to the stage where profit can be expected, the number of companies entering into the market will increase and their activity will set in motion market principles, which will in turn increase market competitiveness for low carbon products. Conversely, if no market is created or even if a market is created but is extremely weak and fails to stimulate demand, the low carbon products that have been so laboriously developed run the risk of becoming dead stock. Therefore, the role of the government in the development and widespread penetration of low carbon products is extremely important and the active involvement of "large government" is essential.

2. Resonance of technological innovation

When government and the corporate world come together to co-create a market for low carbon products, the number of companies entering this market in pursuit of profit will increase and the principles of market competition will come into play. Ultimately, the principles of market competition are a mechanism whereby companies engage in both competition and cooperation in efforts to bring their products to a level where they link to customer purchasing behavior in terms of price, performance, quality and brand. At present, one force that is noticeably at work as a principle of market competition in the market for electric cars and solar panels is the phenomenon of technological "resonance." "Resonance" is originally a concept used in physics to refer to the conduction of energy and here it refers to the phenomenon that occurs when one technological innovation induces other technological innovations, setting off a chain of technological innovations that lead to further development. One example that demonstrates this phenomenon at present is the development of the lithium ion battery, which is attracting attention as a product that will play a central role in the electric car. However, progress in technological innovation in the

development of the storage cell or the battery, known as a secondary cell, did not occur for long time after its invention and was a delayed process that occurred over long intervals. For approximately 130 years after the invention of the lead battery in 1859 by Gaston Plante, the only new development in batteries that followed was the nickel cadmium battery in 1899. However, in 1990 immediately after Matsushita Electric Industrial (current Panasonic Energy) and Sanyo Electric developed the nickel-hydrogen cell, Sony followed this with the lithium ion cell the following year in 1991, and continuous technological innovation in this area thereafter proceeded in rapid succession.

It is often said that technology for storing electricity is more difficult to develop than technology that generates electricity, and this is unarguably one factor that inhibited progress in technological innovation in this area. At the same time, however, the fact that the need to develop technology that surpassed the capabilities of the lead battery and the nickel-cadmium battery did not occur in the market is also a significant factor that explains the lack of innovation. In other words, there was no perceived need for technological innovation. On the other hand, the technological innovation that occurred in Japanese companies from the 1990s onwards was driven by the expansion of the market for notebook computers and cell phones, which required the development of miniature and lighter storage cells that could be used in these devices.

It goes without saying that at present the market for storage cells for electric cars is rapidly growing and, the demand for light, miniature lithium ion batteries with high storage capacity in particular is increasing. In response to this demand, the number of companies entering this area of the market is growing. Japanese, Korean and Chinese companies have rushed into the market in a state of chaos and competition is heating up. The storage capacity of lithium ion cells is said to be determined by the development of materials and the combination of these materials, and the development of technologies involving not only electric device manufacturers but also material manufacturers is moving ahead in a chainlike reaction, causing true "resonance" in technological innovation.

The important point to remember is that "resonance" in technological innovation is a phenomenon that is induced by the creation of a market. The case of the storage cell mentioned earlier demonstrated that the creation of a market for notebook computers and cell telephones induced technological innovation in storage cells, where development had been stagnant, and led to

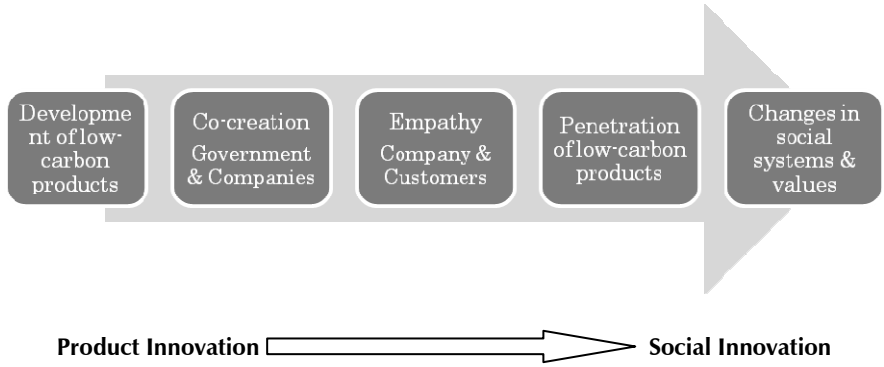
the creation of new storage cells in the form of the nickel-hydrogen cell and the creation of a market for electric cars through the "co-creation" of government and companies, resulting in a chain of technological innovations in the lithium ion cell. In other words, these developments demonstrated "resonance" was occurring. By enhancing product performance and quality and by promoting a reduction in costs, progress in resonance leads to the purchasing behavior of customers.

3. Customer "empathy" for low carbon products

Continuing on from co-creation and resonance, the third process is customer "empathy" for low carbon products. If the customer's empathy for low carbon products can be won, the customer will be motivated to purchase these products which will lead to their widespread penetration in society. The greatest barrier to winning customer "empathy" for low carbon products at present is their price. There are many cases where products with excellent environmental performance fail to win customer "empathy" due to their high prices. On the other hand, if the customer's empathy can be won in the area of pricing, it will probably lead to even greater motivation to buy low carbon products than at present. The reason why Toyota's Prius hybrid car enjoys such favorable sales is due largely to the fact that the price, which is considered somewhat higher than comparable models of the same class, comes close to what is accepted as an appropriate price level. In addition to this factor in its favor is the indisputable presence of a certain number of customers with a strong awareness of the environment who prefer to give priority to low carbon products even when the price is somewhat higher.

However, it is best to assume that the majority of customers consider inexpensive prices as one of the most important factors in their standards of judgment in purchasing products. So long as products are in a weak competitive position in terms of price, it is safe to assume that there will be little progress in the penetration of low carbon products in the market. The processes of co-creation and resonance described thus far may be seen as complementing the weak competitive position of low carbon products in the area of pricing and as the "intended contrivances" for obtaining the customer's empathy. If a desirable positive spiral of co-creation, resonance and empathy can be achieved, the penetration of low carbon products in the market will accelerate, and socioeconomic systems will move significantly toward the realization of a low carbon society.

FIGURE 1: Road Map to a Low Carbon Society



The main concern of this paper, however, is the competitive advantage of Japanese companies in low carbon innovation and, from this perspective, the lowering of prices is not necessarily a desirable situation when we consider such a trend in low carbon products. This is because the reduction in the price of low carbon products is almost certain to result in their commoditization and intensify downward pressure on prices. Paradoxically, promoting efforts to reduce prices is essential for winning the empathy of customers for low carbon products. At the same time, reduction in prices will cause low price competition to escalate, and Japanese companies will have difficulty in maintaining a competitive edge against Chinese and Korean companies, which are its main rivals. The next chapter will confirm how Japanese companies are grappling with this paradox based on results of field research.

Field Research: Interviews at Four Major Electric Machinery Manufacturers

From 2009 to 2011, I conducted interview surveys at four major electronic manufacturers engaged in the production of solar cells and lithium ion cells. At that time I asked what strategy companies would adopt if in the near future solar cells and lithium ion batteries, in which Japanese companies are believed to have technological superiority at present, are commoditized and this results in a price war with Korean and Chinese companies, which are believed to be superior in cost competitiveness at present. Following is a brief summary of the responses of the four companies to the interview surveys. The interviewees were all persons in responsible positions in the industry sales divisions, solar energy business divisions and solar system business divisions of the four companies.

Interview results

The main point of the questions was to determine what kind of strategy each company would follow to successfully compete in the market in the event it lost its competitive superiority in solar cells and lithium ion cells and was drawn into price competition.

1. Responses of Company A

- Differentiation of technology in a visible form is difficult when it comes to storage cells. This is also true of solar cells and lithium ion cells, and we are currently finding it difficult to be able to demonstrate technological differentiation. Therefore, our company's technological superiority is not particularly significant compared with that of Korea and China.
- The commoditization of solar cells, is already underway and we recognize that price competition will intensify.
- When it comes to lithium ion cells, the key words are safety, miniaturization, storage capacity and cost. When it comes to safety in particular, Japanese companies have strong technological know-how including Company A.
- There is no doubt that cost will have an impact on competitive superiority, and in that respect, Company A is being forced into a very severe competitive environment.
- For our company to successfully compete with Korean and Chinese companies, we have to make greater efforts to cut costs and to improve quality.

2. Responses of Company B

- There is little difference in technology between solar photovoltaic panels produced by foreign companies and those produced by Japanese companies, including Company B. Although Japanese companies do have a competitive edge in sunlight-to-electricity conversion efficiency, cost competitiveness is ultimately be the deciding factor.
- Our company focuses on quality more than anything else. Our goal is to extend the life of storage cells as long as possible. We believe that price competition without quality is meaningless. In this respect, we have a significant superiority over Korean and Chinese companies, and we believe that we are maintaining our competitiveness.

- Our company employs a uniform system from upstream to downstream in the production of solar panels, and the various forms of know-how and expertise on the factory floor that we have developed are the cornerstone of our competitive edge.
- We are looking into new business using cells but our ideas have not yet come together in a concrete form. Storage cells still comprise a small ratio of our company's overall business.

3. Responses of Company C

- Technologically, it is difficult to differentiate solar cells, so price and reliability become the key factors.
- But this does not mean that our company is not focusing on securing technological superiority. We were the first in the industry to establish mass production technology for ultra-thin liquid crystal film for thin-film solar cells, which was a difficult feat, and at present we are maintaining technological superiority in this area.
- In March 2009 we strengthened the framework of our business division and development division to accelerate the pace of technological development.
- To improve marginal costs, we have been making efforts to increase electricity conversion efficiency and increase productivity.
- Because solar cells are used for an extended period of 20 to 30 years to generate electricity, reliability is a key factor.
- Our company has a history of half a century in the development of solar cells and our products have an established track record for use in harsh environments such as lighthouses and artificial satellites as well as an extensive track record use in the home environment. The reliability our products have become known for over the course of our history is a valuable asset for Company C and a key factor in our competitive superiority.
- We are currently reviewing the value chain of our production framework from upstream to downstream to enable us to survive in a price war. In materials in the upstream area, we intend to produce a range of materials from raw materials to polysilicon. In the downstream area, we have plans to construct photovoltaic power plants and engage in the power supply business with electricity generated from these.

4. Responses of Company D

- The lithium ion cell is a storage cell developed in Japan, and the technological superiority of Japanese companies in this area remains unchallenged.
- In the past the most serious problem associated with lithium ion cells was safety. There were cases were they caused fires and other problems but these issues have been resolved, and in terms of safety and quality, which underpins the product's safety, Japanese makers boast the world's highest standard.
- The efficiency of lithium ion cells depends largely on the development of materials and the combination of materials. In Japan, where the materials industry is quite developed, Japanese companies are in an advantageous environment. Chinese and Korean companies are also making advances in this area but will not be able to catch up so easily.

Analysis and Implications

Analysis of the responses of the four companies revealed a number of common characteristics. The first of these was the view among the interviewees of the four companies that the technological superiority of their solar cells and lithium ion cells of their companies was not particularly noteworthy. While their solar cells are generally seen as having a high level of sunlight-to-electricity conversion efficiency and their lithium ion cells superior storage capacity and longevity, the analysis revealed that the companies themselves did not attach much weight to these aspects. As indicated by one of the responses from Company A, perhaps "differentiation of technology in a visible form is difficult when it comes to storage cells."

The second characteristic was the tendency for companies to place importance on the reliability and safety of their products rather than their technological differentiation in a tangible form, and all four companies had a strong sense of pride in their products in this regard. Not only that, all four companies had a strong tendency to view the high level of reliability and safety of their products – which essentially comes down to quality – as the source of their competitiveness.

The third characteristic was the recognition by all four companies that a price war would have an impact on the competitive superiority of their products. While all four companies share an awareness of the danger of a price war with Korean and Chinese companies, they do not possess a new strategy and

business model for successfully competing in a price war. Because ascertaining this vital information was the main objective of the interview survey, I repeatedly posed questions to the interviewees of the four companies at the time of the interviews, but I was not able to elicit any responses that would arouse the intellectual interest of other researchers. This is not to say, however, that there was an absence of noteworthy responses in other areas. For example, an interviewee at Company B spoke of the company's current investigation of new business using cells. The company is currently considering business that will result in higher added value rather than selling cells as stand-alone products. Unfortunately, however, it was not possible to obtain details of this business. At Company C, I learned that a review of the entire production framework from upstream to downstream was underway to enable the company to compete successfully in a price war. In the downstream area there were also plans to construct photovoltaic power plants and engage in the electric power supply business. As part of that plan, I was able to learn that the company is currently negotiating details of a business partnership with an Italian company.

Although it was possible to confirm indications of concern in a number of areas among the companies, overall it cannot be said that preparations for a price war are adequate. Furthermore, it cannot be said that these companies have worked out a new conceptual strategy for surmounting such a challenge. What was clear in the interviews with the four companies was the strong tendency for Japanese companies to place importance on the quality of their products particularly in reliability and safety. It is certain that these are valuable assets that Japanese companies have invested in over the years and have the potential to become the source of their competitive advantage in the market. On the other hand, however, a problem common to the four companies is their excessively strong desire to protect the assets they have accumulated through past successful experience and, conversely, the push to establish a new competitive edge seems to be weak. As globalization and digitalization continue to progress in today's market, technological superiority no longer equates with competitive superiority. The lack of awareness or only weak awareness of this fact seems to be a problem in Japanese companies.

Proposal of a Relationship-based Strategy: Creation of Added Value beyond Price Competitiveness

Bearing in mind the observations of the previous chapter, this chapter will consider a relationship-based strategy as a new strategic concept.

"Relationships" here is understood to mean relationships among products and relationships among companies. As discussed earlier, reducing the price of low carbon products is essential in the process of promoting the

widespread penetration of low carbon products in society through the market. At the same time, the push for lower prices is expected to intensify competition in price-cutting, and there are already indications of this. For Japanese companies to acquire new competitive superiority that will enable them to succeed in cost competition where they are in an inferior position, it will be necessary to create new added value in a dimension that goes beyond cost competition. This added value will be created from relationships among products and relationships among companies.

Let us present one example. The Smart City project for building a low carbon city is currently attracting significant attention. A "smart city" is an environmentally friendly city that strives to reduce energy consumption and carbon dioxide emissions and to optimize social infrastructure such as electricity, water, communications and transportation systems that form the foundation of urban life through the use of IT. If we take a look at smart houses at the core of the smart city, optimization of the supply and demand of electricity is achieved by linking solar photovoltaic panels on the roof with home electronics products such as TVs, refrigerators and air conditioning as well as electric cars fitted with lithium ion cells through the use of IT. If we look at these products on an individual basis, the intense price competition in all home electronics products needs no mention here but the same trend can be expected to spread to products such as solar photovoltaic panels as commoditization continues. However, consider the proposition of storing electricity generated by photovoltaic power in an electric car for later use to operate home electric appliances at night. Linking individual products creates added value that could not be achieved previously with products on an individual basis and significantly enhances product value.

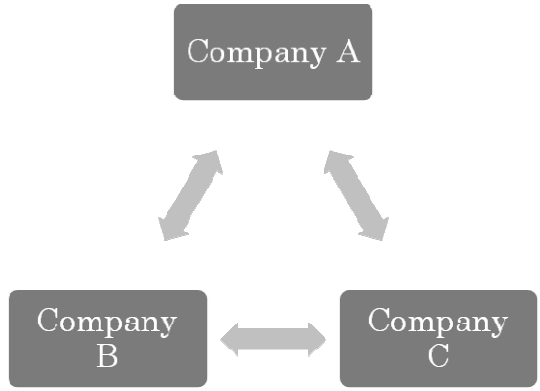
Linking the functions assigned to individual products via an IT medium can induce a synergy among products and in this way create multiple added values. Smart cities and smart houses will act as "Ba" (place) for creating such added value. These added values also have the potential to provide companies with a competitive advantage on another dimension that goes beyond price competition on an individual product basis. Even in solar photovoltaic power generation where price competition is said to be heating up, products on a stand-alone basis are nothing more than devices that generate electricity. If a company promotes product development with its sights set on "linking" its products with other products, however, it has the potential to transform these products into products that collectively will generate various kinds of added value.

Let us also take a look at the other type of relationships, the relationship among companies. To explain this relationship, I will once again cite the example of the smart house mentioned above. The construction of a smart

house involves various manufacturers beginning with the housing construction company to electrical device manufacturers, car makers and electric power companies, among others. Of course, the construction of conventional houses has also traditionally involved various industrial sectors but this has generally meant each sector executing its respective role in the construction process, with little attention paid to linkages among companies providing goods and services. In the construction of a smart house, however, the various companies involved in the construction of the house cooperate with each other as they proceed with their work to achieve the "smartification" of the house as a whole.

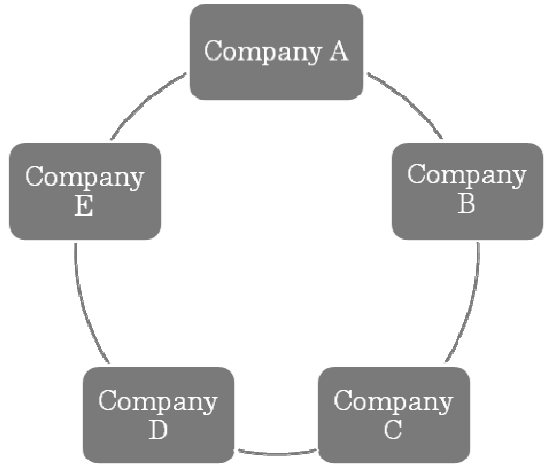
In other words, as stated earlier, a smart house attempts to optimize the supply and demand of energy of the house as a whole by linking various products through an IT medium. Therefore, each company must proceed with product development bearing in mind the "linkages" to be provided by other producers. As a result, it can be noted that this process promotes cooperation among companies, creates a cross-flow of knowledge through the interaction among companies to achieve their common goals, and even the potential for the accumulation of new knowledge assets within the company. Viewed from the perspective of the knowledge-creation theory, the construction of a smart house creates "Ba" where companies of various industrial sectors interact and in the process of their interaction create new knowledge. This new knowledge will to some extent be reflected in product development as "explicit knowledge" and to some extent will be absorbed within the company as "implicit knowledge." It can be assumed that both of these intellectual assets have the potential to become a new competitive advantage for companies as high added value at a level that goes beyond price competition.

FIGURE 2: Conventional Strategy Based on Individual Companies



Key words: Stand-alone products, competition and cooperation, trade secret barrier

FIGURE 3: New Strategy based on Relationships



Key words: product links, sharing "Ba", exchange of knowledge

Conclusion

I would like to say a word about future issues in the penetration of carbon free products in the market. Major Japanese electric device makers place importance on the reliability and the safety of products in competing with other products in the market and there is a tendency to seek the source of their competitiveness in these areas. At the same time, it became clear during my research that they have not yet etched out a concrete design for a business strategy that will enable them to successfully compete in intense price competition. This paper presented a new concept for a strategy based on relationships with a focus on relationships among products and relationships among companies.

While there was some indication among companies were beginning to discuss the need for such a strategy in regard to a relationship-based strategy, on the whole, the move in this direction are still at the exploration stage. As this paper mentions, however, there is a strong possibility that the effectiveness of a relationship-based strategy will be demonstrated in the construction of the Smart City and smart houses. Therefore, among the issues to be addressed in the future are the needs to diligently pursue case studies of smart cities and smart houses, which are still at the demonstration test stage at present, and to confirm whether as this paper suggests added value can be created in a tangible form through these projects. Such efforts will enable the assignment of specific, quantifiable meaning to the relationship-based strategy.

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Trade Unionism in Global Economy and Industrial Relations of Unorganized Migrant Workers in India

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Abstract

Trade unions are among the major and most influential social institutions on modern societies. They act as agents of labour and organize large number of workers into a single entity. Main objective of this study is to examine the role of trade unions in industrial relations of unorganized migrant workers in India. This study is based on secondary data collected from the Government Reports and Non-government organization's Reports and Journals. It has been observed that union density of wage employed workers has been declined from 1950 to 2003 in some developed and newly industrialized countries like USA, Japan, Australia, France, Germany, UK, Denmark, Sweden, and Italy.

In India, The new economic policy removed many of the protections and has led to decline in union power. Unionization also varies among different types of workers. It is lower among contract or casual workers than permanent workers. The levels of unionization are higher in manufacturing, transport or public administration than in agriculture, trade or financial services. Most of the migrant workers belong to backward communities and disadvantaged sections of the society in India. They are living below the poverty line in rural areas. Besides, women migrant workers face additional problem in the workplace from sexual harassment. Seasonal migrant workers and unorganized workers do not secure the employment conditions and rights of informal workers in India. These unorganized workers like contract based workers, seasonal migrant workers are socially excluded from society as well as labour laws. Trade unions must struggle in order to protect their members of the unions and it is necessary to struggle for employment right, meaningful work, decent work, and welfare facilities such as education at all levels, healthcare, equality of every kind and no discrimination of any kind, democratic participation of workers in management etc. Therefore, there is a need to adopt social partnership in order to improve good industrial relations between workers and producers in India like European countries unions.

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Introduction

Trade unions are among the major and most influential social institutions on modern societies. They act as agents of labour and organize large number of workers into a single entity. (Das, 2008). Trade union is formed to help the workers. It is an old saying that 'union is strength'. Main objective of this study is to examine the role of trade unions in industrial relations of unorganized migrant workers in India. This study is based on secondary data collected from the Government Reports and Non-government organization's Reports and Journals.

Trade Unions in European countries

Trade unions are a major force for social change and have been throughout their history. The first craft based unions were established in the mid 1800s, and they came together into broader-based Confederations a little later Trade unions had their origins in England and they were a result of the industrial revolution in early stages. They were formed to regulate competition among the workers. Workers tried to overcome this competition by forming associations. It was only in1824 when the British Parliament granted the rights to free Association through the freedom of Association Act that trade unions could finally take off. These combinations were soon spread all over England and attained great power (Bhowmik, 2008).The British Trade Union Congress was formerly established in the 1860s. Afterwards, Trade unions were also formed in the countries like French, Belgian, German, and Swedish in the 1890s. (www.etuc.org).National sectoral bargaining is prevalent in most Western European countries and several central and western countries. The European Trade Union Confederation was set up in 1973 to promote the interests of working people at European level to represent them in the EU institutions. The trade unions have been particularly engaged in defending workers direct interests in the workplace, particularly by means of collective bargaining, where they negotiate with employers over wages and working conditions. On May 2004 the European Union was enlarged to include ten new member states, eight of these countries were from Central and Eastern Europe (A8). (www.etuc.org).

Role of Trade Unions in Industrial Relations

Trade union is a body formed by a group of workers, who may be of the same trade. Trade union generally negotiates with employers on behalf of its members advocating for improvements such as better working conditions, compensation and job security. These unions play an important role in

development of industrial relationship between employees and employers. Trade unions are generally organized by various trades in developed and developing countries in the global economy. So far as industrial relations are concerned, trade unions represent the interest of their members. Trade unions have traditionally provided a series of benefits for their members.

The trade Union of the workers in any industry or firm provides

- legal help and advice in various languages to the workers
- support in the event of sickness or accidents
- Collective bargaining in order to improve pay and conditions for different types of workers like wage employed workers in organized sector and unorganized migrant workers.
- help in finding better accommodation,

When labour unions and employers associations negotiate for the wages to be paid to labour, this process is called collective bargaining. Trade unions also want job security and fringe benefits in addition to wages. All these goals play their part in the process of collective bargaining. Trade unions can certainly negotiate well with the producers also.

Models of Trade Unionism in Europe

So far as industrial relations systems are concerned, there are various types of categories, it is generally accepted that there are four main models of industrial relations systems currently in the member states of the European Union. (www.etuc.org).

- Nordic Corporatism
- Social partnership
- Liberal Pluralism
- State-Centered

It may be noted that the twenty seven EU Member States are often divided into six groups like

Scandinavian, Continental, Anglo-Saxon, Southern, Eastern New Member States and Mediterranean New Member States, and Mediterranean New Member States, which are given below.

- Scandinavian countries like Denmark, Finland, and Sweden follow the Nordic Corporatism model.

- Most of the Continental group (including Slovenia from the Eastern New member States) likes Austria, Belgium, Germany, Luxembourg, Netherlands and Slovenia accepted Social Partnership Model.
- The Anglo-Saxon Member States and Mediterranean New member States like Ireland, UK, Cyprus, and Malta follow the Liberal pluralism Model.
- The Southern Group of the countries (like France, Greece, Italy, Portugal and Spain) adopted State Centered Model.
- Eastern New member States have adopted the characteristics of both Liberal Pluralism and State-Centered Models.

The Nordic Corporatism model indicates high levels of trade union membership, negotiations at industry level and relatively centralized bargaining arrangements.

Growth and Decline of Trade Unions

Trade unions exist in all parts of the world. The rights of workers to organize and levels of unionization are now main issues in the global economy. The status of trade unions depend on union density. According to Encyclopedia, Union density , a measure of the membership of trade unions calculated as the number currently enrolled as members as a proportion of all those employees potentially eligible to be members. Union density is defined as the ratio of union members to potential union members. (Das, 2008). In terms of union density, various studies have shown that the union density has been declined in developed countries. Das (2008) shows that the declines started in the 1980's and early 1970's. in industrialized countries. Besides, union declines started in the 1980's and 1990's in the newly industrialized countries. (See table 1). However, union density of wage employed workers has been declined from 1950 to 2003 in some developed and newly industrialized countries like USA, Japan, Australia, France, Germany, UK, Denmark, Sweden, and Italy. In developed countries, since the 1970 non union employment has grown rapidly through expansion of non-union subsidiaries, sub-contracting, outsourcing, opening of non-union green field plants, and union de-certification (Das, 2008).Table 2 shows Trade Union density in EU countries during the period2000 to2006.It is clear that the figures show an overall declined in trade union density during the period from 2000 to 2006 in the countries of Central and Eastern Europe. Sweden, Finland had a figure of over 70% trade union density, whereas the figures of trade union density were under 15% in some countries like France (8.0%), Estonia, (13.2%), Poland(14.4%), Latvia(16.1%) during the year 2006. Besides, the trade union

density was higher in some countries like Sweden (75. %), Finland (71.7%), Denmark (69.4%), Cyprus (62.1%), Belgium (54.1%), which is higher than the United Kingdom, with a figure of 29% during the year 2006.However, it may noted that Trade Union density has declined significantly in EU countries like Greece, Hungary, Slovakia, Germany, UK, Romania, Slovakia, Ireland, Germany, Cyprus, Bulgaria, Austria, Czech Republic during the period 2000-2006.

Collective Bargaining

Table 3 shows collective bargaining coverage in EU countries during period 2000-2006. The level of collective bargaining differs greatly from country to country. Trade Union density is often lower in these countries, but collective bargaining coverage may be wider because of the potential for extension of agreements to non-unionized workplace both by law and via emplyers' associations. Social partnership relies on most employers being members of associations, as well as being members of confederations. This is because the social partnership model depends on strong negotiating parties who make agreements stick. Article 28 of the Charter of Fundamental Rights of the European Union recognizes the right of workers and their organizations to negotiate and conclude collective agreements at the appropriate levels and, in the case of conflicts of interest, to take collective action to defend their interests, including strike action.

Trade Union Movement in India

In India, S.S Bangalee, N. M. Lokande and other union leaders had tried to form the trade unions of workers in the last quarter of the 19th century. N.M. Lokande was a skilled worker in Cotton Textile Mill in Bombay. He established the Mill Hand Association in 1884.The Prime Minister of India, Dr.Manmohan Singh released a commemorative Postal Stamp on late Narayan Meghaji Lokhande, (Singh, 2005). Dr.Manmohan Singh pointed out that Lokhande's struggle resulted in the Constitution of the Factory Commission, of which he was made a member. The work of his Commission led to the enactment of the Factory Act of 1891, which regulated working conditions and gave some special rights to child and female labour. He was an active participant in the 'Satyoshodhak Samaj' established by Mahatma Jyotiba Phule in Maharashtra. Trade unions are voluntary organizations of workers formed to promote and protect the interests of workers through collective action (Dot and Sundharam, 2008). After the First World War, the International labour Organization was set up in the year 1919 with an aim to

improve the conditions of labour around the world. The principal means of action in the ILO is the setting up the International Labour Standards in the form of Conventions and Recommendations. (Apurv Karmakar, 2009). Modern trade union movement really took permanent roots in India from the first quarter of the twentieth century. In 1920, the ALL-India Trade Union Congress (AITUC) was set up to represent the interests of the workers and also to coordinate the activities of all labour organizations' in the country. Afterwards, the Trade Unions Act was passed in1926 in India, which was a landmark in the history of trade union movement in India. After independence of India, some trade unions were formed like The Indian National Trade Union Congress, (INTUC), The Hind Mazdoor Sabha (HMS), The United Trade Union Congress (UTUC), The Centre of India Trade Unions (CITU), The Bharatiya Mazdoor Sangh (BMS).All these trade unions are associated with main political parties. Dutt (2008) shows the membership of Central Trade Unions in India during period 1989-2002.

The level of collective bargaining differs greatly from country to country. The new economic policy removed many of the protections and has led to decline in union power. (Das, 2008). The nature of the new economic scenario is hostile to unionization. (Singh& Singh, 2008).The five major CTUO'S had accounted about 84% of the total membership in 1989, their relative share came down to 79% on 2002. (Dutt, 2008). Table 4 shows that trade union membership of INTUC declined from 22.8% in 1989 to 10.8% in 2002. According to the Industrial Disputes Act1947, firms employing more than 100 workers are bound by law to obtain permission from the state government before instituting layoffs and closures. Most of the state governments have tried to modify this legislation or have at least declares their intension to do so. (Sengupta, 2008).The Second National Labour Commission of India has made changes in the provisions of registration of trade unions. The existing provision of 7 workers rose to 10% of the workers or maximum of 100 workers. (Govt. of India, 2003). However, new economic environment not only in India, but throughout the world is not hospitable to trade unions and labour movements.(Singh & Singh, 2008).Some studies in industrial relations pointed out that union density is as low as 2% of the total labour force.(Venkata Ratnam, 1997, Kuruvilla, 1996, Das, 2008). They indicate extremely low levels of unionsation in India as compared to other countries.

