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Influence of Perceived Organizational Support, Supervisory Support, and Working Environment on Employee Service Quality: An Empirical Study on Non-Govt. Employees in Bangladesh.

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Abstract: Employee service quality is perceived as an essential element for the success of an organization as the quality of the product and service provided to the customers depend on the services provided by these employees. If the service qualities of these employees are not efficient and up to the mark, the organizations profitability in the long run will then be at stake. That is why, it is essential for the management to identify the factors that influence the employees to raise the quality of their service. This study has found that there is a significant relationship between perceived organizational support, supervisory support, and working environment in one hand and the employee service quality on the other.

Keywords: Perceived Organizational Support, Supervisory Support, Working Environment, and Employee Service Quality.

1. Introduction

Determining the service quality of an organization is a major puzzle for the management as the independent assessment of the same is possible only after a rigorous investigation from the point of view of the different stakeholders. As a matter of fact a 360 degree appraisal method is warranted to have a close and proximate view on the service quality of the employees of an organization. The TQM advocates suggested that in order to satisfy the external customers the internal customers i.e. the employees must be satisfied first as they are instrumental in providing satisfaction to the customers through service and or skill. Management literatures identify some factors responsible for having impact on employee service quality that include: Perceived Organizational support, Supervisory support and Working Condition. Perceived organizational support (POS) refers to the extent to which employees perceive that the organization recognizes their contribution and cares about their well being (Eisenberger et al. 1986, 1990). Organizations care and favorable attitude towards its employee are also acknowledged by the employees as a means to satisfy their social needs for approval, affiliation, and esteem. And such caring attitude is explained as the organization's readiness to compensate increased effort with greater rewards. This paradigm has been suggested for integrating and extending the calculative and affective interpretation of organizational commitment in a social exchange framework (Eisenberger et al., 1986). POS is expected to increase the service quality as the employee will have the expectation of getting reward by achieving organizational goals, and consequently, these expectancies may increase their efforts in services to meet the work standard and attain organizational goals, especially, providing superior service to customers at each encounter.

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Another key factor to have impact on service quality is the Supervisory Support(SS) According to House (1971) Supervisory support refers to the socio-emotional concerns of the supervisor, and represents the degree to which the supervisor creates a facilitative climate of psychological support, mutual trust, friendliness, and helpfulness for his subordinates.. Once the employees recognize that their performance enthusiasm towards their work will be geared up (Babin & Boles, 1996; Kopelman et al., 1990;, & Michaels et al., 1987), and they will eventually extend more effort in their job (Brown & Peterson, 1994).

is constantly monitored by their immediate supervisor who is concerned for them as well as provides adequate socio-emotional support for them, employees' will feel positively about their job and their Although Herzberg et al have identified Work climate as a hygiene factor which is a preventive factor for job dissatisfaction it can be crucial to adversely affect the quality of the service of an employee. Schneider et al. (1998) examined that, Work climate refers to the shared perception of employees concerning practices, procedures and kinds of behavior that get rewarded and supported in a particular setting.” Accordingly, in the current study, the researcher utilized service climate as an added variable to investigate the relationship between work climate and employee service quality. The present study will investigate the relationship between perceived organizational support, supervisory support, work climate (Independent Variables) and employee service quality (Dependent Variables).

1.1 Organizational Support

Perceived organizational support can be defined as the “global beliefs concerning the extent to which the organization values their contributions & cares about their well being” (Eisenberger et al., 1986). Gouldner (1960), in his reciprocity norm of the social exchange theory explains employees perceiving support from the organization value their organization at a greater scale and tend to actively collaborate to achieve the company's goals (e.g. Eisenberger et al., 1986; Rousseau, 1989; Wayne et al., 1997). One of the first studies on the influence of social support on work was run by LaRocco et al. (1980) who pointed out that employees that feel supported show better psychological well-being, higher job satisfaction and better performance. Furthermore, it has been found unanimously, that support is positively related to job satisfaction (Beehr et al., 1990; Thomas and Ganster, 1995; Nye & Witt, 1993) which leads to an enhancement of employee service quality.

1.2 Supervisory Support

Supervisory support leads an employee to high performance work with satisfaction and motivation. In 1975, C.A Shriesheim, and R.M Stodgigill came up with their tenet in the book of Personnel Psychology and they opined that Supervisory consideration refers to leader behaviors concerned with promoting the comfort and wellbeing of subordinates. It is hypothesized that employees who believe their superiors are considerate leaders will be more committed to their organizations than those who do not perceive their managers as such (Johnston, M.W., Parasuraman, A., Futrell, C.M. and Black, B.C, 1990). According to Schriesheim, C.A. and Stogdill, R.M. (1975), supervisory consideration refers to leader behaviors concerned with promoting the comfort and wellbeing of subordinates.

DeCotiis and Summers (1977), Morris and Sherman (1981) and Zaccaro and Dobbins (1989) all found empirical evidence supporting this view mentioned above. Supervisory consideration again refers to the degree to which supervisors are supportive, friendly and considerate, consult subordinates and recognize their contribution. Fry (1986) and Johnston (1990) found that consideration reduces role conflict among the employees & thus the service quality of the employees tend to increase. Supervisory support refers to the extent to which supervisors, as persons “in the middle” have to reconcile conflicting demands from workers for whom they are responsible, from senior management, from trade unions, and from own needs for esteem and self-respect (Gelfand, L, 1990). If they do not know just what the total organization wants, supervisors will be unable to fulfill an important part of their job, that of coordinating the work with individuals of their section with that of others so that the strategic objectives of the organizations are met.

It is clear that the role of supervisor has now become increasingly challenging as well as extremely critical as he has to work as a bridge between the management & the employees. At present, supervisory support refers to the “socio-emotional concerns of the supervisor, and represents the degree to which the supervisor creates a facilitative climate of psychological support, mutual trust, friendliness, and helpfulness” (House, 1971). Representing the organization, the supervisor generally determines the returns to subordinates and enacts the formal and informal procedures of the organization. In a social contract setting, inputs of subordinates influence the distribution of rewards by the supervisor. Thus, perceived distributive justice would likely enhance trust in the supervisor. How supervisors interact with subordinates in communicating procedural fairness, which is interactional justice, is more important than actual fair behavior (Greenberg, 1988).

1.3 Work Climate

At present work climate is believed to be a key factor for quality work outcomes from the employees. Healthy and good environment influence the intention to work in the minds of the employees. The concept of work climate is usually attributed to Lewin (1951) with his field theory of motivation. Guion (1973) suggested that the concept of corporate or work climate is one of the most important factors to enter the thinking of industrial/ organizational psychologists for many years. Climate perceptions are observed as critical determinant of individual behavior in organizations that mediating the relationship between objective characteristics of the work environment and individuals’ responses (Campbell, Dunnette, Lawler, & Weick, 1970). Organizational climate has been described as an employees’ perception of his or her work environment (Hellriegel, D & J. Slocum, 1974).

According to Schneider and Snyder (1975), “the molar or holistic nature of climate perceptions is such that perceptions function as a frame of reference for the attainment of some congruity between behavior and the system’s practices and procedures”. Furthermore, Schneider (1975) who studied employees’ performance in the workplace, suggests that work climate is an important determinant of employee performance, and that performance equals ability and climate, which stresses the display of individual differences. Work climate refers to how employees perceive and interpret the organizational environments (James & James, 1989, 1990; James & Jones, 1974). Organizational climate consists of more empirically accessible elements such as behavioral and attitudinal characteristics (Drexler, 1977; O’Driscoll & Evans, 1988; Moran & Volkwein, 1992). Moran and Volkwein (1992) defined

climate as a relatively enduring characteristic of an organization which distinguishes it from other organizations, and

- a) embodies members' collective perceptions about their organization with respect to such dimensions as autonomy, trust, cohesiveness, support, recognition, innovation, and fairness;
- b) produced by member interaction;
- c) serves as a basis for interpreting the situation;
- d) reflects the prevalent norms and attitudes of the organization's culture, and
- e) acts as a source of influence for shaping behavior (p. 20).

All of the above definitions suggest that individual perceptions of the work environment are usually referred as psychological climate and when we consider a level for sufficient aggregation then it is termed as organizational climate. Organizational climate highlights on the processes, practices, and behaviors those are rewarded and supported in an organization (Schneider, 1990). Indeed, work climate now is considered to play more important role than it was thought to play in the 1960s and 1970s, because the external and internal environments of work organizations are now less stable and less predictable than before.

Kim and Mauborgne (2003) pointed out to the fact that one of the major challenges that is faced by today's managers is to create a climate in which employees volunteer their creativity and expertise. As a matter of fact, work climate has plays a strong influence on employees' decision to carry on with the organization or quitting the job. Barnard (1997) argued that most employees' work related decisions, such as participating, producing and quitting, are influenced by the work climate of which he/she is part. A work environment determines work happiness, organization obligation, employee turnover, professional adjustment, and business stability (Holland, 1985; O'Reilly et al., 1991). A powerful influence on employee recognitions, attitudes and behavior is the major characteristic of an organization's work environment (Ostroff, 1993).

Climate in an organization is the perception of the employees' share of importance in the organization; achievement through their experience on the job and their observations of the kinds of behaviors management expects and supports (Schneider and Bowen, 1995). According to James and James (1990) and Brown and Leigh (1996), perceptions of the organizational atmosphere obtained on personal significance for employees through assessment, in which a cognitive illustration of the features of the work environment is interpreted in terms of the individual's standards. Environmental attributes appeared from situational referents, these referents consist of safety (Zohar, 1980), innovation (Abbey and Dickson, 1983), customer service (Schneider, 1980; Schneider and Bowen, 1985; Schneider et al., 1998), support, cost-cutting, and others. From an earlier study by Pritchard and Karasick who operationalized climate using 11 dimensions, which are autonomy, conflict versus cooperation, social relations, structure, level of rewards, performance- reward dependency, motivation to achieve, status polarization, flexibility, and innovation, decision centralization, and supportiveness.

They discovered that all the dimensions except autonomy were related to job satisfaction. Naturally, we can conclude that if the work climate influences the employee positively then he or she will be satisfied with the job and once job satisfaction is ensured he or she might deliver better service. One of the major work climate variables out of variety of work

climates is supportive management. Supportive management defines how managers and supervisors support, help, trust, and create a congenial working environment for the employees. Brown and Leigh (1996) describe supportive management is the most important element of employees' psychological safety in the workplace. This will lead us to conclude that work climate as the collective current impressions, expectations, and feelings of the members of local work units, may in turn affect members' relations with supervisors, with one another, and with other units. In short, climate has been established as a construct of considerable interest within the field of organizational behavior research, predominantly as a result of its demonstrable influence on organizational effectiveness (Likert, 1961; Franklin, 1975; Kanter, 1983; Mudrack, 1989), as well as its relationship to individual motivation, work performance and behavior (Litwin & Stringer, 1968; Bowers, 1976).

2. Literature Review:

2.1 Relation between Perceived Organizational Support and Employee Service Quality

Perceived organizational support (POS) represents employee's perception of the organizational commitment to him or her. Earlier back in 1964, Blau narrates the concept of POS as a means of social exchange interpretation of organizational commitment whereby the employees amplify their efforts and allegiance to the organization in return for material commodities and social rewards. Churchill et al. (1985) in his studies found that organizational variable depends on specific organizational action which is exercised by the managers as a means of influencing employee's job outcomes where as POS appears to particularly rely on firm-administrative actions. Eisenberg et al. (1986) later urged that when employees develop their perceptions of organizational support, they depend highly on the frequency and extremity of formal organizational recognition such as payment, rank, job enrichment and influence over organizational policies.

One of the first studies on the influence of social support on work was run by LaRocco et al. (1980). He pointed out whenever employees feel supported they tend to show better psychological well-being, higher job satisfaction and better performance. In terms of a social exchange framework, Mohr & Bitner (1995) shows that POS has a direct impact on contact employees' service efforts which can be defined as the amount of energy put into service works. That means, the more the employees perceive greater organizational support, their sense of obligation to reciprocate with helpful behaviors towards the organization increases (Bettencourt & Brown, 1997; Shore & Wayne (1993).

As a matter of fact, organizational support tends to generate further positive work attitude and it can be of different forms. Frone et al. (1997) found that collegial and supervisory support have a positive influence on job satisfaction. Bennet et al. (2001) have observed that the supervisory support and organizational acknowledgement are closely related to job satisfaction. Moreover, there is wide evidence of social support being related to organizational commitment (Eisenberger et al., 1990; Guzzo et al., 1994; Wayne et al., 1997).

Eisenberger et al. (2001) using a structural equation causal model, concluded that support has a direct and positive influence on affective commitment with the organization. In a longitudinal research, Stinglhamber and Vanderbergue (2003) found that organizational support is related to organizational commitment and that supervisory support and

organizational support have different links as well as highlighting the importance of distinguishing between both dimensions. The meta-analysis of Roadhes and Eisenberger (2002) established evidence of the connection of support and commitment. The relationship between organizational support and affective commitment with the organization is strong, whereas the relationship between organizational support and job involvement is just moderate. However, even though most literature on organizational support is focused on relationships involving satisfaction and commitment (Randall et al., 1999), there is also evidence of positive relationships between organizational support and performance (Armeli et al., 1998; Eisenberger et al., 1986, 1990). Organ (1988) points out that employee perceiving themselves as correctly treated by the organization will respond with extra-effort, which will affect their job performances as well as the extra-role behavior. Summarizing, the meta-analysis made by Roadhes and Eisenberger (2002) one can conclude that the relationship between organizational support and extra-role performance is positive which in turn extenuates quality services from the employees.

One way of supporting the teams is improving the group efficiency with training. The main models of group performance sustain this idea (Campion et al., 1993; Gladstein, 1984; Hackman, 1987; Sundstrom et al., 1990; Tannenbaum et al., 1996). With the implementation of working teams, employees need specific training in different areas (technical and professional updating, interpersonal and team working skills, etc.). In this situation it has been found that those employees getting more support show higher job satisfaction (Campion et al., 1993; Hackman, 1987; Teague et al., 1995) and that satisfaction leads to higher work effort which results into higher quality of the service. Training also improves group performance by means of providing the skills needed to work as a part of a team (Sundstrom et al., 1990). Another form of support is the appreciation and rewards offered to employees by their supervisors. Employee acknowledgement and rewarding on account of their group contribution is one of the most effective ways that organizations can promote team works (Hackman, 1987; Larson & LaFasto, 1989). Hyatt and Ruddy (1997) found that the teams obtaining the necessary support of superiors and organization tended to be more effective compared to others not receiving such support.

2.2 Relation between Supervisory Support and Employee Service Quality

Supervising has a positive effect on an employee's professional and career success (Noe (1988) & Ragins (1989)). It is proved that "the degree of supervisory support may influence the subordinate's motivation, job satisfaction, and performance (Babin & Boles, 1996; Michaels et al., 1987)". Frone et al. (1997) found that job satisfaction increases when employees get a positive support from colleague and supervisor. Bennet et al. (2001) has also observed the positive relationship among supervisory support and organizational acknowledgement to job satisfaction. Recently, in a study with traffic police which was conducted by Baruch-Feldman et al. (2002) it has been found that supervisory support is closely related to job satisfaction. Schaubroeck and Fink (1998) also obtained positive relationships between supervisory support and organizational commitment of the employees. Eisenberger et al. (2001) in his structural equation causal model concluded that supervisory support has a direct and positive influence on affective commitment with the organization.

Again employee's commitment towards organization & achieving its long term goal in service delivery is strongly influenced by the actions taken by the manager (Zeithmal, 1990).