Employment in the Organized Sector in India

The organized sector employs about 06.75% of India's total workforce and the remaining 93.25% in the unorganized or informal sector workers. (IAMR,

2008). The available statistics shows that the organized sectors share in the workforce has dropped steadily from 8% in 1973 to 6% in 2001. (Sengupta, 2008). According to Government of India's Economic Survey 2009-10(GOI, 2010), employment growth in the organized sector, public and private combined, has declined during the period between 1994 and 2007.This has primarily happened due to the decline of employment in the public organized sector. (See table 5).Employment in establishments covered by the Employment market, information system of the ministry of Labour grew at 1.20% per annum during 1983-84 but decelerated to 0.03 % annum during 1994-2007. Afterwards, the rate of growth of employment in public sector has declined from 1.53% 1984-84 to -0.57% in the latter period 1994-2007. Whereas the private sector showed acceleration in the place of growth in employment from 0.44 % to 1.30% per annum during the period 1994-2007.

Economic Survey of India 2009-10 pointed out that the incidence of unemployment on Current Daily Status (CDS) basis increased from 7.31% in 1999-2000 to 8.28% in 2004-05. (Economic Survey 2009-10 (2010). The government India also introduced the Voluntary Retirement Scheme (VRS) and implemented in public sector in India. The loss of job in the public sector through VRS and closures or privatization of inefficient and sick public sector units has also contributed to decline in union power and union membership in the organized sector. All these have led to decline in union power. (Das, 2008).The disinvestment policy of the government in the public sector in India is used as a means to reduce workforce , the contract labour system in the organized sector is adopted as a tool to transfer or replace organized workforce to informal employment.(Pong- Sulahn, 2008). Mobility of labour is another cause of informalization in India. According to VenkataRatnam's study, (1997), union density in India is higher in the public sector (90%) than in the private sector (60%) as compared to other countries. Multinational Corporations' or companies employ workers on contract basis for a particular period. It is significant to note that the employers of BPOS want not a trade union but an NGO. The patterns of employment are not encouraging for unionism and trade unions face formidable challenges in this sphere. (Shayam Sundar, 2008).

Unionization of new segments like IT, Technical Establishments (ETS) or call centers have become difficult for various reasons. These new sectors employ more women employees and are being perceived as impacting gender equality issues (Anthony and Gayathri, 2008).It is necessary to remember that the Indian trade Union movement was dominated by political parties and this been so till today. Therefore, the trade unions have failed to provide continuous and substandard support to all the activities of the workers (Datt

and Sundharam, 2008).At present; there is a main issue of workers about the right to strike in India. The Tamilnadu Government Employees' Union failed to protect their workers' right to strike in 2008 .Trade unions face multiple challenges with the first one being external settings such as changing global markets along with changes in employment relationships, increasing closures of the public sector, legal restrictions and continuous threats on union activities. (Shaymsundar, 2008). European trade unions have adopted the concept of social partnership as a route to mutual gains and economic prosperity at both the micro and macro levels. (Badigannavar, 2007).

Unorganized Sector Workers

The workforce is largely divided into two categories one group of workers tend to be better educational career oriented, while the other group of workers is unskilled, marginalized and scattered (Jose, 2002). The National Commission for Enterprise in the Unorganized Sector classified the unorganized sector workers like wage workers, unprotected workers, self employed workers, Regular unorganized workers. (NCEUS, 2007).So far as unorganized workers are concerned, Pong-Sulahn's Study (2008) pointed out labour market flexibility in South Asian countries like Bangladesh, India, Nepal, Pakistan, SriLanka. Table 6 indicates that there were 457.5 million workers in India according to 61st Round of National Sample Survey Organization 2004-05, out of which, only 7.6% workers were the organized sector, while 92.4% workers were engaged in the unorganized sector. The share of contract based workers in total organized manufacturing employment has risen in many states in India. In Bangladesh, according to Labour force Statistics (2002-03), there were 44.3 Million workers, out of which79.1% workers were engaged in the informal economy and 20.9% were in the formal economy. In Nepal, according to labour force statistics2001, out of 10.6 million workers, about 93.4% workers were engaged in informal economy and 6.6% were in the formal economy. In Pakistan, there were 45.23 million workers in 2003-04, out of which, 70 % workers were engaged in the informal economy and 30% were in the formal economy. In Sri Lanka, two thirds of the total workers (66.3%) were engaged in the informal economy and one third of the workers (33.7%) were in the formal economy. (Pong Sulahn, 2008). So far as trade union density is concerned, trade union density of workers is low in India. The ILO in its world employment Report 1997-98 documents trade union density in India is 5.4% of salary and wage earners. (ILO, 1997). Such low level of unionization is often cited as reasons for exploitation of workers, but in reality it is hard to believe that in India unions represent such as negligible percentages of workers. (Das, 2008).The

Unionization rate in Bangladesh, India, Nepal and Pakistan is low as 3% to 8% of the total labour force. In Sri Lanka, it is relatively high at 13% with high union density in the public sector. (Pong Sulahn, 2008).However, the low unionization rate is regressive to the labour movement. Social partnership is an important concept, which is adopted by the European countries. Social partnership is necessary due to the following reasons (Shayam Sundar, 2008).

- Union power has been weakened in the new economic environment
- Strikes are irrelevant and costly
- New employees do not want unions and class conflict

Migrant Workers and Trade Unions

Migrant workers can be found in every region of the U.K., but there are significant regional variations. There are particular concentrations in the rural agricultural areas in the East of England. (Jane Hardy, Nick Clark, 2005). Although there are some migrant workers who enter the labour market in well paid skilled work, the majority of migrant workers from A8 states are employed in the worst paid and most poorly organized sectors. Many workers from the then prospective new member states had already been working in Britain, but were unable to claim employment rights because of their lack of legal status. However, it may be noted that the low level of labour regulation in Britain will leave migrant workers being exploited in low paid jobs without security and access to trade union rights (Jane Hardy, Nick Clark, 2005).A union is formed for the purpose of collectively negotiating with an employer over wages, working hours and other terms and conditions of employment. Unions also often use their organizational strength to advocate for social policies and legislation favourable to their member of workers in general. (www.govindam.org, March, 2012). Migrant workers are used as a flexible reserve army of labour, there is growing evidence of migrant workers being used to extend casualisation through agency employment. Migrant workers are the most vulnerable in the labour market and often know neither rights nor the proper rates of pay to which they are entitled. The primary goal of the ILO is to promote opportunities for all men and women workers to obtain decent and protective work in conditions of freedom, equity, security, and human dignity (ILO, 2008).

The general Conference of the International Labour Organization (ILO) meeting held in its 92nd session, 2004, ILO states that decent work is at the heart of the workers. The I LO can play a central role in promoting policies to maximize the benefits and minimize the risks of work based migration. (ILO,

2005). The ILO's global employment Agenda supports policies for economic growth and employment of temporary workers and domestic workers often have limited legal rights, may be excluded from social security benefits and may face multiple disadvantages. (ILO, 2004).India has been an active member of the ILO, the main purpose of the ILO is to improve the conditions of workers. In fact, there are a number of challenges in organizing migrant workers. They are employed in nonunionized workplaces or employment through agencies. So far Indian migrant workers are concerned, there is no trade union representation; there is a total lack of control mechanisms with regard to the collective agreements and labour legislations in India. There is a low rate of union density among migrant workers. It should be noted that the trade unions have failed to organize such migrant workers' in unorganized sectors mainly due to the following factors.

- Existing the contract labour system in the labour market.
- Nature of seasonal work and economic activity in organized and unorganized sectors.
- Difficulty in joining the trade unions by seasonal migrant workers.
- Changing labour policy and economic reforms in the era of globalization.
- Opposition from the employer side
- Lack of tradition of union and organization in certain sectors of the economy such as agriculture, building construction, transport and communication.
- Lack of implementation of collective agreements and labour Laws.
- Social status of men and women migrant workers and workers belonging to backward castes, tribes and disadvantaged sections of the society.

Unionization also varies among different types of workers. It is lower among contract or casual workers than permanent workers. The levels of unionization are higher in manufacturing, transport or public administration than in agriculture, trade or financial services. (Das, 2008).

Further, unionization for casual and contract based workers vary across industrial sectors and depending on whether they work for the public sector or private sector. There are various types of migrant workers in India, who do manual work in rural areas. In India this tends to be in brickyards, roads works and building construction works, seasonal migrant workers in sugar factories. So far as agricultural laborers are concerned, the number of agricultural laborers in India has increased from 27.5 million in 1951 to 107 millions in 2001. (Srinivasula, 2008). Agricultural laborers have been neglected facet of the society due to their low status, illiterate, poor and

ignorant. Most of the migrant workers belong to backward communities and disadvantaged sections of the society in India. The problem of poverty is directly related to the existence of unemployment, underemployment and low productivity. The majority of the agricultural laborers are small and marginal farmers and they do not get enough work during the off season, consequently, they migrate from insufficient food and limited sources of geographical areas to job opportunities areas in various states in India. Therefore, it should be noted that agricultural laborers and other workers migrate from drought prone areas to irrigated and industrially developed areas for part time work or seasonal types of jobs. However, Agricultural laborers are unorganized as they live in scattered villages in India. Although, there is an Indian Constitutional right to form an association of workers in India. For agricultural laborers, except the Minimum wages Act, no trade unions laws have been made applicable. They have no security of employment. The main demand of the agricultural laborers' was the enactment of comprehensive legislation (Srinivasula, 2008).

Women Migrant Workers

There are several issues faced by the Migrant women migrant workers, they may be less visible, and it has a low rate of unionization. Besides, women migrant workers face additional problem in the workplace from sexual harassment. Most of the Women migrant workers are belonged to backward castes like Scheduled Castes and Scheduled Tribes in various states in India. The problems of sexual harassment that these women experience are also highlighted by several researchers (Breman, 1996, Schenk-Sandbergen, 1995).Women migrant workers face various problems like pregnancy, maternity rights and access to benefits. These may be particularly problematic for agency workers as well as contract based workers. Because, they are engaged through contractors, who often do not have the same rights to maternity leave and pay as permanent employees as a result of the various employment status which exist in Britain. Some studies (Breman, 1996, Kirchner, 1980, Guendelman, 1987) pointed out that migrant women carrying out equivalent tasks to migrant men are reported to earn lower wages in several of the workers included. In USA, the Migrant and Seasonal Agricultural workers Protection Act (MSPA revised in 1997) provides employment related protections to migrant and seasonal agricultural workers and enforced by the wages and Hour.

In India, women migrant workers are concentrated in agricultural sector and seasonal types of works in sugar industry. Let us take the example of Punjab state; most of the workers migrate from Bihar, Orissa, UP states to Punjab state in order to find out jobs in agricultural sector. They get employment for

just 90 to 120 days in a year; they work for more than nine to twelve hours. (Pong-sulahn, 2008). They do not have basic facilities like drinking water, toilets; they do not get overtime allowance regularly. They are marginalized farmers in their native villages; they commonly live in the untouchable domain. (Jha, 2008).Besides, they are largely young and employed either on a daily or monthly basis or on a contractual basis. Whereas temporary migration by manual workers is an explicit priority within Mexican policy, it has received less attention in India. However, the Inter-State Migrant Workmen Act (1979) does not in practice protect the vast majority of temporary rural –rural migrants, who are not hired by registered firms. In Mexico, the state has recently taken an explicit interest in the welfare of migrant workers for manual work over the border in the USA, providing kits containing survival provisions for the perilous journey. (Elena Ruiz Abril and Ben Rogaly, 2001).

Unionization in the informal sector also varies across states; it is higher in west Bengal than in Gujarat. (Das, 2008). Sen's study (1992) shows that in West Bengal, unionization is 87% for permanent workers in the private sector and only 10% for casual contract basis workers. It was 92% for permanent workers and 28% for casual and contract workers. In Maharashtra state, union density of contract basis migrant workers in sugar industry is very low; they migrate from drought prone areas to sugar factories in various districts in Maharashtra, Gujarat, Karnataka states. So far as welfare facilities are concerned, no welfare measures are guaranteed, because employers or owners of the firm cannot consider medical expenses and social security for these migrant workers. The agricultural laborers have to build up their own unions and strengthen their unity, which is the need of hour; otherwise, their problems will be continued for a long time (Srinivasula, 2008).

Existing labour Laws and Trade Unions

There are various labour laws in India such as Industrial Employment (Standing orders) Act1946, The Employment Provident Fund Act 1952, Workers Compensation Act1923, Equal Remuneration Act1976, Minimum Wages Act 1948, The Factories Act1948, Contract Labour Act1970; The Inter-State Migrant Workmen Act (1979 etc regulate the terms and conditions of work and benefits. These labors laws are applicable to workers in organized sector. However, existing labors laws and statutory are not fully applicable to workers in unorganized sector. Seasonal migrant workers and unorganized workers do not secure the employment conditions and rights of informal workers in India. They are socially excluded from labour laws. The labour Act 1992 in Nepal covers only workers in the unorganized sector and has a separate section on welfare provisions, which includes

- Social security pertaining to gratuity, pension, compensation, provident fund and so on.
- Holidays such as sick leave, maternity leave, public holidays, annual leaves, paid and unpaid leave.
- Other benefits including welfare fund, housing provision, medicine, rest room, day care centre, canteen etc. (Pong-Sulahn, 2008).

The trade union movement is adversely affected by the nature of our working class. For instance, the illiteracy and ignorance of the workers, their migratory character, the difference of the workers in the matter of language, caste, creed and customs, low wages, low capacity to pay subscriptions to the trade unions, etc, have also led to inefficiency of the trade unions.(Datt and Sundharam, 2008).

Conclusion

Trade unions have failed to protect their workers and unorganized migrant workers due to the poor implementation of labour laws. Trade unions also face the problem of weak capacity of trade such as low union density. However, it may be noted that the new emerging economic environment reveals around the concepts of new economy, flexibility and reorganization of work and increasing linkages between markets across regions. These rapid changes resulted in labour reforms aiming at liberalizing the existing labour legislation infavour of capital and against labour. (Singh & Singh, 2008).It is necessary to adopt various measures to ensure that all migrant workers should be covered by national labour legislation and applicable social laws. The first priority should be given to gender dimension applicable of relevant international labour standards as well as to the various categories of temporary migrant workers including seasonal workers, agricultural workers. There is a need for protecting and promoting the rights of all migrant workers in unorganized sector.

There is a need to encourage rapid unionization of unorganized workers. Trade unions in India as elsewhere today face several challenges and need an agenda for survival of unions of workers. There is an urgent need to improve labour rights consciousness and leadership qualities among agricultural laborers, and migrant workers in agricultural sector. It is necessary to eliminate unhealthy, political influence. Trade unions must struggle in order to protect their members of the unions and it is necessary to struggle for employment right, meaningful work, decent work, and welfare facilities such as education at all levels, healthcare, equality of every kind and no

discrimination of any kind, democratic participation of workers in management etc. Trade union leaders should also acquire full understanding of the constitutional and legal rights available to the unions. It is necessary for promoting measures to ensure that all migrant workers benefit from the provisions of all relevant international labour standards. There is a need to adopt social partnership in order to improve good industrial relations between workers and producers in the public, private and cooperative sectors.

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Banking merger in Nepal: Principles, Policies and Practices

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Abstract

Merger is a recent phenomenon in Nepal. So, the fundamental objective of this study is to analyze the overall merger scenario currently undertaken in Nepal mainly in the context of financial sector. The major objectives of this study are: a) to conceptualize merger principles, b) to review the existing and newly enacted legal framework related to merger, and c) to assess the ongoing merger practices in Nepal. This study is largely based on secondary sources of information published in Arthik Abhiyan National daily, Karowar National daily, Share Bazar Saptahik, New Business Age monthly and oral discussion with the officials of NRB and Chairman and CEO of some merged entities.

The study reveals that before the enactment of Merger By-laws, four mergers have already been completed viz. Laxmi Bank Ltd. (2004), Nepal Bangladesh Bank Ltd. (2007), Narayani National Finance Co. Ltd. (2009) and Nepal Bangladesh Bank Ltd., second time (2010). Similarly, after merger by-laws, other nine mergers have been completed. Likewise, other 8 pairs of BFIs are in the pipeline of merger as they have received letter of intent (LoI) from NRB.

Therefore, the BFIs' present practice to go into merger is quite satisfactory in Nepal, though it is recently started. But the study also found some obstacles of merger like difficulty in finding out appropriate partners, lengthy legal procedures and processes to be followed. Similarly, difficulty in valuation of assets and assessing creditworthiness of merger partners as well as managing portfolio of BOD and management are other problems. So it is suggested that the NRB should revise some of its legal provisions and take necessary steps to minimize all these problems to accelerate merger practice in Nepal.

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Introduction

After the liberalization policy initiated by the Nepalese government, private sector in general and financial institutions in particular have been increased rapidly in Nepal. Despite having significant contribution in the national economy the unnatural mushrooming of bank and financial institutions (BFIs), there is intense competition among them which create bad corporate governance and malpractices as well. Most of them have small capital base, some are facing a liquidity crunch and some others are about to close their operation due to their inefficient performance. The membership of WTO compels them to increase their paid up capital by January 1, 2010 which has not possible in practice. NRB again suggested them to maintain the said level of paid up capital by 2070 BS. International Monetary Fund (IMF) also suggested narrowing down the present number of financial institutions nearly to 100. So, merger is now taken as an ideal means of responding to all these issues and coping new opportunities and thereby reestablishing their competitive advantages in Nepal.

The intense competition, rapid technological change, increasing demand of corporate governance, major corporate accounting changes and rising stock market volatility have increased the burden of managers to deliver superior performance and value for their shareholders. In the modern "winner takes all" economy, companies that fail to meet this challenge will face a certain loss of their independence, if not extinction (Jha, 2010). Corporate restructuring and improved corporate governance are essential parts of economic reforms in many countries. It enables corporate houses or organizations to respond more quickly and effectively to new opportunities and unexpected pressures, thereby reestablishing their competitive advantage. Merger, acquisition, amalgamation, joint venture and strategic alliances are the major facets of corporate restructuring that also supports globalization of business. In this connection, Nepal where service industry especially financial institutions reluctantly mushrooming, merger is taken into account as an ideal means of corporate restructuring. This study, thus, basically endeavors to review merger principles and its legal framework and assessing the recently ongoing merger practices of banking industry in Nepal.

Merger Principles

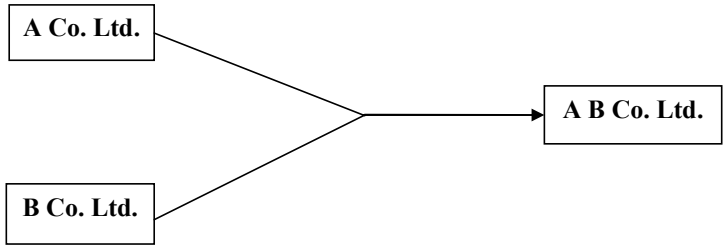
Merger Theory

A merger is defined as the fusion or absorption of one thing or right into another (Jha, 2010). It is a combination of two corporations in which only one survives (Van Horne, 1995). Simply a merger is the process of combining two

companies into one. It happens when two companies decide to move ahead as a single new company instead of remaining separately owned and operated (Gautam, 2010). When two or more existing companies combine into a single new company, they lose their previous identities (Agrawal, 2010). In other words, a merger is a combination of two corporations in which only one survives and the merged corporation goes out of existence (Gaughan, 2011). Merger may also be understood as an arrangement whereby the assets of two or more companies become vested in, or under the control of one company which has as its shareholders, all or substantially all, the shareholders of the two companies (Jha, 2010). As such, a merger is a pooling of equals, with the newly created company often taking on a new name. Ownership ties are more permanent than partnership ties, allowing the operations of the merger participants to be tightly integrated and creating more in-house control and autonomy.

Merger is negotiated in a friendly environment. It usually occurs between firms of somewhat similar size and is usually "friendly". The resulting firm is likely to have a name derived from its composite firms (Wheelen and Hunger, 1998):

A Co. Ltd. + B Co. Ltd. = A B Co. Ltd. . . . (i)



In merger two firms agree to integrate their operations on a relatively co-equal basis because they have resources and capabilities that together may create a stronger competitive advantage. It is much more mutual, collaborative and voluntary (Adhikari, 2010). In essence, merger is a transaction involving two or more companies in which stock is exchanged, but from which only one large company forms and survives.

Businesses across the corporate world have only two options in hand to expand their operations and gain substantial profits. One way is to grow through internal expansion by means of introducing new technologies, altering the course of operations, enhancing work performance, and establishing new lines of products or services. Through this business grow gradually over time but the new strategy of external expansion has completely changed the business sector across the world. This external

expansion takes place in the form of merger, acquisitions, takeovers and amalgamations dramatically supporting the globalization of businesses. Merger and acquisitions (M&A) have become essential components of business restructuring. The process brings separate companies together to form a larger enterprise and increase economies of scale. The increasing popularity of it is attributed to high-end competition and breaking of trade barriers (www.mergersandacquisitions.in).

Merger greatly helps to combine and share all resources, skills, talents, and knowledge that eventually increase the wisdom bar within the company. This can further help to combat the competitive challenges existing in the market. The elimination of duplicate departments, possibility of cross selling, reduction of tax liability, and exchange of resources are other big time benefits of corporate M&A (www.mergersandacquisitions.in). This not only helps to cut the extra cost involved in the operation and gain financial gains but also helps to expand across boundaries and enhance credibility. This in the long run help increase revenue and market share, fulfillment of the only desire that drives the growth of M&A. In essence, merger is considered to be a process when two or more companies come together to expand their business operations. In such a case, the deal gets finalized on friendly terms and share equal profits in the newly created entity.

Acquisition, on the other, refers to the process of acquiring a company at a price called the acquisition price or acquisition premium. It is the process of buying the assets of one company, usually smaller, by another, usually bigger (Gautam, 2010). There are two types of business acquisitions, friendly acquisition and hostile acquisition. In a friendly acquisition, a company invites other companies to acquire its business. In a hostile acquisition, the company does not want to sell its business (www.mergersandacquisitions.in). However, the other company determined to acquire the business takes the aggressive route of buying the equity shares of the target company from its existing shareholders. It is also called takeover or a buyout. The top management team of the acquired firm generally replaces. Unproductive assets are sold off.

Merger Forms

There are many forms of M&A that redefine the business world with new strategic alliances and improved corporate philosophies as follows:

Horizontal merger: This kind of merger occurs when two competitors combine (Gaughan, 2011) having the same lines of business. The two companies combine their operations and gains strength in terms of improved performance,

increased capital, and enhanced profits. For example, merger of two banks. This kind substantially reduces the number of competitors in the segment and gives a higher edge over competition (www.mergersandacquisitions.in).

Vertical merger: Vertical merger is a combination of companies that have a buyer-seller relationship (Gaughan, 2011). In other words, it is combination of two or more companies in the same industry but in different fields of operations. In this form, the companies in merger decide to combine all the operations and productions under one shelter. For example merger of Sugar Mills and Sugacane Producer. It is based on backward and forward integration. This kind adequately strengthens the competitive position and enables the company to diversify.

Co-generic merger: Co-generic merger is a kind in which two or more companies in association are in some way or the other related to the production processes, business markets, or basic required technologies. It includes the extension of the product line or acquiring components that are all the way required in the daily operations. For example, merger of Bread Factory and Biscuit Factory. This kind offers great opportunities to businesses as it opens a huge gateway to diversify around a common set of resources and strategic requirements (www.mergersandacquisitions.in).

Conglomerate merger: Conglomerate merger occurs when the companies are not competitors and do not have a buyer-seller relationship (Gaughan, 2011). In other words, it is a kind of venture in which two or more companies belonging to different industrial sectors combine their operations. All the merged companies are no way related to their kind of business and product line rather their operations overlap that of each other. For example merger of a commercial bank with a ticketing company. Conglomerates are usually used as a way to smooth out wide fluctuations in earnings and provide more consistency in the long term growth (Gautam, 2010).

Merger Benefits

Merger has become the most prominent process which contributes to innovative form of restructuring with the massive number of advantages it offers to the business world. However, the major motive for merger is to provide economic gains -in the form of increased economies or tax advantages. The specific merger benefits are as follows:

- The first advantage of merger is synergy that offers a surplus power that enables enhanced performance and cost efficiency. When two or more companies get together and are supported by each other, the resulting business is sure to gain tremendous profit in terms of financial gains and

work performance. Gautam (2010) argued synergy value comes in three forms: increased revenues, reduced expenses and reduced cost of capital resulting in enhanced operating efficiency.

$$Vab = Va + Vb + Synergy \quad \ldots (ii)$$

$$\text{or} \quad Vab > Va + Vb \quad \ldots (iii)$$

Where, Vab = value of company post merger

Va = Value of company A pre merger

Vb = Value of company B pre merger

Synergy = economies realized in the merger through increased revenues and/or cost reductions.

Source: Eq. (ii) Van Horne, 1998 p. 649. and Eq. (iii) Mukharjee and Hanif, 1998, p. 451.

- With a merger it is easier to maintain the competitive edge because there are many issues and strategies that can be well understood and acquired by combining the resources and talents of two or more companies.
- A combination of two companies or two businesses certainly enhances and strengthens the business network by improving market reach. This offers new sales opportunities and new areas to explore the possibility of their business.
- With all these benefits, a merger deal increases the market power of the company which in turn limits the severity of the tough market competition. This enables the merged firm to take advantage of hi-tech technological advancement against obsolescence and price wars.
- With a merger it is possible to diversify the company's dependence on a number of segments of the economy. It is must because if the fortunes of a company were linked to only one or a few products then in the decline stage of their life cycles, the company would find it difficult to sustain itself.
- A company which has incurred losses in the past can carry such losses forward and offset them against future taxable profits and reduce tax liabilities. Similarly other tax advantages also exist when a company is restructuring with M&A for a specified period of time.

Due Diligence Audit/Review

Due diligence audit/review (DDA/R) refers to the investigating effort made to gather all relevant facts and information that can influence decision to enter

into a merger or not. Exercising due diligence is not a privilege but an unsaid duty of every party to the transaction (www.mergersandacquisitions.in). Due diligence analyzes more details about the target company so as to ensure that it is fit for the acquiring company (Gautam, 2010). Due diligence audit helps strategists avoid legal hassles due to insufficient knowledge of important details.

Due diligence is exercised in a simple over-the-counter transaction or a complicated M&A transaction. While acquiring a company, the buyer must do thorough research of the by checking the company background, its promoters, general reputation, and return to the existing shareholders. Similarly credentials of the company, its market valuation, brand valuation, status of accounts receivables, position in the debt market, past performance, etc. Moreover, DDA explains capital adequacy, net worth, classification of loan, provision of loan-loss recovery, statement of liquidity, human resource management, information technology, market share of business, market price of stock, etc. The strategist should also study the previous financial reports to analyze the company's performance.

In essence, DDA is used to analyze the more details about the merging companies so as to ensure that it is 'fit' for the merger. DDA helps to analyze investment fitness, strategic fitness, marketing fitness, operation fitness, management fitness and financial fitness of the merging entities (Gautam, 2010). It also focuses on the areas like target market, customer, competition, legal framework and so on. A key part of due diligence is the valuation of assets and liabilities of the merging companies.

Swap ratio: Calculating the swap ratio is at the core of the valuation process. It is the ratio at which the shares of the acquiring company will be exchanged with the shares of the acquired company (www.mergersandacquisitions.in). For instance, a swap ratio of 1:2 means that the acquiring company will provide its one share for every two shares of the other company. SWAP ratio is primarily calculated based on net worth of the merging companies. Besides, it is also determined based on the general understanding of the BODs of both companies.

The equations for calculating SWAP or exchange ratio is as follows:

$$\text{SWAP or Exchange Ratio} = \frac{\text{Offer price}}{\text{Share price of acquirer}} \quad \ldots \text{(iv)}$$

Total share to be issued by acquirer

$$= \frac{\text{(Offer price) (Total outstanding shares of target)}}{\text{Share price of acquirer}} \quad \ldots \text{(v)}$$

Bank Merger

M&As in the banking sector are common phenomena across the world. The primary objective behind this move is to attain growth at the strategic level in terms of size and customer base. This, in turn, increases the credit-creation capacity of the merged bank tremendously. Small banks fearing aggressive acquisition by a large bank sometimes enter into a merger to increase their market share and protect themselves from the possible acquisition (www.mergersandacquisitions.in).

Banks also prefer mergers to reap the benefits of economies of scale through reduction of costs and maximization of both economic and non-economic benefits. Another important factor is the elimination of competition between the banks. This way considerable amount of funds earlier used for sustaining competition can be channelized to grow the banking business. Sometimes, a bank with a large bad debt portfolio and poor revenue will merge itself with another bank to seek support for survival. However, such types of mergers are accompanied with retrenchment and a drastic change in the organizational structure. Consolidating the business also makes the bank robust enough to sustain in the every-changing business environment. They find it easier to adapt themselves quickly and grow in the domestic and international financial markets.

Methodology

This paper is mainly based on the secondary sources of data. The main source of data used in this paper is *Aarthik abhiyan national daily*. Similarly, *Karowar national daily, Aarthik saptahik, Share bazar saptahik, The boss and New business age* are equally important. Moreover, the primary data necessary for qualitative information were collected by oral discussion and telephone conversations with the officials of NRB and Chairman and CEO of some merged entities. Then other relevant data, facts and policy matters have been downloaded from the official websites of NRB. Likewise, the google search and reference books were widely used for theoretical and policy review.

The data collected have been compiled in a master sheet and then it is extracted partly as per the need of analysis. This study simply used univariate analysis as method of the study. But this study has not assessed the synergy effect of merged entities because it is recently started practice in Nepal. This paper excluded the study of merger practices of insurance companies, saving and credit cooperatives and other forms of organizations.

Merger Policies

Merger is a recent phenomenon in Nepal. So regulatory framework is not clear as required yet. But some provisions related to merger have been included in Company Act, 2063 and Bank and Financial Institutions Act, 2063 and NRB also recently issued Bank and Financial Institutions Merger By-laws, 2068 in order to facilitate merger strategy as a tool of corporate restructuring.

Company Act, 2063

According to Company Act, 2063, Section 177, the provision for companies to be merged is stated as follows:

1. To merge the public companies each other, both of the companies should approve the special resolutions/proposals in their respective Annual General Meetings (AGMs).
2. When any public company merged into private company or private company into public company, the new company will remain as public company.
3. After the approval of special proposals, the company should apply to the company registrar office for merger within 30 days mentioning the following points:
   - The decision of AGM in case of public company and the copies of memorandum of association, articles of association or consensus agreement in accordance with the provision of merger for private company.
   - The latest balance sheet and auditor's report of both companies.
   - The copy of written agreement of the lenders of both companies.
   - Valuation of current and fixed assets and real statement of assets and liabilities of both companies.
   - If any provisions made regarding lenders, workers and employees of merging companies.
   - Agreement letter between the companies for merging each other (Scheme of Arrangement)

Bank and Financial Institutions Act (BAFIA), 2063

According to Bank and Financial Institutions Act, 2063, the provisions for licensed companies to be merged are as follows:

Section 68, One licensed company can be merged with other in accordance with current law after completing required process.

Section 69, If the licensed companies want to merge or to be merged each other, they should approve special resolution/proposal from their own Annual General Meetings. They should also apply to NRB for the approval of merger mentioning the following points:

- Auditor's report including financial statements like balance sheet, profit and loss account and cash flow statement of the latest fiscal year should be provided by the licensed companies to be merged.
- The written agreement copy of the lenders of both companies which want to merge and to be merged should be included.
- The details of current and fixed assets valuation and liabilities of the merging companies.
- The copy of decisions about the employees of the merging companies.
- Other documents as required by the Nepal Rastra Bank about merging each other.

Bank and Financial Institutions Merger By-laws, 2068

According to Merger By-laws, 2068, issued by NRB, the major provisions made to facilitate merger process are as follows:

Section 4 Eligibility: "A", "B" and "C" class banks or other licensed financial institutions from NRB will be eligible for merger. "D" class financial institutions can be merged only with the institutions of same class.

Section 5 Provision on Initial Application: 1. Two or more organizations that are eligible and desirous for merger with fixed work plan on the basis of the current capital structure, they should provide authority to the management committee to forward action adopting (passing) special resolution from the General Meeting.

2. Adopting special resolution for merger, both institutions jointly should make an application on the given format to the NRB with the resolution adopted by both management committees. Merged or merging institution's share transaction suspension letter from NEPSE should also be included with the application.

3. NRB will call them for initial talk within 15 days of getting the application.

Section 6 Letter of Intent (LoI): After completing provisions of Section 5, NRB then issues letter of intent to the merged or to be merged entities in lieu of its terms and conditions which help not to affect in financial systems and fair competition in the banking industry. Thereafter, the companies are supposed to proceed their merger process and complete it within 6 months.

Section 7 Provision on Property and Liability Valuation: 1. After getting LoI from NRB, the merged or merging institution both will make valuation of their property, liability and transaction of the latest period by the appointed person or evaluator.

2. The evaluator will evaluate the property, liability and transaction according to the established principles and criteria or the terms and conditions determined by NRB, and will prepare report on it.

3. In that report, property evaluator will present his opinion on the licensed institution being specific on the following subjects and also analyze the effect of the act of merging on these subjects: Capital adequacy, net worth, classification of loan, adequacy of loan-loss provision, state of following current rules and regulation, statement of liquidity, human resource management, information technology, market share of business, share exchange ratio (swap ratio) and market price.

Section 8 Provision on Agreement: Getting LoI from NRB for forwarding the procedure of merger, the licensed institutions will make agreement to each other, making clear about the following things:

There should be agreement regarding name, address, type of license and area of operation, and similarly the name, address and type of license and area of operation after merger, etc. between merged or merging BFIs. Similarly, the need and rationale of merger; merger effect on banking and financial sector; provision to insure the right and interest of depositor; provision to insure the shareholders and creditors; management of financial condition, loan, investment and transaction; valuation of property, method of reconciling property and liabilities; letter of agreement of foreign investor in case of joint venture; time frame required for merger; memorandum of association, articles of association and license of BFIs; capital structure, change in control and ownership structure after merger; number of employees required, employee lay-off and human resource management and other provisions, etc.

Section 9 Provision on Final Approval: 1. The institutions provided with the LoI of forwarding the procedures for merger will go to NRB for final approval with the report as per Section 7 and agreement letter as per section 8 and make application accompanied by the following documents:

a) Audit reports of the last fiscal year of the merging or to be merged licensed institutions along with its audited balance sheet, profit and loss account, cash flow statement and other statements.

b) A copy of written Memorandum of Understanding (MoU) and the decision of committee formation if available.

c) Latest report of the evaluator with actual details of the fixed and current assets and liability of the merging or to be merged institution.

d) Name and address of the merging and to be merged institution and a copy of the decision on the institution's share proportion determination.

e) Approved final work plan on merger and the work schedule with the date of transaction after merging.

f) Other necessary documents and details referred by NRB.

3. NRB will make necessary investigation on the attached documents and details and give information of final approval or disapproval for merger within 45 days.

5. If NRB sees that such merger is likely to create an environment unhealthy competition, one institution's monopoly or control over another, it may cancel the LoI provided to the merged or merging institutions.

Section 10 Effect of Approval: 1. After receiving the final approval, Memorandum of Association (MoA) and Articles of Association (AoA) will be amended in accordance with the transformation of the capital and share ownership structure of that institution and submitted it to NRB and the Office of the Company Registrar for approval.

2. If an institution gets approval from NRB for merger pursuant to the Act and this By-laws, all these asset and liabilities of the merging institution shall be transferred to the merged institution.

3. NRB will monitor the process of merger. In course of the monitoring, if it is found necessary to follow the procedure, agreement, instruction of NRB or the law in force or other additional things, NRB may give necessary directives.

Section 11 Exemption provided to the licensed institutions in merger: 1. Following exemptions can be provided to the licensed institutions when they go into merger:

a) To retain the transformed capital structure while merging institutions in accordance with the law in force.

b) If the ownership percentage of the founder of any institution exceeds the maximum limit after the merger, five years duration is provided to bring it within the limit.

c) If the merger causes the situation of regular loan amount going against the NRB's instruction, the repayment period or three years time is provided to regulate it.

d) Regarding the resource mobilization of the institution, if total received exceeds the limit of 80 percent, three years time is provided to bring it within the limit.

g) Exempt on the provision of the compulsion of expanding branches in certain districts for three years after the merger.

h) After the merge, if the investment of the institution exceeds the provision of the limit of 10 percent investment in share and debentures, two years time is provided to bring it within the limit.

j) If any obstacles arise after the merger regarding staffs' facilities and remuneration of chief executive officer, exemption is provided on the preparation and implementation of necessary plans to resolve them.

k) After getting final approval for merger, exempt 50 percent at penal rate on the provision of fixed liquidity by NRB.

m) One percent tax exemption is provided for three years in NRB normal refinancing (loan) facility after the merger.

2. If loss or damage occurs in any assets due to merger, other special tax exemption, and even NRB can also recommend to the government for any other possible exemption in order to encourage merger.

Merger Practices

Bank and Financial Institutions in Nepal

Nepal Bank Limited is the first commercial bank that made a mark in the banking fraternity of Nepal in 1937. The central bank, Nepal Rastra Bank, however, was formed two decades after the start of NBL in 1956. A decade later, Rastriya Banijya Bank was formed by the government. Following financial liberalization in the 1980s, Nepal Arab Bank (now Nabil Bank) was established, making it the first foreign joint venture (JV) bank in Nepal. Later, two foreign JV banks, Nepal Indosuez Bank (now Nepal Investment Bank) and Nepal Grindlays Bank (now Standard Chartered Bank Nepal) were established in 1986 and 1987 respectively (Shah and Verma, 2011).

After the mid-1990s, the number of BFIs increased multifold. Currently, there are altogether 32 commercial banks, 87 development banks, 79 finance companies and 21 micro-credit development banks. Similarly, 5 rural development banks, 25 insurance companies and more than 11 hundred saving and credit cooperatives are operating in Nepal. According to the regulation of central bank, NRB, commercial banks are categorized as 'A Class', development banks 'B Class', finance companies 'C Class' and micro-credit development banks as 'D Class' financial institutions with paid up capital of Rs. 2000 million, Rs.640 million, Rs. 320 million and with no upper and lower limit of capital base for last category. They should meet these limits of paid up capital by 2070 BS. At present, there are about more than 219 BFIs with their 2299 branches in Nepal.

With the mushrooming of BFIs, it seemed that all the BFIs were sharing the same pie without the size of the pie increasing. The unnatural growth in the number of BFIs led to intense competition among them. As a result, NRB stopped giving license for 'A', 'B' and 'C' class BFIs and providing license only to 'D' class FIs which are microfinance companies. Moreover, the recent bad corporate governance and malpractices also support the argument that the financial sector is overcrowded in Nepal. Some BFIs was found facing a liquidity crunch and that fact made to have the merger process in place.

Merger Objectives in Nepal

Apparently, the universal objectives of the merger are to consolidate the capital, reduce operational expenses, expand business and maximize the profits. However, in Nepal mergers of three distinct natures now seem to be in the offing (New business age, 2011 June). First, relatively large institutions are planning to create a larger capital base (i.e. paid up capital) so they could compete with global players who would potentially begin their operation owing to WTO arrangements in one hand and to materialize any large project, which needs big loans, BFIs must have really a big capital base on the other. Second type of merger would compulsive of sort as the NRB has asked the BFIs belonging to the same business house or promoters group to integrate without any ifs and buts. The third types are those who fear the complete meltdown if they fail to merge sooner than later to consolidate resources, introduce corporate best practices and reduce expenses. Moreover, International Monetary Fund (IMF) also suggested reducing the number of BFIs to nearly 100 in Nepal.

Realizing these facts, NRB recently issued the Merger By-laws 2068, with all necessary incentives, facilities and exemptions to go for merger process to BFIs.

Memorandum of Understanding for Merger

Nepal does have neither legal provision nor practice of acquisition. So this study analyzed only about merger practices of BFIs in Nepal

When the appropriate merger partner identifies, then the BODs of partner companies in essence sign on MoU agreeing in merger. The actual merger process begins only after MoU. They also form a merger committee including BOD members of both companies and delegates authority to proceed all activities relating to merger. Before starting, merger committee should inform to NEPSE for suspending their share transactions in place. The main reason behind suspending share transaction by NEPSE is to discourage artificial price fluctuations of shares in the market.

The details of BFIs opting for merger and signed in MoU for merger have been given in Table 1.

TABLE 1: BFIs signed MoU for merger

SN	Name of company	Name of company	Combined paid up capital
1.	Narayani Development Bank Ltd.	Cristal Finance Ltd.	Rs.65.6 + Rs.70.0 = Rs. 135.6 million
2.	Rastriya Banijya Bank Ltd.	NIDC Development Bank Ltd.	Rs.5490.0 + Rs.415.8 = Rs.5905.8 million
3.	Kuber Merchant Finance Co. Ltd.	World Merchant & Finance Ltd.	Rs.150.0 + Rs.181.9 = Rs.331.9 million
4.	Business Development Bank Ltd.	Reliable Finance Ltd.	-NA-
5.	Araniko Development Bank Ltd.	Surya Development Bank Ltd.	Rs.200.0 + Rs.14.9 = Rs.214.9 million
6.	Social Development Bank Ltd.	Corporate Development Bank Ltd.	Rs.382.65+Rs.200.0 = Rs.582.65 million
7.	Lalitpur Finance Ltd.	Progressive Finance Ltd.	-NA-

Source: Aarthik abhiyan national daily, Karowar national daily, Arthik saptahik, New business age and website of NEPSE.

NRB allowed inter-bank cheque transactions between BFIs even after signing on MoU. RBB and NIDC are both government banks, directed by the government to go into merger. NRB has been issued order to complete their DDA within 6 months and stik together. After merger, RBB and NIDC will be the biggest financial institution in Nepal. Araniko Development Bank issued its 49 percent shares to the public and when Surya Development Bank, another entity with no issue of public shares, merged with it then the share proportion will be 54 percent and 46 percent.

Bank and Financial Institutions issued LoI by NRB

On the basis of MoU of the merger partners and application of the merger committee, NRB scrutinizes the documents and issues the LoI if the application is found satisfactory. After this, the merger committee should duly proceed the merger process and complete it within 6 months time horizon.

The details of companies, proposed name of merged entity and their proposed combined paid up capital after merger have been given in Table 2.

TABLE 2: BFIs issued LoI by NRB

SN	Name of company	Name of company	Proposed name	Combined paid up capital
1.	Pashupati Development Bank Ltd.	Lord Budha Finance Ltd.	*Cancellation of LoI by NRB*	Rs. 813.2 million
2.	Bageshori Development Bank Ltd.	Sangrilla Development Bank Ltd.	Not decided	Rs. 379.4 million
3.	Alpic Everest Finance Ltd.	Butwal Finance Ltd. and CMB Finance Ltd.	ABC Finance Ltd.	Rs.110.0 + Rs.209.0 + Rs.150.0 = Rs.469.0 million (including Rs.2.0 million of CMB's calls in advance)
4.	Premier Finance Ltd.	Imperial Finance Ltd.	Premier Imperial Finance Ltd.	Rs.149.7 + Rs.126.0 = Rs. 270.3 million
5.	NIC Bank Ltd.	Bank of Asia Ltd.	Not decided	Rs.1430.0 + Rs.2000.0 = Rs.3430.0 million
6.	Shine Development Bank Ltd.	Resunga Development Bank Ltd.	Not decided	Rs.200.0 + Rs.73.8 = Rs.273.8 million
7.	Civil Merchant Finance Ltd.	Kathmandu Finance Ltd.	Not decided	Rs.149.5 + 154.66 = Rs.304.16 million
8.	Prudential Finance Ltd.	Gorkha Finance Ltd.	Not decided	-NA-
9.	Rara Development Bank Ltd.	Royal Merchant Banking and Finance Ltd. and Api Finance Ltd.	Not decided	-NA-

Source: Aarthik abhiyan national daily, Karowar national daily, Share bazar saptahik, New business age and website of NEPSE.

NRB cancelled the LoI of Pashupati Development Bank Ltd. and Lord Budha Finance Ltd. even if they have completed their DDA in time. It was because of dissatisfactory DDA report of Lord Buddha and tussle between BODs from the very beginning of merger. The DDA of all other BFIs are in process. NIC Bank Ltd and Bank of Asia Ltd. are 'A' class banks and they are agreed to go into merger promoted by the *Bishal Group*. The joining of NIC and BoA will be considered a historic one as it is the first merger between commercial banks in Nepal.

Merger Completed Bank and Financial Institutions

The pace of merger was slow in the earlier period because of lack of appropriate legal provisions in Nepal. But it has been speeding up in the recent years. The first merger took place between Laxmi Bank Ltd. and HISEF Finance Ltd. in 2004 in the history of Nepalese banking merger practices. The merged entity has operated as Laxmi Bank Ltd. Actually, HISEF was absorbed by Laxmi Bank Ltd. with its all employees. However, both of them were promoted by the *Khetan group*.

The details of merger practice and its completion has been given in Table 3.

TABLE 3: Merger completed BFIs

SN	Former	Former	Merged entity	Composite paid up capital	SWAP ratio	Year
1.	Laxmi Bank Ltd.	HISEF Finance Ltd.	Laxmi Bank Ltd.	Rs. 610.0 million (at the time of merger)	-NA-	2004
2.	Nepal Bangladesh Bank Ltd.	NB Finance Ltd.	Nepal Bangladesh Bank Ltd.	-NA-	-NA-	2007
3.	Narayani Finance Ltd.	National Finance Ltd.	Narayani National Finance Ltd.	Rs. 647.5 million	-NA-	2009
4.	Nepal Bangladesh Bank Ltd.	Nepal Srilanka Merchant Banking and Finance Ltd.	Nepal Bangladesh Bank Ltd.	Rs. 1860.4 million	-NA-	2010
5.	Himchuli Development Bank Ltd.	Birgunj Finance Ltd.	H&B Development Bank Ltd.	Rs.477.9 + Rs.420.0 = Rs. 897.9 million	1:1	2011
6.	Business Development Financial Institutions Ltd.	Universal Finance Ltd.	Business Universal Development Bank Ltd.	Rs.690.0 + Rs.152.0 = Rs. 842.0 million	1:1	2012
7.	Kasthamandap Development Bank Ltd.	Shikhar Finance Ltd.	Kasthamandap Development Bank Ltd.	Rs.480.8 + Rs.100.0 = Rs.580.8 million	1:1	2012
8.	Infrastructure Development Bank Ltd.	Swastik Merchant Finance Ltd.	Infrastructure Development Bank Ltd.	Rs.660.6 + Rs.114.0 = Rs.774.6 million	1:1	2012
9.	Machhapuchhre Bank Ltd.	Standard Finance Ltd.	Machhapuchhre Bank Ltd.	Rs.1627.1+ s.1001.8 = Rs.2628.9 million	1:0.85	2012
10.	Global Bank Ltd.	IME Finance Ltd. & Lord Buddha Finance Ltd.	Global IME Bank Ltd.	Rs.1600.0 + Rs.431.8 +Rs.168.2 = Rs. 2200.0 million	1:1.05,07	2012
11.	Annapurna Development Bank Ltd.	Suryadarshan Finance Ltd.	Supreme Development Bank Ltd.	Rs.672.0 + Rs.100.0 = R.772.0 million	1:1	2012
12.	Pashupati Development Bank Ltd.	Udham Development Bank Ltd.	Axis Development Bank Ltd.	Rs. 670.0 + Rs.4.82 = Rs.718.2 million	1:1	2012
13.	Vibor Development Bank Ltd.	Bhajuratna Finance Ltd.	Vibor Development Bank Ltd.	Rs.736.16million	1:1.20	2012

Source: Aarthik abhiyan national daily, Karowar national daily, New business age Oct. 2010 and websites of NEPSE and NRB.

Of course, the real merger has been completed between Himchuli Bikas Bank Ltd. Pokhara and Birgunj Finance Ltd. Birgunj in 2011, quit after the enactment of Merger By-laws, 2068 (2011). The promoter groups of these entities are different and the area of operation as well. Initially, five financial institutions had decided to come together viz. Mahalaxmi Finance Ltd., Siddhartha Finance Ltd., Butwal Finance Ltd., Himchuli and Birgunj Finance but talks broke down and in the end it was only Himchuli Bikas Bank Ltd. and Birgunj Finance Ltd. decided to stick together.

After merger, H&B Development Bank Ltd, Business Universal Development Bank Ltd., Kasthamandap Development Bank Ltd., Infrastructure Development Bank Ltd., Supreme Development Bank Ltd., Axis Development Bank Ltd. and Vibor Development Bank Ltd. all have been operating as national level development banks in Nepal. Similarlary, Machhapuchhre Bank Ltd. and Global IME Bank Ltd. are operating in the form of 'A' class Banks. After merger the share proportion of Machhapuchhre and Standard Finance has been 66 percent and 34 percent respectively. Standard Finance has an investment of non-residential Nepalese (NRN) people. A huge share of investment is done by a single family i.e. IME Group, in Global Bank Ltd. and IME Finance Ltd. and merged entity Global IME Bank Ltd. came into existence including Lord Buddha Finance Ltd. So till the first week of September 2012 only 9 (i.e. 19 BFIs) entities came into as new ventures after the enactment of merger by-laws in Nepal.

BFIs Searching appropriate Partner

With due passing their special resolution, some BFIs have been searching appropriate partner companies to go for merger. Kist Bank Ltd., Everest Bank Ltd. Kumari Bank Ltd., Nepal Bangladesh Bank Ltd., Commerz and Trust Bank Ltd. are some 'A' class commercial banks searching partners. Similarly, Narayani National Finance Ltd. also searching for merger partner. Likewise, Investment Bank Ltd. and Progressive Finance Ltd. have passed resolution and waiting for merger. Civic Development Bank Ltd., Samridhi Development Bank Ltd., Siddhartha Development Bank and Mission Development Bank Ltd. have completed their General Meeting and passed resolution to go for merger.

So far, many entities having different sizes, capital structures and legal-standings have moved forward towards merger. Among them many pairs belong to the same business or promoter group. They are hastening the process partly also due to pressure from the central bank.

Conclusion and Recommendation

Out of 219 BFIs, 19 BFIs completed their merger into 9 new entities after the enactment of Merger By-laws, 2068. Among them, development banks and finance companies are integrated more in this process. Eighteen other BFIs are in the pipeline of merger after getting LoI. Similarly, some other 14 BFIs have signed on MoU for merger and more than dozens of BFIs have been searching their suitable partners to stick together. All these facts proved that merger practice in Nepal is quite satisfactory.

Government financed five Rural Development Banks, 'D' class financial institutions operating at five development regions, have also decided to merge together and to work as a national level Rural Development Bank. NRB has established a separate merger desk to deal in merger. NRB started giving pressure to those BFIs promoted by the same family or promoter group to go to merger by calling them in NRB. Instead of merger, some commercial banks begin to plan issuing bonus and right shares and preference shares to increase and maintain their paid up capital up to the stated limit.

BFIs that do not have corporate governance and are unable to expand their area of operation individually could be better to go for merger. Not only that the BFIs having even sound financial position can stick together. But it is not compulsion to those having paid up capital already as per the provision of new policies. Merger between companies with public issue or non-issue of shares has becoming a serious problem. So, the laws should be revised with providing flexibility in such issues. However, Merger By-laws, 2068, has made so many provisions to encourage for merger, all of the BFIs should think and take a step to go to the merger in one hand and they must stick together to honor NRB directives on the other.

The common difficulties that a Nepalese merger practice found are in terms of power sharing in BOD and managerial positions, human resource management, valuation of assets and goodwill, searching appropriate merger partners, and so on. The present provision of organizing special general meeting for merger decision should be revised in such a way that such rights should be vested to the merger committee and BODs. It further assists in speeding up merger practice in the country.

BFIs with less paid up capital cannot provide quality services in the same pie of market. So, they don't have any alternative other than merger. After merger, BFIs will have huge capital base, extensive area of operation, efficient management, market leadership and strong competitive position. As a result,

they are able to finance in large projects like hydropower, communication, transportation, etc. In essence, merger would be an important grand strategy to accelerate economic development of Nepal.

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Microfinance and Social Capital in Nepal: The Case for an Integrated Approach

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Abstract

While microfinance is often used in developing countries as a poverty alleviation tool, many studies of microfinance programs question its effectiveness as a genuine means of alleviating poverty and developing social capital. A growing body of literature has more recently identified problems with microfinance brought about by the apparent misuse of loans by the finance recipients, pointing to recipients who have found themselves compelled to use the loan to fund necessary health care and other basic needs. Increasing evidence indicates that minimal support is not enough to assist impoverished people. This is because the causes of poverty are multidimensional and the recipients need more than finance to break the cycle of poverty. This paper proposes that, in order for microfinance to make a significant and worthwhile contribution to the lives of impoverished people and their communities, microfinance programs need to take a more holistic or integrated approach, where the provision of microfinance should support the recipient's productive use of the loan, and their capacity to repay the loan from that productive use. This paper describes a research project that seeks to understand how the provision of integrated microfinance in Nepal could contribute to the development of social capital in that country and hence assist in overcoming poverty and its related issues.

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Introduction

A significant proportion of the poor in developing countries does not have access to and are not able to participate in social and economic activities. The cause of poverty in the developing world is multidimensional, and can include inequality (Wagle, 2010) social exclusion (Beall and Piron, 2005; Lawoti, 2010), spatial exclusion, conflict and violence (Goodhand, 2011), as well as a lack of access to financial and non-financial resources. Often the cause of poverty is linked with political instability. As a result of impoverishment people are suffering from hunger, malnutrition (Rai et al., 2002), illness, isolation, homelessness and other social and economic problems. This cycle of poverty is difficult to break without integrated support services. This research will focus on income poverty as this pushes the poor into the vicious cycle of poverty.

To overcome the problems associated with poverty government, non-government and development agencies carry out educational, health, income generation and infrastructure development activities. Even though these activities are being implemented, a significant proportion of the poor in developing countries, (Nghiem, 2007) including Nepal, are still living in extreme poverty because of these programs' ineffectiveness. One type of program that attempts to assist impoverished people is that of microfinance.

In essence, microfinance is a loan given to poor people who would not otherwise have access to a formal source of finance, usually because they lack collateral (Ledgerwood, 1999; Arch, 2005). Its main aim is to assist the poor to escape from poverty through activities which will generate a regular income. In developing countries microfinance is widely used (Akram and Hussain, 2011) in the field of social and economic development, for example, by assisting poor households, empowering women, creating income generation and generally enhancing the living conditions of the poor. There are two approaches to microfinance, the minimalist approach which only provides financial support to the recipients, with no ancillary non-financial support and the integrated approach which includes non-financial support tailored to the recipients' individual needs. This paper argues that integrated microfinance has the capacity to develop social capital. Social capital is the outcome of a collective action of individuals and societies which promotes trust, reciprocity and belongingness within the community (Putnam, 2000). It is an important element in the success of society as a whole (Woodhouse, 2006) because it creates synergy between the activities of the participants.

Nepal is a developing country where there are various programs and projects implemented by government and non- government organisations to

overcome poverty related issues. These include programs designed for income generation, education, health, employment opportunities and the development of social capital. However, the efficiency of the poverty alleviation programs in Nepal is questioned in the literature (Hachhethu, 2002; Devkota, 2005; Sharma, 2006a; Paudyal and Abraham, 2010; Joshi, 2011).

Social exclusion, spatial exclusion and corruption create a wide gap between the rich and poor and rural and urban areas in Nepal (Murshed and Gates, 2005; Paudyal and Abraham, 2010). The country has been in political crisis since the introduction of democracy in 1990 (Kernot, 2006; Sharma, 2006b; The World Bank, 2012a). This situation led to civil war in Nepal from 1996 to 2006 (Do and Iyer, 2010). Nepal has had more than 20 governments since 1990. The country became a republic nation in 2008, however the political crisis has continued as newly elected political leaders have failed to form a new constitution (Upreti and Sigdel, 2011). As the political instability has continued this has had a significant impact on the socio-economic status of the poor in Nepal (Dhakal and Kanel, 2004).

The level of poverty in Nepal is significant, with more than 25% of the population considered to be living in poverty (Bhusal, 2012). Impoverished people are unable to afford basic needs such as food, shelter, health and education. In addition, during the time of political instability social capital has deteriorated significantly in the Nepalese communities and it has affected the social status and economic performance of impoverished people. For example, people have been displaced from their homes and families, and infrastructures including financial institutions have been destroyed (Dhakal and Kanel, 2004; Sharma, 2006b). As a result people's human rights have been violated and opportunities to participate in economic and social activities were restricted.

The programs and projects implemented in Nepal have been questioned for the following reasons. First the programs and projects are not tailored to the needs of the recipients. Second, the funds have been misused by the recipients. Third, the programs and projects run by the government have been affected by political instability and corruption (Dhakal and Kanel, 2004). In the last three decades, although microfinance has been gaining popularity it has also been subject to controversy (Morduch and Haley, 2002). In addition the minimalist approach to microfinance has also incurred criticism, and a much debated topic in the literature of microfinance is whether it genuinely assists poor people or is a hindrance to them (Davis, 2005; Ketaki, 2009; Jackson, 2010).

Within this context, this paper puts forward the case for an integrated approach to microfinance as it prevents the misuse of funds and helps the borrower to use money in productive ways through the provision of integrated services. The paper also considers the contribution of microfinance in creating social capital in a developing country with a particular focus on Nepal. It will also discuss the inadequacy of the minimalist approach to address the multidimensional causes of poverty. There is a discussion of the cause and effects of poverty in identifying the needs of the poor, and attention is drawn to the need for an integrated approach to microfinance because of its perceived capacity to develop human and social capital. This discussion proposes the case for the integrated approach to microfinance. The paper argues that the integrated approach to microfinance has the potential to create social capital and therefore contribute to the alleviation of poverty in Nepal.

Poverty in Nepal

The main cause of poverty in developing countries is lack of income which is also known as income poverty. As a result of income poverty individuals are deprived of basic needs which in turn lead them into a cycle of poverty as the lack of income restricts their access to food, health, education (Rai et al., 2002) and investment opportunities. The conditions of the poor become more extreme as the cycle of poverty continues. This is the case in Nepal as well (Acharya, 2004), where lack of income is one of the major causes of poverty.

The degree of poverty varies according to the level of income and property held (Biosca et al., 2011). There are different categories of poor: for example, there are the poor and the poorest of the poor, the entrepreneurial and non-entrepreneurial poor, the productive poor, and the richest of the poor (Alemu, 2008) and the hard core poor (Sharma, 2012). These categories include "widows, divorced women, women with disabled or chronically ill husbands, the elderly, child-headed households, the landless or functionally landless, day labourers, the disabled and those who are marginalised from the main stream because of their ethnicity and caste" (Davis, 2005 p 2). Most of the poor in Nepal fall into the above mentioned categories (Acharya, 2004; Shrestha, 2009; Sharma, 2012). The needs of the poor are based on the level of poverty (Davis, 2005; Hashemi and Umaira, 2011).

In this paper poverty is recognised as a lack of income where individuals are unable to afford basic necessities. Half of the world's adult population do not have access to formal financial services (Chaia et al., 2009). As a result these people are unable to participate in social and economic activities which could improve their well-being. This is the case in Nepal as more than 25.2%

(Acharya, 2004; The World Bank, 2012b) of the population are living in poverty. These people also have no access to financial and non-financial support that could assist them in overcoming their poverty.

One of the causes of poverty in Nepal is social exclusion. In Nepal, this is based on caste and ethnicity (Lawoti, 2010; Jones, 2012) where people are prevented from participating in various social and economic activities and where restrictions are placed on them according to their caste, ethnicity and family background (Acharya, 2004). This situation leads to their inability to participate in social and economic activities, and contributes to high unemployment and limited avenues for income generation. In addition, this situation has created and still creates civil unrest and political violence in Nepal (Sharma, 2006a). Many of the Nepalese youth are migrating to foreign countries in search of employment opportunities and better lives (Shrestha, 2009). Therefore it is vital to provide employment opportunities through social capital development and income generation activities.

The services available to poor people in Nepal are based on the intention and capability of the service providers (Sharma, 2012) and the capability of the service provider is based on the availability of finance, for example, if the service provider's intention is to focus on the profitability of the financing institution, they will only provide a financial service. Sometimes there is controversy between development agencies, government and non-government organisations regarding who should provide what services (Karlan and Valdivia, 2011). When the institutions only focus on their own profitability, their assistance might not benefit the poorest as these need multiple support services to tackle the issues related to their poverty. For example, the poorest need money for the basic necessities of living and health services, and they need skills and training to use resources effectively. Therefore the integration of various services with financial assistance is important for the poorest.

However, integrating non-financial services with the provision of microfinance calls for higher levels of assistance from the financing institutions, and many micro financing institutions do not have the focus and capability to offer integrated services. This is the case in Nepal. The services provided by micro financing institutions in the hill and mountain regions of Nepal are minimal (Shrestha, 2009), mainly because of lack of funds within the funding institutions. However this is where integrated services are most needed for recipients (Scott and Jacen, 2010) to tackle the issues related with poverty. Financial service alone to poor people is insufficient to improve their social and economic wellbeing as they lack more than finance (Poudyal, 2008).

The types of services required are based on the needs of the poor (Davis, 2005; Hashemi and Umaira, 2011; Sharma, 2012). for example: the entrepreneurial poor need finance and other support resources; the non-entrepreneurial poor have need of finance and training, as well as the other support resources : the poorest of the poor need finance for the basic necessities of living and health services, as well as education and training for the productive use of the loan.