When employees notice that their immediate supervisor is concerned for them & provides adequate support to get the job done, employees feel more positive towards their work (Babin & Boles, 1996; Kopelman et al., 1990; Michaels et al., 1987), which in turns, pulls out extra work effort (Brown & Peterson, 1994) from them and this extra work effort enhance the service quality of the employees. Organization generally takes strategic decisions which generally create a wave of sub decisions. These sub decisions have to be carefully implemented in order to achieve the strategic goals (Mintzberg et al., 1976). Typically, the manager-leader (middle managers and supervisors) is held accountable for the implementation of these sub-decisions. Sub-decision implementation is defined as a sequence of tasks carefully executed so that a favorable business outcome can be achieved in the medium to short term.

It is clear that the particulars of such implementation vary widely from decision to decision, but virtually all decisions require efficient implementation to be successful (Nutt, 1993). Efficiency in implementing the decisions is crucial which is guided by the supervisor to the base level employees. Or in other words, a brilliant decision can prove worthless without its efficient implementation. The implementation of decisions is a critical dimension of leadership effectiveness (Robie et al., 2001) and in most of the case; supervisor is the key person to play that leadership role. Even the best decisions fail to be implemented due to the inadequate supervision of subordinates, among other reasons (Hill, 1978). From a contract perspective, interactions between an employee and specific organization agents such as supervisors result in psychological contracts between the employee and the organization (Shore and Tetrick, 1994). As an agent of the organization, the supervisor discharges the organization's legal, moral, and financial responsibilities (Robinson and Morrison, 1995).

Therefore, how the supervisor upholds the psychological employee-employer contract significantly influences the elicitation (Robinson and Morrison, 1995). To enhance the service quality of the employee a supervisor must look after their well being and worries. Trust on supervisor helps the employees to enhance the service effort. Podsakoff et al. (1990) reported strong support for the direct influence of trust in supervisor. The employee's commitment to the organization and its long-term goal of excellence in service delivery is, however, strongly influenced by managerial action (Zeithaml, V.A., Parasuraman, A. & Berry, L.L., 1990; Young, M., 1991). An organization which truly pursues service excellence needs mid-level managers and supervisors who rise above mere managing and leading. It requires managers who establish and reinforce a service vision, who create a culture of teamwork and performance, and supervisors who remove obstacles from the paths of employees who want to satisfy the service quality. The quality of leadership provided by supervisor will thus strongly influence the level of service quality provided by employees (Zeithaml, V.A., Parasuraman, A. & Berry, L.L., 1990). Supervisor's behavior towards its employee also influences the service quality of the employees.

Cohen et al. (1996) identified the supervisory behaviors in the same way that Manz and Sims (1986, 1987) had previously done. Manz and Sims. (1987), opined that leadership of self-managed teams is a paradox that is dealt with by illuminating six leadership behaviors that assist self-managed teams in managing themselves. A supervisor must concentrate on these leadership behaviors. These behaviors are: encouraging self-observation/self evaluation, encouraging self-goal setting, encouraging self-reinforcement, encouraging self-criticism, encouraging self-expectation and encouraging rehearsal. Self-observation/ evaluation

facilitates the performance evaluation process. In this behavior, the leader encourages the work group to monitor, be cognizant of, and continuously assess his/her performance levels. Self-goal setting facilitates the setting of performance goals. This behavior allows for the group to set realistic but challenging goals. Self-reinforcement facilitates the recognition and behavior the leader urges the group itself to be self-reinforcing of high performance standards. Self-criticism facilitates critical self-evaluation and discouragement of poor performance. Self-expectation facilitates heightened expectations for group performance. Finally, rehearsal facilitates practicing an action before performing it. The leader encourages the group to review an activity and go through the steps involved in the activity before action occurs. By encouraging these behaviors, leaders aid their subordinates in developing self-control (Manz and Angle, 1986). This self-control, or self-regulation, is the key component of self-management (Manz and Sims, 1987). Self-management, in turn, enables team members to exhibit performance-enhancing behaviors that lead to increased group effectiveness. Once the positive performance norms are established, they work to increase the efficiency of the group by eliminating the need to control members and instilling a sense of ownership for the quality of work, which reduces process losses (Leibowitz & Holden, 1995; Hackman & Oldham, 1980). As group identity, grows, it should promote a healthy work cycle in which the supervisor takes on the role of facilitator (Hackman, 1977).

2.3 Relation between Work Climate and Employee Service Quality

According to Schneider and his colleagues (Schneider & Bowen, 1985; Schneider et al., 1980, 1998), there is a straight relationship between employees' perceptions of work climate. Al-rahimi (1990) investigated the relationship between employee work outcomes and work climate. He called for creating the proper environment in which employees can develop to their fullest potential. Al-rahimi suggested that providing a conducive work environment is essential for enhancing employee satisfaction and commitment, and increasing their performance. Similarly, Al-shammari (1994) argued that researchers and academics must be aware about the role that work climate plays in shaping the level of organizational performance. Burruss (1996) argued that managing for motivation and performance improvement is essential for work organizations, and that providing a supportive work climate is directly related to employees' motivation and performance. He argued that when the environment is positive, people are motivated and excited about what they are doing. However, when it is negative, people are relatively depressed and angry. Therefore, Burruss suggested that it is no surprise that work climate is an excellent predictor of organizational and employees performance. Again, the contact employees will feel positively towards their jobs if they get enough support and control over their work (Babin & Boles, 1996; Kopelman et al., 1990; Michaels et al., 1987) and they will be more devoted in the workplace (Brown & Peterson, 1994). Blau (1993) and Gardner (1989) also found a positive relation between work effort and performance of the employee.

3. Objective of the study

The objectives of this research is to present & examine the relationship between perceived organizational support, supervisory support, work climate (Independent Variables) and employee service quality (Dependent Variables) in the context of non-govt. Bangladeshi Organizations.

Employee service quality is perceived as an essential variable for the organization as the quality of the product depends on the service provided by these employees. So, if the service qualities of these employees are not efficient, then the organizations profitability in the long run will be at stake. Therefore it is necessary for the management to know the factors that influences the employees to boost up the quality of service they provide. Now, the researcher initiated this study to examine whether employee service quality is influenced by perceived organizational support, supervisory support, and work climate. In short the following major points were emphasized while conducting the study –

- a) To understand the working environment of the Organizations.
- b) To understand the team/group dynamics of the Organizations: team formation, functions, coordination, and culture etc.,
- c) To study the existing HR manual/practices.
- d) To identify areas of improvement in HR domain and present the findings for consideration of the Organizations for adoption.

4. Research Hypotheses:

The hypotheses derived from research questions are as follows:

1. There is a significant relationship between perceived organizational support and employee service quality.
2. There is a significant relationship between supervisory support and employee service quality.
3. There is a significant relationship between work climate and employee service quality.

4.1 Conceptual Framework

The conceptual frame work for the proposed research is as follows:

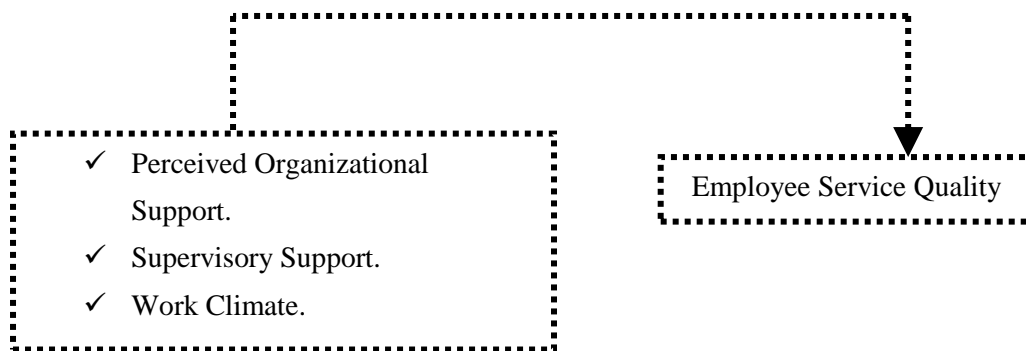


Figure 4.1: Conceptual Framework of Research Variable and their Relationships

5. Research Methodology and Study Approach

The study is geared to obtain empirical evidence of the above mentioned conceptual frame work by conducting primary investigation in some selected organizations in Bangladesh. Under the circumstances our first challenge was to choose a framework and accordingly find out other criteria like data sources and tools to collect the information.

5.1 Framework Used for Organizational Understanding

There are several frameworks, which can be applied to study organization climate. Some of these are

- Litwin & Stringer, (1968)- organizational attribute approach
- Schneider and Barlett (1968,1970)-individual attribute approach

Litwin & Stringer, (1968) has given a macro perspective of analyzing the organization. According to them, “Climate can be defined as the perceived attributes of an organization and its sub-systems as reflected in the way an organization deals with its members, groups and issues”. The emphasis is on perceived attributes and the working of sub-systems. This framework emphasizes on motivational linkages and seems to be quite relevant for studying

organizational climate. Litwin & Stringer, (1968) Model: A brief the framework considers six motives relevant for organizational climate.

a. Achievement – this motive is characterized by concern for excellence competition against standards set by others or by oneself, the setting of challenging goals for oneself, awareness of the obstacles that might be encountered in attempting to achieve these goals, and persistence in trying alternative paths to one's goals.

b. Influence – this motive is characterized by a concern for making an impact on the others, a desire to make people do what one thinks is right and an urge to change situations and develop people.

c. Control – this is characterized by a concern for orderliness, a desire to be and stay informed, an urge to monitor events and to make corrective action when needed, and a need to display personal power.

d. Extension – this is characterized by a concern for others, interest in super ordinate goals, and an urge to be relevant and useful to large groups, including society as a whole.

e. Dependency – This motive is characterized by a desire for the assistance of the others in developing oneself, a need to check with significant others (those who are more knowledgeable or have a higher status, experts, close associates and so on), a tendency to submit ideas or proposals for the approval, and an urge to maintain a relationship based on the other person's approval.

f. Affiliation – this is characterized by a concern for the establishing and maintaining close personal relationships, and emphasis on friendship, and a tendency to express one's emotions.

Schneider and Barlett (1968, 1970)-individual attribute approach Schneider and Barlett view organizational climate as perceptual as well as an individual attribute. Climate in this approach is viewed as summary or global perception held by individuals about their organizational environment. Some of them are encompassed by the work environment scale developed by Moos in 1994. It includes various broad dimensions like Involvement, Co-worker, Cohesion, Supervisor Support, Autonomy, Task Orientation, Work Pressure, Clarity, Managerial Control, Innovation, Physical Comfort and others. The summary perceptions of all the individuals taken together reflect an interaction between personal and organizational characteristics, in which the individual by forms climate perceptions. This paper basically tries to understand the organization on the basis of individual attribute approach.

5.2 Research Design

The conceptual framework mentioned earlier in *Figure-1* represents the relationships among the set of measured variables. In this case, the model is clearly defined by the research question and hypothesis. The purpose of this study is to determine correlations among variables.

The present study investigates the relationship among perceived organizational support, supervisory support and work climate & employee service quality. Cooper, D.R. & Schindler, P.S., 1998 refers the relationship between two or more variables as a correlation study. To find out the appropriate answers to the research questions and to test the hypotheses the correlation research design is needed. The model (*Figure 1*) also suggests this type of design.

Here perceived organizational support, supervisory support, and work climate as independent variables and employee service quality is being considered as a dependent variable. Here we broke down the work climate into two major segments as service climate and supportive management. We used a correlation study to establish the existence relationships between the measured variables. In this study we tried to find out whether there is any relationship existing between these measured variables or not. A correlation study provides a measure of the degree between two or more variables. Therefore, the present study is characterized as a co-relational study.

5.3 Research approach

In order to get the answer of our research questions, we collected required information from the personal contact with employees of different organization. The context of the research was explained to the participants. Out of a preselected list of employees the respondents were chosen on a random basis and each of the respondents participated voluntarily.

5.4 Survey Instrument

Like most other researches, questionnaire had been adapted from previous empirical studies. The Psychometric Properties of the Scale items were assessed using Cronbach's Coefficient Alpha, which is generally accepted as reliable method (William & Anuchit, 2002). In general, the acceptable range of alpha value is greater than 0.50.

5.5 Data Collection Procedure

Primary Sources:

A structured questionnaire was conducted to elicit responses from the employees. Organizational Climate study required the preparation of a detailed questionnaire which could capture all possible areas of satisfaction and dissatisfaction of employees. Prior to preparation of the questionnaire a draft was circulated by an e-mail to all participant employees regarding the objectives of the study. Certain files and documents were attached which could help employees in knowing about the importance of organizational Climate study. This was to create awareness among the employees about the study being conducted and how important their participation is, to make the study a successful one. The questionnaire included fifty two questions in total.

For this research a total of 200 employees were interviewed of them 102 respondents were selected as the total number of respondents who fulfilled all the requirements. A Structured questionnaire was used in this study to collect data from customers as well.

Secondary sources:

The major sources of secondary data were the documents and records of the organizations, the annual reports and the literature review.

5.6 Data Analysis

Pearson's Correlation analysis had been used to find out the relationship between the independent and dependent variables. Correlation analysis is the statistical tool that can be

used to describe the degree to which one variable is linearly related to another (William, and Anuchit, 2002).

After collecting the data, Pearson’s correlation matrix for the variables was prepared and the researcher looked for significant correlations. The researchers used descriptive, correlations, and regressions to test the strength of associations between the studied variables. The Statistical Package for Social Science (SPSS) software was employed to analyze the data collected from the actual survey.

6. Research Findings

6.1 Reliability and Descriptive statistics of the Instruments

Reliability refers to the notion of consistency that emerges from a test instrument. (Cooper, D.R. & Schindler, P.S., 1998). Gregory, R. (1996) defined “reliability” as the extent to which measurements of the particular test are repeatable. Malhotra, N.K. (1996) narrates reliability as the extent to which a scale produces consistently same result if repeated measurement is made. Now, regarding measurement, Parameswaram, Greenberg, & Bellenger (1979) argued that a measurement must meet two criteria. According to them measurement must be an operationally definable process & the outcome of the process should be consistently equal if the measurement is repeated. So, the more consistent the output given by repeated measurements, the greater the reliability of the procedure (Carminees, E.G. & Zeller, R.A., 1979).

Estimation of the reliability coefficient can be conducted in four ways (Malhotra, N.K., 1996). They are: test-retest reliability (repeating method), alternative form reliability, split-half reliability and the internal consistency reliability.

Now, the most widely used internal consistency is provided by coefficient alpha (α) or Cronbach’s alpha (1951) as it provides a good reliability estimate in most situations. Coefficient alpha is a kind of average of all possible split-half coefficients which is resulted from different ways of splitting the item of the scale. This coefficient varies from 0 to 1. The closer the value of alpha (α) to 1, the greater the reliability. If the value is low or tends to close to 0 then it signifies that there lies unsatisfactory internal consistency reliability which may occur from either there are too few items or there is very little commonality among the items (Churchill, G.A. JR., 1979).

Table- 1 Descriptive statistics and Reliability Coefficient of Perceived Organizational Support, Supervisory Support, Work Climate & Employee Service Quality.

Scale	No. of Items	Alpha	Mean	SD
Perceived Organizational Support	4	0.78	4.32	0.58
Supervisory Support	4	0.71	4.22	0.66
Work Climate	4	0.70	4.41	0.50

Employee Service Quality	5	0.80	4.34	0.54
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Note: n=102

According to Nunnally (1978) the reliability is acceptable if it lies between 0.50-0.60. However, according to Hair (1998) a coefficient of 0.70 is enviable. In this study, the coefficient alphas for the different constructs were computed using the reliability procedure in SPSS. From the table it can be easily seen that the reliabilities of most constructs in this study lies within the acceptable range (0.70-0.80). Mean scores have been computed by equally weighting the mean scores of all items. On a five point scale mean score for Perceived Organizational Support is 4.32 (sd = .58). The mean score for Supervisory Support is 4.22 (sd = .66). The mean score for Work Climate is 4.41 (sd = .50). The mean score for Employee Service Quality is 4.34 (sd =.54).