Thus, a minimalist approach to microfinance is not sufficient for a number of reasons. First, the financial support alone may not be enough as the categories of poor vary. Secondly, the provision of a microfinance loan without appropriate support services is less likely to enable loan recipients to escape long-term poverty. The success of microfinance transitions is highly dependent upon a number of factors including support from family members, access to information and knowledge from others in the community, connections with a range of organisations including those within and outside the community. Microfinance that is integrated with support services that respond to the needs of recipients has the potential to prevent the misuse of funds by addressing the recipients' needs.

Microfinance and Social Capital in Nepal

Nepal is one of the poorest countries in the world (Jack et al., 2010), with more than 25% of the population living in extreme poverty (ADB, 2011). While the cause of poverty in the country is linked to political instability, this also contributes to a lack of available finance opportunities, the health and education levels of the population, the adequacy of infrastructure and social and spatial exclusion (Kernot, 2006; Sharma, 2006b; Do and Iyer, 2010).

In Nepal, international organisations, governments, development agencies, microfinance institutions (MFIs) and non-government organisations have implemented and are implementing various projects and programs to overcome poverty related issues. These programs and projects include, the Poverty Alleviation Fund, the Education for All Project, the Irrigation and Water Resources Management Project, the Road Sector Development Project, the Rural Self Reliance Fund, Priority Sector Lending Project, Production Credit for Rural Women, the Small Farmer Development Program, the Build Your Village Yourself, the Bisheshwar with Poor and the Micro Credit Project for Women (Joshi, 2011). These programs and projects are focused on human capital development and provide financial assistance to people who are excluded from formal sources of finance and infrastructure development. These programs aim to create a regular source of income through business ventures and employment, thereby assisting to alleviate poverty. In addition,

some of these programs are also focused on the development of social capital which in turn may lead to social and economic development of individuals and of the society as a whole. However for various reasons, the effectiveness of microfinance in alleviating poverty is questioned in the literature (Dahal, 2001; Kernot, 2006; Pokharel, 2008; Bista, 2009; Paudyal and Abraham, 2010).

The effectiveness of microfinance that provides minimal support to poor people is questioned in the literature as the finance provided may not necessarily be used for income generation activities. A growing body of literature has more recently identified problems with microfinance brought about by the apparent misuse of the loans by the finance recipients, pointing to recipients who have found themselves compelled to use the loan to fund necessary health care and their other basic needs (Poudyal, 2008; Shakya and Rankin, 2008; Jackson, 2010). In addition, finance recipients have been recorded as obtaining microfinance from a second provider in order to repay a loan from an earlier financier, leading to debilitating negative impacts on recipients (Shakya and Rankin, 2008; Hashemi and Umaira, 2011; Gentle and Maraseni, 2012). Furthermore the recipients may be encouraged by financiers to borrow more than their capacity (Sharma, 2009).

Spatial exclusion creates a challenge in providing microfinance in the remote hill and mountain regions of Nepal. The people living in those regions need support to develop infrastructure like roads (ADB, 2011), irrigation and sanitation, as well as informal education, training and marketing services to overcome the problems associated with their poverty (Scott and Jacen, 2010). Infrastructure development like road construction benefits poor people in Nepal (Jacoby, 2000). The role of social capital has been extensively researched in the field of economic and social studies (Woolcock and Narayan, 2000; Gomez and Santor, 2001; Bhuiyan, 2011; d'Hombres et al., 2011; Mwangi and Ouma, 2012). However, research on the capability of integrated microfinance programs and projects to create social capital is limited.

The development of social capital is important in improving the socio-economic status of a community through social and economic activities (Dhakal; Rankin, 2002). However research on the importance of social capital in contributing to the success of microfinance recipients in the Nepalese context is limited. Research is therefore needed to understand how an integrated approach to microfinance can promote the social and economic success of the finance recipients in Nepalese communities, and how this can contribute to the development of social capital.

Developing Social Capital

The political crisis and decade long (1996-2006) civil war in Nepal has been found to have damaged the harmony that existed between different groups, castes, ethnicities and indigenous communities in the country (Bohara et al., 2006). This paper proposes that integrated microfinance could be an important stimulus in rebuilding social capital in Nepal.

Social capital has a positive impact on health, education, employment and life style (Putnam 2000). Social capital creates self-confidence and feelings of mutual co-operation between individuals and institutions (Woodworth, 2008). In certain circumstances, to participate in a microfinance program, it is important for the participants to have a good reference, as well as the support and co-operation from the members of their communities (Shakya and Rankin, 2008). In addition, the participants need support and co-operation from their family, friends, neighbours and communities to operate their business venture successfully. .

The various non-financial support services incorporated into integrated microfinance programs are often tailored to the needs of the recipients. Because these services can include business, finance and health education programs, there is scope for these to strengthen the bonds of social capital within a finance recipient's family and community networks (Feigenberg et al., 2010). In addition, assistance to aid recipients to develop links outside their own networks would facilitate bridging social capital, by connecting them to market participants and other institutions of assistance. If microfinance can facilitate the development of social capital among the recipients, this could contribute to the success of the microfinance ventures.

Conceptualising social capital provides a frame for the social forces that influence economic development (Narayan, 2002; Woodhouse, 2006). It is imperative to build social capital and confidence among the recipients of microfinance to enhance the effectiveness of the services delivered (Maes and Foose, 2006) and to contribute to the economic success of individuals. Therefore integrated microfinance is important in enhancing the effectiveness of microfinance as it is expected to have the capacity to develop human and social capital through interaction, knowledge sharing, support and networking.

The Integrated Approach to Microfinance

Minimalist approaches to microfinance have been found to have failed to assist the poorest of the poor (Simanowitz and Walter, 2002; Amin et al., 2003;

Matin, 2011). Such approaches usually only help those who have access to some resources, such as income producing land, and when the microfinance is not needed to provide the basic necessities for living. (Hashemi and Umaira, 2011). Therefore it is important to integrate support services into the loan for the poorest if the intention is to alleviate their poverty.

For the poorest of the poor, credit alone is not enough to generate a regular source of income (Dichter, 1996). The minimalist approach is not able to create synergies between the needs of microfinance recipients and the productive use of the loan. Such recipients require more than finance and, in order to develop a regular source of income , it is important to provide non-financial support to the poorest of the poor, in addition to the loan (Simanowitz and Walter, 2002; Davis, 2005; Nawaz, 2010; Akhtar and Bodla, 2011; Amin and Sheikh, 2011). This is essential if recipients are to advance their social and economic status, and the integrated approach to microfinance provided by the Bangladesh Rural Advancement Committee (BRAC) is an example of the successful adoption of the integrated approach (Amin and Sheikh, 2011).

Non-financial services provided to the clients are the foundation for the capacity building of the recipients. The provision of non-financial services such as training, education and awareness programs offered to the clients have the capacity to promote social capital and increase the client's ability to generate a regular source of income (Jani and Pedroni, 1997). As a result loan recipients will be in a better position to break the cycle of poverty. The literature suggests that the microfinance institutions which provide non-financial support services into addition to the loans are more successful than those which offer loans with the additional support services. (Alemu, 2008; Amin and Sheikh, 2011). The literature indicates that the provision of non-financial support can reduce the structural causes of poverty and achieve an effective outcome (Davis, 2005; Leatherman et al., 2011). In addition, it is also important to improve the quality of the experience of microfinance recipients through multiple service delivery. The integrated approach to microfinance has the potential to benefit the recipient and the provider as it creates synergies that can generate a regular source of income for the recipients (Dunford et al., 2007; Alemu, 2008; Orbuch, 2011) and, by building the recipient's capacity, can prevent the misuse of the funds(Nawaz, 2010; Amin and Sheikh, 2011; Hashemi and Umaira, 2011; Karlan and Valdivia, 2011). In this way, mmicrofinance has the potential to transform the lives of the poor if it is approached holistically. This paper proposes that the effective delivery of a microfinance services should integrate finance and non-financial support services that are tailored to meet the needs of the recipients. This has cost implications for the microfinance institutions. In providing only financial

support, the minimalist approach avoids the additional costs associated with the provision of the non-financial support services. However, this neglects the long term benefits to loan recipients enabled by the integration of the non-financial support. Currently, most microfinance institutions limit their service to the provision of financial support, thereby avoiding the immediate cost of offering additional non-financial services (Lensink et al., 2011), thus increasing the short-term profitability of the microfinance institution (Dunford, 2001).

The result of integrated microfinance, on the other hand, is not immediate. It takes time to see significant benefits of the integrated approach (Biosca et al., 2011). The delivery of integrated services has the potential to increase the cost for the microfinance provider. However the integrated approach is more likely to prevent the misuse of funds and, in the long run, the benefits will outweigh the costs associated with delivery of the additional services. In the longer term, this has the potential to benefit both the financier and the recipient of the loan (Lensink et al., 2011). Amin and Sheikh (2011) compared the performance of three microfinance institutions: Grameen Bank and the Association for Social Advancement (ASA) which adopted the minimalist approach, and BRAC which adopted an integrated approach in Bangladesh. Their findings showed that BRAC was more productive. While the additional support services provided by BRAC to its clients increased the cost of providing the microfinance, with the resulting productive use of the loans, there were more overall benefits than costs. This finding suggests that integrated microfinance is more effective than minimalist microfinance. However, any possible connection between the expanded support services offered under the integrated approach and the development of social capital has not been previously studied.

Proposed Research Framework

Despite the many programs and projects implemented in Nepal to improve the economic and social wellbeing of the poor, a significant proportion of the poor in the country still do not have access to basic human needs. This is at least partly due to the multidimensional nature of poverty and the need to provide additional non-financial support when providing microfinance.

This point to the need to adopt an integrated approach to microfinance to overcome the problems associated with poverty in Nepal. This paper outlines a proposed study of the microfinance provided by a microfinance institution in Nepal. The research will include interviews of recipients of loans that have incorporated non-financial support services, and the impacts of the loans on

those recipients and their communities. In addition, the institution's caseworkers will be interviewed to better understand the nature of the institution's support and the impact of that on the institution. They will also be invited to participate in focus groups discussions. This will not only provide additional data for the research, but also allow interaction between the case workers and thus assist them to be more aware of approaches adopted by their colleagues. The information collected from the case workers will focus on gaining more information about the integrated microfinance, the aim and operation of the institution, and the history, success and past experience of the recipients. In addition, the questions will evaluate the role of social capital in creating a positive impact in the life of the recipients.

The empirical evidence from interviews with the two groups and feedback from focus groups will be triangulated with data obtained through document analysis. These documents will include stories of the recipients' performance published by the institution, institutional reports and media release, and will be collected from websites, news outlets and institutional records. The data will be analysed through thematic analysis using a qualitative research analysis program such as nVIVO.

This analysis will provide the basis for this research which aims to investigate how the provision of microfinance, which includes non-financial support services, contributes to the social capital in the local communities.

Concluding Comments

Income poverty prevents people accessing basic necessities, such as food, clothes, shelter, health and education and is a major problem in developing countries. Income poverty is a result of social exclusion, political instability and low levels of social and economic development activities (Qureshi et al., 2010). This situation exacerbates the cycle of poverty, and it is therefore important to promote income generation activities which will break the cycle. The issues related to poverty cannot be solved by simply giving money to the poor. The literature suggests that minimalist approaches to microfinance are not able to address the causes of poverty. Problems associated with existing minimalist structures of microfinance can be addressed through the adoption of an integrated approach to microfinance (Biosca et al., 2011; Matin, 2011). This approach has the capacity to develop social capital through the provision of non-financial support services that ensure the needs of the poor are met in ways that enable them to generate a regular source of income.

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Capital Market Development in Nepal

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Abstract

This paper assesses the capital market developmental issues and prospects in Nepal by following descriptive cum analytical research methodology. Capital market is the best alternative to allocate scarce resources efficiently within the economies. The capital market is the efficient mechanism of long term fund mobilisation which can avail funds at lowest possible cost by creating a direct link between surplus units and deficit units. Nepal being a capital deficient country has to develop capital market to allocate scarce resources efficiently within the economy and enhance its economic growth. Nepalese capital market is in underdeveloped stage with many regulatory, institutional and infrastructural weaknesses. lack of enforcement of securities legal provisions, insufficient market investigation of fraud related market activities, inefficient trading and clearing and settlement system, lack of credit rating system, close nature of ownership patterns, poor corporate governance practices, poor disclosure practices, low number of informed and professional investors and relationship based lending practices of financial institutions are the issues collectively responsible for the underdeveloped stage of capital market. Effective enforcement of legal provisions of Securities related Act and Regulations, institutional strengthening and enhancing the autonomy of regulator, encouraging self-regulatory organisations, increasing disclosure practices, prescribing a good corporate governance codes to the public companies, bringing mutual funds Act and central depository Act, establishing internet based trading system, operation of central securities' depository, strengthening the regulatory environment with adequate autonomy to the regulator, encouraging to establish self-regulatory entities, and effective implementation of five years capital market development plan are the suggestive measures to address the major issues and transform capital market into a viable option of long term funds mobilisation in Nepal.

Introduction

Capital market, which deals with securities such as stocks and bonds, is associated with financial resource mobilization on a long term basis. Capital market helps to channel public savings to industrial and business enterprises at the lowest possible cost by providing direct link between surplus units and deficit units of the economy. In the new and challenging environment, capital market would have a relatively more important role in the allocation of resources and risks. Capital market also allows for wider ownership among the public, thereby distributing risks and wealth among smaller investors. For investors, it provides an effective vehicle for making investment choices which suit their own preference on risk and returns based on available information.

Generally in developing countries, for various economic and policy reasons, capital market is underdeveloped. In those countries where a capital market does exist, it is in a very rudimentary state. Private wealth and investments are concentrated among several large companies and individuals. The choice of market instruments is also very limited. As a result, these capital markets are very narrow based. They are constrained by limited investment opportunities and low income and savings rates. In many cases, the economy with the high inflation, leads to a savings disincentive and capital flight. Capital market development is a lengthy, evolutionary process. It is an indicator of the state of economic development of the country since an efficient well-developed capital market is only possible when there is substantial income generation and investment opportunities. This paper aims at providing inputs to the policy maker who are involving to reform capital market in Nepal by following descriptive cum analytical research methodology. Anglo-Saxon and Nepali literature are being reviewed to highlight the implication of capital market in the economy along with analysing data and information on securities market sector and banking sector. The limitations of the study is solely concentrating in the secondary sources of information and relying on trend analysis.

Section II presents the historical development of capital market in Nepal. Section III of this paper explains the role and significance of capital market in the economy. Section IV covers capital market legal provisions. Section V highlights the trend and status of the capital market. Section VI deals with the major issues and prospects regarding the development and expansion of the capital market. Finally, section VII presents concluding remarks.

Historical Development of Capital Market in Nepal

The history of capital market began with the flotation of shares to the general public by Biratnagar Jute Mills Ltd. and Nepal Bank Ltd. in 1937. However, the development of capital market could not be national policy for a long time. The then industrial policy of Nepal led to the development of capital market with the establishment of Securities Marketing Centre (SMC) in 1976.

SMC opened its trading floor for secondary trading of securities in 1981, which was restricted to Government bonds. Till 1983, the concept of well-structured secondary market had not evolved in Nepal. No separate Act was there to regulate the trading of securities. The Securities Exchange Act, 1983 got enactment in 1983. In 1984, SMC was converted into the Securities Exchange Centre (SEC) with the ownership of the Government, Nepal Rastra Bank- the Central Bank- and the Nepal Industrial Development Corporation- a Government owned industrial development bank. The main function of SEC was to assist in the development of a capital market by performing the role of a broker, underwriter and issue manager, and to sell Government bonds. It operated an over the counter market for corporate securities and Government bonds. After the inception of the Securities Exchange Centre, shares of various manufacturing, trading and banking companies got listed. Interestingly, the listed shares were dominated by public enterprises during this stage. SEC opened its floor for corporate share trading by listing the corporate securities in November 1984.

The accelerated liberalization during 1990s accelerated further development of capital market in the country. The SEC had set a goal to develop different institutional mechanisms relating to capital market realising the fact that the same institution providing different services could create conflict of interest between one service and another. The goal of SEC creating specialised institutions turned into reality when the first amendment in the Securities Exchange Act, 1983 made in 1993. This amendment in the Act paved the way for the restructuring of capital market in Nepal. The first amendment in the Act led to the establishment of Securities Board, Nepal in 1993 with a mandate to regulate and develop the capital market. Securities Board, Nepal started to register securities and grant approval for issuing securities to the public in 1993. The first amendment in the Act also led to conversion of SEC into Nepal Stock Exchange Ltd. (NEPSE) in 1993 with the objective of operating and managing secondary transactions of securities. The initial efforts led to the opening of a full-fledged stock exchange in January 13, 1994.

The second amendment in Securities Exchange Act, 1983 was made in 1997. This amendment made provision for registering securities businesspersons in

Securities Board, Nepal. Trading system of NEPSE was automated under the Corporate and Financial Governance (CFG) project in the year 2007, which replaced the open-out-cry trading system used in NEPSE since its establishment. In the year 2007, Securities related Act, 2007 was enacted incorporating the provisions, among others, that require the public companies to register all the securities with the SEBON before their issuance.

In the history of Nepalese capital market, the highest recorded NEPSE index is 1175.38 points on August 31, 2008. SEBON initiated formal investors' education programme in its office premises in the year 2008, commercial bench judges, lawyers and economic media education on capital market in the year 2009, and being continued to the extent of launching national campaign on capital market awareness and investors' education in the fiscal year 2010/11.

SEBON implemented Securities Data Management System (SDMS) project under the Economic Reform Programme of Government of Nepal with the grant assistance of International Development Association in the year 2009. The project, among others, has developed central securities data bank of Nepal (CSDBN), on-line reporting system in SEBON, and two gov. format websites: www.sedfar.gov.np and www.sebon.gov.np for SEBON. The SDMS project has been awarded with the certificate of excellence for making valuable contribution to the country's economic and governance reforms with successful implementation. SEBON started to provide licenses to merchant bankers under Merchant Banking Regulation, 2007 in the year 2009, which led to full-fledged merchant banking businesses in the country. SEBON has become the founding member of Asia Forum for Investors Education (AFIE) with an objective to achieve international exposure and enhancement of expertise and capability on investors' education and awareness in the year 2009.

In the year 2009, SEBON prepared a concept paper and submitted to the Ministry of Finance for the establishment of Central Securities Depository (CSD) as an independent company which has recently led to establish CSD in the country, which was licensed by SEBON in 25 August, 2011 in the name of CDS and Clearing Limited. CDS and Clearing Limited started its operation in 16 July, 2012 by opening of the first dematerialisation account.

With the objective of bringing the merchant banking business only under the sole regulatory ambit of SEBON, provisions made to require the banks and other financial institutions to establish subsidiary company for operating merchant banking business in the year 2010. In the year 2011, five years capital market development master plan has been formulated under the technical assistance

of World Bank-First Initiative with the major objective of developing a vibrant and flourishing capital market in the country.

With the aforementioned historical development, the current status of Nepalese capital market includes 48 stockbrokers, 14 merchant bankers and one stock exchange (NEPSE), 223 listed companies with Rs.3,96,404.36 million market capitalisation, 418.89 points NEPSE index as on 13 September 2012.

Role and Significance of Capital Market in the Economy

The activities of buying and selling securities in the capital market are extremely important for the efficient allocation of capital within economies. Mass participation in country's industrialisation process is possible only through the efficient mechanism of the capital market as it promotes efficient collection of small and scattered savings from the investors and provides returns to them in the form of dividend and interest with the productive uses of the savings. A developed capital market is the medium through which only productive firms that have better performance can easily raise capital. In other words, well-developed capital markets enable high-quality firms to increasingly finance themselves from securities (bond and equity) rather than bank loans (Shirai, 2004). This type of behaviour of developed market enhances the economic growth process by the productivity growth.

Capital market plays a crucial role in promoting economic activity worldwide by facilitating and diversifying firms' access to finance (ACCA, 2012). It helps in channelling investment where it is needed and can be put to best use. The capital market works as the channel through which the public savings are channelled to industrial and business enterprises. Mobilisation of such resources for investment is certainly a necessary condition for economic take off but the quality of their allocation to various investment projects is as important as a factor for growth. Capital market helps agents manage liquidity and productivity risk by eliminating premature capital liquidation, which increases corporate sector productivity.

Capital market contributes to mobilisation of domestic savings by enhancing the set of financial investments available to savers to diversify their portfolios. In doing so, it provides an important source of investment capital at relatively low cost (Dailami and Aktin, 1990). Capital market helps investors to cope with liquidity risk by allowing those who receive a liquidity shock to sell their stake to other investors. The result is that capital is not prematurely removed from firms to satisfy short term liquidity needs. Moreover, capital market plays a key role in allocating capital to the corporate sector, which will have a real effect on the economy in aggregate.

In the new and challenging environment, capital market would have a relatively more important role in the allocation of resources and diversification of risks. The capital market is important not only to finance growth but also to provide economic stability (Mochammad, 2005). As an integral part and indicator of the nation's development, the capital market represents a vital part of the financial market infrastructure which, together with the banking sector, supports the economic growth of the country. From a broader economic perspective, the capital market contributes directly to national economic growth in terms of employment and tax revenues, and indirectly through facilitating greater knowledge development. Given the information-and technology-intensive nature of the capital market, it will be an important facilitator of development as the nation moves towards becoming a knowledge-based economy and with the increasing use of information and communications technology. A fair, efficient and liquid capital market facilitates the mobilisation and allocation of funds within the domestic economy, and acts as a gateway to country for global investors. Thus capital market assumes a greater role and significance in the present day economies.

Overview of the Legal Provisions

Capital market operates and develops in a given regulatory framework which is determined by the relevant legal provisions. Global capital market regulation is guided by the principles of the International Organisation of Securities Commissions (IOSCO). The recent IOSCO principles cover specific policy areas such as credit rating agencies and auditor independence and oversight, in addition to broader areas including monitoring, mitigating and managing systemic risk; regularly reviewing the perimeter of regulation; and requiring that conflicts of interest and misalignment of incentives are avoided, eliminated, disclosed or otherwise managed. The principles, which are an agreed set of high-level global standards outline the basis of an appropriate, effective and robust securities regulatory system, therefore their proper implementation by securities regulators is critical to the creation and maintenance of a sound global regulatory system.

The legal framework of the capital market in Nepal had beginnings with Securities Exchange Act, 1983. This Act with its amendments led to establish institutional bases of capital market including the establishment of SEBON. Prevailing capital market legal provisions encompass Securities related Act, 2007; Securities Board of Nepal Regulation, 2007; Securities Businesspersons (Broker, Dealer and Market Maker) Regulation, 2007; Securities

Businesspersons (Merchant Banker) Regulation, 2007; Securities Registration and Issuance Regulation, 2008; Stock Exchange Operation Regulation, 2008; Mutual Fund Regulation, 2010; Central Securities Depository Services Regulation, 2010; and Credit Rating Agency Regulation, 2011.

Securities related Act, 2007 has been enacted since January 14, 2007 with the provisions of making more competitive, transparent and credible securities market. The basic features of the Act and Regulations include provisions for strengthening regulatory system and empowering SEBON, one window policy in securities issuance and of making prospectus more transparent, upgrading the stock exchange at par with the international standards, approval of mutual funds operations, the establishment and operation of CSD, compensation by the promoters either in individual or collectively for the loss of the shareholder in case of non-compliance of securities regulation, provision of Investors' Compensation Fund, and separate punitive measures for different securities related abuses.

The aforementioned securities related Act and Regulations and features therein, while still to be at par with the principles of IOSCO with the absence of trustee provisions as the provisions do not allow SEBON to approve rules and regulations as well as weak in enforcement provisions relating to specific punitive action to the listed company and its board of directors for non-compliance of special directive of SEBON and also regulation of annual general meeting (AGM), have altered significantly the scope of capital market as compared to past.

Developmental Trend and Status

The table 1 in the next page presents the size of the market during the past 14 years, the annual average amount of public issue was Rs.3999.76 million, annual average amount of turnover was Rs.6342.86 million, annual average paid up value of listed securities was Rs.27965.9 million, annual average percent of turnover on market value was 4.13, and annual average percent of market value on nominal GDP at producers' price was 18.29. During the almost same period of time, if we see the trend of commercial banking activities as given in table 2 in the next page, we see that the annual average deposits is Rs.309420.1 million, annual average loans and advances is Rs.302173.4 million, sources or uses of funds is Rs.366863.1 million, loans and advances deposits ratio excluding claims on government is 96.49 percent. The comparison between the stock market activities and commercial banking activities of the economy revealed that annual average deposits is 1006.42 percent higher than the paid up capital of listed securities, loans and

advances is 7454.79 percent higher than the funds mobilised through public issue of securities and annual average sources or uses of funds is 137.38 percent higher than the annual average market value of stock market indicating very small size of stock market.

A comparative analysis of the dynamism of stock market and commercial banks during fiscal year 1997/98 to fiscal year 2010/11 revealed that annual average turnover on market value of the stock market is only 4.13 percent (below than 7.5 percent specified by World Bank for emerging markets) whereas annual average loans and advances deposits ratio excluding claims of government on the commercial banks is 96.49 percent which is quite higher. The comparison of contribution of capital market and commercial banks on the economy revealed that annual average percent of market value on nominal GDP at market price during fiscal year 1997/98 to fiscal year 2010/11 is 18.29 percent whereas annual average percent of sources or uses of funds on nominal GDP at market price is 55.71 percent reflecting a far higher contribution of commercial banks on the economy. Further, if we see annual trend of number of listed companies over the period it was 101 in fiscal year 1997/98 to 207 in fiscal year 2010/11, it is encouraging, however, if we see the NEPSE index-basic indicator of market trend, it is being highly volatile, i.e., starting from 163.3 points in fiscal year 1997/98, reached to 362.85 points in fiscal year 2010/11, and year end maximum was 963.86 points in fiscal year 2007/08. The index was highly fluctuating within the fiscal year as well.

To date, market is not opened for cross-border listing and trading, i.e., neither Nepalese companies are allowed to be listed and traded in the foreign market nor foreign companies are allowed to be listed and traded in the Nepalese market. Market is not even opened to non-resident Nepalese for direct trading. SEBON in its 20 years history has not been the member of IOSCO, which led to be difficult to build international networking and benchmarking regulatory provisions of Nepal vis-a-vis international regulatory provisions.

The above indicators show that capital market in Nepal is in the initial stage of development with low level of resource mobilisation, low level of turnover, and low level of impact on national economy.

Major Developmental Issues and Prospects

As aforementioned Nepalese capital market is in initial stage of development, in such a capital market there may be different issues and prospects for its development. The following sub-sections deal with the major issues and prospects of capital market development in Nepal.

a) Financial sector dominance

In Nepal, the financial sector has witnessed tremendous growth and profitability, in contrast to the manufacturing and processing sector where profitability has been very low. The manufacturing companies which are listed on the stock exchange have typically been very stagnant with poor track record of profitability. Privately owned companies which are profitable generally hesitate to go public owing to tax or other reasons. As a result, the growth of the stock market has mainly been due to the financial liberalization and the resulting growth of the financial sector, i.e., commercial banks, development banks, finance companies, and insurance companies. Trading continues to be dominated by financial institutions such as commercial banks, insurance companies and finance companies. This sector occupies more than 85 percent of the turnover whereas the other sectors including manufacturing and processing sector constitutes below 15 percent of the total turnover. This is mostly attributable to the better financial health of these organisations with regular dividend payouts in contrast to the manufacturing and processing, trading, hotel, and other sectors. One of the most common problems in emerging markets is the scarcity of public companies. As Fan et al. (2011) explain, 'the ownership of a typical emerging market firm is concentrated in a family or a Government agency. The closely held business enterprises are highly reluctant to go public. This hesitation usually stems from the fear of making their financial statements public, thus no longer being hidden from tax authorities. In developing countries, where information is so scarce, businesses fear sharing this information to outsiders, especially to the competitors. Well established businesses have very strong relationships with commercial banks that will happily cover their financial needs. In Nepal, this is evident from the fact that more than two third of the listed companies are financial institutions, which are required to issue securities by mandatory public issue provisions.

b) Enforcement of legal provisions and adequacy of securities laws

The Securities related Act, 2007 incorporates, among others, legal provisions of international standards and provides regulator with adequate enforcement and investigation power and required procedure, provision of investors' compensation claim for any loss or damage occurred due to de-listing of securities and misinformation of issuer companies at the time of public issue, and provision of enhancing market supervisory and monitoring capabilities of SEBON along with special power to order the listed companies to convene the general meeting, provision to review financial statement submitted by body corporate, provision to reform the management, financial and other concerned matter for the body corporate, and to issue directives to the securities businesspersons to maintain minimum capital and financial resources. There is significant improvement in the new provisions regarding

penalties; SEBON can impose monetary penalties as per the severity of the cases. Similarly, under the Securities related Act SEBON has enhanced authority with regard to fraud, such as misrepresentation, in the offer and sale of securities. Now with this, we can say that the major issue and prospect of the credible development of capital market is to strictly enforce these provisions by building and enhancing the regulatory capability of SEBON. The other securities market supportive laws such as insolvency, arbitration and trust laws should be enacted to address the general gaps in securities laws. Similarly, SEBON should be the member of IOSCO for building international network, exchange of supervisory information and benchmarking regulatory provisions in the international context.