6.2 Correlation Analysis

A correlation analysis was conducted on all the variables to explore the relationship between variables. In interpreting the strength of relationships between variables, the guidelines suggested by Rowntree, D. (1981) were followed his classification of the correlation coefficient (r) is as follows:

Table - 2 Correlation Analysis

Range	Remarks
0.0-0.2	Very weak, negligible
0.2-0.4	Weak, Low
0.4-0.7	Moderate
0.7-0.9	Strong, High marked
0.9-1.0	Very Strong, very high

The bivariate correlation procedure was a subject to a two tailed test of statistical significance at two different levels highly significant ($p<.001$) and significant ($p<.01$) or ($p<.05$). The results of the correlation analysis are shown in Table 2.

Table - 3 Correlation Matrix for Per. Org. Support, Supervisory Support, Work climate & Employee Service Quality

	Per. Org. Support	Supervisory Support	Work Climate	Employee Service Quality
Per. Org. Support	-----	.40**	.60**	.58**
Supervisory Support		-----	.60**	.51**

Work Climate			-----	.78**
Employee Service Quality				-----

Note: *p<.05, **p<.01, ***p<.001

The result of correlation analysis for all the variables is shown in Table 3. It examines the correlation among Perceived Organizational Support (Per. Org. Support), Supervisory Support, Work Climate & Employee Service Quality.

Perceived Organizational Support (Per. Org. Support) (r= .58, p<.01), Supervisory Support (r= .51, p<.01), Work Climate (r= .78, p<.01) are significantly positively correlated with Employee service quality.

6.3 Stepwise Regression Analysis

Regression analysis is a statistical procedure for analyzing associate relationships between a metric dependent variable & one or more independent variables (Malhotra, N.K., 1996). In this study a stepwise regression was conducted to assess the relationship between variables. Stepwise regression refers to the procedure in which the predictor (independent) variables enter or leave at a time (Malhotra, N.K., 1996). This means that from a large number of predictor variables a small subset of variables that can explain most of the variation in the criterion (dependent) variable. Hanushek and Jackson (1977) suggested that stepwise regression is a useful procedure in determining most significantly related variables in explaining the behavior in question and this procedure not only gives an indication of how comprehensive the effect of the independent variable is, but also details which aspects of a grossly defined variable have been differentially affected (Jahangir, N., 2003). Again, Cohen and Cohen (1975) opine that, when an investigator has a large pool of potential independent variables and very little theory to guide selection among them, he may be benefited by using stepwise regression. The authors noted that in the use of stepwise regression analysis probably the most serious problem arises when a relatively large number of independent variables are used. Since the significant test of an independent variable's contribution to R² proceeds in ignorance of the large number of other such tests being performed at the same time for the other competing independent variables, there can a be very serious capitalization by chance (Jahangir, N., 2003). So, in this study small numbers of independent variables were considered.

Table 4: Stepwise Regression on Employee Service Quality

Variable	B	Standard Error	β	R ²	Δ R ²
Step 1				.612	
Work Climate	.840	.067	.782***		
Step 2				.629	.017
Work Climate	.733	.083	.683***		

Per. Org. Support	.151	.072	.163*		
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Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Now, p values show the significance of each predictor at each step for stepwise regression. Three different levels of significance can be described by p values: highly significant ($p < .001$), significant ($p < .01$) and somewhat significant ($p < .05$) (Hair et. al., 1998; Lee, & Lee, 2000; Tabachnick & Fidell, 2001). Table 4 signifies that work climate ($p < .001$) and perceived organizational support ($p < .05$) were found to be statistically significantly related with employee service Quality. Supervisory Support failed to enter into the regression equation, which indicates it was not that significantly related with Employee Service Quality like the other variables. These results provided a partial support for hypothesis. These two predictor variables together explained 63% (almost) of the variance in Employee Service Quality. Work climate can explain 61% & of the variance in Employee Service Quality. However, Perceived Organizational Support can explain 1.7% variance in Employee Service Quality.

6.4 Assessment of research hypothesis

There is a significant relationship between Perceived Organizational Support, Supervisory Support, Work Climate and Employee service Quality. From the above findings, the variables significantly correlated with Employee Service Quality were Perceived Organizational Support (Per. Org. Support) ($r = .58$, $p < .01$), Supervisory Support ($r = .51$, $p < .01$), Work Climate ($r = .78$, $p < .01$). So the results of correlation analysis have provided support for research hypothesis.

Now, the result of stepwise regression analysis depicts that in the context Bangladesh Work Climate ($p < .001$) and Perceived Organizational Support ($p < .05$) were found to be statistically significantly related with Employee Service Quality. Supervisory Support failed to enter into the regression equation, which indicates it was not that much statistically significantly related with Employee Service Quality. These results provided a partial support for hypothesis. These two predictor variables together explained 63% of the variance in Employee Service Quality. Work Climate & Perceived Organizational Support can explain 61% & 1.7% variance in Employee Service Quality respectively. These results provided a partial support for hypothesis.

7.0 Conclusion

In this research we found that the relationship between employee service quality (dependent variable) and perceived organizational support, supervisory support & work climate (independent variables). In the long run, we can say that the above relationship provides significant insight to enhance the quality of the employees and their work performance.

The research identified that relatively young, well educated and trained work force which received moderate levels of financial remuneration. The general picture emerging out of these findings indicate that overall a favorable climate exists in the organizations. The organizations have a pool of professionals who are working for a larger cause and meeting their professional satisfaction. However due to the rising prices of commodities there is a need to revise the financial policy relating to per diem and accommodation on a regular basis.

The organizations shows great deal of transparency in decision making and shares information across levels has better outcomes in the long run. The management believes in having a participative approach to decision making. There should be enough autonomy to perform one's job. Also the organizations should offer enough scope for personal and professional development. The leadership of the organizations is approachable and is sensitive to the needs of the employees. At the same time there are roles and responsibilities to be performed and each one is held accountable for work. There is a great emphasis on capacity building and skill enhancement of the employees. As the organizations which are in its expansion phase, promise their employees enhanced roles and responsibilities. Such organizations need to plan their manpower requirement in terms of teams so as to optimize their productivity. In case of employees having multiple reporting, job description should be decided jointly by the team leaders and made known to the employees. The organizational climate can become conducive to develop potential and competencies of the employees and provide opportunities for fulfillment of their cherished goals. There is a need for an enhanced role of regional managers who should feel responsible for building a positive, motivating work culture which would ensure optimum utilization of the capabilities of the team members leading to self and organizational effectiveness.

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Appendix

Table – 1

RELIABILITY OF PERCEIVED ORGANIZATIONAL SUPPORT

Case Processing Summary

		N	%
Cases	Valid	102	100.0
	Excluded (a)	0	.0
	Total	102	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	No. of Items
.782	4

Table – 1

RELIABILITY OF SUPERVISORY SUPPORT

Case Processing Summary

		N	%
Cases	Valid	102	100.0
	Excluded (a)	0	.0
	Total	102	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	No. of Items
.782	4

Table – 1
RELIABILITY OF WORK CLIMATE
Case Processing Summary

		N	%
Cases	Valid	102	100.0
	Excluded (a)	0	.0
	Total	102	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	No. of Items
.782	4

Table – 1
RELIABILITY OF EMPLOYEE SERVICE QUALITY
Case Processing Summary

		N	%
Cases	Valid	102	100.0
	Excluded (a)	0	.0
	Total	102	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	No. of Items
.801	5

Table – 2
Correlations

		Per_org_sup	Super_sup	Work Climate	Employee_ Service quality
Per_org_sup	102 Pearson Correlation Sig. (2-tailed) N	1 - 102	.409 .000 102	.612** .000 102	.581** .000 102
Super_sup	102 Pearson Correlation Sig. (2-tailed) N	.409** .000 102	1 - 102	.604** .000 102	.515** .000 102
Work Climate	102 Pearson Correlation Sig. (2-tailed) N	.612** .000 102	.604** .000 102	1 - 102	.782** .000 102

Employee_	102	Pearson Correlation	.581**	.515**	.782**	1
Service		Sig. (2-tailed)	.000	.000	.000	-
quality	N		102	102	102	102

**Correlations are significant at the 0.01 level (2- tailed).

Table – 3
REGRESSION

Variables Entered/ removed^a

Model	Variables Entered	Variables Removed	Method
01.	Work climate	-	Stepwise (Criteria: Probability-of-F-to-enter<=.050, Probability-of-F-to-remove >= .100).
02.	Per_org_sup	-	Stepwise (Criteria: Probability-of-F-to-enter<=.050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Employee_sevequal

Table – 4
MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Changed	F Change	df1	df2	Sig. F Change
01.	.782 ^a	.612	.608	.34042	.612	157.895	1	100	.000
02	.793 ^b	.629	.621	.33471	.017	4.441	1	99	.038

The Suitability of Corporate Governance Models in Developing Asian Economies

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Abstract: This paper provides a consideration of the suitability of western models of corporate governance for implementation in developing Asian economies such as Thailand. The paper adopts a literature review as the research method. Definitions of corporate governance and the history and the nature of corporate governance around the world are summarised. The evidence from previous studies on the effects of the 1997 Asian financial crisis and the relationship with corporate governance is considered. International models of corporate governance, agency theory and stakeholder theory are also reviewed. Lastly, the relevance of ownership structure and corporate governance are addressed. Overall, the review in this paper suggests that the Asian financial crisis of 1997 forced companies to improve corporate governance. Recommendations include that variables identified in the literature such as the roles of the board of directors, audit committee, shareholder rights, and disclosure and transparency should be monitored and controlled by regulation to achieve a satisfactory standard or benchmark for corporate governance when compared with western models.

Key terms: Western models of corporate governance; Developing economies; Thailand; 1997 Asian financial crisis; Agency theory; Stakeholder theory.

Introduction and background

Thailand faced a financial crisis in 1997 and the crisis has been attributed to poor corporate governance. The criticisms of corporate governance in Thailand are mainly in respect of the high concentration of ownership, excessive government intervention, an under-developed capital market and a weak legal and regulatory framework for investor protection. Alba, Clasesens and Djankov (1998) indicate that bank, finance and securities companies were not sufficiently cautious about their lending. The Bank of Thailand and the Securities Exchange of Thailand (SET) did not have measures on financial performance; and furthermore, auditors did not announce real information about the financial performance of businesses.

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The Asian financial crisis in 1997 was a big event forcing Thai companies to improve their corporate governance practices. In Asia, corporate governance has gained greater distinction since the Asian financial crisis in 1997. It is claimed that better governance may result from improved internal corporate governance mechanisms and enhanced accounting, disclosure, and auditing standards (Limpaphayom & Connelly, 2004; Nam & Lum, 2005). In addition, these studies show that corporate governance benefits companies with respect to increased long-term investment and increased credibility.

Thailand, like many other Asian countries, had poor corporate governance systems prior to the financial crisis in 1997, as its financial institutions and companies had previously been effectively protected from the operation of market discipline. Its corporate governance practices were characterised by ineffective boards of directors, weak internal controls, unreliable financial reporting, inadequate protection of minority shareholder rights, lack of adequate disclosure, poor audits, a general lack of enforcement to ensure regulatory compliance, and the dominance of family control over business operations was prevalent.

Western style principles and models of corporate governance, developed by the World Bank, the International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) have been proposed as preferred theoretical reporting models for Thailand. Some researchers have suggested a mixture of corporate governance models is appropriate for developing countries such as Thailand (Alba, Clasesens & Djankov, 1998; Keong, 2002; Khan, 2004). The SET and the Thai Securities and Exchange Commission (SEC) have adopted several measures to improve the accountability of management to shareholders, to enhance transparency and disclosure, and to ensure fairness to all shareholders. They studied corporate governance practices in several developed markets and adopted the practices deemed suitable to the Thai culture. As a result, western models of corporate governance mechanisms have been applied in Thailand after the Asian financial crisis.

On the grounds that Thailand is an Asian country with characteristics such as culture and styles of business operation that differ from western countries, variables affecting the successful implementation of corporate governance in Thailand may not be the same as those in western countries. In addition, Letza et al., (2004) indicate that corporate governance is completely changeable and transformable and there is no permanent or universal principle which covers all societies, cultures and business situations. Although there are many corporate governance models, researchers have concluded that each system has its own weaknesses; no perfect system exists that can be applied to all countries.

This paper provides a consideration of the theoretical underpinning for amendments made to the western models of corporate governance for implementation in developing Asian nations such as Thailand. The structure of this paper proceeds as follows. In the next section the research method applied in this paper is outlined. Definitions of corporate governance and the history and the nature of corporate governance around the world such as in the United States (US), the United Kingdom (UK), and Australia are summarised in the following section. The evidence from previous studies on the effects of the 1997 Asian financial crisis and the relationship with corporate governance is then considered. International models of corporate governance, agency theory and stakeholder theory are also reviewed Then the relevance of

ownership structure and corporate governance are addressed. A summary is provided in the final section.

2.0 Research method

The research approach adopted in this paper is a literature review. It commences with a thorough international search of pertinent literature. The reason for this is that numerous international studies have investigated various aspects of the implementation of corporate governance whereas there are only a small number of studies of corporate governance in Thailand where corporate governance is a relatively new phenomenon. The review in this paper draws on the knowledge base from several disciplines to build a view of the influences on corporate governance.

3.0 Literature review

The primary purpose in this section is to review the literature related to corporate governance. Good corporate governance is a source of competitive advantage and critical to economic and social progress (Iskander & Chamlou, 2000). This section consists of seven parts. First, definition of corporate governance; second, corporate governance around the world; third, corporate governance and the Asian financial crisis; fourth, international models; fifth, agency theory; sixth, stakeholder theory; and seventh, ownership structure.

3.1 Definitions

There is no universally agreed definition for what the term corporate governance means, although numerous definitions have been offered (Anandarajah, 2004). Several perspectives of corporate governance follow.

Jensen and Meckling (1976) developed a theory of the ownership structure of a firm. The basis for their analysis is the perspective that a corporation is:

'a legal fiction which serves as a nexus for contracting relationships and which is also characterised by the existence of divisible residual claims on the assets and cash-flows of the organization which can generally be sold without the permission of the other contracting individuals' (Jensen & Meckling, 1976, p.61).

The central point in corporate governance of the firm was laid out by Berle and Means (1932). They observed that a consequence of the separation of ownership and management was ownership dispersion and that such dispersion made subsequent monitoring and discipline of management difficult. More recently Demb and Neubauer (1992) described corporate governance as the process by which corporations are made responsive to the rights and wishes of stakeholders. Monks and Minow (1996) defined corporate governance as the relationship among various participants in determining the direction and performance of corporations. Neubauer and Lank (1998) defined corporate governance as a system of structure and processes to direct and control corporations and to account for them.

Corporate governance describes all the influences affecting the institutional processes, including those for appointing the controllers and regulators, involved in organising the production and sale of goods and services (Turnbull, 1997). Sir Adrian Cadbury stated that corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals (Iskander & Chamlou, 2000). The Asian Development Bank (ADB) defined corporate governance as the manner in which power is exercised in the management of a country's social and economic resources for development (Wescott, 2000).

Iskander and Chamlou (2000) stated that corporate governance is important not only to attract long-term patient foreign capital, but more especially to broaden and deepen local capital markets by attracting local investors-individual and institutional. Nielsen (2000) stated that corporate governance is the system of rights, structures and control mechanisms established internally and externally over the management of a listed public limited liability company, with the objective of protecting the interests of the various stakeholders. Kidd and Richter (2003) argued that corporate governance is an indirect mechanism in reducing agency costs and transaction costs imposed by managers acting in their own interests at the expense of companies and shareholders. Solomon and Solomon (2004) suggested that corporate governance is the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all their stakeholders and act in a socially responsible way in all areas of their business activity.

The OECD defined corporate governance as the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs (Clarke, 2004).

In Thailand, the National Corporate Governance Committee (NCGC) defined corporate governance as a system having a corporate control structure combining strong leadership and operations monitoring. Its purpose is to establish a transparent working environment and enhance the company's competitiveness. It also strives to preserve capital and increase shareholders' long-term value with the consideration of the business of ethics, stakeholders and social concerns factors, throughout the process (NCGC, 2005).

3.2 Corporate governance around the world

The first well-documented failure of governance was the *South Sea Bubble* in the 1700s, which revolutionised business laws and practices in England. In the US there was the stock market crash of 1929. There were other crises, such as the secondary banking crisis of the 1970s in the UK and the US savings and loan debacle of the 1980s. In addition to crises, the history of corporate governance has also been punctuated by a series of well-known company failures: the Maxwell Group of newspapers; the collapse of the Bank of Credit and Commerce International (BCCI); and Barings Bank. As a result, regulators have moved to improve the elements of corporate governance (Iskander & Chamlou, 2000). In the early 1990s, research on corporate governance in countries other than the US began to appear. At first, the research focused on other major world economies, primarily Japan, Germany, and the UK (Denis & McConnell, 2002).

United States of America

In 1929, the Wall Street stock market crash occurred in the US. The stock market collapse revealed market manipulation, insider trading, general mismanagement and a reckless trampling of shareholder rights. As a result, the US Congress enacted the Securities Act 1933 and the Securities and Exchange Act 1934 to address some of these abuses, primarily through the regulation of corporate financial disclosure to improve transparency.

In the late 1980s, the response to governance failure in the US was similar to the response noted in the 1930s. The most recent round of reforms began as a result of takeovers and

constituency statutes enacted under state laws. The major performance problems became evident in many of the largest corporations where reform began to focus more on the quality of corporate boards and their independence. An active group of institutional investors began to emerge (Iskander & Chamlou, 2000).

In the US in 2001, corporate crises occurred at Enron, WorldCom, Tyco International, Adelphia Communications, Global Crossing, Quest Communications, Computer Associates, and Arthur Andersen. The collapse of Enron, at that time the largest bankruptcy in US history, led to thousands of employees losing their life savings tied up in the energy company's stock. This proved to be an unprecedented display of accounting fraud, regulatory failure, executive excess and avoidable bankruptcy, with resulting widespread disastrous losses incurred by employees' pension funds and investors. As a result, the US Congress enacted the Sarbanes-Oxley Act (2002). This is a broad-based reform act centred on the creation of a public company accounting oversight board and the establishment of strict rules regarding auditor independence, corporate responsibility, financial disclosures, financial controls, analyst conflict of interest, white collar crime and corporate fraud (Banks, 2004).

Denis and McConnell (2002) suggested that the ownership of publicly traded firms is significantly more concentrated in other countries than it is in the US. Private ownership concentration appears to have a positive effect on firm value. There are significant private benefits of control and they are more significant in most other countries than they are for the US. Structures that allow for control rights in excess of cash flow rights are common, and generally value-reducing.

Solomon and Solomon's (2004) study of the case of Enron's downfall illustrates the importance of good corporate governance. They say that all the checks and balances within the corporate governance system have the ultimate aim of controlling and monitoring company management. Corporate governance mechanisms cannot prevent unethical activity by top management, but they can act as a means of detecting such activity.

United Kingdom

One of the earliest governance crises was the bursting of the *South Sea Bubble* of 1720-21 which dramatically changed business habits and regulations in the UK. The UK rapidly enacted corporate statutes to protect the public from such abuses as the bubble scandal. The main elements included: shareholders' rights to information, and the ability to appoint and remove directors and auditors (Iskander & Chamlou, 2000). In the late 1980s financial scandals leading to the collapse of several prominent companies came to light in the UK. There was a strong private response alongside the public regulatory response. The corporate sector responded to the loss of confidence in financial reporting by setting up the Cadbury Committee in 1990 to develop a code of best practice (Iskander & Chamlou, 2000).

In 1991, several large UK corporations collapsed, including Robert Maxwell MMC, BCCI and Polly Peck. As a result, one of the greatest proponents of active corporate governance, Sir Adrian Cadbury, chaired a commission and the Cadbury Report published by that commission in 1992 was to have considerable influence, not just in the UK but in many other countries around the world that adopted similar corporate governance codes of practice (Clarke, 2004). Solomon and Solomon (2004) stated that the Cadbury Report focused on the

board of directors as the most important corporate governance mechanism, requiring constant monitoring and assessment. The accounting and auditing functions were also shown to play an essential role in good corporate governance, emphasising the importance of corporate transparency with shareholders and other stakeholders. Finally, Cadbury's focus on the importance of institutional investors as the largest and most influential group of shareholders has had a lasting impact.

Further UK reforms of corporate governance followed the Cadbury Code (1992). The Greenbury Report (1995) proposed guidelines for director remuneration, the Hampel Report (1998) focused on disclosure and best practice, the Combined Code (1998) outlined a mandatory disclosure framework, and the Turnbull Report (1999) offered advice on compliance with mandatory disclosure (in Kiel, Kiel-Chisholm, and Nicholson, 2004).

Australia

The Australian corporate governance framework is characterised by a mix of legal regulation largely contained in the Corporations Act 2001 and common law principles and self-regulation most notably set out in the Australian Securities Exchange (ASX) Listing Rules, which require disclosure of corporate governance practices. Studies of the Australian corporate governance regime indicated that the share market plays an important role and that share ownership tends to be relatively widely dispersed. Shareholders are generally prepared to be mobile in their investments and the market therefore plays an important role and directors have a strong incentive to act in the interests of shareholders and to enhance shareholder value (Keong, 2002).

In Australia there were two major corporate collapses in the first decade of this century, HIH Insurance and OneTel. A round of reforms in the shape of the Australian Corporate Law Economic Reform Program (CLERP 9) in 2002 quickly published a new series of requirements for companies registered in Australia (Clarke, 2004). Corporate governance is a major focus of the changes introduced in Australia. First, the CLERP 9 Bill, incorporated into the Corporations Act, provides further law concerning auditors, the use of accounting standards and the requirements of regulatory authorities such as the Australian Prudential Regulation Authority (APRA). Second, 'Standards Australia' released guidance on corporate governance, 'Good Governance Principles' (AS 8000-2003). This standard includes comment on board structure, director independence and the skills and experience represented on the board. Third, the ASX created the ASX Corporate Governance Council in 2002.

In 2003, the Principles of Good Corporate Governance and Best Practice Recommendations (ASX guidelines) were released. The ASX guidelines were aimed at encouraging boards to think about and debate how effective corporate governance could be brought to their organisations. In 2004, the Implementation Review Group (IRG) was established to monitor the progress of companies in implementing the principles and recommendations (Kiel et al., 2004).

3.3 Corporate governance and the Asian financial crisis of 1997

It is claimed that poor corporate governance was one of the major contributing factors to the building-up of vulnerabilities in the affected countries that finally led to the Asian financial crisis in 1997 (Alba, Claessens & Djankov, 1998; Keong, 2002; Claessens, Djankov & Lang, 2000). The Asian financial crisis commenced in Thailand in 1997. Collapsing

currencies, equity and property markets in East Asia in 1997-98 exposed underlying vulnerabilities both in governance structures and values. However, an international confidence crisis was fuelled by a growing realisation of the structural weaknesses of economies often governed by crony capitalism, poor accounting and auditing systems, and too close a relationship between business and the State. Given the systemic nature of the problems of corporate governance in East Asia, only a fundamental program of reform of institutions and practices, conducted in an energetic and committed manner over a considerable period of time, was considered likely to produce results.

Khan (1999) analysed some basic issues related to reforming the corporate governance systems in post-crisis Asia. The thinness of both bond and equity markets in many Asian developing economies was identified as one problem. In addition, there are the problems of lack of, or weaknesses in, adequate regulatory structures, transparency and accountability. Johnson et al. (2000) present evidence that the weakness of legal institutions for corporate governance had an important effect on the extent of currency depreciations and stock market declines in the Asian crisis. They show that managerial agency problems can make countries with weak legal systems vulnerable to the effects of a sudden loss of investor confidence. They suggest that corporate governance, in general, and the *de facto* protection of minority shareholder rights, in particular, mattered a great deal for the extent of exchange rate depreciation and stock market decline in 1997-98.

Iskander and Chamlou (2000) pointed out that the financial crisis in East Asia forced countries to take major steps to strengthen governance. Moves included closing insolvent banks, strengthening prudential regulations, opening the banking sector to foreign investors, revamping bankruptcy and takeover rules, tightening listing rules, requiring companies to appoint external directors, introducing international accounting and auditing standards, requiring conglomerates to prepare consolidated accounts, and enacting fair trade laws.

3.4 International models of corporate governance

The experience of the Asian crisis that revealed a systemic failure in corporate governance was a spur to the publication by the OECD of the Principles of Corporate Governance. This framework of principles was endorsed by the World Bank, the International Monetary Fund (IMF) and the ADB. This framework of corporate governance principles was intended to have universal appeal, but there was some implication that they were essentially derived from the fundamentals of the market-based system, and that they were particularly aimed at the exponents of the insider systems with relationship-based approaches, especially in the developing economies where corporate governance failure was assumed to be more likely.

The OECD initially identified five basic principles of corporate governance (Iskander & Chamlou, 2000). In April 2004, OECD governments accepted revised Principles covering six key areas of corporate governance: ensuring the basis for an effective corporate governance framework; the rights of shareholders; the equitable treatment of shareholders; the role of stakeholders in corporate governance; disclosure and transparency; and the responsibilities of the board (OECD, 2004).

Corporate governance systems vary by country. The most prominent systems of corporate governance in developed countries are the US and UK models, which focus on dispersed controls, and the German and Japanese models, which reflect a more concentrated ownership structure (Iskander & Chamlou, 2000). The ADB (2000) investigated the corporate

governance structures of the Asian crisis economies (ADB, 2000). The Bank analysed five individual countries, Indonesia, Korea, Malaysia, Thailand and the Philippines, and found that the governance structures of the crisis economies closely resembled each other. Generally, the similar elements were: high ownership concentration; bank-centric financial systems; ineffective shareholders' rights laws; and low transparency.

There are two general models of corporate governance. The first is a shareholder or equity market-based governance model of the Anglo-American style (EMS), under which a broader range of investors plays a role through the pricing, trading and buying of the firm's securities. The other model is a bank-led governance model (BLS), under which banks play the leading role in monitoring the firms. However, many researchers have suggested a mixture of the two models is appropriate for developing countries (Alba, Clasesens & Djankov, 1998; Keong, 2002; Khan 2004).

Family-based corporate governance system (FBS)

Khan (2003) studied FBS in East Asia and stated that financing can come from three different sources. First, the FBS, especially in the initial stages of development of family businesses, could be financed internally for a large part. Second, as an enterprise grows over time, the role of banks becomes more prominent. Third, at some stage-perhaps overlapping with the second, i.e., bank financing – outside equity may become the most significant source of corporate finance. However, the key difference between FBS as a governance system and BLS and EMS lies in the fact that neither the banks nor the equity markets ultimately control the family business groups. Khan (2003) also indicated the “historic mission” of the corporation as site of capital accumulation may require different types of governance structures under different historical conditions. In particular, in the East Asian context, the FBS structure has played an important role in the initial phase of capital accumulation in the East Asian countries. Indeed, its prevalence in Asian economies at all levels of development makes FBS almost a paradigmatic feature of corporate organisation and governance in Asia. Suchiro (1993; 1997) pointed out that one rationale for the FBS system is the flexibility in terms of the managerial decision-making process and efficiency in capital accumulation in the context of late-comer industrialisation. In Northeast Asia, some researchers have shown (Khan 1997; 1998) the period of catch-up growth has largely ended and global competitiveness must be increasingly based on organisational and product and technical innovations.

A competing proposal is that the transition should be towards an EMS type of corporate governance. It should be recognised that the problems here are formidable. The thinness of both bond and equity markets is one problem. In addition, there are the usual problems of lack of adequate regulatory structures, transparency and accountability. In particular, the limited expertise and other institutional resources make the implementation of such proposals (which really should be self-enforcing) problematic (Khan, 2003).

3.5 Agency theory

It has been argued that the divorce of ownership and control has led to the famous ‘agency problem’. Berle and Means (1932) discussed the extent to which there was a dispersion of shareholding, which consequently led to a separation of ownership and control in the US. The *agency* problem was explored in Ross (1973), and the first detailed theoretical exposition of

agency theory was presented by Jensen and Meckling (1976). They defined the managers of the company as the 'agents' and the shareholders as the 'principals'. The *problem* is that the agents do not necessarily make decisions in the best interests of the principals (Solomon & Solomon, 2004).

According to Hart (1995), corporate governance issues arise in an organisation wherever two conditions are present. First, when there is a conflict of interest or agency problem, involving members of the organisation, such as owners, managers, workers or customers. The second condition is when the problem cannot be dealt with through a contract. Hart observes that there are several reasons why contracting to overcome the agency problem might not always be possible. In particular, it is not possible to contract to cover all events. In addition, there are costs associated with negotiating contracts and enforcing them.

Claessens, Djankov and Lang (2000) investigated the separation of ownership and control in 2,980 publicly traded companies in nine East Asian countries. They found that single shareholders control more than two-thirds of firms. The separation of ownership and control is most pronounced among family-controlled firms and among small firms. They found that older firms are more likely to be family controlled, as are smaller firms. Claessens and Fan (2003) found that agency problems, arising from certain ownership structures, especially large deviations between control and cash flow rights, are anticipated and priced by investors. The nature of a corporation's ownership structure will affect the nature of the agency problems between managers and outside shareholders, and among shareholders. On the other hand, when ownership is concentrated to a degree that one owner has effective control of the firm, as is typically the case in Asia, the nature of the agency problem shifts away from manager-shareholder conflicts to conflicts between the controlling owner (who is often also the manager) and minority shareholders.

3.6 Stakeholder theory

Stakeholder theory has developed gradually since the 1970s. One of the first expositions of stakeholder theory was presented by Freeman (1984), who proposed a general theory of the firm, incorporating corporate accountability to a broad range of stakeholders. Stakeholders include shareholders, employees, suppliers, customers, creditors, communities in the vicinity of the company's operations and the general public (Solomon & Solomon, 2004).

A basic issue for stakeholder theory is that companies are so large and their impact on society so pervasive that they should discharge accountability to many more sectors than solely their shareholders (Solomon & Solomon, 2004). Stakeholder theory has its origins in the social entity conception of a corporation. The modern corporation has a large scale and scope that requires distinctive professional management expertise and a great amount of capital investment. Through the stock markets, share ownership in a corporation becomes dispersed and fragmented and shareholders become more like investors than owners. Since corporations are involved in many aspects of social life and affect many people in both welfare and potential risks, a public corporation should be conscious of its social obligations such as fairness, social justice and protection of employees (Letza, Sun & Kirkbride, 2004).

Agency theory is focused on shareholder rights and the separation of ownership from control. However, stakeholder theory further extends the purpose of the corporation from maximising

shareholders' wealth to delivering wider outputs to a range of stakeholders and emphasises corporate efficiency in a social context (Letza, Sun & Kirkbride, 2004).

3.7 Ownership structure

Hansmann (1996) defined firm owners as persons having two formal rights that included the right to control the firm and the right to appropriate the firm profits. Jensen and Meckling (1998) defined ownership as possession of a decision right along with the right to alienate that right. Ownership and control are rarely completely separated within any firm. The controllers frequently have some degree of ownership of the equity of the firms they control; while some owners, by virtue of the size of their equity positions, effectively have some control over the firms they own. Thus, ownership structure is a potentially important element of corporate governance. The relationships between ownership, control, and firm value are more complicated than that, however. Ownership by a company's management, for example, can serve to better align managers' interests with those of the company's shareholders (Denis & McConnell, 2002).

LaPorta et al. (1999) showed that a large fraction of public and private companies around the world are family-controlled and often follow a pyramidal ownership structure. The use of pyramidal ownership structures allows the family to exert control over a large network of companies. Family companies appear to be more prevalent in countries with weak minority shareholder protection.