A unique problem for proper enforcement in Nepal has been the ownership structure of institutions, i.e., structural hurdle in Nepal. NEPSE, instead of being owned by brokers, is still owned by the Central Bank, Government and a semi-government enterprise, the Nepal Industrial Development Corporation. Experience elsewhere has shown that regulatory enforcement over government owned agencies is weak. This ownership structure has removed a layer of self-regulation which is an international standard in this area. All these factors make it very easy to manipulate the market, making the market quite volatile. To date, there is not any example of enforcement made by SEBON in the case of insider trading. This makes it all the more important to strengthen the regulatory capacity and enforcement ability of the regulatory body.

c) Develop self-regulatory structure

An important element in capital market regulation is the presence of self-regulatory bodies such as a stock exchange which is owned by brokers and develops its own rules and standards. Similar self-regulatory organizations like Merchant Bank's Association, National Stock Exchange of India Limited and investor education institutions like Korea Council for Investor Education (KCIE) and Korea Financial Investment Association (KOFIA) and Japan Securities Dealers Association (JSDA) are encouraged to be established. As an SRO established under the Financial Instruments and Exchange Act, JSDA extensively regulates market intermediaries aiming at protecting investors and ensuring integrity and efficiency of the market. This level of regulation is conspicuously absent in Nepal. Government stake of the stock exchange should be divested and develop it as self-regulatory entity. Privatization of NEPSE with the stake of foreign strategic partner preferably of sophisticated exchange of Asian region or allowing a new stock exchange in private sector is the dire need of the Nepalese capital market to develop secondary market as self-regulatory mechanism. This is vital to develop the quality, integrity and credibility of the capital market profession.

d) Liberal economic policies, economic growth and incentive structures

A healthy macroeconomic environment supported by favourable economic policies leading to increased savings and investments is the prerequisite for a stable and healthy growth of capital market. For example, in many emerging markets, privatization of state owned enterprises has played a crucial role in promoting capital markets. Ultimately, the status of capital market is a reflection of the state of economic growth of the country. SEBON is unable to make effective and efficient efforts in regulating securities market as it is in need of expertise in some critical areas such as legal and accounting, and research and studies. SEBON's manpower policies should be directed towards recruiting and retaining such professionals with proper incentives. Government, especially ministry of finance should be more liberal to provide adequate incentives as well as operational autonomy to the SEBON.

e) Corporate governance practices

Good corporate governance plays an important role in the development of capital market in terms of integrity and efficiency. Generally companies with poor governance practices hesitate to issue securities. Companies with poor governance practices lack credibility. In many emerging markets, the issue of corporate credibility is one of the most significant challenges faced by public firms in raising capital (Travlos, Trigeorgis and Vafeas, 2001). Public limited companies with poor corporate governance practices from manufacturing and processing, trading and hotel sectors issued securities in the past had very poor performance and could not provide any returns to the investors. Presently investors hesitate to subscribe public issues from manufacturing and processing, trading and hotel sectors and due to this the companies from these sectors face difficulties in raising funds from the market. To improve the situation, adequate tax and other incentives should be provided to the companies operating with good corporate governance practices and issuing securities. Similarly market regulators such as SEBON and Institute of Chartered Accountants of Nepal (ICAN) should prescribe codes on corporate governance and should make mandatory provisions to follow them by the issuer and listed companies.

f) Disclosure practices

Capital markets are highly information sensitive. In order to secure investors' confidence, a flow of information is a must as investors can make informed decisions in capital market only with the availability of adequate information. Informed decisions of investors not only help to stabilise price of securities but also help to attract potential investors in the market. As Lambert et al. (2007) and Gao (2010) demonstrate, disclosures may reduce the information asymmetries involved in investing in businesses, thus lowering the cost of

capital. During fiscal year 2005/06 to fiscal year 2010/11, only 14.60 percent of the total listed companies on an average presented their annual reports and other financial statements to SEBON on time. The disclosure practice relating to price sensitive information is still very poor. SEBON should enforce relevant legal provisions in order to improve disclosure practice of the listed companies. NEPSE needs to be developed as a self-regulatory organisation and needs to make securities transaction more transparent by inducting new trading system with the scope of viewing market depth by the investors.

g) High transaction cost

Level of capital market development is an important determinant of transaction cost. The capital market in Nepal is underdeveloped one where procedural or opportunity cost is significantly higher than explicit cost. Internet based trading system is still absence in Nepal. CSD and credit rating agency (CRA) are yet to be operated in Nepal. There is practice of keeping physical certificates of securities, as a proof of ownership on securities. This creates hurdles like lengthy settlement process from NEPSE as transactions are settled one by one and a longer time taken by the listed companies for transfer of ownership.

A recent study conducted by SEBON on transaction costs revealed that average transaction costs of India is 0.31 percent, 0.43 percent of Hong Kong, 0.97 percent of Malaysia, and more than 1.0 percent including transfer of securities within the family members and death transfer of securities of Nepal (SEBON, 2012). Thus the transaction cost of Nepal is the highest as compared to other emerging markets in the world. The establishment of internet based trading system and full-fledged operation of CSD will increase the ease of trade execution for the investors residing all over the country will lead to higher volume of securities trading and lower transaction cost.

h) Capital market development plans and programmes

Since the eighth plan, there were sufficient coverage of stock market development programmes, however, until three-year interim plan roughly on an average only 20-30 percent of the stock market programmes have been found implemented. Attracting institutional investors' investment in the stock market, and formulation of trust Act were the programmes in eighth, ninth, tenth and three-year interim plan, however, the actual implementation of these programmes are not yet completed. Similarly, the status of implementation of strategic plan (1998-2002) prepared by SEBON was also same. Recently, five years capital market development master plan, 2012-16 has been formulated with the technical assistance of World Bank -FIRST Initiative which is highly acknowledged by all stakeholders. The plan is

formulated with the involvement of almost all stakeholders of the marker including commodity derivative exchanges, clearing and non-clearing members. Now the major challenge for the following five years is to effectively implement the plan.

Concluding Remarks

There is no other best alternative than to develop capital market to allocate scarce resources efficiently within the economies and increase mass participation in country's industrialisation and commercialisation process. While capital market had its beginnings much earlier through the establishment of the Securities Exchange Centre, a market based system of securities trading was adopted only in 1994. The amendment in the Securities Exchange Act which enabled this change allowed the entry of private intermediaries and set up an oversight agency-SEBON. Following this change, the capital market in Nepal has witnessed high growth in terms of public issue, secondary trading, paid up capital, and number of listed companies. However, the qualitative development of capital market in terms of regulatory efficiency and infrastructural development is yet to be achieved.

There is relative dearth of companies which can be listed and traded from the real sector and also whatever companies are in real sector, they are also hesitant to raise funds from the capital market. One of the biggest reasons in the reluctance of profitable private companies to go public since their financial information which needs to be disclosed by public companies will no longer be hidden from tax authorities. The adoption of a set of good corporate governance practice should be mandatory to the companies to be broad based and restore investor confidence in market.

In Nepal, the capital market is not being attractive to all due to the overlapping ownership structure of institutions such as NEPSE and infrastructural and enforcement weaknesses. As a result of the market is prone to manipulation which is extremely difficult to track and even more, to take action upon. The major solution of the imperfections of the market is to implement the recommendations in the Five Years Capital Market Development Master Plan effectively according to schedule. In the process, implementation must strengthen the regulatory environment with adequate autonomy to the regulator as well as achieve high standards of supervision, enforcement, and investor protection. This is expected to foster the development of Nepalese capital market.

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Private Returns to Education in India By Gender and Location: A Pseudo-panel Approach

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Abstract

Skill and education embodied in individuals is called human capital, a concept introduced by Nobel Laureate Schultz (1960) and elaborated on by Nobel Laureate Becker (1964). Though, it depends both on education and health, much of the literature however focuses on education. This study employs the pseudo-panel approach for estimating returns to education in India for different levels of education, location wise and gender wise, using the standard Mincer equation. Pseudo-panel data are constructed from 61st and 66th round of NSSO employment and unemployment survey data. The average return to education, as calculated in this study, comes at around 15% per year of education. Return to primary education comes out at about 4.75% whereas returns to middle, secondary and senior secondary levels are 6.9%, 13.5% and 12.9% respectively for the year 2009-10. In India, around 28.9% of the population has acquired education only till primary/middle level. Return to secondary education is twice as large as that of primary/middle level education. Hence, it pays to acquire secondary education as returns to education are convex. College education in India proves to be rewarding with return standing at 22.59% and university education at 16.8%. Return to technical diploma/certificate stand highest at 25.7% for the same period.

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Introduction

Education is often used to refer to formal learning. Its broader meaning covers a range of experiences including the building of understanding and knowledge through day to day experiences. Education can take several forms including on-the-job training.

Some economists (like Spence, 1973) believe that education does not lead to higher wages (and productivity), it only has a signaling effect. While education does serve as a signaling tool, it also influences productivity and hence income. In order to measure the impact of education on income, an important tool used is "rate of return". The concept of "rate of return" on investment in education is very similar to that for any other investment.

There have been attempts to estimate private returns to education in India. According to Duraisamy (2000), the private rate of return per year of education in India for the period 1993-94 increases as the level of education increases up to the secondary level and declines thereafter. Kingdon and Theopold (2005) estimate the mean returns to education in India during 1999-00 to be 8.34% and 7.81% during 1993-94. The authors do not estimate returns to education for each level of education.

The purpose of this paper is to estimate private rate of return to education in India on the basis of gender and location using data for the period 2004-05 and 2009-10. The pseudo panel approach is used to account for unobserved variables such as parental education, individual ability and motivational factors. The data used in this study come from the Employment and Unemployment surveys of National Sample Survey (NSS), 61st and 66th round. The average return to education, as calculated in this study, stands at 15% per year of education. Return to primary education comes out at about 4.7% whereas returns to middle, secondary and senior secondary levels are 6.9%, 13.5% and 12.9% respectively. In India, around 28.9% of the population has acquired education only till primary/middle level. Return to secondary education is twice as large as that of primary/middle level education. Hence, it pays to acquire secondary education as returns to education are convex.

On looking at gender wise comparison of returns, we find that returns at initial levels of education (primary and middle) are lower for females but for further levels of education the situation reverses. Except for post graduation and above, females earn higher return to education at all levels after middle level of education. Looking at the impact of location on returns to school education reveals that returns are generally lower in rural areas than in urban areas.

This paper is developed as follows: (1) introduction; (2) literature review (3) a brief discussion on data and modeling the impact of education on incomes of individuals; (4) estimates of returns to education; (5) conclusion and policy recommendations.

Literature Review

There exists a vast literature on education. The idea of considering expenditure on education as an investment instead of consumption expenditure came in the 1960s. Becker (1964) presented a lengthy discussion of on-the-job training as a form of education. On the contrary, some economists believe that education does not add to the ability of an individual but helps in signaling his/her ability in labour market (Spence, 1973). It is ability that explains higher wages (and productivity), but the evidence is mixed.

It has been noted very clearly that investment in education in India is economically productive. Duraisamy (2000) provides estimates of the private returns to education in India by gender, age cohort and location (rural-urban) for the period 1993-94, and also evaluates the changes in returns over a period of time from 1983-94. Data from employment and unemployment survey from two rounds of the National Sample Surveys (NSS) for the years 1983 and 1993-94 are used for the purpose. The author finds that the private rate of return per year of education for the period 1993-94 increases as the level of education increases up to the secondary level (7.9% for primary level to 13.8% for secondary level). The wage premium for technical diploma is notably high (at 14.9%).

A similar study using more recent all India data (NSSO: 1993-94 and 1999-2000) was done by Kingdon and Theopold in 2005. They estimated average returns to education and do not estimate returns for different levels of education separately. The estimated mean returns to education come out to be 8.34% in 1999-00 and 7.81% in 1993-94.

Psacharopoulos and Patrinos (2002) made an international comparison of returns to education covering Asia, Europe / Middle East / North Africa, Latin America / Caribbean, OECD and Sub Saharan Africa region and found a negative relation between returns to education and level of economic development.

The previous studies for India did not deal with the problem of omitted variable bias. It is also important to control for differences across cohorts that

may also bias the estimates of the rate of return to education. As pointed by Warunsiri and Mcnown (2010), "Individual workers in different cohorts have different opportunities, attitudes, and behaviors. For example, the availability and quality of schooling, as well as labor market conditions, vary over time, so that returns to education will vary across cohorts and overtime. This points out the necessity of controlling for cohort-specific effects in the pseudo-panel analysis." Therefore, a re-examination of the returns to education in India is in order. Towards this end this study builds synthetic cohorts, controlling for cohort-specific effects, to deal with problem of omitted variable bias.

Model and Data

This study begins with the modeling of private returns to education as done by the earning function method. This method is also known as the "Mincerian" method (Mincer 1974) and involves fitting a function of log-wages (ln(W)), using years of schooling (S), years of labor market experience (X) and its square (X2) as independent variables. This function is called a "basic earnings function."

$$\ln[W(S, X)] = \alpha_0 + \beta S + \rho_0 X + \rho_1 X^2 + \varepsilon \quad \ldots (1)$$

In this semi-log specification the coefficient on years of schooling (β) can be interpreted as the average private rate of return to one additional year of schooling, regardless of the educational level this year of schooling refers to.

The earnings function method can be used to estimate returns to education at different levels by converting the continuous years of schooling variable (S) into a series of dummy variables, say D_P, D_M, D_S, D_{SS}, D_G, D_{PG} and D_D, to denote the fact that a person has completed the primary, middle, secondary, senior secondary, graduation, post graduation and technical diploma/certificate course respectively. Of course, there are also people in the sample with no education. This group is taken as the control group. This function known as an "extended earnings function" can be specified as:

$$\ln[W(S, X)] = \alpha_0 + \beta_P D_P + \beta_M D_M + \beta_S D_S + \beta_{SS} D_{SS} + \beta_G D_G + \beta_{PG} D_{PG} + \beta_D D_D + \rho_0 X + \rho_1 X^2 + \varepsilon \quad \ldots (2)$$

where $\beta_P, \beta_M \ldots\ldots\ldots\ldots \beta_D$ are educational levels dummy coefficients.

After fitting an "extended earnings function" using the above dummies instead of years of schooling in the earnings function, the private rate of return to different levels of education can be derived from the following formulae:

$RR_P = \beta_P / S_P$,

$RR_M = (\beta_M - \beta_P) / (S_M - S_P)$,

$RR_S = (\beta_S - \beta_M) / (S_S - S_M)$,

$RR_{SS} = (\beta_{SS} - \beta_S) / (S_{SS} - S_S)$,

$RR_G = (\beta_G - \beta_{SS}) / (S_G - S_{SS})$,

$RR_{PG} = (\beta_{PG} - \beta_G) / (S_{PG} - S_G)$,

$RR_D = (\beta_D - \beta_{SS}) / (S_D - S_{SS})$

where Sp, S_M, S_S, S_{SS}, S_G, S_{PG} and S_D stand for the total number of years of schooling for each successive level of education (primary, middle, secondary, senior secondary, graduation, post graduation and Diploma/certificate course completed, respectively). Most states in India follow five years of primary, three years of middle and two years each of secondary and higher secondary levels. The first level degrees in non technical subjects usually require about three years while the technical degree courses span over four years and post graduation takes two years. Diploma courses usually require two years to complete. In order to account for gender and location differences in returns to education, equation (2) is estimated separately for rural male, rural female, rural (both sexes), urban male, urban female and urban (both sexes). Ordinary least squares (OLS) technique is used to estimate the above models.

People of different ages are members of different cohorts and may have been shaped by different experiences and influences. This is the problem of unobserved individual heterogeneity. There can also be a problem of omitted variable bias. High ability people have higher wages for each level of education than low ability people, so they can make the same money for less education. This problem of omitted variable bias can be dealt with instrument variable method. Some of the variables that can be used to measure ability are 'distance from school' and 'parental education'. Data on such variables is not provided by NSS employment and unemployment survey.

Pseudo panel approach can be a way out to this problem. Since the two rounds of National Sample Survey do not consist of same set of individuals, we cannot create panel out of the two rounds. Instead, we define a set of C (c=1, ….C) cohorts, based on year of birth. Taking average over the cohort members and obtaining an equation expressed in terms of cohort means will give use the units of observation in the pseudo – panel estimation. Averaging over the cohort members eliminates the individual heterogeneity such as the differing abilities or motivations across individuals.

Since the number of observations per cell varies substantially, the disturbance term is heteroskedastic, leading to biased standard errors. We correct this heteroskedasticity using weighted least squares (WLS) estimation by weighing each cell with the square root of the number of observations in each cell (Dargay, 2007). In this study estimates are presented based on a pseudo-panel data set with one year cohorts.

Variables

Earnings (dependent variable): The data on total wage and salary earnings (cash and kind) receivable for the wage/ salaried work done during the reference week, separately for each of the relevant "activities" pursued by each person, is provided by NSS.

The wage and salary earnings are collected for regular salaried/wage employees and casual wage labour. It is better to use daily wages as a dependent variable instead of weekly wages, as an individual may be employed for only a few days in a week. Therefore, daily wages in each activity are obtained by dividing weekly wages by total number of days in each activity. NSS provides the data on the number of days for which a particular activity was pursued during the seven days.

Variables Influencing Earnings

Education: NSS provides data (in codes) on the highest level of education successfully completed by the members of the household (considering general/ technical/ vocational education). In order to use these codes in the analysis we first converted them into "years of education". Not literate signifies zero years of education and primary education implies five years of education. Similarly middle, secondary, senior secondary, graduate and postgraduate implies eight, ten, twelve, fourteen, fifteen and seventeen years of education respectively. Diploma/certificate course is considered as fourteen (12 + 2) years of education. Literate without formal schooling (EGS/NFEC/AEC, TLC and others) and literate but below primary are considered as having four years of education.

Experience: NSS does not provide data on experience of individuals in each activity. After generating data on years of education using these codes, data on potential experience was obtained by using the formula:

Potential experience = Age – years of education – 5

Potential experience refers to number of years a person has spent in his/her work after completing his/her education. Five is deducted from age as a

student of first standard (at the beginning of attaining formal education) is usually five years of age. It is also assumed that an individual starts to work immediately after completing his/her education. Data on age in completed years of all the members of the household is provided by NSS.

Gender: NSS provides data on gender for each and every member of the household in terms of the code (male-1, female-2).

Location: NSS provides data on location in terms of the code (rural-1, urban-2). Due to non availability of data on the place of schooling or place of birth, the place of current residence of the individual is used to reflect the rural-urban difference on returns to education. The results from this simplification should not be interpreted as indicating the differences due to schooling infrastructure between the rural-urban areas owing to rural-urban migration (a person might have acquired education in an urban area and now resides in a rural area gets counted as part of rural population. Hence, low (high) returns in rural areas should not be interpreted as indicating bad (good) infrastructure in rural areas). The rural-urban difference in returns would reflect the current labour market situation and hence the rewards for the educational levels in these areas.

Estimates of Returns to Education

Education plays a vital role in any economy. According to our estimates (as calculated in this study), 33.74% of India's population is illiterate (Table 1 of Appendix). A large portion of India's population (14.78%) has acquired only primary education and 77% of them reside in rural areas. Around 14.13 % of population has acquired education till middle level. Only 5.5 % of India's population has completed senior secondary education. The situation worsens when we look at higher education as only 3.78% of India's population has completed graduation and only 1.11% has education at post graduate level. The situation has improved overtime if we compare education attainment in 2004-05 but there is still much to achieve.

Using NSSO 66th round we find that around 60% of the illiterate population is female and 83.5% of the illiterate population resides in rural areas. If we look at the age composition of the illiterate population, around one fourth (26%) of this illiterate population constitutes population of up to five years (completed) of age. This shows that effectively illiteracy rate is around 25% (74% of 33.74%) as it takes in to account only those age groups which are eligible for any kind of formal schooling. Out of this 25% of illiterate population, 64% consists of females and around 85.6% resides in rural areas.

Descriptive Statistics of Variables

On looking at the descriptive statistics of the variables (Table 2 of Appendix) that can be quantified, we find that the mean of total daily wages (cash and kind) is Rs 172 and that of total weekly wages is Rs 1078. The values of respective standard deviations indicate that data is highly dispersed. The number of observations for "total daily wages/total weekly wages" is less than the total number of observations in the data set as the data on wage and salary earnings are collected only for regular salaried/wage employees and casual wage labour. Such data represents more than 19 crore of India's population in 2009-10 and more than 16.6 crore in 2004-05. The estimated mean of potential experience comes out to be 18.6 years with standard deviation as high as 19 years. The mean "years of education" for Indian population is 5 years which is quite low.

India is a country of young people. If we look at age composition of the Indian population, around 20 % of the population constitutes children below or up to 10 years of age and about half of the population is up to 25 years of age. The mean age of the Indian population is 28.5 years with standard deviation 18.8 years (source: NSSO 66th round).

It is not incorrect to say that "the heart of India lies in its villages" as majority of Indian population (73.9%) resides in rural areas.

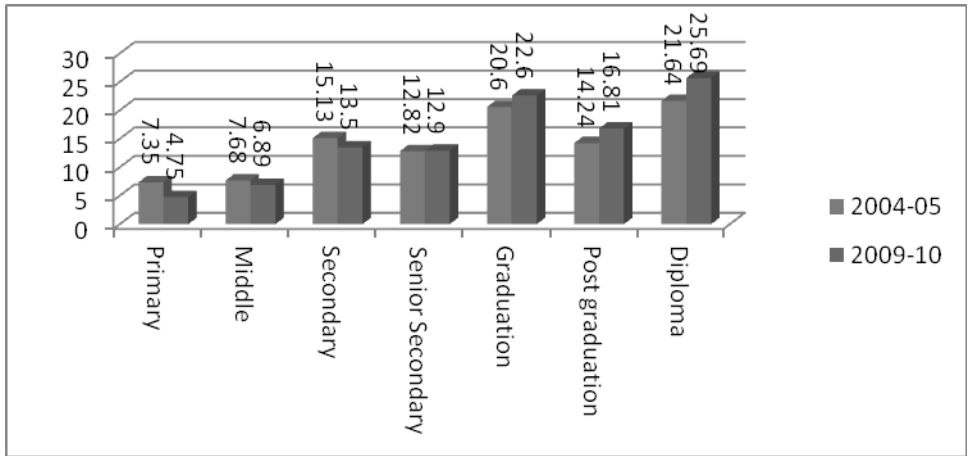
Estimates of Private Return to Education

When the "basic earnings equation" (equation 1) is estimated using log of total (cash and kind) daily wages as dependent variable and the average return to education is found to be around 11.7% and 10.76% per year of education for the year 2004-09 and 2009-10 respectively (Table 3 of Appendix). The pseudo panel estimates for returns to education are higher. Returns according to weighted least square estimates are 15% and according to ordinary least square estimates are 18.8%. Pseudo panel estimates take into account differences in opportunities for example the availability and quality of schooling; attitudes; behaviours as well as labor market conditions across age cohorts. The coefficient of experience and square of experience is positive and negative respectively and significant at 1% level of significance indicating that age earning profile is upward sloping and concave, as pointed out by Becker (1960).

Using level dummies in the "basic earnings equation" (Equation 2) returns to different levels of education are estimated as presented in Table 4 of Appendix. It is evident that returns to school education are convex in India for both the periods under study (figure 1).

In India, around 28.9% of the population has acquired education only till primary/middle level. The returns to secondary education are twice as large as those of primary/middle level education. Hence, it pays to acquire secondary education for those who have acquired education till primary/middle level. Returns to higher education in India are generally high (figure 1). We also find that only 5.65% of Indian population has gone for higher education. This could be a reason for high returns to higher education in India, since not many have this level of education.

FIGURE 1: Education level wise private returns to education



It is evident from the above figure that returns to school education were higher in 2004-05 whereas for higher education, returns are higher for the recent period 2009-10. School education has become relatively less rewarding and higher education more rewarding over the years. Returns to senior secondary education are more or less similar.

Gender and Location Wise Comparison of Returns to Education

Table 5 of Appendix presents gender wise private returns to education for the year 2009-10. On looking at gender wise comparison of returns, we find that returns at initial levels of education (primary and middle) are lower for females but for higher levels of education the situation reverses (Figure 2). Except for post graduation and above, females earn higher return to education at all levels after middle level of education. The fact that the gap is largest for technical diploma / certificate courses indicates more employability of such courses for females. These patterns of returns to education are also observed for the year 2004-05.

The spatial effect should also be taken into account by estimating separate wage equations for rural and urban areas. We estimated separate wage equations for rural males, rural females, rural (both sexes), urban males, urban females and urban (both sexes). The results are presented in Table 6 and 7 of Appendix for the years 2004-05 and 2009-10 respectively.

On the basis of the results presented in Table 7 of Appendix, estimates of returns to education are calculated. These estimates are presented in Figures 3 – 8.

FIGURE 2: Gender wise returns to education in India (2009-10)

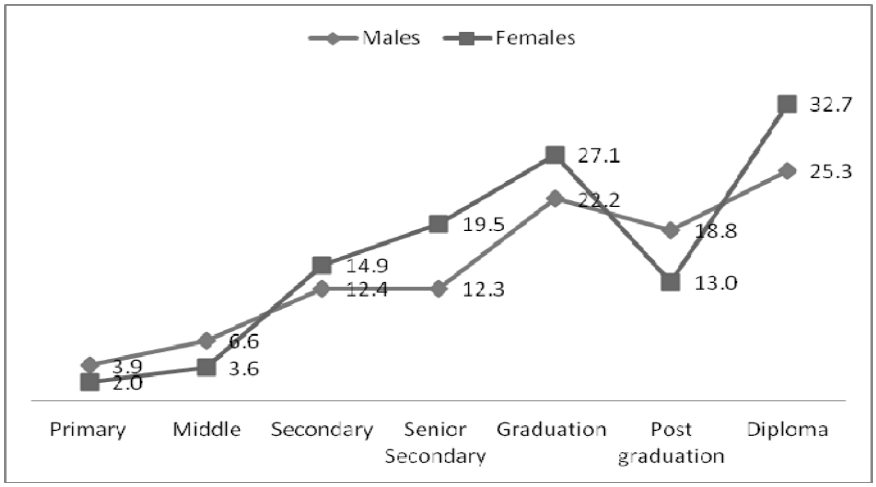
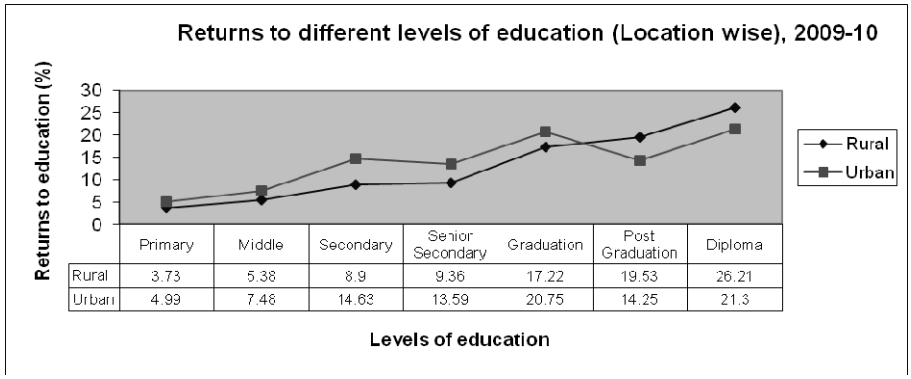


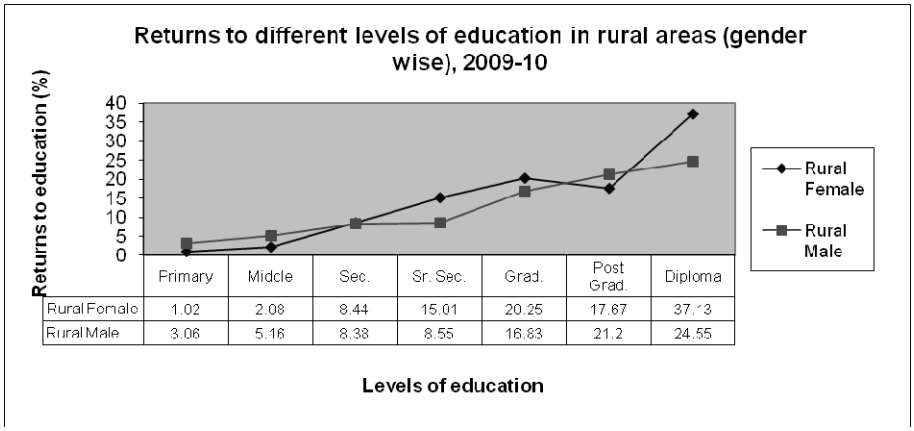
FIGURE 3



	Primary	Middle	Secondary	Senior Secondary	Graduation	Post Graduation	Diploma
Rural	3.73	5.38	8.9	9.36	17.22	19.53	26.21
Urban	4.99	7.48	14.63	13.59	20.75	14.25	21.3

Looking at Figure 3, we observed that a similar pattern of returns to education is present for both rural and urban areas. There is a sharp increase in return to education for secondary level in urban areas in comparison to rural areas. It further rises for college education and falls for university education in urban areas but continue to rise in rural areas. Returns are generally higher in urban areas (except for post graduation and diploma courses) because of greater job opportunities. Returns to technical diploma/certificate courses are highest in both rural and urban areas. Again, this could be because of more employability of vocational courses in both rural and urban areas. The observed finding that returns for post graduation and above are higher in rural areas could be because of supply and demand mismatch.

FIGURE 4



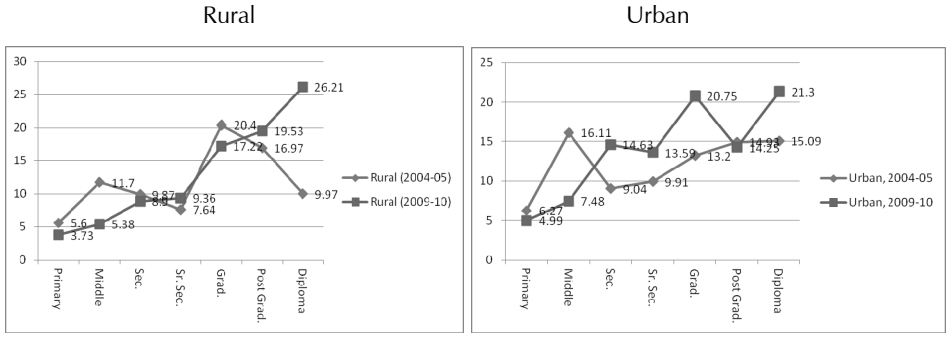
	Primary	Middle	Sec.	Sr. Sec.	Grad.	Post Grad.	Diploma
Rural Female	1.02	2.08	8.44	15.01	20.25	17.67	37.13
Rural Male	3.06	5.16	8.38	8.55	16.83	21.2	24.55

Figure 4 reveals gender differences in rural areas. It is observed that the returns to female education at primary level are lower than male education and the gap further increases for middle level. The situation gets completely reversed for further levels of education till college education. Returns to female education for secondary, senior secondary, technical diploma / certificate and graduation are greater than male education. The gap is largest for technical diploma / certificate followed by senior secondary and graduation. There is a fall in returns for rural females at post graduate level.