The US evidence of the effects of ownership structure on corporate decisions and on firm value includes Morck, Shleifer, and Vishny (1988) and McConnell and Serves (1990) who found that the alignment effects of inside ownership dominate the entrenchment effects over some ranges of managerial ownership. Bertrand et al. (2004) found that larger families are associated with a larger number of smaller firms in the group and with somewhat deeper groups. These effects of family composition on group size and structure are stronger for groups where ultimate control has been transferred from the founder to descendants. They also found that group firms tend to overlap less along genealogical lines once the founder has left active management: different sons of the founder are less likely to jointly hold board positions in the same firm once the founder retires. They suggested that potential conflicts between family members lead to distortions in the organisation and governance of the groups once the founder has retired.

Shleifer and Vishny (1997) suggested that the benefits from concentrated ownership are relatively larger in countries that are generally less developed, where property rights are not well defined and/or not well protected by judicial systems. La Porta, Lopez-De-Silanes and Shleifer (1999) confirmed this proposition empirically as they show that the ownership stakes of the top three shareholders of the largest listed corporations in a broad sample of countries around the world are associated with weak legal and institutional environments. They also investigated the issue of ultimate control. They traced the chain of ownership to find who has the most voting rights. They suggest that ownership and control can be separated to the benefit of the large shareholders.

Claessens, Djankov and Lang (2000) found that older firms are more likely to be family controlled, as are smaller firms. In some countries a significant share of corporate assets rests in the hands of a small number of families. They also found that corporate control is typically

enhanced by pyramid structures and cross-holdings among firms in all East Asian countries. They suggested that a re-examination of the relationship between ownership structure and corporate performance is needed. In most of the developing East Asian countries, wealth is very concentrated in the hands of a few families. Wealth concentration might have negatively affected the evolution of the legal and other institutional frameworks for corporate governance and the manner in which economic activity is conducted.

Many researchers noted that owners often enhance their control rights through cross-shareholdings and pyramidal structures. The effect of the divergence between control and ownership comes at a price of reduced firm value (Claessens, Djankov, & Lang, 2000; Claessens, et al., 2002). Claessens, Djankov and Lang (2000) also found that ownership of Thai public companies, as in other East Asian countries, is highly concentrated and family dominated. Other studies in East Asia have also found that corporate governance factors affect firm valuation (Mitton, 2002; Lins, 2003; Zhuang et al., 2000).

High ownership concentration is typically both a symptom and a cause of weak corporate governance (Claessens, Djankov & Lang, 2000). Corporate governance ought to be a means for investors to monitor and control management when protection systems are weak (Alba, Claessens & Djankov, 1998). The high concentration of ownership reduces the effectiveness of some important mechanisms of shareholder protection, such as the system of the board of directors, shareholder participation through voting during shareholder meetings, transparency and disclosure.

4.0 Summary

In 1997, the Asian financial crisis occurred. This crisis led to the collapse of many companies and to the introduction of corporate governance structures in developing Asian countries like Thailand. As a result, interest in corporate governance increased. Government, business, institutional investors, professional advisers, consultants and academics have all taken a closer interest in issues like corporate ownership structure, board structure and composition, directors' and officers' legal duties and chief executive officer's remuneration. Good corporate governance in listed companies is likely to increase confidence and trust in capital markets.

One of the most important characteristics of the corporate sector in Thailand is the feature of family control over business operations. At the time of the 1997 financial crisis, Thai public companies were characterised by their large family ownership with family members and related-party shareholders as the controlling shareholders. Lack of transparency and the lack of solid information regarding financial transactions as a result of this structural feature appear to have been critical factors contributing to the Thai financial crisis (Alba, Claessens & Djankov, 1998).

Corporate governance in Thailand is currently at a crossroads. Much of the relevant literature claims significant benefits from the implementation of corporate governance. Thus, corporate governance has received substantial interest from companies and regulators and is of concern to both the public sector and the private sector. The international corporate governance system assumes a separation of ownership and control, a questionable assumption in the Thai context. Since the Asian financial crisis, all listed companies, especially family-owned businesses, have made generally poor information disclosure about related-parties

transactions. This could be improved as part of the move to promote and enhance corporate governance. Family owners should be more interested in working with outside shareholders to maximise firm value.

Consideration should be given to the use of outside directors, a tool normally used in western cultures. The purpose is that outside directors can help monitor management and family owners. However, Thai people are non-confrontational and group-orientated. Many boards become so-called “rubber stamp” boards, not because directors are unaware or uninterested in their roles and duties but because they are being considerate and respectful of the owner’s decisions (Limpaphayom et al. 2004). The use of outside board members can be a very powerful tool under a corporate governance system that recognises institutional and cultural differences.

Cultural attitude is important to identify the root cause for legal tardiness in Asian countries where legal practices are considered a foreign element that is not part of Asian culture. Actual implementation of legal processes is mostly avoided and settlement outside the court is more popular. Corruption is another factor that does not ensure justice for those who need or warrant it. However, corruption has a long history in Thai culture, stretching over many centuries. The Thai aversion to confrontation inherent in any adversarial legal system means that parties prefer amicable settlement rather than litigation.

The attitudes of directors need to improve concerning the awareness of the role of other stakeholders in the company. Independent directors are expected to take a leading role in preventing controlling owners abusing their power and pursuing their private interests. In future reforms the true independence of independent directors should be encouraged so that they can serve and protect the interests of a broader group of stakeholders.

Agency problems arise when a person, as a public sector employee or official, is influenced by personal considerations (Boadi, 2000). In Thailand family businesses, such conflicts of interest can be difficult and damaging. After the financial crisis the Thai Constitution was amended to include provisions to prevent conflicts of interest between elected officials and big business, including an unprecedented bar on politicians holding shares in companies. Such provisions were seen as necessary to avoid repetition of the corruption in previous governments that greatly contributed to Thailand’s 1997 financial collapse.

Stakeholder theory is that companies are so large and their impact on society so pervasive that they should discharge accountability to many more sectors than solely their shareholders (Solomon & Solomon, 2004). If corporate governance in Thailand is to improve, outside directors and professional societies will be expected to play the leading roles, supplemented by efforts of financial supervisory agencies and the judiciary. Better governance would also result from improved internal corporate governance mechanisms and enhanced accounting, disclosure, and auditing standards (Limpaphayom & Connelly 2004).

One useful framework of corporate governance reform is the structure, process, and strategy of the corporate governance system. The structure of the governance system is important. The structure outlines the rules: disclosure standards, laws and regulations, and the organisations charged with enforcement have a major influence on the effectiveness of any governance regime. In Thailand, the structure required to build good corporate governance practices is now largely in place.

Finally, improvements to corporate governance could be initiated by many organisations, including government and educational institutions or universities. These organisations could help to improve corporate governance by strengthening rules and laws. They need to monitor enterprise management; further improve accounting practices and disclosure of information; improve enforcement of corporate governance regulations; encourage minority investors to monitor and discipline executives and protect minority investors; improve the framework for corporate governance and encourage public discussion on the issue; and, analyse data to monitor firms' performance.

Overall, the review in this paper suggests that the Asian financial crisis forced companies to improve corporate governance. Variables identified in the literature such as the roles of the board of directors, audit committee, shareholder rights, and disclosure and transparency could be monitored and controlled by regulation to achieve a satisfactory standard or benchmark for corporate governance when compared with western models.

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Export-Led Development Hypothesis: The Case of Singapore

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Abstract: *This article uses recent developments in econometric techniques to examine the export-led growth hypothesis for Singapore over 1979–2010. The Granger-causality tests were based on two testing approaches: the vector error correction modeling (VECM) approach outlined in Toda and Philips; and the augmented (TYDL) level VAR modeling with integrated and cointegrated processes (of arbitrary orders) separately introduced by Toda and Yamamoto (1995) and Dolado and Lutkepohl (1996). Empirical results fail to support the export-led growth development hypothesis for Singapore. Additional determinants of growth are also found to be significant.*

Key Words: Export-led growth development hypothesis; Singapore; Johansen cointegration test;

TYDL augmented VAR procedure; Granger causality; development strategy.

JEL classification codes: C22; F36; G14

Introduction

In the age of globalization, international economies have become as intertwined as a cobweb. The neoclassical export-led development strategy, advocated by the Bretton Woods Institutions, and the recent birth of the World Trade Organization have caused the volume of international trade to increase exponentially. This unprecedented mobility of capital due to advances in communication technologies and new international investment opportunities has been an impetus for nations around the world to develop their economies and to drastically improve the social welfare of their populace. Paradoxically, increases in the mobility of international capital, with its fluid nature, are often the cause of financial crises with international dimensions. This often causes large, sudden reductions in the volume of international trade and investment flows and disrupts economic activities, causing monetary crises in many nations. The international contagion of the 1997 Asian financial crisis and the severely negative impact of the current European sovereign debt crisis are a few illustrative examples.

Moreover, in the current economic climate, not all economic relationships between two nations are alike. These bilateral relationships depend on the degree of development, natural resources, and infrastructures and so on of the countries involved. Usually advanced economies with fully developed infrastructures can weather certain crises or sustain contagions of crises from other countries better, while the less developed countries usually suffer severely from crises.

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As articulated by Awokuse (2003, p. 129) the export-GDP growth causality is a long-run behavioral relationship, requiring econometric procedures appropriate for long-term equilibrium. This study follows Awokuse (2005-a) to test the Singaporean dynamic linkages between exports and output growth by applying the recent advances in time series statistical techniques: (i) the vector error correction modeling (VECM) approach outlined in Toda and Phillips (1993); and (ii) the augmented level VAR modeling with integrated and cointegrated processes (of arbitrary orders), separately introduced by Toda and Yamamoto (1995) and Dolado and Lutkepohl (1996) – henceforth, TYDL. As pointed out by Awokuse (2005-a, p. 693), the latter methodological approach is useful because it bypasses the need for potentially biased pre-tests for unit roots and cointegration, common to other formulations.

As described in the Singaporean economy section, Singapore is a city state, facing with a lack of physical resources and a small domestic market. In response, the Singapore Government adopted a pro-business, pro-foreign investment, export-oriented economic policy framework, combined with state-directed investments in strategic government-owned corporations. Clearly, these characteristics make Singaporean economy a fertile ground for empirically testing the export-led development hypothesis. The remainder of the study is organized as follows. The following section briefly reviews the literature, and some background of development theories; the next section summarizes the prominent features of the Singaporean economy; the section that follows discusses the data, methodology and descriptive statistics; the next section reports the empirical results; the final section provides some concluding remarks.

Brief Review of Literature and Historical Background

After World War II, human beings were shocked by the destruction caused by the conflict. This reaction led to the formation of the UN/Bretton Woods Institutions during 1944-45. In the twentieth century, many theoretical development strategies were articulated and applied to develop economies to assuage human suffering around the globe: the Marshall Plan for Europe, the reconstruction of Japan, the economic development plans at the UN General Assembly and Economic and Social Council, to name a few. Up to date, the articulated theoretical development strategies can be broadly classified into two categories: inward-looking and outward-looking strategies. These strategies are also referred to as import-subsidized and export-led development strategies. The theoretical foundation for the inward-looking development strategy was the Keynesian economic theory, which advocates subsidized import of capital and development of labor to industrialize the economy. Leading theorists in this school of thought were Sir Hans W. Singer and Raúl Prebisch. Therefore, the import-subsidized development strategy is better known as the Prebisch-Singer hypothesis. This hypothesis was the foundation of many development policies in Latin America in the '50s.

The Prebisch-Singer hypothesis, which has been debated and shown to have some major weaknesses, was replaced by the outward-looking development strategy around the globe. In retrospect, the Prebisch-Singer hypothesis has many features necessary for development strategies in the current age of globalization. As one of the leading theorists in the Prebisch-Singer hypothesis and one of Keynes' disciples, Singer (1993) has argued that, from the Keynesian perspective, the new economic order established after World War II was both distorted and incomplete and was not given time to prove its effectiveness. Singer posited

that the original intention of putting pressure on balance of payments surplus countries has been changed to pressure the poor countries, the deficit countries, and in particular the indebted countries. For the industrial countries, the surplus countries, and the non-indebted countries, there is nothing but a slap on the hand. Another original feature was that the global macroeconomic coordination was assumed to be in the UN General Assembly and Economic and Social Council, but the hostility to the UN as a result of the Cold War and the McCarthy era prevented this global policy coordination in the UN.

As to the incompleteness of the new economic order, Singer articulated that the main gap was the failure to establish the International Trade Organization (ITO), which would have helped the developing countries as it would have had commodity price stabilization as its objective. The ITO was duly negotiated and agreed (it is also known as the Havana Charter) and signed by 53 countries on March 24, 1948, but was not ratified by the US Congress. It is interesting to note that for a long period of time after World War II, the US experienced a very favorable trade balance surplus. Singer asserted that as a result of the failure to ratify the ITO, the post-war years have seen deteriorating terms of trade—the ratio of the prices of exports to the prices of imports—for developing countries. The deteriorating real price for oil was also responsible for OPEC actions of 1973 and 1979 which finally delivered the death blow to the Bretton Woods System.

Over the last three decades the role of exports in stimulating economic growth has been the subject of debate among development economists. The recent phenomenal growth in output and exports of the Newly Industrializing Countries (NICs) of East Asia has further helped fuel this debate. In contrast to the economic success stories of the NICs, the relatively inwardly oriented economies in Africa and Latin America have experienced very dismal growth rates. Since trade theory does not provide definitive guidance on the causal relationship between exports and output growth, the debates are usually informed by empirical analyses that often yield ambiguous results. The main question in the export-growth debate is whether an export-led outward-oriented trade policy is preferable to an inward-oriented trade policy in stimulating economic growth. Some researchers argue that causality goes from exports to economic growth and denote this as the export-led growth (ELG) hypothesis. However, the reverse causal flow from growth to exports is described as growth-led exports (GLE). Most studies focus on developing countries (Balassa, 1978; Ram, 1987); some researchers have examined the ELG hypothesis for industrialized countries (Marin, 1992; Shan and Sun, 1998; Awokuse, 2003, 2005-a, 2005-b; Siliverstovs and Herzer, 2006; Chan and Dang, 2010)

The Singaporean Economy

Geographically, Singapore's strategic location on major sea lanes and its industrious population have given the country an economic importance in Southeast Asia disproportionate to its small size. Since its independence in 1965, Singapore adopted a pro-business, pro-foreign investment, export-oriented economic policy framework, combined with state-directed investments in strategic government-owned corporations. Singapore's economic strategy produced the real growth that averaged 8.0 percent from 1965 to 2010. The worldwide electronics slump in 2001 and the outbreak of severe acute respiratory syndrome (SARS) in 2003 pushed the economy into a severe recession; but the economy bounced back each time, driven by world demand for electronics, pharmaceuticals, other manufactured goods, and financial services, particularly in the economies of its major trading

partners—the United States, the European Union, Japan, and China, as well as expanding emerging markets such as India. Singapore's open, trade-oriented economy suffered a severely negative contagion from the US subprime crisis 2008 and 2009. The resilience of the Singaporean economy is evidenced by its quick recovery from the worst two quarters of contraction in late 2008 and early 2009 to an expansion at a staggering 14.5 percent in 2010, the second-highest rate in the world that year.

As to Singaporean international trade and investment, the government is currently negotiating eight free trade agreements (FTAs) with emerging economic countries and has already concluded 18 FTAs with many of its key trade partners, including one with the United States that became effective on January 1, 2004. As a member of the Association of Southeast Asian Nations (ASEAN), Singapore is part of the ASEAN Free Trade Area (AFTA), and is signatory to ASEAN FTAs with China, Korea, Japan, India, and a joint agreement with New Zealand and Australia. Singapore is also a party to the Transpacific Strategic Economic Partnership Agreement, which includes Brunei, Chile, and New Zealand.