As it was observed earlier that returns to education have risen overtime for higher education, this is particularly true for urban areas in comparison to rural areas. Returns have increased in 2009-10 from secondary level onwards in urban areas and the difference is also substantial (Figure 5). In rural areas, it can be said that returns to education has declined overtime except for post graduation and technical diploma courses. Only 2.15% of rural population

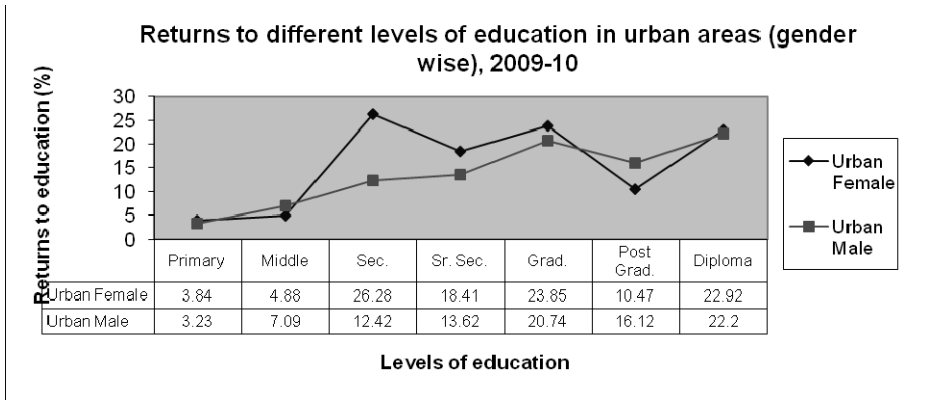
has acquired education up to post graduation and above or any technical diploma/certificate. It can be concluded that education has become more rewarding in urban areas than in rural areas in recent years.

FIGURE 5: Location Wise Returns to Education in 2004-05 and 2009-10



Looking at Figure 6, it is observed that returns to female education are higher than returns to male education in urban areas except for middle level and post graduation. The gap is largest for secondary education. This tells us that secondary education proves to be very rewarding for urban females.

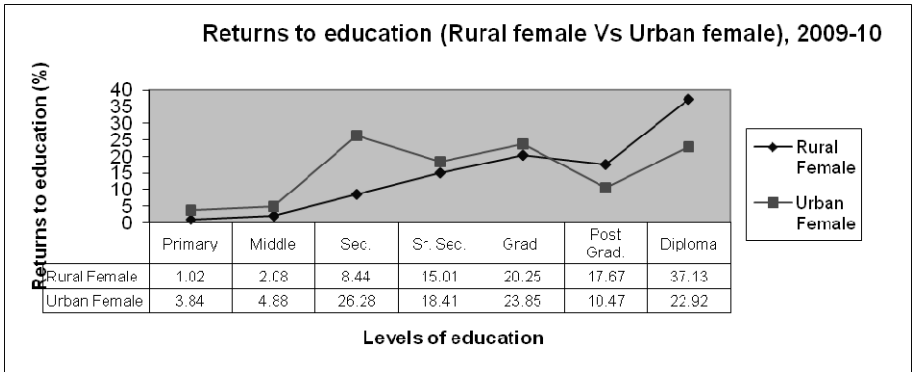
FIGURE 6



	Primary	Middle	Sec.	Sr. Sec.	Grad.	Post Grad.	Diploma
Urban Female	3.84	4.88	26.28	18.41	23.85	10.47	22.92
Urban Male	3.23	7.09	12.42	13.62	20.74	16.12	22.2

Returns to education for urban males are highest for technical diploma / certificate courses, whereas in case of females they are highest for Secondary education followed by college education. This observation implies that general education without any specialisation helps more in case of females and males are required to achieve certain degree of specialisation in urban areas.

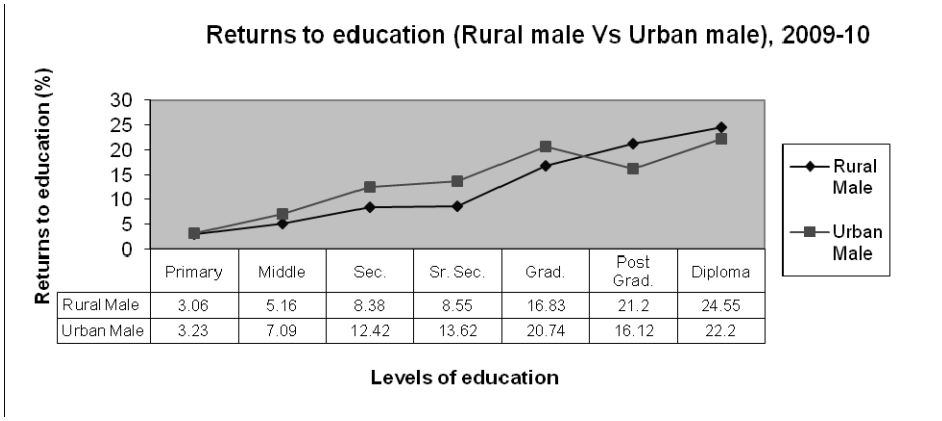
FIGURE 7



	Primary	Middle	Sec.	Sr. Sec.	Grad	Post Grad.	Diploma
Rural Female	1.02	2.08	8.44	15.01	20.25	17.67	37.13
Urban Female	3.84	4.88	26.28	18.41	23.85	10.47	22.92

On comparing the returns to education for rural and urban females (Figure 7), we observe that returns to school education are higher for urban females for all levels of schooling and the gap is largest for secondary level followed by middle level. It is notable that returns to urban females are twice as large as that of rural females for primary and middle level of education and more than thrice as large for secondary level of education. As far as higher education is concerned, returns to technical diploma / certificate are much higher for rural females than for urban females. Returns to college education are higher for urban females in comparison to rural females but the difference is not much.

FIGURE 8



	Primary	Middle	Sec.	Sr. Sec.	Grad.	Post Grad.	Diploma
Rural Male	3.06	5.16	8.38	8.55	16.83	21.2	24.55
Urban Male	3.23	7.09	12.42	13.62	20.74	16.12	22.2

Returns to rural males are generally lower in comparison to urban males except for technical diploma / certificate course and post graduation (Figure 8). But the difference in returns is not as large as that between rural and urban females. In fact, the difference is very less for primary, middle and diploma

courses. Hence, it can be said that the location wise differences in returns as depicted in figure 3 is mainly due to difference in returns for rural and urban females.

Conclusion and Policy Recommendations

This paper has discussed the enormous benefits associated with higher levels of education. Investment in human capital enables individuals to increase their future earnings and enhance their experience in the labour market. This study employs the pseudo-panel approach for estimating returns to education in India for different levels of education, location wise and gender wise, using the standard Mincer equation. Pseudo-panel data are constructed from 61st and 66th round of NSSO employment and unemployment survey data. Previous work done in this area covered the time period up to 1993-94 (Duraisamy (2000), Kingdon and Theopold (2005) etc). In contrast to the findings of Duraisamy, we find that, education is more rewarding at higher levels. The average return to education, as calculated in this study, comes at around 15% per year of education. Return to primary education comes out at about 4.75% whereas returns to middle, secondary and senior secondary levels are 6.9%, 13.5% and 12.9% respectively for the year 2009-10. In India, around 28.9% of the population has acquired education only till primary/middle level. Return to secondary education is twice as large as that of primary/middle level education. Hence, it pays to acquire secondary education as returns to education are convex.

College education in India proves to be rewarding with return standing at 22.59% and university education at 16.8%. Return to technical diploma/certificate stand highest at 25.7% for the same period. These figures imply that returns to higher education in India are generally high. We also find that only 5.65% of Indian population has gone for higher education. This could be a reason for high returns to higher education in India, since not many have this level of education.

A gender wise comparison of returns shows that returns at initial levels of education (primary and middle) are lower for females but for higher levels of education the situation reverses except for post graduation and above. We also observe that this pattern is consistent spatially across rural and urban areas. Returns to female education for technical diploma / certificate are as high as 37.13% whereas it is 24.55% for male education. The fact that the gap is largest for technical diploma / certificate courses indicates more employability of such courses for females in rural areas.

Returns to education for urban males are highest technical diploma / certificate courses, whereas in case of females they are highest for Secondary education followed by college education. This observation implies that general education without any specialisation helps more in case of females and males are required to achieve certain degree of specialisation in urban areas.

Looking at the impact of location on returns to school education reveals that returns are generally lower in rural areas than in urban areas. The returns to higher education (college education and technical diploma / certificate) however, present a different picture, where the returns in rural areas are greater than returns in urban areas. This observation combined with the fact that 87.45% of rural labour force is employed in agriculture and forestry and related activities implies that education has positive impact on productivity of labourers employed in agriculture sector. Hence education can improve the growth performance of agriculture sector too and there should be more emphasis on diploma courses requiring some specialisation.

Overtime comparison of estimates reveal that returns to school education were higher in 2004-05 whereas for higher education, returns are higher for the recent period 2009-10. School education has become relatively less rewarding and higher education more rewarding over the years. This finding is particularly true for urban areas in comparison to rural areas. Returns have increased in 2009-10 from secondary level onwards in urban areas and the difference is also substantial. In rural areas, returns to education has declined overtime except for post graduation and technical diploma courses. Only 2.15% of rural population has acquired education up to post graduation and above or any technical diploma/certificate. Hence, it can be concluded that education has become more rewarding in urban areas than in rural areas in recent years.

India has been unable to eliminate its poverty simply by developing its high-tech sectors, since the vast majority of Indians has no more than six to eight years of schooling. Technical diploma / certificate courses should be encouraged particularly in rural areas. Majority of poor people are in rural areas. This will be an important step in containing poverty. There is abundant evidence that returns on such investments in India's human capital would be high.

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Organizational Competiveness: Mastering the Art of Global Operation Management

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Abstract

This research is in construct justification to propel business stakeholders to maximize organizational competiveness with Operations Management. The paper is prepared with an end in mind of the roadmap to organizational failure. The paper shows proper strategies of operations management as essential factor for success to any organization; Contemporary theory reveals the same findings. The proposals consist and go in-depth to cover the basic yet usually ignored by Operation managers' in the areas as follows: 1) what/introduction to operations management, 2) operations strategies, operations management, 3) operations management and product design, 4) capacity planning, 5) work study, diplomacy and sensitivity, 6) the management of the inventory, 7) facility layout and flow and 8) business process re-engineering and quality management. These 8 areas are most important and form the backbones for efficient Global Operations. This paper lays out each and every area by providing insights for business stakeholders in the field of manufacturing. The paper provides recommendations in two-folds; both theoretical and practical implication to make this research proposal more meaningful and practical enough to be adopted by global stakeholders.

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Introduction to Strategic Operations Management

The President of America gets 100 days to prove him self- but for global managers they only get 24 hours (or to be exact one day). They have huge tasks that are assigned to them; to manage operations in their organization and to have several tasks to be run simultaneously at the same time which consists of operations strategies, operations management and product design, capacity planning, work study, diplomacy and sensitivity, the management of the inventory, facility layout and flow as well as business process re-engineering and quality management.

The present roles of Operations Managers or internally known as Head of Operations. In such set up, they normally have few internal operation executives reporting to them. They are to take care of the above mentioned tasks.

The changing of strategy in operations and the challenges it poses for the new strategy are as old as human society. Here it goes the scenario, Global Operation Managers are responsible for operations strategies, operations management and product design, capacity planning, work study, diplomacy and sensitivity, the management of the inventory, facility layout and flow as well as business process re-engineering and quality management and ninety percent of my their time are to deal with planning and strategizing new ideas to improve on the company's overall objectives. Therefore, those subordinate reporting to them must not be dependent. Thus, they should be able to complete their tasks on their own independently.

The above explanation provides an overview of the role of Operation Manager (s). The function of operations management is now one of the most asked disciplines in various organizations. In today's hypercompetitive era, methods and procedures of this approach react appropriately to every change occurring both in the external and internal environment of global operations and thus they foster the reaching of required strategic objectives of business enterprise, which is the maximization of market value, competitiveness maintaining or increasing, profitability, or, possibly, just a simple survival of the organization (Luggen, 2007; Voss, 2005 & Womack, Daniel & Daniel; 1990). The use of the operations management includes a lot of heterogeneous activities, which must be achieved not only effectively but also efficiently. At the same moment must not be damaged and distressed the environment. How demanding is the environmental protection attached to such complex activity as operations management certainly is, very precisely describes the description of substantiality and methods of operations management. These are the pressures that are face with Managing Operations in the 21st century.

The main field which operations management is concentrated on is managing the sources directly taking share in product manufacturing or providing a service by the organization, achieving the strategic goals of the organizations. Sources are usually represented by people, materials, technologies and information. They are combined together by a number of processes in order to be used for acquiring an organization primary service or a product. Operations management can be then understood as a transformation process in which inputs (resources) are by means of this process transformed into outputs (products or services). There are two categories of inputs. Resources such as information and materials, the state of which changes as a consequence of the process of conversion are called transformed resources. On the contrary, inputs such as employees, equipment and buildings that help the transformation process but their state does not change as a consequence of the conversion process are called transforming resources (Christensen, 2003 & Fulton, 1971). The process of transformation includes a draft of operations system, planning and control, and improvement activities that are necessary for production and providing of goods and services to customers. Products and services are outputs the purpose of which is to satisfy customers' requirements and operation, and to achieve strategic business objectives so that the organization would be continuously able to compete on the market. Certainly the whole transformation process must be achieved with regard to the environment. The most basic operations management as a transformation process is depicted in the following scheme (Hammer, 1996; Kaplan & David, 2004 & Leonardo-Barton, 1995).

Operation Strategies

According to (Engardio & Dexter, 2004 & Hayes, Gary, David, & Steven, 2005), an operations strategy depends on a firm’s business strategy. Business strategies deals with issues that influence the entire organization, such as employees, markets, customers, competitors and brand image. Operations strategy is consistent with the business strategy, but not as broadly focused. Operations strategy is concerned with a narrower focus on resources, products, quality, cost and flexibility. The operations strategy’s main objective is to focus on these factors in such a way that they support and contribute to the organization’s business strategy. In line to that, Hill (2000), the fundamental purpose of operations is to create goods and services that meet the needs of the customer. What customers find important should be important to the operations. An operations strategy must therefore be used to identify what the customer finds important, and how the operation needs to be aligned in order to meet with such customer requirements.

Hill (2000) further identified three categories of competitive factors that need to be identified in order to judge the importance of the operations to the customer. These three factors are:

- Order-winning competitive factors which win business for the operation;
- To qualify competitive factors, which are factors that need to be met in order for the operations to be considered by a customer. If the operation's performance falls below a certain qualifying level, it will lose business;
- Less important competitive factors that are relatively unimportant to the customer.

Each of these three categories of factors can be subdivided into three further categories namely strong, medium and weak, in order to more accurately judge the importance of its competitive factors to its customers. This is indicated in Figure 1.1, which shows a nine-point scale of importance (Hill, 2000 & Jones & Larry, 2009). By identifying what is of crucial importance to its customers and what is not, the operation can focus on improving the crucially important factors, and avoid spending time and money on focusing on non-crucial factors.

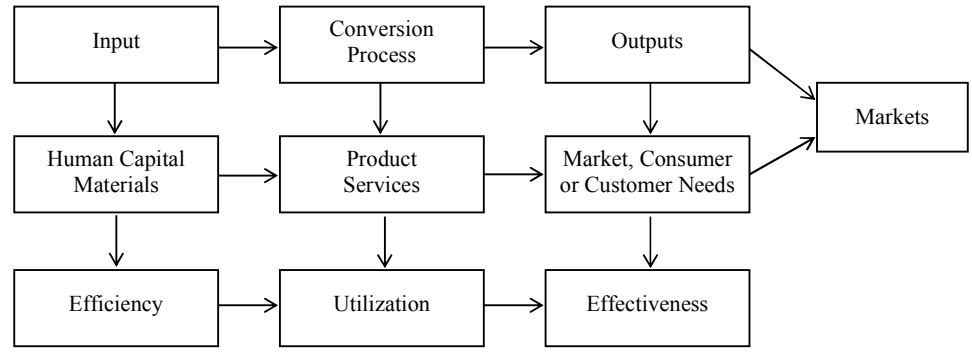
FIGURE 1

Order Winning	→	Strong 1 Provides a crucial advantage
		Medium 2 Provides an important advantage
		Weak 3 Provides a useful advantage
Qualifier	→	Strong 4 Needs to be up to good industry standard
		Medium 5 Needs to be up to median industry standard
		Weak 6 Needs to be within close range of rest of the
Less Important	→	Strong 7 Not usually of importance, but may become more so
		Medium 8 Very rarely considered by customers

Research carried out by King (2010), there are two types of operations strategies that any organization can chose to follow, namely Cost Leadership or Product Differentiation. In order to compete in the global workplace, an organization must either cut costs or become a low cost producer (whilst remaining within specifications and quality standards required by the market), or differentiate its products and add more value for its customers. All activities within the organization must therefore revolve around the

strategy that is chosen. (King, 2010 & Quade, 2004) further mentioned that in order to follow a cost leadership strategy, a firm must have the ability to manufacture low-cost products. This requires a low cost of resources (materials, labor, plant and location), a reduced cost of quality, high levels of productivity and resource utilization, and the removal of non-value adding processes. A cost leadership strategy also requires a strong focus on productivity. According to (King, 2010 & Quade, 2004) again, productivity is viewed as the ratio of the total outputs (amount of goods and service produced) to the total inputs (quantities of labor, capital and materials used). The National Productivity Institute (NPI), a study by Voss (2005) mentions that there are three basic inputs in any organization, namely capital, labor and materials. When these three inputs are transformed into goods and services, the efficiency and utilization in the transformation process are the major determinants of productivity. This is illustrated below in Figure 1.2

FIGURE 2:



Voss (2005) further mention that the main hindrance to productivity is the lack of a proper productivity measurement system. Without productivity measurement, the organization does not have control. By starting to measure productivity, norms are established as a benchmark for continual improvement. When focusing on improving productivity, organizations must implement a balanced approach across the activities of the organization. The (Christensen, 2003; Engardio & Dexter, 2004 & Hayes, Gary, David, & Steven, 2005) states that it is often found that organizations focus on one particular area in the productivity process (such as quality control or production processes) and neglect other areas in the productivity process. Organizations must therefore focus on the efficiency and the utilization of all resources.

According to the NPI by Voss (2005), the factor that is important to the success of the productivity improvement process is a continuously driving effort from all parties involved. Organizations often embark on improvement

initiatives, but the process often loses impetus over time. This is generally due to a lack of top management commitment, productivity not being measured, a lack of information, employees not being involved in decision-making, a lack of individual responsibility, and a lack of properly coordinated and implemented strategies and plans. These factors all have a negative impact on the continuous improvement of productivity. According to (Luggen, 2007 & Quade, 2004), continuous improvement follows the approach of improving performance through small, incremental improvement steps. It is not the rate of improvement that is important, rather the momentum of improvement that has the major effect, through involving everyone from line managers to workers. For such improvements to gain momentum, it is necessary to use accumulated experience within the organization, necessitating an approach towards a learning organization. Skinner (1996) further asserted that learning organization is one that goes through a continuous cycle of experience. It uses experience to re-evaluate its objectives and basic values, and modify its culture. The method followed by the learning organization is as follows:

- Experience occurs;
- The organization examines the experience and collects data;
- The organization formulates hypotheses about the experience through analysing the data collected;
- The organization experiments by testing and discussing the hypotheses;
- Experience occurs, and so the continuous cycle of learning continues.

Skinner (1996) mentioned that continuous learning by individuals, teams and the organization provides a competitive advantage. In tandem to that, (Hyer & Urban, 2002), confirmed that when production workers are trained in the workings of managerial support systems (inventory and quality control and production planning), the fear of the system is reduced, as the workers understand the process. They are able to identify the advantages of the systems, and become motivated to providing accurate information on scrap and rejects. They are also more willing to discuss problems and recommend solutions to supervisors and managers. This further lends itself to the notion of an approach towards a learning organization. Hyer and Urban (2002) view on product differentiation is that the organization must focus on adding value to its products in order to deliver greater added value to its customers. In such cases the cost factor is secondary, because higher quality products can demand higher prices.

However, in any competitive market, a differentiated product can be copied, and hence the cost of quality needs to be controlled. In order to achieve such

control, the differentiated products must be made correctly the first time. Kaplan and David (2004) further mention that reduced cycle times and zero defects are immense advantages to organizations which differentiate on the basis of dependability, whilst fewer set-ups and a streamlined process mean greater flexibility. Furthermore, the elimination of non-value adding processes results in complete resource channeling into customer-focused activities. According to Kotler (2000), firms pursuing an overall cost leadership must be good at engineering, manufacturing, purchasing and physical distribution. The problem with this strategy is that other firms can generate even lower costs, and hurt the firm that has rested its whole future on being low-cost. Kotler (2000 mentions that organizations which concentrate on a differentiation strategy, concentrate on achieving superior performance in an important customer benefit area, valued by a large part of the market. The firm therefore needs to cultivate those strengths that will contribute to the intended differentiation.

Kotler (2000) identifies a number of variables for product differentiation, namely:

- Form (differentiate the size, shape and structure of the product);
- Features (characteristics that add value to the product);
- Performance quality (must design a performance level that is appropriate to the target market);
- Conformance quality (degree to which all products are produced identical and within product specifications);
- Durability (expected operating life under natural or stressful conditions);
- Reliability (probability that a product will not fail within a specified time period);
- Reparability (ease with which the product can be repaired);
- Style (how the products look and feel to the client), in some cases, it is not possible to differentiate the product, and competitive success must be achieved through improving the quality of valued services.

This is known as service differentiation.

According to Kotler (2000), service differentiation can be achieved through various means, namely:

- Ordering ease (making it easy for the customer to place an order with the company);

- Delivery (how well the product or service is delivered to the customer, and includes factors such as speed, accuracy and feedback);
- Installation (the work done to make a product operational in its intended location);
- Customer training (training the customer's employees to use the vendor's equipment properly and efficiently).

Operations Management and Product Design

What is Quality?

Asked "What is quality?" one of my subordinates replied "getting what you pay for." Another subordinate added that to her, quality was "getting more than you paid for!" The Oxford American Dictionary defines quality as "a degree or level of excellence."

The American Society for Quality (ASQ) defines quality as "a subjective term for which each person has his or her own definition. In technical usage, quality can have two meanings: (1) The characteristics of a product or service that bear on its ability to satisfy stated or implied needs and (2) A product or service free of deficiencies." Obviously, quality can be defined in many ways, depending on who is defining it and the product or service it refers to. In this section, the paper will provide a perspective on what quality means to customers and companies.

Quality from the Customer's Perspective

As business organizations produces goods and services to meet its customers' needs. Customers want value and quality has become a major factor in the value of products and service. Customers know that certain companies produce better-quality products than others, and they buy accordingly. That means a firm must consider how the consumer defines quality. The customer can be a manufacturer purchasing raw materials or parts, a store owner or retailer purchasing products to sell, or someone who purchases retail products or services over the Internet. W. Edwards Deming, author and consultant on quality, says that "The consumer is the most important part of the production line. Quality should be aimed at the needs of the consumer, present and future (Kaplan & David, 2004; King 2010 & Porter, 2008)." From this perspective, product and service quality is determined by what the customer wants and is willing to pay for. Since customers have different product needs, they will have different quality expectations. This results in a

commonly used definition of quality as a service's or product's fitness for its intended use, or fitness for use; how well does it do what the customer or user thinks it is supposed to do and wants it to do?

Products and services are designed with intentional differences in quality to meet the different wants and needs of individual consumers. A Mercedes and a Ford truck are equally "fit for use," in the sense that they both provide automobile transportation for the consumer, and each may meet the quality standards of its individual purchaser (Porter, 2008). However, the two products have obviously been designed differently for different types of consumers. This is commonly referred to as the quality of design – the degree to which quality characteristics are designed into the product. Although designed for the same use, the Mercedes and Ford differ in their performance, features, size, and various other quality characteristics (Porter, 2008).

Dimensions of Quality for Manufactured Products

The dimensions of quality for manufactured products a consumer looks for include the following (Porter, 2008; Quade, 2004 & Voss, 2005):

1. **Performance**: The basic operating characteristics of a product; for example, how well a car handles or its gas mileage.
2. **Features**: The "extra" items added to the basic features, such as a stereo CD or a leather interior in a car.
3. **Reliability**: The probability that a product will operate properly within an expected time frame; that is, a TV will work without repair for about seven years.
4. **Conformance**: The degree to which a product meets pre-established standards.
5. **Durability**: How long the product lasts; its life span before replacement. A pair of L.L. Bean boots, with care, might be expected to last a lifetime.
6. **Serviceability**: The ease of getting repairs, the speed of repairs, and the courtesy and competence of the repair person.
7. **Aesthetics**: How a product looks, feels, sounds, smells, or tastes.
8. **Safety**: Assurance that the customer will not suffer injury or harm from a product; an especially important consideration for automobiles.
9. **Other perceptions**: Subjective perceptions based on brand name, advertising, and the like.

These quality characteristics are weighed by the customer relative to the cost of the product. In general, customers will pay for the level of quality they can afford. If they feel they are getting what they paid for (or more), then they tend to be satisfied with the quality of the product (Porter, 2008; Quade, 2004 & Voss, 2005).

Capacity Planning

Capacity is the maximum capability to produce. Capacity planning takes place at several levels of detail. Long-term capacity planning is a strategic decision that establishes a firm's overall level of resources. It extends over a time horizon long enough to obtain those resources – usually a year or more for building or expanding facilities or acquiring new businesses. Capacity decisions affect product lead times, customer responsiveness, operating costs, and a firm's ability to compete. Inadequate capacity can lose customers and limit growth. Excess capacity can drain a company's resources and prevent investments in more lucrative ventures. When to increase capacity and how much to increase it is critical decisions (Fulton, 1971; Hammer, 1996 & Jones, & Larry, 2009). Following are the summary from the previous researches' work

- Capacity lead strategy. Capacity is expanded in anticipation of demand growth. This aggressive strategy is used to lure customers from competitors who are capacity constrained or to gain a foothold in a rapidly expanding market. It also allows companies to respond to unexpected surges in demand and to provide superior levels of service during peak demand periods.
- Average capacity strategy. Capacity is expanded to coincide with average expected demand. This is a moderate strategy in which managers are certain they will be able to sell at least some portion of expanded output, and endure some periods of unmet demand. Approximately half of the time capacity leads demand, and half of the time capacity lags demand.
- Capacity lag strategy. Capacity is increased after an increase in demand has been documented. This conservative strategy produces a higher return on investment but may lose customers in the process. It is used in industries with standard products and cost-based or weak competition. The strategy assumes that lost customers will return from competitors after capacity has expanded (Fulton, 1971; Hammer, 1996 & Jones, & Larry, 2009).

Consider higher education's strategy in preparing for a tripling of the state's college-bound population in the next decade. An established university, guaranteed applicants even in lean years, may follow a capacity lag strategy. A young university might lead capacity expansion in hopes of capturing students not admitted to the more established universities. A community college may choose the average capacity strategy to fulfil its mission of educating the state's youth but with little risk (King, 2010).

How much to increase capacity depends on (1) the volume and certainty of anticipated demand; (2) strategic objectives in terms of growth, customer service, and competition; and (3) the costs of expansion and operation.

Capacity can be increased incrementally or in one large step. Incremental expansion is less risky but more costly. An attractive alternative to expanding capacity is outsourcing, in which suppliers absorb the risk of demand uncertainty.

The best operating level for a facility is the per cent of capacity utilization that minimizes average unit cost. Rarely is the best operating level at 100% of capacity – at higher levels of utilization, productivity slows and things start to go wrong. Average capacity utilization differs by industry. An industry with an 80% average utilization would have a 20% capacity cushion for expected surges in demand or temporary work stoppages. Large-capacity cushions are common in industries in which demand is highly variable, resource flexibility is low, and customer service is important. Utilities, for example, maintain a 20% capacity cushion. Capital-intensive industries with less flexibility and higher costs maintain cushions under 10%. Airlines maintain a negative cushion by overbooking flights. Best operating level can also refer to the most economic size of a facility.

Economies of scale occur when it costs less per unit to produce or operate at high levels of output. This holds true when:

- Fixed costs can be spread over a larger number of units,
- Production or operating costs do not increase linearly with output levels,
- Quantity discounts are available for material purchases, and
- Operating efficiency increases as workers gain experience.

The electronics industry provides a good case example of economies of scale. The average cost per chip placement for printed circuit-board assembly is 32 cents in factories with a volume of 25 million placements, 15 cents in factories with 200 million placements, and only 10 cents in factories with 800 million placements.

Capacity decisions provide a framework for further facility decisions, such as where to locate a new facility and how to arrange the flow of work in the facility (Leonardo-Barton, 1995; Luggen, 2007 & Voss, 2005).

Work Study, Diplomacy and Sensitivity

As discussed earlier in this research paper, Global Operations manger are said to normally have few subordinates reporting to them in terms of the overall operations in any given Industry. Therefore, it is crucial for them to understand their overall work study, diplomacy and sensitivity of their people and one of the key elements to understand those key issues is through culture. 'Culture' as such is a diversified concept; there are numerous definitions of what culture is. It depends on what perspective is used for examining the cultural influences or culture itself in lifelong learning. For example Womack, Daniel, and Daniel, (1990) define culture generally as a system of shared beliefs, values, habits, communication forms and artefacts, which may be partly conscious or partly unconscious. Culture is mediated between generations through learning and socialisation. Culture could be understood as a shared meaning system a collective representation – which means a common language, symbols or codes which constitute community members' actions and thinking. This definition represents common thoughts on what culture is and how its influences are interpreted from a sociocultural perspective. One also widely used definition is presented by Hofstede (Womack, Daniel & Daniel, 1990) who studied work life values in different countries and organisational cultures worldwide. According to him culture is like a collective programming of mind which distinguishes the members of a certain group or social class from each other. This definition also stresses the role of the socialisation and social learning in the human life course. The sources of a person's cultural mental programmes lie within the social environments in which that person grew up and accumulated life experiences. The "programming" starts in the early childhood within family and continues within the neighbourhood, at school, at youth clubs, in further studies, in work life, in the person's own family and in the other living communities during the life course. Thus, culture is primarily a collective phenomenon. It is at least partly shared by people who live or have lived within the same social environment, which is where it was learned (Jones & Larry, 2009 & Womack, Daniel & Daniel, 1990) Despite these widely acknowledged assumptions, humans are no longer under the influence of only one monolithic culture during their life course. Internalisation, globalisation, multiculturalism are general trends and discourses affecting everyday life, education and work life. These trends have an impact on how

lifelong learning and cultural influences are conceptualized. For instance, Jones and Larry (2009) proposed a re-conceptualization of culture: it is not settled, enclosed, or internally coherent. It is formed through the juxtaposition and co-presence of different cultural forces and discourses, and their effects.