Singapore's total trade in 2010 amounted to \$661.58 billion, up 20.7 percent from 2009. In 2010, Singapore's imports totaled \$310.39 billion, and exports totaled \$351.18 billion. Singapore's principal exports are petroleum products, food and beverages, chemicals, pharmaceuticals, electronic components, telecommunication apparatus, and transport equipment. Singapore's main imports are aircraft, crude oil and petroleum products, electronic components, consumer electronics, industrial machinery and equipment, motor vehicles, chemicals, food and beverages, electricity generators, and iron and steel (Background Note: Singapore, 2011)

The Data, Methodology and Descriptive Statistics

One of the great, if not the greatest, challenges in empirical studies of developing and emerging economies is the availability of data. This study uses available Singaporean annual data on real GDP, real exports (EXP), real terms of trade – export unit value divided by import unit value (TOT), gross capital formation as proxy for capital (K), Singaporean population in millions as proxy for labor force (L), and the real GDP of advanced economies as proxy for foreign output shock (AIP). The real GDP of advanced economies is included to control for export growth not influenced by Singaporean price competitiveness or productivity, but by growth in the rest of the world. The data set covers the period 1979 to 2010. All data series are obtained from the IMF databases and are expressed in natural logarithms.

In order to apply augmented VAR [k+d(max)] model, developed by TYDL, one needs to establish the lag order of the original VAR model, k , and the maximum order of integration of the variable under consideration. The lag order of the original VAR can be determined by using several lag order selection criteria such as the sequential modified LR test statistic (LR), final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ). The results of the lag selection procedure are summarized in Table 1. The LR, FPE, AIC, and HQ suggest using a lag of two. Subsequent analysis therefore proceeds with the use of VAR with lag length $k = 2$.

Table 1: Maximum Lag Length: Singaporean Annual Data 1979 to 2010

Lag	Log L	LR	FPE	AIC	SC	HQ
0	264.3208	NA	1.34e-15	-17.22139	-16.94115	-17.13173
1	514.1677	383.0986	9.06e-22	-31.47785	-29.51617*	-30.85029
2	575.2121	69.18361*	2.34e-22*	-33.14747*	-29.50436	-31.98201*

Notes: * indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

As to the maximum order of integration of the time series in question, $d(max)$, Siliverstovs and Herzer (2006, p. 322) articulate that since the power of unit root tests is rather low against the alternative hypothesis of stationarity, and to avoid the pretest bias in deciding the order of integration as well as cointegration properties of the time series in question, the integration order should be selected in accordance with the theoretical economic considerations. From this argument, these authors assume that GDP, EXP, TOT, K, L, and AIP are cointegrated of order 1. Following Siliverstovs and Herzer (2006, p. 322), this study sets $d(max) = 1$ in the subsequent analysis.

Additionally, Engle and Granger (1987) articulated that if two series are integrated of order one, $I(1)$, there is need to test for the possibility of a long-run cointegrating relationship among the variables. Since the cointegration and error correction methodology is well documented elsewhere (Engle and Granger 1987; Johansen and Juselius 1990; Banerjee et al. 1993) only a brief overview is provided here. Johansen and Juselius' (1990) multivariate cointegration model is based on the error correction representation given by:

$$\Delta X_t = \mu + \sum_{i=1}^{p-1} \Gamma_i \Delta X_{t-i} + \Pi X_{t-1} + \varepsilon_t \quad (1)$$

where X_t is an $(n \times 1)$ column vector of p variables, μ is an $(n \times 1)$ vector of constant terms, Γ and Π represent coefficient matrices, Δ is a difference operator, k denotes the lag length, and $\varepsilon_t \sim N(0, \Sigma)$. The coefficient matrix, Π , is known as the impact matrix, and contains information about the long-run relationships. Johansen and Juselius' (1990) methodology requires the estimation of the VAR equation (1), and the residuals are then used to compute two likelihood ratio (LR) test statistics that can be used in the determination of the unique cointegrating vectors of X_t . The number of cointegrating vectors can be tested for using two statistics: the trace test and the maximal eigenvalue test. The testing results are reported in Table 3.

As shown in Table 2, the maximal eigenvalue test results suggest the existence of, at most, one cointegrating vector. This implies the presence of four independent common stochastic trends in this system of five variables.

Table 2: Johansen Cointegration Test Results, Singaporean Annual Data 1979 to 2010

Number of cointegrating vectors	<u>Trace Statistics</u>		<u>Max-Eigen Statistics</u>	
	Statistics	C (5%)	Statistics	C (5%)
$r \leq 0$	184.5742**	117.7082	67.74650**	44.49720
$r \leq 1$	116.8277**	88.80380	37.77638	38.33101
$r \leq 2$	79.05130**	63.87610	33.62762**	32.11832
$r \leq 3$	45.42368**	42.91525	21.99462	25.82321
$r \leq 4$	23.42906	25.87211	15.87740	19.38704

Note: ** denotes rejection of the hypothesis at the 5 percent level.

Moreover, the augmented VAR procedure, proposed by Toda and Yamamoto (1995) and Dolado and Lutkepohl (1996), complements the VECM technique because it allows for causal inference based on an augmented level VAR with integrated and cointegrated processes. The dynamic causal relationship between economic growth and other potential determinants was examined, including exports using the following VAR in level specification:

$$X_t = \mu + \sum_{i=1}^{p-1} \Gamma_i X_{t-k} + \zeta_t \quad (2)$$

where X_t is an $(n \times 1)$ column vector of p variables, μ is an $(n \times 1)$ vector of constant terms, Γ represents coefficient matrices, k denotes the lag length, and ζ_t is *i.i.d.* and p -dimensional Gaussian error with mean zero and variance matrix Λ .

As pointed out by Awokuse (2005-a, p. 695), the TYDL procedure uses a modified Wald test for the restriction on the parameters of the VAR (k) model. This test has an asymptotic chi-squared distribution with k degrees of freedom in the limit when a VAR[$k+d(max)$] is estimated, where $d(max)$ is the maximal order of integration for the series in the system. Awokuse (2005-b, p. 852) further articulates the attraction of the TYDL approach in that prior knowledge about cointegration and testing for unit root are not necessary once the extra lags, i.e., $d(max)$ lags, are included. Given that VAR(k) is selected, and the order of integration $d(max)$ is determined, a level VAR can then be estimated with a total of $p=[k+d(max)]$ lags. Finally, the standard Wald tests are applied to the first k VAR coefficient matrix (but not all lagged coefficients) to make Granger causal inference.

Empirical Results

Based on the above determined appropriate lag length $k = 2$ and the $d(max) = 1$, the Granger causality test results using both the VECM and the augmented level VAR specifications are reported in Table 3. F-statistics and p-values (in parentheses) for Granger causality tests from the VECM specification are presented in Table 3(a).

Table 3: Granger Causality Test Results, Singaporean Annual Data 1979 to 2010

(a) Results based on error correction model (ECM)						
Dep.	Short run lagged differences (<i>F</i>-statistics)					
Variables	Δ GDP	Δ EXP	Δ TOT	Δ K	Δ L	Δ IP
ΔGDP	-	1.0075 (0.3651)	1.2406 (0.2892)	5.3450 (0.0048)	5.5218 (0.0040)	9.4382 (0.0001)
ΔEXP	0.4779 (0.6201)	-	1.0391 (0.3538)	0.0896 (0.9143)	0.5012 (0.6058)	0.0380 (0.9627)
ΔTOT	0.1560 (0.8556)	0.0210 (0.8107)	-	0.2945 (0.7449)	0.0372 (0.9635)	0.1881 (0.8285)
ΔK	1.8893 (0.1512)	0.5012 (0.6058)	0.3050 (0.7371)	-	3.3820 (0.0340)	1.6752 (0.1873)
ΔL	3.8780 (0.0207)	3.5845 (0.0278)	0.6623 (0.5157)	11.7071 (0.0000)	-	4.8989 (0.0075)
ΔIP	2.2959 (0.1007)	0.6444 (0.5250)	2.2494 (0.1055)	8.8951 (0.0001)	5.6087 (0.0037)	-

(b) Results based on an augmented VAR model (TYDL procedure)						
Dep.	Modified Wald-statistics					
Variables	GDP	EXP	TOT	K	L	IP
GDP	-	0.2644 (0.8762)	5.3901 (0.0675)	3.9745 (0.1371)	22.4649 (0.0001)	16.7586 (0.0002)
EXP	16.9633 (0.0002)	-	19.4030 (0.001)	3.3112 (0.1910)	50.7856 (0.0000)	13.3752 (0.0013)
TOT	6.0667 (0.0481)	6.0490 (0.0485)	-	0.1827 (0.9127)	17.2925 (0.0001)	12.4816 (0.0019)
K	22.3604 (0.0000)	4.0950 (0.1290)	6.2796 (0.0432)	-	2.0240 (0.3634)	25.3726 (0.0000)
L	5.3704 (0.0682)	31.5667 (0.000)	7.5455 (0.0229)	5.9002 (0.0523)	-	4.6519 (0.0976)
IP	2.1325 (0.3442)	7.0874 (0.0289)	7.5167 (0.0233)	13.3239 (0.0012)	21.4356(0.0000)	-

Notes: The $[k+d(max)]$ th order level VAR was estimated with $d(max) = 1$ for the order of integration equals 1.

Lag length selection of $k=2$ was based on LR, FPE, AIC, and HQ.

Reported estimates are asymptotic Wald statistics. Values in parentheses are *p*-values.

An analysis of the empirical results indicates distinct short-run dynamic and long-run Granger causalities between Singaporean export and GDP growth. The short-term dynamic VECM empirical results suggest that Singaporean export be exogenous from its GDP, term of trade, capital, and labor force; while the country's capital stock and labor force as well as the international economic condition, measured by the GDPs of advanced economies, strongly 'Granger cause' the Singaporean real GDP [see raw 1 and raw 2 of panel (a) of Table 3].

Interestingly, the long-run TYDL empirical results support the GLE hypothesis [see row 2 in panel (b) of Table 3], since the real GDP ‘Granger causes’ real export is at 1 percent significant level ($p=0.0002$). Thus, support for GLE is very strong. In contrast, an inspection of the GDP equation (in row 1) indicates that the ELG hypothesis is not supported at all, since the test that real GDP growth is not ‘Granger-caused’ by real export could not be rejected at any level of significance. The empirical results reveal that other variables (such as capital/investment, terms of trade, and foreign output shocks) also matter to the growth of the Singaporean GDP and real export during the study period. These empirical findings should not be a surprise given the highly skilled and industrious population of Singapore.

Concluding Remarks

This study employs recently developed estimation techniques to examine the relationship between Singaporean exports and GDP growth and investigates whether economic growth is ELG or if export is GLE. More specifically, VECM and the augmented level VAR model with integrated and cointegrated processes (of arbitrary orders) developed by Toda and Yamamoto (1995) and Dolado and Lutkepohl (1996) were used to test for Granger causality. This empirical investigation analysis focused on the dynamic causal relationship between exports, output growth, capital investment, terms of trade, and foreign output shock using annual data over 1979–2010. Granger causality tests based on VECM approach fail to detect any Granger causality from either real GDP or real export. The tests based on TYDL model reveal a unidirectional Granger causality from GDP to real export. This weak exogeneity from real GDP growth to real export suggests that Singapore’s export was GDP-led, but that its real GDP growth was not export-driven over the sample period. These findings fail to support the ELG development hypothesis for Singapore. The policy implication of these empirical findings may be that in the age of globalization where the export flows among nations are fluid, Singaporean policy makers may consider introducing some aspects of import-subsidized development strategy into their economic development process.

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A Cross-Border Travel for Healthcare Services: Bangladesh to India

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Abstract: Bangladesh is faced with severe healthcare crisis and challenges due to its corrupt and expensive healthcare system. Many Bangladeshi for the last two decades have been travelling overseas to neighboring countries such as India, Malaysia, Thailand, and Singapore for medical treatment. The motivation and aim of this research was to investigate the deteriorating healthcare system in Bangladesh and to answer the questions as to why there is an increasing trend amongst lower income and middle class Bangladeshis to travel overseas or across-border for medical treatment. Structured Questionnaire was administered during the period from 30-April-2010 to 23-May-2011, to n=1282 of participants who had travelled to India for medical treatment in the six divisional cities of Bangladesh such as: Dhaka, Chittagong, Sylhet, Rajshahi, Barisal, and Khulna. The results concluded that the main push factors for Bangladeshis to travel to India for medical treatment were non-availability of specialised treatment, high cost, corruption, lack of medical expertise corruption and ethical practice in Bangladesh. Further, the pull factors were experienced doctors and physicians, good quality of nursing care (pre and post surgery), low cost of surgery, and state of the art medical technology, treatment and medical facilities in India, along with source of information from relatives, which concurs with the emerging medical tourism literature.

Keywords: *Health Economics, Health and Medical Tourism, cross-border trade*

JEL Classification: I1, I11, L83

Introduction

Bangladesh is a small country bordering with India with high density of population. For the last two decades many Bangladeshis are travelling to India or other countries for medical treatment (Paul 1999; Rahman 2000) and “more than 75% travel to India, stay one month on average, and collectively spend about US\$100 million every year” (Paul 1999, p.680). Health sector is still dominated by the public sector provision with many problems such as high cost, corruption and absence of timely and quality of healthcare. The public hospitals suffer from full capacity problems, shortage of necessary medical equipments, medicines, specialist surgeons and trained nurses. There is also wide documentation of corruption in the health care sector in the print media. Healthcare system in Bangladesh is in crisis due to many recent incidents where the Bangladeshi patients have lost confidence in their country’s health system, to deliver quality of health and medical care with a human touch.

Cross-border travel from Bangladesh to neighbouring countries for medical treatment has been growing due to poor health care system in Bangladesh. Large numbers of people each year are travelling from Bangladesh to India for health and medical treatment. Medical tourism is a niche special interest tourism segment in the globalised health industry (Connell, 2006). India was ranked second only to Thailand in the global medical tourism industry in 2009 (IMT, 2009). Since 2003, it has been a government of India’s policy to combine “Incredible India” campaign of tourism with “Global Health Destination” tourism campaign. Indian Government in the 10th (2002-2007) and the 11th (2007-2012) five year plans clearly emphasised the importance of the growth and development of medical tourism to India and to support trade in private sector medical tourism, along with promoting India as a world class-high-tech healing destination for low cost medical treatment and procedures (GOI 2008).

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Given the entrepreneurial opportunities in providing complex health care medical treatment to overseas patients (Caballero-Danell & Mugomba, 2007), private hospitals such as Apollo with its branches all over India and abroad including in Bangladesh, Wockhardt, Asian Heart Institute in India with the government support, are offering complex state-of-the art invasive surgeries and non-invasive treatments (Bookman & Bookman, 2007; Singh, 2008; RNCOS, 2010).

This paper addresses a research question by exploring and identifying the reasons as to why patients from lower and middle income groups from Bangladesh are travelling abroad for medical treatment, and what challenges and opportunities are faced by the healthcare system in Bangladesh given the growth of across border travel for healthcare. To achieve this objective, structured questionnaire was distributed to $n=1282$ number of participants who travelled across border from Bangladesh to India for complex invasive medical surgery and treatment.

This exploratory research draws together the medical tourism literature with the findings of the exploratory study of cross-border medical travel for healthcare from Bangladesh to India. The empirical findings support theory development specific to medical tourism as there is little previous empirical work found on medical tourism from Bangladesh to India, except a report by Paul (1999). Medical tourists are making informed healthcare decisions to travel abroad for medical treatment, after gathering information from various sources such as friends, family, doctor, media and the internet (Pan & Fesenmaier, 2006; Miller & West, 2007; Medhekar & Newby, 2011).

This research study investigating the broad research question was tested and administered to $n=1282$ participants in Bangladesh. The rest of the paper is structured as follows. Section two provides the background to current Bangladesh healthcare scenario and briefly outlines the medical tourism literature. Section three outlines the research methodology applied in the study; section four explains how the data was analysed along with findings. Finally, in conclusions we outline limitations, directions for future research and present some possible recommendations given the globalisation of medical service provision, how Bangladesh can face challenges at home front and take the opportunity to improve and provide quality of health care.

Literature Review

Travel Abroad for Medical Treatment:

In the last two decades there has been an increasing global trend where the patients are travelling across the border for health and medical treatment to avoid high medical and health insurance cost, long waiting period and lack of availability of specialist treatment at home along with having a holiday (Hutchinson, 2005; Carrera & Bridges, 2006; Bookman & Bookman, 2007; Douglas, 2007; Horowitz & Rosensweig, 2007; Yanos, 2008; Hopkins, Labonte, Runnels & Packer, 2010; Lunt, Hardey & Mannion, 2010; Ghose, 2010; Stuart,

2010; Brotman, 2010; Brian & Bhatt 2010; Medhekar, 2010). Ghose (2010) argues that “medical tourism industry is a product of the marriage of internationalisation and global digitisation” (p.117). Lunt, Hardey & Mannion (2010), argue that, internet has caused the medical tourism phenomenon to grow due to easy access to healthcare information.

Carrera & Bridges (2006) were the first to conceptualise, distinguish and clearly define the two terms health tourism and medical tourism. “Health tourism is defined as the organised travel outside one’s local environment for the maintenance, enhancement or restoration of the individual wellbeing in mind and body”. Medical Tourism, on the other hand, is defined as “the organised travel outside one’s natural healthcare jurisdiction for the enhancement or restoration of the individual’s health through medical intervention” (Carrera & Bridges, (2006, p.449). Medical Tourism according to Medhekar (2010) is defined as “a phenomenon where a patient travels with or without a companion outside his or her country of residence, to another country across border for medical treatment which could be risky, invasive and involves complex surgical procedures with the use of highly specialised medical equipment, technology and experienced surgeons, for the improvement of overall physical health and quality of life, combined with a vacation at an exotic destination” (Medhekar, 2010, p.6).

According to Bookman and Bookman (2007) there are three types of medical tourism: such as invasive, diagnostic and lifestyle choice and thus a trade between two sectors of the economy medicine and tourism. Smith & Forgione (2007) have identified the factors influencing the patient’s choice of specific destination. Caballero-Danell & Mugomba (2007) have broadly described the market of medical tourism model and the distribution channel model of medical tourism. A model of analytical framework of Hong Kong medical tourist motivations was developed by Ye, Yuen, Qiu & Zhang (2008). Further, Heung, Kucukusta & Song (2010), have proposed an integrated supply and demand model of medical tourism.

According to Deloitte (2008) survey of US Health care consumers report, on consumers in search of value, medical treatment in Thailand, India, and Singapore “can cost as little as 10 percent of the cost of comparable care in the United States” (p.4). It is likely that besides low cost of treatment and surgery, no waiting period, availability of treatment and medical expertise various other factors such as; social, cultural affinity, language, religious sensitivities, political and economic conditions influence the consumer’s decision to travel abroad for medical treatment (Medhekar & Haq, 2010; Medhekar, 2010).

According to World Health Organisation, (2011) “A good health system delivers quality services to all people, when and where they need them. The exact configuration of services varies from country to country, but in all cases requires a robust financing mechanism; a well-trained and adequately paid workforce; reliable information on which to base decisions and policies; well maintained facilities and logistics to deliver quality medicines and technologies”. The Joint Commission International (JCI), which was launched in 1999, is the global arm of the US-based Joint Commission on the Accreditation of Healthcare Organizations (JCAHO). The main aim of JCI is to provide safety and quality of care to the international medical patients through the provision of accreditation services to achieve maximum standards that can be achieved in quality of healthcare which is patient-centered, culturally adaptable and emphasis on processes with continuous improvement (Timmons 2008). Since growing demand for medical tourism JCI has to date certified over 18,000 hospitals in the United States and 17 in India, besides hospitals in Europe, Asia, Africa, and the Middle East (JCI 2010). Accreditation is very essential for patient information, rights of

the patient and their families, quality of surgical service and protection from infection in the medical tourism industry to gain a credible reputation due to the increased demand for medical tourism (Chako 2006; JCI 2010b).

Bangladesh Health-care Scenario

According to a study by Rahman (1999) medical tourism is an example of bilateral trade in healthcare services between India and Bangladesh. There is an ongoing bureaucratic corruption in the Bangladesh public health care sector, the irresistible greed by the medical professionals, ignorance of health and hygiene conditions, lack of ethical and professional commitment by doctors is pushing people to travel across border to neighbouring countries for medical treatment. The private health care sector started to grow and develop in 1990s in Bangladesh. However, since 2004-2005, there has been growth of state-of-art private hospitals and diagnostic clinics in capital Dhaka such as a brach of state of the art medical facilities in Apollo Hospital Dhaka, Square Hospital and United Hospital.

However, a major concern for the private sector is high cost, lack of trained health-care professionals and bureaucratic corruption. Rahman (2000, p.38) concluded from an empirical study that quality of healthcare in Bangladesh is very poor with increasing cost and non-availability of certain medical treatments and medical specialists. Further, Bangladeshi patients according to Rahman (2000) overall have had a cultural affinity and good experience in India due to following reasons: quality of health care, less waiting time, low cost, cordial and caring doctors and nursing staff, reliable pathological, good medical facilities and qualified medical staff and diagnostic tests and convenience of travel, common culture and no language problem in India compared to their home country.

According to recent Bangladesh Daily Sun news paper (3-September-2011), three state of the art modern hospitals of the country have been charged for corruption, malpractice, negligence in discharging their duty and resorting to unethical professional practices by some of their doctors and administrative staff. According to one patient's statement, "unethical or inhumane professional practices are not uncommon in India, but the number of cases is relatively much less compared to Bangladesh. A common complaint against the doctors in this country is that they often send their patients for unnecessary diagnostic tests to labs, thus pocketing 50-60% of the charge. Taking hostage of dead bodies for not clearing the hospitalisation costs by some of the hospitals is becoming quite common" (Daily Sun 3-9-2011).

Other serious allegations also include such as: swapping of a deceased child with a new born baby, not attending to patients in coma, absence of human touch and care from the hospital staff and lack of ethical considerations in health care service provision. All this has damaged the reputation of the healthcare professionals and image of the hospital. Besides, unethical malpractice and lack of human touch in pre and post surgery, lack of quality of healthcare service, high cost, non availability of treatment and latest medical technology, and lack of specialist medical staff are some of the main reasons why also middleclass as well as low income Bangladeshis travel across the border, to India for medical treatment.

This culture of greed has established a new class of health sector millionaires in Bangladesh as the owners of up-market private clinics. In addition, hundreds of people who can afford (rich and middle-class patients) travel abroad, to avoid the Bangladeshi hellish health care

service; while a lack of corporate governance, accountability and government monitoring helps to survive and sustain such a corrupt healthcare systems. The results of our study not only identifies the shortcomings of the health-care system, due to which an increasing number of patients are crossing the border for medical treatment every year, but also confirms that that Bangladeshi patients travel to India for quality health care service and state of the art medical treatment which they don't get in their own country, besides familiarity with culture, food, language and along with having a holiday.

The following four hypotheses were put forward in the literature review and tested from the data collected.

Hypothesis 1 - Increased source of information from relatives increased the possibility of demand for cross-border travel for health-care services.

Hypothesis 2 - Low surgical cost and affordability will increase the demand for cross-border travel for health-care services.

Hypothesis 3 - Quality in medical-care and health service provision will increase the demand for cross-border travel for health-care services.

Hypothesis 4 - Non-availability of medical treatment in home country will increase demand for cross-border travel for health-care services.

Methodology

This research aimed to investigate the deteriorating healthcare system in Bangladesh and to answer the questions as to why there is an increasing trend amongst lower income and middle class Bangladeshis to travel across border to countries such as: India, Thailand, Singapore and Malaysia for medical treatment? The study was conducted in six divisional cities of Bangladesh. Interviews with actual medical tourists who had travelled abroad for medical treatment were held to inform the questionnaire. Self administered questionnaire was then distributed to medical patients as consumers of medical services (N = 1282 participants) who had travelled from Bangladesh to India for medical treatment. Structured Questionnaire was administered during the period from 30-April-2010 to 23-May-2011, in six divisional cities of Bangladesh such as: Dhaka, Chittagong, Sylhet, Rajshahi, Barisal and Khulna which were covered by the field visits. The respondents were selected on the basis of the information that they had undergone treatment in India as well as from acquaintances of the patient.

A random sampling design technique was adopted since the researcher recognised the difficulties involved with sampling the population (Sudman & Blair, 1999), and questionnaire was administered to patients who had already visited India for medical treatment and were mentally and physically sound. Thus there was a bias in the sample favouring those who primarily went to India for medical treatment. Descriptive statistical analysis was applied to the study. After collection of data, the obtained data was checked, verified & edited and entered and analysed using the Statistical Package for Social Science (SPSS) - Version 12. The Questionnaire consisted questions on (a) demographic information about the patients; (b) type of diseases for which treatment was sought, (c) reasons for opting for treatment in India;

(d) cost of treatment (e) destination of treatment (f) source of information search and (g) number of weeks stayed overseas for medical treatment.

Demographics:

The following findings from descriptive statistics was analysed from the data.

- a) The *age distribution* of the participants ranged from as young as 15+ to 75 years old. Both the genders males and females were included in the study sample. Of these n=1282 Bangladeshi participants, there were 48.05 percent females and 51.95 percent males. Nearly 448 participants were between 15 and 55 years old, 95 were 60 years old and 48 each accounted for 71 and 75 years old.
- b) *Educational background* of the participants ranged from 48 (3.70%) participants having no education, and similar percentage had primary education, 146 (11.40%) were with secondary education, 149 (11.60) were with secondary school certificate (SSC), 322 (25.10%) with higher secondary school certificate (HSC), 321 (25%) participants were with an undergraduate degree, and 248(19.30%) with graduate university degree.
- c) Distribution of respondents according to their *marital status* shows that 816 (63.70%) medical tourists as patients who travelled for medical treatment were married, 274 participants (21.40%) were single, 96 (7.50%) were divorced and widow respectively.
- d) Distribution of respondents according to their *occupation* shows that 521 patients (40.60%) were government service holder, 226 (17.60%) are students, 150 (11.70%) were medical doctors, 145 (11.30%) were self employed, 144 (11.20%) were day labourers, while 96 (7.50%) were self employed business man in their profession. e) Total family *Income distribution* shows that 55.90% percent of the medical tourists belonged to the group whose total family income was 100,000 Lakhs BDT, while 29.10% of participants earned 50,000 BDT and 15.10% earned 150,000 BDT. This finding is also consistent with the literature that higher the family income greater is the propensity to travel for medical treatment across border.
- e) Most of the participants who travelled from Bangladesh to India for medical treatment suffered from various complex health issues which required not only diagnostic but invasive surgeries such as: orthopedic, eye, dental, brain, heart, stomach, kidney, liver and spleen. Distribution of the respondents according to the number of affected diseases or health related problems is shown below in table-1.

Table 1: Distribution of the respondents according to their affected part of the body

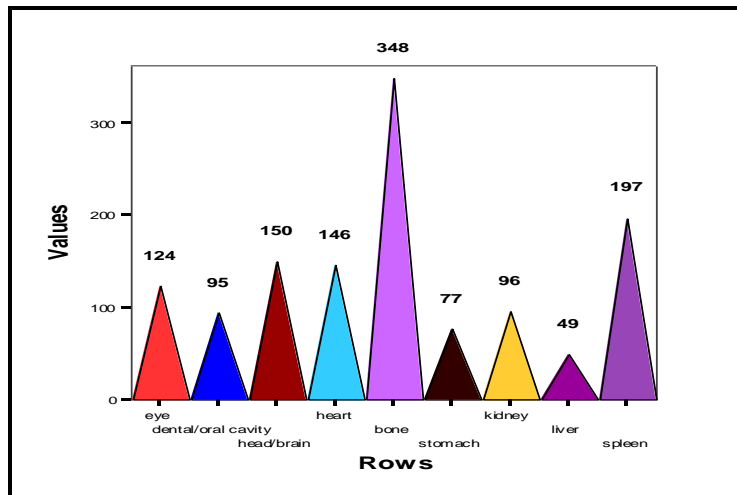
Eye	124
Dental/Oral cavity	95
Head/Brain	150
Heart	146
Bone	348

Stomach	77
Kidney	96
Liver	49
Spleen	197

Source: Data collected for this research

From the total of 1282 medical patients, (see Figure-1) nearly 348 patients travelled for orthopedic surgery, 197 for spleen, 150 for brain and head surgery, 146 for heart, 124 for eye surgery. Out of the total participants; 48 patients (3.70%) had one disease, 749 (58.40%) had two major diseases, 438 patients had 3 diseases and 47 had more than three diseases for which they travelled to India for treatment.

Figure: 1



Distribution of the respondents according to their affected part of the body

- f) Medical patients from Bangladesh travelled to capital cities within India such as Calcutta, Delhi, Mumbai, Hyderabad, Bangalore and Chennai, based on the medical facilities, specialty of treatment and airlines connectivity (Table-2). Majority of the participants visited Calcutta for medical treatment, given the shared history, familiarity with the Bengali language, religious, food, social and cultural affinity (Medhekar & Haq, 2010), but also being close to the border with India and saving travel time in terms of distance and cost of travel and accommodation. The *duration of stay* in India ranged from one week to two months depending upon the complexity of the treatment. 486 patients stayed for one week (37.90%), 450 (35.10%) stayed for two weeks, 47 (3.70%) stayed for three weeks, 149 (11.605) stayed for one month, and 150 (11.70%) stayed for two months for medical treatment.

Table-2: Distribution of the respondents according to medical treatment seeking destination in India

<i>Indian Destination</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Calcutta</i>	<i>390</i>	<i>30.40</i>
<i>Delhi</i>	<i>348</i>	<i>27.10</i>
<i>Mumbai</i>	<i>179</i>	<i>14.00</i>
<i>Hyderabad</i>	<i>172</i>	<i>13.40</i>
<i>Bangalore</i>	<i>97</i>	<i>7.60</i>
<i>Chennai</i>	<i>96</i>	<i>7.50</i>
<i>Total</i>	<i>n=1282</i>	<i>100.00</i>

Source: Data collected for this research.

Data Analysis and Findings

Literature shows that the main reasons for medical tourism to India is low cost, no waiting period, state of the art medical treatment, qualified and experienced surgeon and medical staff, quality of nursing care, Joint Commission International (JCI) accreditation, information source, besides being an attractive destination (Hutchinson, 2005; Carrera & Bridges, 2006; Bookman & Bookman, 2007; Horowitz & Rosensweig, 2007; Ye, Yuen, Qiu & Zhang, 2008; Lunt, Hardey & Mannion, 2010; Ghose 2010; Brotman, 2010; Stanley, 2010). The following four hypotheses were tested and was consistent with the literature as to why patients travel abroad for medical treatment.

Hypothesis 1- Increased source of information from relatives increased the possibility of demand for cross-border travel for health-care services.

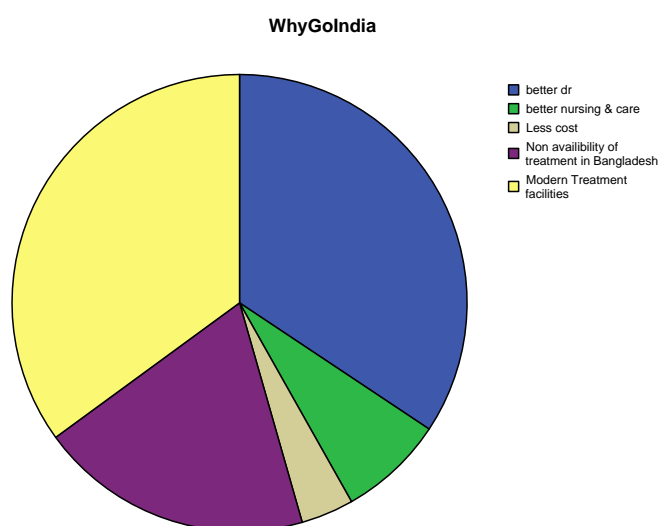
Hypothesis 2- Low surgical cost and affordability will increase the demand for cross-border travel for health-care services.