Humans may concurrently be members of several cultural spheres and act daily in different cultural environments at home, at work, at leisure and elsewhere. Conceptions of 'culture' are changing towards multiple understandings of inter- or cross-cultural influences (Jones & Larry, 2009). Every human being may be in touch with different kinds of cultural influences. National cultures are historically constructed and fluxed in many ways. In addition, they are constantly influenced by different cultural effects. (Jones & Larry, 2009 & Womack, Daniel & Daniel, 1990) stated that intercultural communication occurs inside a person's own national cultural communication. In addition, it is advisable to keep in mind that cross-cultural connections have rapidly increased globally in recent decades. People live, act and travel in multicultural societies by crossing the borders of cultural boundaries in many ways locally or globally. Thus, how culture affects us in the socialisation process is nowadays a very complicated process. When considering cultural learning and socialisation it may be important to look at what is individually and what is culturally bound (Womack, Daniel & Daniel, 1990)) outlined the relationship of individual, group and culture, providing one vehicle for understanding cultural influences on human development. He distinguishes three different levels in human mental programming: universal, collective and in-individual *The universal level* (human nature) is common to all. (Jones & Larry, 2009 & Womack, Daniel & Daniel, 1990) further argued that this level covers human basic abilities like the ability to feel fear, love, hate or joy, observe the environment and talk about it to others, and the need to stay in contact with others. However, what one does with these feelings, how a person expresses fear, joy, observations, and others, is modified by culture. *The collective level* (culture) is common to members in certain groups. Humans who share the same kind of learning and socialisation process speak the same language and understand each other's habits and ways of action. It is worth noting that these specific c features of a group or category are entirely learnt. *The individual level* (personality), however, is a unique personal set of mental programmes that need not be shared with any other human being. It is based on traits that are partly learned and partly inherited. Learned in this connection means modify by the influence of collective programming (culture), as well as by unique personal experiences (Jones & Larry, 2009 & Womack, Daniel & Daniel, 1990).

The Management of the Inventory

The objective of inventory management has been to keep enough inventories to meet customer demand and also be cost effective. However, inventory has not always been perceived as an area to control cost. Traditionally, companies maintained "generous" inventory levels to meet long-term customer demand because there were fewer competitors and products in a generally sheltered market environment. In the current global business environment, with more competitors and highly diverse markets in which new products and new product features are rapidly and continually introduced, the cost of inventory has increased due in part to quicker product obsolescence. At the same time, companies are continuously seeking to lower costs so they can provide a better product at a lower" price (King, 2010 & Luggen, 2007).

Inventory is an obvious candidate for cost reduction. The U.S. Department of Commerce estimates that U.S. companies carry $1.1 trillion in inventory spread out along the supply chain with $450 billion at manufacturers, $290 billion at wholesalers and distributors, and $400 billion at retailers. It is estimated that the average holding cost of manufacturing goods inventory in the United States is approximately 30% of the total value of the inventory (King, 2010 & Luggen, 2007). That means if a company has $10 million worth of products in inventory, the cost of holding the inventory (including insurance, obsolescence, depreciation, interest, opportunity costs, storage costs, and so on) is approximately $3 million. If inventory could be reduced by half, to $5 million, then $1.5 million would be saved, a significant cost reduction.

The high cost of inventory has motivated companies to focus on efficient supply chain management and quality management. They believe that inventory can be significantly reduced by reducing uncertainty at various points along the supply chain. In many cases, uncertainty is created by poor quality on the part of the company or its suppliers or both. This can be in the form of variations in delivery times, uncertain production schedules caused by late deliveries, or large numbers of defects that require higher levels of production or service than what should be necessary, large fluctuations in customer demand, or poor forecasts of customer demand.

With efficient supply chain management, products or services are moved from one stage in the supply chain to the next according to a system of constant communication between customers and suppliers. Items are replaced as they are diminished without maintaining larger buffer stocks of inventory at each stage to compensate for late deliveries, inefficient service, poor quality, or uncertain demand. An efficient, well-coordinated supply

chain reduces or eliminates these types of uncertainty so that this type of system will work.

Some companies maintain in-process, buffer inventories between production stages to offset irregularities and problems and keep the supply chain flowing smoothly. Quality-oriented companies consider large buffer inventories to be a costly crutch that masks problems and inefficiency primarily caused by poor quality. Adherents of quality management believe that inventory should be minimized. However, this works primarily for a production of manufacturing process. For the retailer who sells finished goods directly to the consumer or the supplier who sells parts or materials to the manufacturer, inventory is a necessity. Few shoe stores, discount stores, or department stores can stay in business with only one or two items on their shelves or racks. For these supply chains the traditional inventory decisions of how much to order and when to order continue to be important. In addition, the traditional approaches to inventory management are still widely used by most companies (King, 2010 & Luggen, 2007).

In this section we review the basic elements of traditional inventory management and discuss several of the more popular models and techniques for making cost-effective inventory decisions. These decisions are basically how much to order and when to order to replenish inventory to an optimal level.

The Role of Inventory in Supply Chain Management

A company employs an inventory strategy for many reasons. The main reason is holding inventories of finished goods to meet customer demand for a product, especially in a retail operation. However, customer demand can also be a secretary going to a storage closet to get a printer cartridge or paper, or a carpenter getting a board or nails from a storage shed.

Since demand is usually not known with certainty, it is not possible to produce exactly the amount demanded. An additional amount of inventory, called safety, or buffer, stocks, is kept on hand to meet variations in product demand. In the bullwhip effect (which we have discussed previously in our earlier sections on supply chain and forecasting), demand information is distorted as it moves away from the end-use customer. This uncertainty about demand back upstream in the supply chain causes distributors, manufacturers, and suppliers to stock increasingly higher safety stock inventories to compensate.

Additional stocks of inventories are sometimes built up to meet demand that is seasonal or cyclical. Companies will continue to produce items when demand is low to meet high seasonal demand for which their production capacity is insufficient. For example, toy manufacturers produce large inventories during the summer and fall to meet anticipated demand during the holiday season. Doing so enables them to maintain a relatively smooth supply chain flow throughout the year. They would not normally have the production capacity or logistical support to produce enough to meet all of the holiday demand during that season. In the same way retailers might find it necessary to keep large stocks of inventory on their shelves to meet peak seasonal demand or for display purposes to attract buyers (Hill, 2000).

At the other end of the supply chain from finished goods inventory, a company might keep large stocks of parts and material inventory to meet variations in supplier deliveries. Inventory provides independence from vendors that a company does not have direct control over. Inventories of raw materials and purchased parts are kept on hand so that the production process will not be delayed as a result of missed or late deliveries or shortages from a supplier.

A company will purchase large amounts of inventory to take advantage of price discounts, as a hedge against anticipated price increases in the future, or because it can get a lower price by purchasing in volume. Walmart stores have been known to purchase a manufacturer's entire stock of soap powder or other retail item because they can get a very low price, which they subsequently pass on to their customers. Companies purchase large stocks of low-priced items when a supplier liquidates. In some cases, large orders will be made simply because the cost of ordering may be very high, and it is more cost-effective to have higher inventories than to order frequently (Jones & Larry, 2009).

Many companies find it necessary to maintain buffer inventories at different stages of their production process to provide independence between stages and to avoid work stoppages or delays. Inventories are kept between stages in the manufacturing process so that production can continue smoothly if there are temporary machine breakdowns or other work stoppages. Similarly, a stock of finished parts of products allows customer demand to be met in the event of a work stoppage or problem with transportation or distribution.

The Effects of Information Technology on Inventory Management

As we pointed out in previous chapters, information technology (IT) has become an enabler for effective supply chain management. Traditionally

inventory was owned by the buyer (as opposed to the supplier), it was kept at the buyer's location, and the buyer controlled how and when its inventory was replenished. However, in recent years these traditional aspects of inventory management have changed, due in large part to advances in IT. Because of technology and software – including such IT tools as enterprises resource planning (ERP) systems (including forecasting software), barcodes inventory throughout its supply chain, which enables them to locate inventory somewhere other than their own facility, and control it remotely or have someone else control it (Skinner, 1996). These technologies have enabled modern supply chain management practices such as vendor managed inventory (VMI), continuous replenishment programs (CRP), supplier hubs, and outsourcing operations to third-party service providers (3PL). In these practices inventory can be located at the supplier's facility, at the buyer's, or somewhere in between. Unlike traditional practices, the supplier owns inventory until the buyer needs it and it is delivered, thus relieving the buyer of inventory costs; order sizes are reduced, deliveries (which the supplier pays for) are increased, and the buyer avoids maintaining storage facilities (Voss, 2005). However, for this to be effective the supplier must be able to minimize its own inventory costs and optimize its own supply chain, which can be achieved if the buyer shares end-use demand and sales data with its suppliers through IT. This enables suppliers to make replenishment decisions and provide inventory to the buyer, as it's needed. A recent supply chain management practice is for inventory to be located at "supplier hubs" that are usually at, or in very close proximity to, the buyer, and are often owned and operated by a 3PL provider, which shifts all responsibility and liability for inventory to the suppliers that share the hub. For a supplier hub to work, the supply chain members – buyers, suppliers, and 3PL providers – must share information through information technology (Womack, Daniel & Daniel, 1990). The 3PL provider uses information provided by the buyer and suppliers (including forecasts and sales data) to consolidate shipping among suppliers, plan and execute all logistics, connect and coordinate all supply chain members through an IT system, and operate the hub facility. Supplier hubs are being used successfully by such companies as Dell, Apple, Fiat, Hewlett-Packard, Nokia, Cisco, Sam's Club, Samsung, and Volkswagen (Voss, 2005 & (Womack, Daniel & Daniel, 1990).

Facility Layout and Plan

Facilities make a difference. They can provide a competitive edge by enabling and leveraging the latest process concepts. For example, Bank of America, featured in the "Along the Supply Chain" box has created an exemplary

facility showcasing green design. Green buildings can save energy costs and increase worker productivity. Facility design has an impact on both quality and productivity. Facilities affect how efficiently workers can do their jobs, how much and how fast goods can be produced, how difficult it is to automate a system, and how responsive the system can be to changes in product or service design, product mix, or demand volume. Facilities must be planned, located, and laid out (Fulton, 1971 & Hyer & Urban, 2002)

Facility layouts are more flexible than ever before. Factories that once positioned shipping and receiving departments at one end of the building, now construct t-shaped buildings so that deliveries can be made directly to points of use within the factory. Stores sport portable kiosks for customer inquiry and checkout at various locations throughout the facility. Classrooms incorporate desks on wheels to be repositioned for different teaching styles and student interaction. Effective layouts can have many different objectives.

Objectives of Facility Layout

Facility layout refers to the arrangement of activities, processes, departments, workstations, storage areas, aisles, and common areas within an existing or proposed facility. The basic objective of the layout decision is to ensure a smooth flow of work, material, people, and information through the system. According to (Womack, Daniel & Daniel, 1990) effective layouts is meant to:

- Minimize movement and material handling costs;
- Utilize space efficiently;
- Utilize labor efficiently;
- Eliminate bottlenecks;
- Facilitate communication and interaction between workers, between workers and their supervisors, and between workers and customers;
- Reduce manufacturing cycle time and customer service time;
- Eliminate wasted or redundant movement;
- Facilitate the entry, exit and placement of material, products, and people;
- Incorporate safety and security measures;
- Promote product and service quality;
- Encourage proper maintenance activities;
- Provide a visual control of activities;
- Provide flexibility to adapt to changing conditions;
- Increase capacity.

Basic Layouts

Layouts can take many different forms. In the next section, we discuss three basic layout types: process, product, and fixed-position. Later in the chapter, we discuss three hybrid layouts: cellular layouts, flexible manufacturing systems, and mixed-model assembly lines (Voss, 2005).

Process Layouts

Process layouts, also known as functional layouts, group similar activities together in departments or work centers according to the process of function the perform. For example, in a machine shop, all drills would be located in one work center, lathes in another work center, and milling machines in still another work center. In a department store, women's clothes, men's clothes, children's clothes, cosmetics, and shoes are located in separate departments. A process layout is characteristics of intermittent operations, service shops, or batch productions, which serve different customers with different needs. The volume of each customer's order is low, and the sequence of operations required to complete a customer's order can vary considerably (Hill, 2010).

The equipment in a process layout is general purpose, and the workers are skilled at operating the equipment in their particular department. The advantage of this layout is flexibility. The disadvantage is inefficiency. Jobs or customers do not flow through the system in an orderly manner, backtracking is common, movement from department to department can take a considerable amount of time, and queues tend to develop. In addition, each new arrival may require that an operation be set up differently for its particular processing requirements. Although workers can operate a number of machines or perform a number of different tasks in a single department, their workload often fluctuates – from queues of jobs or customers waiting to be processed to idle time between jobs or customers (Kaplan & David, 2004).

Material storage and movement are directly affected by the type of layout. Storage space in a process layout is large to accommodate the large amount of in-process inventory. The factory may look like a warehouse, with work centers strewn between storage aisles. In-process inventory is high because material moves from work center to work center in batches waiting to be processed. Finished goods inventory, on the other hand, is low because the goods are being made for a particular customer and are shipped out to that customer on completion (Hayes, Gary, David & Steven, 2005).

Process layouts in manufacturing firms require flexible material handling equipment (such as forklifts, carts or AGVs) that can follow multiple paths, move in any direction, and carry large loads of in-process goods. A forklift

moving pallets of material from work center to work center needs wide aisles to accommodate heavy loads and two-way movement. Scheduling of forklifts is typically controlled by radio dispatch and varies from day to day and hour to hour. Routes have to be determined and priorities given to different loads competing for pickup.

Process layouts in service firms require large aisles for customers to move back and forth and ample display space to accommodate different customer preferences.

The major layout concern for a process layout is where to locate the departments or machine centers in relation to each other. Although each job or customer potentially has a different route through the facility, some paths will be more common than others. Past information on customer orders and projections of customer orders can be used to develop patterns of flow through the shop (Hill, 2010).

Business Process Re-engineering and Quality Management

Business process re-engineering as an approach to radical organizational change is a relatively recent concept, emerging from the *(creo que sobra el "the")* two seminal papers of business process re-engineering and quality management (Hammer, 1996). It has become popular in a short period of time, promising amazing results very quickly in relation to corporate and technological change, transformation and competitive pressures. The protagonists of BPR argue that it, rather than TQM, is the concept which enables an organization to make the necessary step changes, originality and improvement to the business which will enable it to leapfrog the competition. Re-engineering focuses on processes rather than departments, functions or tasks. It might be said that BPR aims at implementing the solution of an optimization problem including the whole process and not just isolated stages. It also advocates radical changes rather than small and continuous improvements. Nonetheless, as noted by (Hammer, 1996), this idea of radical change is being relaxed. A new field, Business Process Management, comprising all the approaches focused on the analysis of processes irrespective of the level of improvement sought has emerged and this is considered by writers such as to be a better option (Jones & Larry, 2009). In this study, the original definition of BPR will be considered with process focus and radical change being considered as its major characteristics. BPR is more an idea or philosophy than a method or state. The main objective is to rethink the processes to find a better design, and hence, multiple methodologies and infinite results can be found; (Jones & Larry, 2009) claim

there are no rules for this. (Kaplan & David, 2004) carried out an exhaustive comparison of methodologies and concluded that, in most cases, common stages can be identified. These stages are not very different from those proposed by (Kaplan & David, 2004) as below:

Top management commitment

- Creating a team
- Evaluating the environment
- Assessing the organisation
- Defining the changes needed
- Determining the technical and human resources which are needed
- Testing, when appropriate
- Implementation
- Evaluating the results

Conclusions

The journey of completing this research paper has been both exciting and exhausting; however I chose the former compare to the latter. This research paper has accomplished what it should be achieving which it has laid out the foundation for a successful global operations management by focusing on 1) strategic operations management; 2) operation strategies; 3) operations management and product design; 4) capacity planning; 5) work study, diplomacy and sensitivity; 6) the management of the inventory; 7) facility layout and flow; and 8) business process re-engineering and quality management. All the 8 sections have been discussed thoroughly and it can be an asset to both academia and practitioners who wants to not wish, hope BUT to make things happen through effective global operations management.

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An Infinite Vision of Social Entrepreneurs of India

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Abstract

Social enterprise has grown rapidly in India and it is being referred to as "A social enterprise superpower". Successful social entrepreneurs use the most effective structures and strategies to achieve their social objectives. Social entrepreneurs target highly disadvantaged population that lacks the financial means to receive the transformation benefit on its own. This paper evaluates the behavioural indicator of social entrepreneurship associated with successful social entrepreneurship. This paper analyse three cases of social entrepreneurship that have made significant changes in the life of poor and marginalised group in India. Social mission is their central objective and social impact is the primary motive of their business.

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Introduction

The concept of entrepreneurship is always related to the business sector. Entrepreneurs are innovative, critical thinker, highly motivated and risk takers. When all these attributes are combined together with a social cause, a social entrepreneur is born. Social entrepreneurs are moving ahead with a social mission of improving the society. Social entrepreneurship is a practice that integrates economic and social value. Social entrepreneurship is growing rapidly and getting importance in various sectors. Social entrepreneurs pursue on the social impact of their business activities. The concept of social entrepreneurship is gaining popularity and it means different things to different people (Dees, 1998). One group of researcher refer to social entrepreneurship as non-profit organisation with social value (Austin, Stevenson &Wei skiller, 2003).Second group of researchers understand it as the socially responsible practice of commercial business engaged in cross sector partnership (Sagawa&Segal,2003) and a third group views social entrepreneurship as a means to alleviate social problem and catalyse social transformation (Alvord el.al.,2004; Ashoka Innovator,2000).Various definitions giving importance to different aspects and dimensions of social entrepreneurship. Table -1 shows the sample of prominent definitions. These definitions of social entrepreneurship refer to a process of behaviours. Social entrepreneurs focus the initiative and the social enterprise refers to the outcome of social entrepreneurship. From a research prospective, social entrepreneurship is recently enjoying an emerging excitement from various disciplines (Hirch &Levin, 1999).

The focus of this paper is the role of some social entrepreneurs and the initiative taken by them to make these social enterprises successful. Here an attempt has been made to show the trend of social enterprise and the innovation through social entrepreneurs in India.

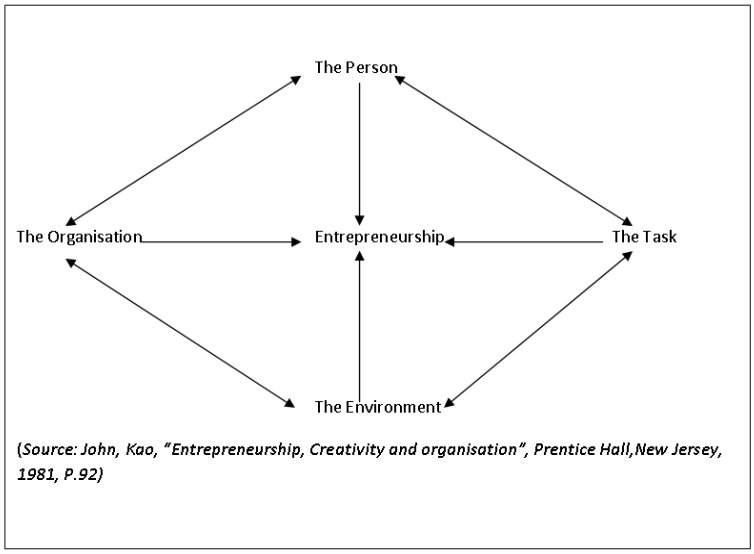
Objectives of the Study

- Try to explore the definition of entrepreneur, social entrepreneur, social enterprise and social entrepreneurship.
- To study the historical prospective of social entrepreneurship in India.
- To determine what truly matters for successful social entrepreneurship.

The concept of "Social Entrepreneurship" is emerging as well as confusing because many associate social enterprises with non-profit organisations. Something really interesting about Social entrepreneur is why, how and what they do? To answer these questions we should examine the meaning of entrepreneurs, social entrepreneur, and social entrepreneurship. The word

"entrepreneur "first appeared in French, according to Encyclopaedia Britanica.In the early 16th century, it was applied to those who were engaged in military expeditions. In the 17th century, it was extended to cover civil engineering activities such as construction fortification. (Cochran, T.C.1950). Oxford English Dictionary (1897) defined entrepreneurs simply as "the director or manager, of a public musical institution; one who gets up entertainment, especially musical performance." In 1933 the dictionary recognised that the word has a place in business and would mean "one who undertakes an enterprise especially contractor ...acting as intermediary between capital and labour (Tandon, B.C.1975).The spirit of enterprise makes an entrepreneur. The "entrepreneur" is essentially a business leader and the function performed by him is "entrepreneurship''. **Kao** has developed a conceptual model of entrepreneurship which is represented in the following figure.

FIGURE 1:



(Source: John, Kao, "Entrepreneurship, Creativity and organisation", Prentice Hall,New Jersey, 1981, P.92)

TABLE 1

Alfred Marshall (Marshall, A.1936).	Defined the term entrepreneurship in a comprehensive manner and assigned risk bearing and management as the main function of the entrepreneur. According to him "entrepreneur is an individual who "adventures" and "undertakes risks, who brings together the capital and labour required for the work; who organises or engineers its general plan and he superintends its minor details.
J.B.Say 1927)	He defines an entrepreneur as "economic agent who unites all means of production ....the labour of the one, the capital or the land of the other and who finds in the value of products which result from their employment, reconstitution of the entire capital that he utilises and the value of the wages, the interest and the rent which he pays as well as profits belonging to himself.

Joseph Schumpter (1934)	Schumpeter played with the word innovation and emphasised innovation as the function of an entrepreneur. Schumpeter's entrepreneurs are highly specialised concerns. The entrepreneur in Schumpeter's theory sees the potentiality, profitable opportunities and exploits them. According to Schumpeter, innovation may occur in Introduction of new goods; The use of new method of production; The opening of a new market; The conquest of a new source of supply of raw materials; and The reorganisation of any industry.
	Social Entrepreneur
(Thompson,J.Alvy, &Lees (2000)	Social entrepreneurs are people who realise where there is an opportunity to satisfy some unmet need that the state welfare will not or cannot meet and who gather together the necessary resources (generally people often volunteers, money and premises) and use these to make a difference.
(Bornstein, 2004).	Social entrepreneurs are people with new ideas to address major problems who are relentless in the pursuit of their visions, people who simply will not take "no" for an answer, who will not give up until they have spread their ideas as far as they possibly can.
(Pandey, 2006)	Similar to economic entrepreneurs, social entrepreneurs are also risk takers, however they are distinctive in the sense that they can give their life to a cause and result in great change which could go beyond a single rural village and community to entire nations across the world.
	Social Enterprise
(Haugh, H, &Tracey, P. 2004).	Social enterprises are businesses that trade for social purpose. They combine innovation, entrepreneurship and social purpose and seek to be financially sustainable by generating revenue from trading. Their social mission prioritises social benefit above financial profit and if and when a surplus is made, this is used to further the social aims of the beneficiary group or community and not distributed to those with a controlling interest in the enterprise.
(Steyaert and Hiorth 2006).	Social enterprises are social mission driven organisations which apply business strategies that lead to social transformation. Now a day the main criteria of social enterprises are to generate and reinvested the profit with an aim to expand its services to support a social cause. Social entrepreneurship makes a particular emphasis on the role played by self regulating markets in providing not only increasing the wealth of particular individual but also improvement of the society.
	Social entrepreneurship
Frumkin, Peter (2002).	Defined social entrepreneurship as a combination of the supply side orientation and the instrumental rational, providing a "vehicle for entrepreneurship "that create social enterprises that combine commercial and charitable goals.
Alvord, Brown &Letts (2004)	Social entrepreneurship creates innovative solutions to immediate social problems and mobilises the ideas, capacities, resources and social arrangements required for sustainable social transformation.

As explained in Wikipedia "A social entrepreneur is someone who recognizes a social problem and uses entrepreneurial principles to organize, create, and manage a venture to make social change, whereas a business entrepreneur

typically measures performance in profit and return". There are three key components that emerge out of this definition are

- the problem
- a sustainable solution
- social change

There has been a mix and match of a range of terms including non profit venture, social purpose endeavour and social innovation to define social entrepreneurship. Although it has been almost three decades since the surdna Foundation's Edward Skloot first use the term "non-profit venture and the Ahsoka foundation's Bill Dryton adopted the term "social entrepreneurship" there is still considerable debate when and where the term applies.

Background of Social Entrepreneurship in India

The concept of social entrepreneurship is new but history shows that every society produces its own social entrepreneurs to solve their social problems. There is a variety of initiatives in various areas such as health, employment, education that transformed the lives of thousands of people around the world. Some popular Indians became aware of the potential of Social Entrepreneurship quite early. William Dryton, founder of Ashoka, the world's first organisation to promote "social entrepreneurship" inspired by Vinoba Bhave's "land Gift Movement".Vinoba Bhave was the founder and leader of the Land gift movement ,he caused the redistribution of more than 7000,000 acres of land to aid India's untouchables and landless. As the Swiss Klaus Schwab, founder of the World Economic Forum and Schwab Foundation, pointed out in an interview with the Hindustan Times: "*India has some of the most advanced and innovative social entrepreneurs. We believe and already see that many of the models developed in India, for instance rainwater harvesting for schools pioneered by Barefoot College, are exported around the world*." Thus, India is a key country in developing social entrepreneurs. McClelland (1975) found that Indians have a social achievement motivation, which is characterised by a desire for contributing to a collective wellbeing and achievement of super-ordinate goals. Over the years, India witnessed a rapid increase in the voluntary sector organisations, which are development partners of the state for grassroots inventions for poverty alleviation, education, live hoods, civil liberties, environment, health etc. (Seth Suresh& Kumar Sudesh.2011). Various studies have highlighted that in the Indian mentality one's duty towards the society play an important role. Chakraborty (1987) found that an orientation of "giving" and the need to

fulfil one's duty towards the society is deep rooted in Indian social values and identity.

Methodology of the Study:

This study focused to analyse three cases of social entrepreneurship that have been widely recognised as successful. The cases considered in this study are taken from the existing literature. These study solutions focused how the social entrepreneurship creates innovative solutions to solve the social problems through ideas, capacities and with the use of available resources. The cases of social entrepreneurship used in this study are those social enterprises known as catalyst for social transformation.

We collected the information about the cases from published reports, books, journals and internet resources. These three cases are chosen by keeping in mind the three vital aspects of any society namely healthcare, education, poverty alleviation and women empowerment. Next section of this paper provides a brief description of the cases under study in relation to their background, focus, innovation and impact in the society. The cases consider for discussed are namely, Self Employed Women's Association (SEWA), Barefoot College and Aravind Eye Hospital.

Three Cases of Social Entrepreneurship

1. Self Employed Women Association (SEWA)

Background: Ela Bhatt, a lawyer who was chief of the women's section of the Textile Labour Association in Ahmadabad, witnessed the terrible conditions faced by women working as head-loaders, weavers, needlecraft workers, cigarette rollers and waste collectors. As a result, she began helping women to organize themselves. Thus Self –Employed Women's Association (SEWA) was born in December 1971.SEWA as a trade union registered in 1972.

Innovation: SEWA's main goals are to organise women workers for full employment means workers obtain work security, income security, food security and health security. SEWA organise workers to achieve these goals through the strategy of struggle and development. SEWA provides support to poor, self-employed women in countries with large informal economies.

Focus: Enterprise Development, Financial Inclusion, Labour Conditions and Unemployment, Rural Development, Women, Social Security, Communications/Media, Culture and Handicrafts.

Activities: The Self-Employed Women's Association (SEWA) provides comprehensive support to poor, self-employed women. Its efforts to increase the bargaining power, economic opportunities, health security, legal representation and organizational abilities of Indian women . It has brought dramatic improvements to thousands of lives and influenced similar initiatives around the globe. SEWA are based in the Indian state of Gujarat. SEWA's members include 500,000 women from 100 informal trades within the state and an additional 500,000 members from eight other states. SEWA is the largest women's union in India, provides its members, financial, health, childcare, and insurance, legal, vocational and education services. Its members have created 100 cooperatives. The efforts have had so much success that from 1994 to 1998 members increased employment income by 600%. SEWA Bank, has issued loans to thousands of members. SEWA has also started health cooperatives and developed an insurance programme that provides members' coverage for healthcare, emergencies and loss of life. The insurance programme has now developed into the VimoSEWA cooperative and it is India's first such national-level organization. SEWA is also working through video, telephone, computer and satellite communications to provide information technology to the working class. Now SEWA leaders are dedicating their time to influence national and international policies in support of informal and self employed workers around the World.

The Entrepreneurs: After graduating with a law degree in 1954, Ela Bhatt joined the Textile Labour Association, a union founded by Mahatma Gandhi in 1917. While working there, she observed the conditions of the non-organized sector – primarily comprised of women – and decided to help "unionize" them.

2. Bare foot College:

Background: Barefoot College was established in the year1972 in Tilonia, Rajasthan, was inspired by the principles of Gandhi and on the concept of the "village as a self-reliant unit". The college benefits the poorest of the poor, off erring practical skills and knowledge through learning by-doing. In particular, the college focuses on training illiterate men and women to work in the areas of solar energy, water, healthcare, rural handicrafts, communications and women's empowerment.

Innovation: Barefoot College works with marginalized, exploited and rural poor communities, guiding them on a path towards self-sufficiency and sustainability.

Focus: Education, Renewable Energy, Rural Development, Technology, Women empowerment.

Activities: Barefoot College demonstrates that illiteracy is not a barrier to poor communities developing themselves and that the most sophisticated technologies can be disseminated by poor rural men and women who can barely read and write. As such, thousands of people are trained each year to be teachers, midwives, health workers, solar engineers, water drillers and testers, hand pump mechanics, architects, artisans, designers, masons, communicators, computer programmers and accountants. The Barefoot campus itself is a testament to the quality of its training programmes. Barefoot-educated architects and masons constructed most of the campus out of low-cost materials and it is the only fully solar-powered college in India. Barefoot engineers have also helped to electrify 35,000 houses with solar energy in 1,000 villages in 37 countries, saving 4.6 million litres of kerosene from polluting the environment. And since 1986, barefoot engineers have helped to collect rainwater in 901 schools in remote villages in India as well as Afghanistan, Ethiopia, Mauritania & Senegal.

The Entrepreneur: For over 40 years Sanjit (Bunker) Roy has demonstrated the power and impact of the grassroots community movement. He attended Doon School and St. stefen's college, Delhi. He was influenced b Mahatma Gandhi's spirit of service and thoughts on sustainability. In 2010, Roy was selected by Time magazine as one of the 100 most influential personalities in the world, and in 2008 The Guardian named him one of 50 environmentalists in the world who save the planet.

3. Arvind Eye Hospital

Back Ground: There are an estimated 45 million blind people in the world and an additional 269 million who are visually impaired. About 90% live in developing countries where they face the challenges of poverty, illiteracy and diseases of epidemic proportions. In India alone there are 12 million blind people and most of the blindness is easily treatable by simple cataract surgery or with a pair of glasses. The challenge is to address affordability and access issues so that those who can have their sight restored can re-enter the workforce and support themselves and their families.

Innovations: Founded in 1976 by Dr G. Venkataswamy with the mission to eliminate needless blindness. Aravind treats patients with an emphasis on providing services to the rural poor. Aravind has built a sustainable service delivery model, with currently 55% of its services being free or significantly subsidized for low-income families.

Focus: Health

Activities: Aravind Eye Care System is the largest and most productive eye care facility in the world. Aravind encompasses five hospitals, two surgical centres, seven community eye clinics, 39 primary eye care centres, two managed eye hospitals, a manufacturing centre for ophthalmic products, an international research foundation, and a resource and training centre that is revolutionizing hundreds of eye care programmes across the developing world. Some of the activities and innovations—all of which are carried out through cost-effective and efficient processes—behind the model are: producing and making available high-quality, low-cost intraocular lenses and other ophthalmic supplies; extensive use of telemedicine and other such technologies to improve rural access; recruiting and training hundreds of young rural women each year as eye care technicians, thereby giving them a career opportunity and significantly reducing the cost of eye care; and establishing a network of Vision Centres with low-cost telemedicine technology to provide primary eye care to rural areas and thus enhancing access. Aravind's success in eliminating needless blindness is based on engaging in direct action and creating competition. Real competition is encouraged through a proactive capacity-building process that shares lessons learned detailed procedures, systems, forms and software. The Lions Aravind Institute of Community Ophthalmology (LAICO), for example, was set up in 1993 to help Aravind transfer the best of its expertise and experience to other eye care institutes in India and elsewhere. It has helped replicate best practices in over 270 eye hospitals worldwide.

The Entrepreneur: Ravilla Govindappa Venkataswamy was educated at American college, Madurai and Stanley Medical College,madras ,before qualifying with a MSc in ophthalmology at the Government Ophthalmic Hospital, Madras.In 1977,at the mandatory age of 58,,he founded the Aravinda Eye Hospital at Madurai. Started with an eleven –bed hospital by four medical officers, now it is one of the biggest network of ophthalmology hospital in the world and perform nearly 5 percent of all eye surgeries in India .As a young man he followed the teaching of Gandhi and Sri Aurobindo Ghose.The hospitals were named after Sri Aurobindo,one of the 20th century's most revered spiritual leader.

Discussion: Here an attempt has been made to analyse the characteristics essentials to be a successful social entrepreneur. These characteristics are found out on the basis of the definition by J.Gregory Dees professor of the practice in social Entrepreneurship ,funding faculty director of Duke University's Centre for the Advancement of Social Entrepreneurship and

often referred to as the "Father of Social Entrepreneurship Education". His definition is considered by us as it is emphasis on discipline and accountability with the notions of value creation taken from Say, innovation and change agents from Schumpeter, pursuit of opportunity from Drucker,and resourceful from Stevenson. This paper deals with a hypothesis generating rather than a hypothesis testing approach. This part of the paper generate hypothesis on the basis of Dees's five characteristics truly matters for a successful social entrepreneurs.

H1 *successful social entrepreneurs engaging in a process of continuous innovation, adaptation and learning.*

As per Schumpeter Innovation is one of the basic qualities of an entrepreneur and innovation can take many forms for example, new model, new approach and new idea. A social entrepreneur is an innovator of change who addresses the social issue and implements a new business model. In all the three cases they convey a social message and a new value to the society through its innovation. All these social entrepreneurs primary intention is on addressing intractable social problems through new ideas. The entrepreneurs consider innovation as a continuous process of exploring, learning and improving their innovation. Instead of meeting the needs they try to reduce the needs through their innovation. As a result developed and flourished by obtaining the support of the people.

H2 *successful social entrepreneurs adopting a mission to create and sustain social value*

SEWA	– It is a confluence of three movements: the labour movement, the cooperative movement and women's movement. – They know how to build their own strength to meet the challenges. – SEWA has been supporting its member in capacity building, strengthening women's leadership, confidence and their bargaining power.
BAREFOOT	– Train unemployed rural youth to seek jobs that help to develop rural communities and improve the quality of life. – Lift the marginalised, exploited, rural poor over the poverty line. It train and empower the poor, rural people in high-tech occupations for the betterment of their communities.
ARAVIND EYE HOSPITAL	– The mission of the hospital was to eradicate needless blindness. – It developed mass marketing and surgical processes resembling an assembly line in order to assist 12 million blind people of India. – Its high level of quality attracts patients from all over the world who are willing to pay the market price. So the profit generated from these patients sued for cross-subsidies and free surgeries for poor people.

This is the fundamental difference between business entrepreneur and social entrepreneur. In entrepreneurship personal profit is the barometer of success

but for social entrepreneurs profit is not the criteria the most important aspect is the social improvement. Here in all the three cases importance is given to social wealth creation rather than economic wealth creation. For them social wealth creation is the primary objective and economic value creation is the by-product that is necessary for the long term return on investment and sustain the social impact.

H3 *Successful social entrepreneurs are recognising and relentlessly pursuing new opportunities to serve that mission.*

SEWA	Main goals are to organise women workers for full employment.
BAREFOOT	His dream was using traditional expertise rather than "bookish knowledge" for the uplift of neglected communities. So he tries to empower these rural poor to access to a bright future.
ARAVIND EYE HOSPITAL	He set his goal to give the right to the 12million people in India suffering from preventive blindness.

Social entrepreneurs always see opportunity. They are not simply driven by the perception of a social need rather they have a vision of how to achieve improvement and they are determined to make their vision work. As per Skoll foundation entrepreneurs are ambitious, mission driven, strategic, and resourceful and result oriented. They try their level best to take advantage of the available opportunities to make a difference for the society. In all the examples discussed above the social entrepreneurs are concerned with social transformation. Their success implies the attainment of specific goal and these goals are also changes over the course of movement and with the availability of resources.

H4 *successful social entrepreneurs are acting boldly without being limited by resources currently in hand.*

SEWA	In 1981 Textile Labour Association separated SEWA out of its fold. After this SEWA grew faster and started new initiatives.
BAREFOOT	It was misunderstood as a missionary organisation with intention of converting their religion .Even rural women were thought to get corrupted by being exposed to the organisation.
ARAVIND EYE HOSPITAL	Most banks refused to lend him money because of his age and eccentric model. He had to mortgage all the jewellery of his family members to raise the fund to start his first hospital.

Resource is not the constraint to keep them away from pursuing their vision. In most of the definitions social entrepreneurs are defined as adopting high performance management practices such as continuous improvements, quality management and strong financial control. In all the above cases the social entrepreneurs build the organisation from the scratch. They have

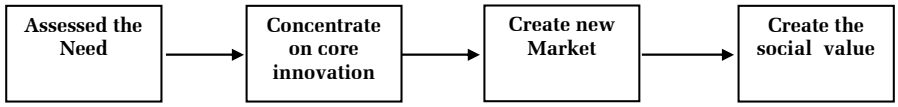
explored all resource options from philanthropy to commercial methods. They have significant personal credibility to develop resource strategy and actually build the necessary network that is necessary to support and reinforce their social mission.

H5 *successful social entrepreneurs are exhibiting a heightened sense of accountability to the constituencies served and for the outcomes created*

The social entrepreneurs' need the perfectly understanding of their plan of action .They makes sure that their mission is correct and it is as per the requirement of the people they want to serve. The vision should have the potential to reshape public attitude when implemented. They try to meet the expectations of their investors who are ready to invest in terms of money, time and skill. They have dual accountability one towards the development of their beneficiary and another towards their investors. So they create a business style, that integrates economic with social value. They analyse their growth not only through size and output but also through social, financial and managerial outcomes. The social entrepreneurs generate followers' commitment to the project by framing it in terms of important social value rather than purely economic terms which result in a sense of collective purpose among the social entrepreneurs and those who join the effort (Weddock and Post). All the three organisations have brought transparency and public accountability towards the poor, neglected and marginalised section of the society.

Conclusion

Social enterprise incorporates a business scheme into its system and tries to solve a significant social issue. Normally the Indians thought that the government was supposed to take care of all the social issues. But now Indian awareness of social concern has been changing and the number of social entrepreneurs is increasing to solve social issues. So social entrepreneurs can contribute to reduce poverty and hunger in many ways in a country like by developing a social infrastructure as follows:-



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What Engenders Retail Shoppers' Satisfaction in Bangladesh?

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Abstract

This study has investigated the relationships of perceived service quality, perceived product quality, store assortment, price perception, trust, and corporate image with customer satisfaction in the context of a major retail chain store operating in the metropolitan areas of Dhaka, Bangladesh. The study presents a critical appraisal of few important precursors of shoppers' satisfaction. Data were collected from 182 regular shoppers of that retail chain store by employing survey via personal interview technique. A multi-item structured questionnaire was designed to measure all the studied variables. The items were borrowed from prior researches, which endorsed the fact that the scales were valid and reliable. Stepwise regression showed that perceived product quality, perceived service quality, store assortment, and perceived price have statistically significant relationships with shopper or customer satisfaction. The results showed that nothing is more important than the quality of products offered or sold at the retail store. Shoppers also want good services from the store personnel. Store assortment has been proven to be another important factor in the assessment of shoppers' satisfaction. Perceived price reflecting the notion whether shopping at that store ensures 'good value for money' also influences shoppers' level of satisfaction. However, other factors such as trust and corporate image should be given proper credence while attempting to understand what makes the shoppers happy. A clear understanding of what stimulates shoppers' customer satisfaction might encourage or help the retail operators to identify what has to be done in order to create a contented and loyal customer base.

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Introduction

Superstores and retail chain stores are becoming more and more popular every day among the urban people in Bangladesh. If history and rise of supermarkets is considered, the diffusion of supermarkets in Bangladesh is believed to be taking place in the fourth wave (Kashem, 2012). As reported in the annual report of Bangladesh Supermarket Owners Association (BSOA) in Bangladesh there is consistent 15%-20 % annual growth in the sales of supermarkets or retail chain stores. BSOA claims that the annual turnover of the superstores now stands at around Taka 15.0 billion. It also said that about 30 companies with more than 200 outlets have already made foray into the retail industry so far and more than 600 chain retail outlets are expected to be debuted in the next five years. The retail supermarket industry has become the second largest contributing sector to the national economy of Bangladesh (Priyodesk, 2012).

Major retail chains are Agora, Meena Bazar, PQS, Prince Bazar, Nandan, and Swapno. This retail stores cater the everyday shopping needs of the urban shoppers through fair price, right assortment, and best quality. Most attractive features of these stores are hassle-free shopping, hygienic and clean shopping environment, quality products, fair price, right and wider product assortment, and superior store services (Munni, 2010). However, the most important one is that all sorts of products can be purchased under the same roof. In the early days of the business, approximately 500 customers would visit such a retail outlet per day and now the number has gone up to 5,000 per day. Such massive traffic of shoppers has made it imperative for the retail mangers to pay attention to the preferences of shoppers in order to keep the shoppers happy and delighted. Because these customers are knowledgeable, convenience seeker, and shopping in superstores goes well their lifestyle, the retail operators should focus on things that will positively influence or encourage the shoppers to keep patronizing these stores.

Shoppers' satisfaction has become a major concern for the retail operators; because it is not easy to generalize or come up with a magic recipe that will make the shoppers happy. Though there is a certain degree of commonality among retail shoppers all over the world, but the shoppers are different in different regions and so are their preferences. So it will be only wise to make an attempt to find out what makes the shoppers happy in Bangladesh. In the past researchers have attempted to understand various antecedents of customer satisfaction such as service quality, product quality, store image, retailer brand image, trust, commitment, relationship strength, relationship quality, product assortment, lifestyle, culture etc. (Chaiyasoonthorn & Suksa-

ngiam, 2011; Wong & Sohal, 2004). In this study authors have selected perceived service quality, perceived product quality, store assortment, perceived price, trust, corporate image (retailer's image) as independent variables (IV), and customer satisfaction as dependent variable (DV). Therefore, this paper intends to assess the relationships between the independent variables and dependent variable to examine which variables have stronger and significant relationships with customer satisfaction.

Literature Review

Customer Satisfaction

Satisfaction is most commonly (gathered from various authors) interpreted as a feeling which results from a process of evaluating what has been received against what was expected, including the purchase decision itself and the need and want associated with the purchase (Armstrong & Kotler, 1996). Bitner and Zeithaml (2003) stated that satisfaction is the customer's evaluation of a product or service in terms of whether that product or service has met his/her needs and expectations. According to Boselie, Hesselink, and Wiele (2002) satisfaction is a positive, affective state resulting from the appraisal of all aspects of a party's working relationship with another. Previous studies have identified two aspects of customer satisfaction: transaction specific satisfaction and overall or cumulative satisfaction (Andreassen, 2000). According to Wang, Lo and Yang (2004) overall satisfaction has been used more than transaction specific satisfaction in the past studies to predict customer behavior. This paper has also focused on overall satisfaction like most of studies on customer satisfaction. According to Boselie et al. (2002) satisfaction is a positive and affective state resulting from the appraisal of all aspects of a party's working relationship with another. Satisfied customers tend to more loyal and they are less likely to move to other competitors (Baldinger & Rubinson, 1996). Keeping the shoppers happy and satisfied is an imperative for long-term business success like any other business. Hence, it is important for the retail operators to understand what makes the retail shoppers satisfied so they keep patronizing the store.

Perceived Service Quality

Service quality happens to be an important antecedent of customer's appraisal of value (Imrie, Cadogan, & ***McNaughton***, 2002). Service quality by early researchers has been described as a form of attitude that is formed due to the difference between customer expectations regarding a service to be

received and perceptions of the service being received (Parasuraman, Zeithaml, & Berry, 1988). Other researchers associated service quality with the extent to which a service meets customers' needs or expectations (Dotchin & Oakland, 1994; Lewis & Mitchell, 1990). It is also conceptualized as the consumer's overall impression of the relative inferiority or superiority of the services (Zeithaml, Parasuraman, & Berry, 1990). According to Grönroos (1983) service quality is comprised of two components – technical quality ("what" is delivered) and functional quality ("how" is delivered). In SERVQUAL Parasuraman et al. (1988) identified five dimensions of service quality (viz. reliability, responsiveness, assurance, empathy, and tangibles) that link specific service characteristics to consumers' expectations. However, Dabholkar, Shepherd, and Thorpe (2000) advocate that while judging (perceiving) different dimensions of service quality the customers eventually tend to form a distinct overall evaluation of service quality, which subsequently influence their behavioral intentions concerning whether to become or remain loyal to the service provider. Berry, Parasuraman, and Zeithaml (1988) considered service quality is to be a great differentiator and the most powerful competitive weapon. Sureshchandar, Rajendran, and Anantharaman (2003) identified a strong relationship between service quality and customer satisfaction, which eventually helps a service organization to create loyal customer base. Hence, following hypothesis has been developed:

Hypothesis 1: Perceived service quality has a positive and significant relationship with Customer satisfaction.

Perceived Product Quality

Perceived product quality refers to the customer's judgment about the superiority of a product, which is essential in conceptualization of quality (Forker, Vickery, & Droge, 1996). Product embodies bundle of attributes together representing a definite level of quality, which therefore offers utility to the customer (Snoj, Aleksandra, & Damijan, 2004). The benefits are typically measured according to the customer perception while comparing it with the consumer's expected utility supposed to be derived from the usage of the product. Schiffman and Kanuk (2004) stated that customers often judge the quality of a product on the basis of a variety of informational cues (intrinsic or extrinsic, or both) that they associate with the product. Perceived quality of products is central to the theory that strong brands or good quality products add value to consumers' purchase evaluations (Low & Lamb, 2000). As retail stores typically thrive on pushing or selling products produced by others, the retailers need to be keen about keeping quality products in their stores. According to deRuyter and Wetzels (1998) the perceived quality of

product is often viewed as a pre-requisite for customer satisfaction, repeat purchase and customer loyalty. Perceived product quality influences customers' value appraisal, eventually improved perception of value leads to higher customer satisfaction and loyalty (Munger & Grewal, 2001). Therefore, the next hypothesis has been developed:

Hypothesis 2: Perceived product quality has a positive and significant relationship with Customer satisfaction.

Store Assortment

According to Leszczyc, Sinha and Sahgal (2004) one-stop shopping essentially represents the idea whether the shoppers are getting the opportunity to buy multiple products or services from a single visit to a retail store. Thus, product assortment becomes a crucial task of retail store management. Store assortment generally addresses issues like variety of products, brands, SKUs considering various shopper segments. Shoppers are more concerned about product and service assortment than the managers of retail stores as they consider the importance of product assortment differently from their customers (Hansen, 2003). Stores with wider product assortments tend to do better than those with narrower product assortments, because vast product assortments can help the shoppers to economize by allowing to buy more products in fewer trips (Leszczyc et al., 2004). As store assortment can be related to cost cutting or saving, it can be linked with customer satisfaction as well. Hence, the following hypothesis has been developed:

Hypothesis 3: Store assortment has a positive and significant relationship with Customer satisfaction.

Perceived Price

According to Schiffman and Kanuk (2004) price perception is whether the customers consider a product's price high, low or fair. They also said that if the price perceived to be unfair, it affects the customers' perception of value and ultimately their willingness to purchase a product. According to Moore, Kennedy, and Fairhurst (2003) numerous research studies showed that price may carry both positive and negative cues as far as the product worth and prestige is concerned.

When perceived price carries positive or favorable signals it could be translated to positive quality, prestige and status in the minds of the customers (Moore *et al.*, 2003). Alvarez and Casielles (2005) stated that if the consumer perceives a gain (as a result of his/her positive price perception), he/she will be more satisfied and continue purchasing. Perceived price also

plays an important role in determining both post-purchase satisfaction (Jiang & Rosenbloom, 2005). Hence, higher or more favorable the perceived price is the higher the deemed satisfaction will be. Therefore, one can safely come up with the following hypothesis:

Hypothesis 4: Perceived price has a positive and significant relationship with Customer satisfaction.

Trust

In business trust has been found to be very important for building and maintaining long-term relationships (Rousseau, Sitkin, Burt, & Camerer, 1998; Singh & Sirdeshmukh, 2000). Trust is positive expectations towards the behavior of others (Beatty, Mayer, Coleman, Reynolds, & Lee, 1996). According to Lau and Lee (1999), if one party trusts another party that eventually engenders positive behavioral intentions towards the second party. Trust is a key antecedent of the motivation to enhance the scope of a relationship, and a key determinant of relationship continuity (Selnes, 1998). In retail industry, contact personnel can deliver high levels of trust by demonstrating that they have the customers' best interest at heart, they have necessary skills required to meet customer needs, and they have the ability to solve customer problems honestly and skillfully (Beatty et al., 1996). Clearly, trust is an important construct in relational exchange, which generates comfort and assurance in customer's mind and that leads to customer satisfaction. Thus, the following hypothesis is proposed:

Hypothesis 5: Trust has a positive and significant relationship with Customer satisfaction.

Corporate Image

Barich and Kotler (1991) tried to define corporate image as the overall impression of a firm left on the minds of the customers. Corporate image is a perception of a firm held in customer memory and works as a filter which affects the perception of the operation of the firm (Lai, Griffin, M. & Babin, 2009). A firm's various attributes eventually settle in customers' minds, thus resulting in certain mental image(s) relatable to the firm intuitively (Nguyen & Leblanc, 2001). Corporate image germinates as the customers actively or passively receive and process information about a firm from various sources. Kennedy (1997) said corporate image has two dimensions; functional (tangible characteristics) and emotional (feelings and attitude towards a firm). Nguyen and Leblanc (2001) said that as customers get exposed to the realities created by a firm they tend to construct an image or form an attitude towards the firm regardless of how little or abundant information they have. Generally,

customers keep an array of reflections embodied in mental or intellectual framework about a firm (for instance, a retail store) in their minds (Orth and Green, 2009). That corporate image or store brand image or retailer brand image eventually influence their shopping behavior or even their shopping outcomes like satisfaction or repurchase intention or even recommending others about the store. The relationship between satisfaction and corporate image have been reported in the previous studies (Lai et al., 2009)

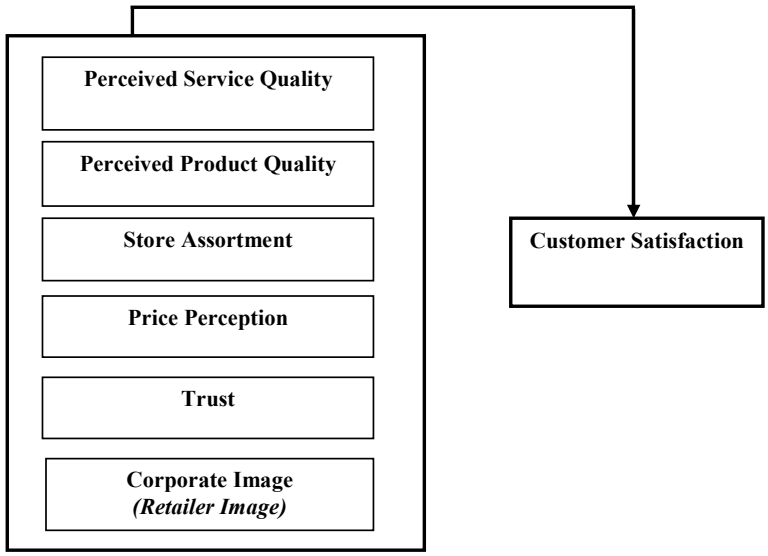
Considering the influence of retailer image on the shoppers, the following hypothesis is proposed:

H6: Corporate image (retailer image) has a positive and significant relationship with Customer satisfaction.

Conceptual Framework

Based on the aforesaid hypotheses following conceptual framework is developed (Figure 1).

FIGURE1: Conceptual Framework 1



Methodology

Sampling and Data Collection

The researchers employed the quota sampling. For data collection purpose, the researchers employed survey via personal interview. Structured

questionnaires were distributed among 300 (182 questionnaires were usable) regular shoppers in four different outlets of a major retail chain operating in Dhaka, Bangladesh. The average age of the respondents was 37.25 years. 73 % respondents were female and 27 % were male.

Measurement instruments

The questionnaire was comprised of seven sections meant for seven variables where the researchers used seven-point Likert scale borrowed from previous researchers. The operational definition of each construct/variable is presented with its originally reported reliability in table 1.

TABLE 1: Operational Definitions of the Constructs

Construct	Operational Definition	Source(s)	Reported Reliability (Cronbach's Alpha)
Customer Satisfaction	The degree to which a customer feels satisfied or dissatisfied from the outcome of the store.	Chaiyasoonthorn and Suksa-ngiam (2011)	0.828
Perceived service quality	How the customer perceives the quality of services rendered at the store.	Wong and Sohal (2004)	0.960
Perceived product quality	The degree to which a customer perceives the quality of products sold in the store as high or low quality.	Chaiyasoonthorn and Suksa-ngiam (2011)	0.806
Store assortment	The degree to which a customer perceives the assortment of products sold in the retail store.	Chaiyasoonthorn and Suksa-ngiam (2011)	0.835
Price perception	The degree to which a customer perceives the price of products sold in the store as expensive or cheap.	Chaiyasoonthorn and Suksa-ngiam (2011)	0.816
Trust	To what extent the employees of the retail store or the store is trustworthy.	Wong and Sohal (2004)	0.870
Corporate Image	How a firm is perceived by a customer and this perception works as a filter which affects the perception of the operation of that firm.	Bayol, LaFoye, Tellier, and Tenenhaus (2001)	0.885

Data Analysis

The researchers have employed both descriptive as well as inferential statistics. Correlation analysis and stepwise regression have been carried out by using SPSS version 17.

Results

Descriptive Statistics and Reliability Coefficients

Descriptive statistics and reliability coefficients of the studied variables are presented in Table 2. The range of Cronbach alphas of all the scales was 0.875-

0.757; which shows that the reliabilities of all the constructs used in this study found to be well above the standard set by Nunnally (1978). Mean scores of all the variables measured on a seven-point likert scale found to have a range of 6.17 to 5.07 and the corresponding standard deviations were ranging from 0.87 to 0.61. These mean scores indicate that the shoppers' appraisal of perceived service quality, perceived product quality, store assortment, price perception, trust, corporate image, and customer satisfaction is pretty high.

TABLE 2: Descriptive Statistics and Reliability Coefficients (N =182)

Scales	Number of items	Alpha	M	SD
Customer satisfaction	4	0.832	6.11	0.84
Perceived service quality	4	0.875	5.93	0.63
Perceived product quality	5	0.767	5.91	0.78
Store assortment	4	0.818	5.07	0.61
Price perception	5	0.757	6.17	0.79
Trust	3	0.778	6.02	0.65
Corporate Image	5	0.759	5.88	0.87

Correlation Analysis

A correlation analysis was done on all the variables for two purposes. The first was to check the presence of multicollinearity, which is revealed when the inter-correlation between explanatory variables exceeds 0.8 (Berry & Feldmann, 1985). Secondly, correlation analysis helps to explore the relationships between independent and dependent variables. The bivariate correlation procedure was subject to two tailed tests of statistical significance at two different levels- highly significant ($\underline{p}$<.01) and significant ($\underline{p}$<.05). Correlations matrix is presented in Table 3 supports most of the hypothesized positive relationships among the independent variables and dependent variable with high statistical significance ($\underline{p}$<.01).

TABLE 3: Correlation Matrix (N = 182)

Variables	cus_sat	per_srv_qlty	per_prd_qlty	st_asrt	per_pri	tru	cor_im
cus_sat	-	0.50**	0.51**	0.49**	0.38**	0.51**	0.42**
per_srv_qlty		-	0.32**	0.51**	0.18**	0.50**	0.31**
per_prd_qlty			-	0.40**	0.39**	0.54**	0.53**
st_asrt				-	0.31**	0.47**	0.28**
per_pri					-	0.40**	0.43**
tru						-	0.49**
cor_im							-

Note: ($\underline{N}$ = 182, *p < .05, **p < .01)

Stepwise Regression Analysis

Stepwise regression analysis was done to assess the discerning relationship of each independent variable with the dependent variable. The results are presented in Table 4.

TABLE 4: Stepwise Regression on Customer Satisfaction

Variable(s)	B	SE B	β	R^2	Δ R^2
Step 1					
Perceived product quality	. 632	. 087	. 514***	.260	
Step 2					
Perceived product quality	. 483	. 084	. 393***	.381	.121
Perceived service quality	. 370	. 068	. 373***		
Step 3					
Perceived product quality	. 419	. 086	. 341***	.405	.024
Perceived service quality	. 283	. 074	. 286***		
Store assortment	.241	.091	.204**		
Step 4					
Perceived product quality	. 358	. 089	. 291***	.421	.016
Perceived service quality	. 287	. 073	. 289***		
Store assortment	.205	.091	.173*		
Perceived price	.151	.067	.155*		

Note: (N = 182, *p < .05, **p < .01, ***p < .001)

The results indicate that perceived product quality (p < .001), and perceived service quality (p < .001) have statistically significant relationships with customer satisfaction. The weighted R^2 0.260 found in Model 1 reveals that the relationship of perceived product quality (IV) and customer satisfaction (DV). The weighted R^2 for regression of Model 2 comprised of perceived product quality (IV), perceived service quality (IV), and customer satisfaction (DV) was 0.381. Perceived service quality has only made 0.121 or 12.1% improvement in the model in terms of explaining the variation or change in customer satisfaction. The weighted R^2 for regression of Model 3 comprised of perceived product quality (IV), perceived service quality (IV), store assortment (IV), and customer satisfaction (DV) was 0.405. Store assortment has only made 0.024 or 2.4% improvement in the model. In Model 4, weighted R^2 was 0.421 and new addition was perceived price (IV). Perceived price has made 0.016 or 1.6% improvement in the model in explaining the variation or change in customer satisfaction. The results also indicate that the Model 1 and Model 2, Model 3, and Model 4 have high statistical significance (Model 1: F = 53.241, p = 0.000; Model 2: F = 46.778, p = 0.000; Model 3: F = 34.828, p = 0.000; and Model 4: F = 28.104, p = 0.000). Trust and corporate image were found not to have statistically significant relationship with customer satisfaction.

These results provide support to hypothesis 1, hypothesis 2, hypothesis 3, and hypothesis 4.

Discussion

The present study is noteworthy for two special reasons. Firstly, as to the knowledge of the researchers, in Bangladesh no such study has been done previously to assess shoppers' satisfaction related to a certain retail chain store. Secondly, though the conceptual framework may look fairly repetitive, as to best knowledge of the researchers inclusion of corporate image in such model is somewhat novel in the context of the Bangladeshi retail sector.

Stepwise regression has shown that perceived product quality, perceived service quality, store assortment, and perceived price have statistically significant relationship with customer satisfaction. The results show that nothing is more important than the quality of the products offered or sold in the retail store, even though customers' quality assessment is rather perceptual not objective in nature. Customers' product quality assessment could be erroneous and could be influenced by the prior knowledge, experience or hearsay, irrespective of how reliable shoppers' assessment is, the retail operators must not compromise with quality of their assorted products. If good quality products are sold without fail, the customers' perception regarding the product quality supposed to be straitened through 'instrumental conditioning'.

In this study, perceived service quality seems to be the second important factor influencing the shoppers' satisfaction. In other similar studies, it also has been reported to be a very strong antecedent of customer satisfaction. In addition, store assortment is pretty important to the shoppers as it allows the shoppers to buy many items in fewer trips to the store. So a store with wider product assortment is definitely considered more favorably by the shoppers consider ing their pre and post shopping preferences.

Price perception is another important issue in shaping shoppers' satisfaction. One interesting thing about perceived price is that shoppers' perception on price varies across the board when it comes to the issues like price fairness or whether the purchase has ensured (could ensure) 'good value for money'. Therefore, the retail operators should follow the good/golden practices of retail pricing heuristics and thumb rules that have proven to be effective as reported and recommended by the credible researchers and practitioners. A sensible interpretation would be these shoppers want the quality of the products to be impeccable, good service and wider variety of products along

with fair price. However, other independent variables might be more important to another group of shoppers for the same retail store. Nonetheless, these week factors should be given proper credence while attempting to understand what makes the shoppers happy contented. However, more research is needed to look into these findings.

The findings of this study have to be interpreted considering few limitations of the study. First, data collection was limited to the shoppers of a one major retail chain who live in Dhaka metropolitan area. Second, only regular shoppers were considered for data collection, new or occasional shoppers were not included. Otherwise, a comparison could have been drawn between regular shoppers and new or occasional shoppers regarding their customer satisfaction. Since the researchers' primary intention was to test the conceptual framework, may be in future such a study could be carried out. Finally, inclusion of other variables like- store location, culture, lifestyle, store personnel, relationship strength or quality, store atmosphere, or shopping orientation could have made the conceptual framework more robust. In future, the authors intend to incorporate some of the aforesaid variables in the conceptual framework to do Structural Equation Modeling (SEM).

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