Hypothesis 3- Quality in medical-care and health service provision will increase the demand for cross-border travel for health-care services.

Hypothesis 4- Non-availability of medical treatment in home country will increase demand for cross-border travel for health-care services.

According to the survey the n=1282 participants indicated six (6) main reasons for travel to India from Bangladesh for medical treatment such as (see Figure-2 which identifies 5 key reasons) (i) non-availability of treatment in Bangladesh, (ii) positive information from relatives about their experience of medical treatment abroad (word of mouth- WoM), (iii) quality of nursing care (pre and post surgery), (iv) experienced doctors and physicians, (v) modern/state of the art medical treatment and medical facilities in India and (vi) affordable low cost of surgery.

Figure: 2



Pie chart illustrates the distribution according to reasons for Bangladeshi to seek treatment in India.

We can categorise these six key factors into (a) high quality of care, (b) low cost, (c) non availability of treatment and (d) information source from relatives about their experience of medical treatment abroad (WoM)

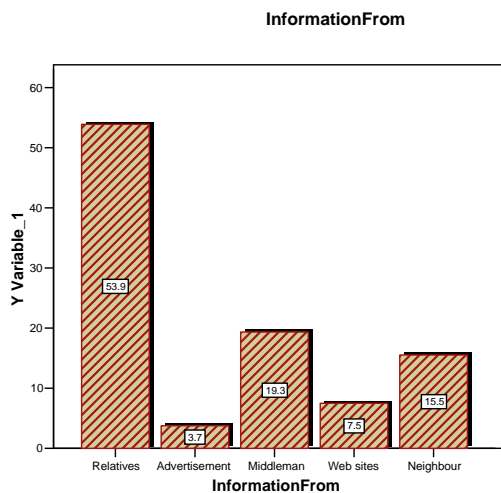
These key 6 pull factors mentioned are consistent with the literature as to why patients travel overseas for medical treatment from developing poor countries or from developed countries to India (Bookman & Bookman, 2007; Yuen, Qiu & Zhang, 2008; Lunt, Hardey & Mannion, 2010; Ghose 2010; Brotman, 2010; Stanley, 2010; RNCOS, 2010).

Hypothesis 1- Increased source of information from relatives increased the possibility of demand for cross-border travel for health-care services.

The first hypothesis examines that increased source of information from relatives increased the possibility of demand for cross-border travel for health-care services, was supported by the findings. All participants reported using various sources of information (external and internal) to medical tourism which included choice of destination in India, hospital, doctor, accommodation and travel agent (see Figure-3). Medical tourists used various sources of information such as relatives or family (53.9%), advertisement (3.7%), middleman or medical travel agent (19.3), website (7.5%) and neighbours (15.5) to make the decision to travel for medical treatment. This is consistent with the information search model for medical tourism (Gursoy & McCleary, 2004; Pan & Fesenmaier, 2006; Miller & West, 2007; Medhekar and Newby, 2011).

New information that emerged from the data was that the medical tourists did depend on information from family friends and neighbours (Word of Mouth-see Figure-3) besides websites that is internet. Opinions on credible sources of information on medical tourism varied with many participants regarding information by hospital websites and word of mouth (family and friends), internet in general as “credible and reliable” information on a medical tourism in making up their decision about the choice of destination and hospital overseas for medical treatment.

Figure: 3



Bar chart illustrates the distribution of the respondents according to information source

Previous medical travel experience to India for medical treatment was also a key factor to make the decision to return to India for medical treatment. Distribution of the respondents according to frequency of visits to India for medical treatment due to previous experience shows that 23% visited for the first time, 32% for two times, 13.4% visited three times and 11.6% visited 4 or more than 4 times for complex medical surgery. Thus study also shows that India is a popular destination for low and middle income patients from Bangladesh.

Hypothesis 2- Low surgical cost and affordability will increase the demand for cross-border travel for health-care services.

The second hypothesis examines the direct influence the low surgical cost has compared to the home country; on the demand for cross-border travel for medical treatment was supported by the findings and is consistent with the literature and law of demand, which is lower the cost, higher is the quantity demanded.

Hypothesis 3- Quality in medical-care and health service provision will increase the demand for cross-border travel for health-care services.

The third hypothesis examines that *Quality in medical-care and health service provision such as quality of nursing care (pre and post surgery), experienced doctors and physicians, modern/state of the art medical treatment and medical facilities in India will increase the demand for cross-border travel for health-care services* was supported by the findings (see Figure-2). This means that there is a direct relationship between quality of health care and cross-border travel for medical treatment such that the greater the importance placed on quality via accreditation of medical facilities and professional qualifications of doctors, surgeons and nurses, quality of health care facilities and state of the art medical technology compared to the home country such as Bangladesh the higher the possibility that an individual will travel across-border for medical treatment to India.

Hypothesis 4- Non-availability of medical treatment in home country will increase demand for cross-border travel for health-care services.

From Table-1 and Figure-1 above, it is clear that most of the participants who travelled from Bangladesh to India for medical treatment suffered from various complex health issues which required invasive surgeries such as: orthopedic, eye, dental, brain, heart, stomach, kidney, liver and spleen which were not available in Bangladesh. If the treatment was available according to the respondents, "...the cost was very high; poor and unreliable diagnostic results and the quality of nursing care was very poor with corruption and delays". These complex surgeries are either not available in Bangladesh or it is unaffordable and very expensive for lower or middle, class Bangladeshi.

Recommendations for Bangladesh Healthcare System

In order to improve the Bangladesh healthcare system the country has to face challenges from the growing global medical tourism in the neighbouring countries such as India, Thailand, Malaysia and Singapore. At the same time the Government of Bangladesh should take the opportunity to improve the Bangladesh health care provision to its low and middle income group citizens and provide quality of care at an affordable price. The following strategic recommendations are provided for the Bangladesh healthcare system:

(a) Government of Bangladesh should realise how worst the situation of current health care service provision and medical treatment situation is in Bangladesh. Measuring this, Government has to take necessary action plan immediately before it gets worst in the near future; given the increasing demand for affordable quality of treatment and per head medical treatment facilities are decreasing.

(b) Private sector has to ensure that they have some corporate social responsibilities. They have to invest voluntarily in hospitals for the poor, medical campaign and medical infrastructure, providing quality of health care with a human face.

(c) NGOs also have a role to play in this situation. They have to launch many medical programs for the rural people for raising health literacy awareness. (d) Hospital environment, infrastructure and equipment should be hygienic and clean to prevent infection and maintained in working order (JCI accredited). (e) Doctors, Nurses and other healthcare staff and professionals should be well qualified, reliable, helpful, providing quality of care in a timely manner. Medical research and medical equipment should be upgraded with latest medical technology to provide better treatment (JCI accredited).

Hospitals in Bangladesh should enhance their capacity to meet the increasing demand for medical treatment and also open after hours for all types of patients. Medical staff and technicians should have training abroad regarding latest use of technology for medical treatment along with being accountable and responsible for their corrupt actions.

Conclusions and Limitations

This research provides insights into the importance of four key factors such as information search, cost of surgical treatment, quality of medical treatment and non availability of medical treatment compared to ones own country in the process of making a decision to travel across border from Bangladesh to India for medical treatment. This research provides insights into as to why patients from Bangladesh travel across border to India for medical treatment. Although this research is based on descriptive statistics the research results from

the sample of participants suggest that there is support for drawing some conclusions from the findings of the study, which was based on patients from Bangladesh. It took a year to collect field data from the medical tourists.

These findings are in line with much of the emerging literature that is based on the growth of medical tourism industry in developing countries (Anderson et al, 2005; Matoo & Rathindran, 2006; Forgione & Smith, 2007; Bookman & Bookman 2007; Brotman, 2010; Carruth & Carruth, 2010). From the analysis of survey it was concluded that India has many advantages for Bangladeshi patients, in terms of modern healthcare and medical facilities, qualified doctors and nurses, quality control by JCI, low cost of medical treatment, no waiting period, quality of care with human touch, besides geographical proximity to Bangladesh, low transport cost, no language barrier, similar food, culture and presence of relatives and friends which makes India an attractive destination for medical treatment not only for patients from Bangladesh but also from other developed countries. Next stage of the future research will extend to testing hypothesis, and looking at how Bangladesh healthcare system can be improved for the low income groups.

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Needs of Information and Communication Technology for Emerging Capital Market in Bangladesh: An Empirical Study

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Abstract: Information and Communication Technology plays a vital role in capital market development in all over the modern world. Though the developed nation already use Information Technology in trading and others operational activities of stock exchange and different activities of the stock market, developing nation like Bangladesh far from proper utilization of information in upgrading their emerging capital market. This paper investigates the needs of Information Technology on the growth and development of capital market in Bangladesh. The results reveal that growth in market capitalization is affected by the level of interaction between stockbrokers and investors brought about by ICT in the form of internet access, telephone (mainlines and mobile) as well as access to the websites of stockbrokers. Growth in the total volume and value of shares traded is significantly affected by communication technology (telephones). Generally, Information Technology has contributed to growth of the Bangladeshi Capital Market, with the effect mostly seen in the availability of information to investors and the improvements in the trading patterns of the Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE) leading part of the capital market in Bangladesh.

Key words: Information and Communication Technology, Capital markets, Necessity, Emerging

Introduction

Across the modern business world, developments of ICT have created paradigm shifts in the capital market operations. The necessity of Information and Communication Technology (ICT) on the growth and development of emerging capital markets has considered as crucial issue for developed countries but for developing and underdeveloped countries it is a subject of debate in recent times. Information Technology have made capital markets more efficient as attendant stock prices now reflect important information and investors perception of stocks more swiftly. In their contention, ICT has made the Capital market more efficient by providing all participants with faster and more effective means of exchanging information. With the advent of sophisticated ICT, new products and instruments have been made readily available to the market and capital markets can be more resilient, possess greater depth and breadth (Fama 1991, Fama and French 1988). But in some cases capital markets have become excessively volatile since the adoption of computer assisted trading strategies as the latter increase short-term price volatility and risks and ICT driven capital market operations are fraught with fraud and manipulation, which mostly affect individual investors (Shiller 1989, Summers 1988, Porteba and Summers 1988). In many developing nation Information and Communication Technology is positively related to the development of stock markets along with the economy as a whole. There is very few works in Bangladeshi stock exchanges that have been done in the field of Information Technology' implication in capital market,

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although, it should get prior concern as there exist enormous prospects in connection with the proper exploitation of ICT in the stock markets. Thus, this paper is prepared to identify the needs and importance of IS and ICT in stock markets of Bangladesh, to compare the situations with other countries stock markets, to find out pit falls and their solutions, and lastly discovering ways to improving and exploiting IS to modernize and renovate the emerging stock markets of the Bangladesh.

Literature Review:

There is a widespread literature in the impact of ICT on capital markets. Several researchers have examined the benefits of adoption of ICT in developing as well as developed capital markets. Such studies agree that ICT makes capital markets more efficient Mahonney (1997) describes the securities markets as where information technology innovations often lead to changes in the way securities transactions are negotiated, executed, cleared and settled. Porter and Millar (1985) offer a framework for analyzing the strategic significance of information technology, while Johnson and Vitale (1986) focus on strategic advantage from inter organizational systems. Clemons and Weber (1990) examined the 1986 Big Bang reforms of the London Stock Exchange, and concluded that IT and the Exchange's new screen-based market were a "strategic necessity." Clemons and Weber (1990) and Clemons (1991) present a framework for evaluating importance of IT investments. ICT have focused on the impact of stock market financing on ICT growth and development as well as the determinants of ICT development (Saint-Paul, 1992, Black & Gibson, 1998, Allen & Gale, 1999). Financial development however was found to be an important determinant of ICT development and the paper therefore emphasized the need to develop financial markets in emerging economies (Yartey, 2006). This paper contributes to current literature by examining needs of ICT on the capital markets of Bangladesh with a view to ascertaining its impact on the stock market development indicators by measuring attitudes of different investors and executive of stock markets. The results attained to answer largely the question of whether the ICT is needed to develop the capital market of developing nation like Bangladesh.

Objectives of the study

The main objective of the study is to identify the essence of Information Technology to cope with the needs of emerging capital market of Bangladesh and the specific objectives are:

- to investigate the pattern of Bangladesh stock market growth;
- to examine the present scenario of automated trading system in the stock exchanges of Bangladesh;
- to identify the problems and shortcomings associated with the use of Information Technology in stock market operations;
- to provide suggestions in order to mitigate the problems and improve the capital market of Bangladesh.

Data and Methodology:

Research methodology of the study was focused both on qualitative and quantitative study. Primary and Secondary both types data were used in this study. Secondary data were collected from various issues of annual report of Securities and Exchange Commission (SEC)

of Bangladesh, Quarterly Review of SEC, Monthly Review of Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE), Bangladesh Economic Review, Statistical Year Book of Bangladesh, Website of DSE, CSE, and SEC Bangladesh. Interview techniques were used to collect primary data through semi structured questionnaire. Few executives of DSE & CSE, Investor, and executives of brokerage house of DSE & CSE were interviewed based on convenience sample method to understand the needs of ICT in the capital market of Bangladesh.

Sample size:

20 executives of different level and 320 investors were considered as sample for this study.

Data analysis:

Descriptive statistics, correlation matrix, and trend equation of key indicators have used for the analysis of the collected data.

Scope of the study

Economy of Bangladesh as regarded a developing economy and its stock markets is a novice comparing to develop countries markets. However, it is an emerging market, until to date it is not stable enough for investing and attracting small and individual investors. Ups and Down movements of the capital market due to misleading information or lack of information. Information and Communication Technology (ICT) may play a vital role to expand timely needed, reliable, accurate information of the capital market and safer transaction of the investor to ensure the stability and reliability of the stock market as well as capital market. Hence, there is ample scope to study about ICT role to develop emerging capital market in developing nation like Bangladesh.

Overview of the Information and Communication Technology application at capital Markets of developed and developing countries:

a. Stock Exchanges of United States:

There are many stock exchanges in US; the New York Stock Exchange (NYSE) and the American Stock Exchange (Amex) are most popular and established among these. The American Stock Exchange (Amex) lists roughly 1,350 securities and has a daily trading volume of about 83 million shares. Amex lists stocks that are smaller in size than those on the NYSE. Trades on the Amex are handled through an automated or manual order processing system. In the automated system, orders are routed electronically to specialists, virtually eliminating the use of paper on the trading floor. Using a system called the Booth Automated Routing System (BARS), transactions are electronically captured, and reports to member firms are generated. Rather than the specialist's order books, Amex uses a New Equity Trading System (NETS) to collect information about the trades and automate the process of updating and matching orders, quoting and reporting trades, and regulating and researching order details. Orders also can be placed manually by calling the floor broker by phone. Manual order processes usually are initiated for large or complex orders. Specialists in a stock help to assemble the buyers or sellers for these orders. The New York Stock Exchange's information and trading systems are many and diverse, and the Exchange's rules are often complicated. Over the years, the Exchange has adapted existing computer systems to take advantage of new technologies and to accommodate the changing needs of the

marketplace. An exposition of computerized trading has helped drive volume on the New York Stock Exchange alone up by 164 percent since 2005. More than half of all trades are now executed by using automated trading system.

b. Stock Exchanges of Australia:

With the formation of the Australian Stock Exchange (ASX), came to decision to use an all-digital trading platform. The platform is known as SEATS or Stock Exchange Automated Trading System. Following its implementation the trading floors were closed. On SEATS, brokerage fees are extremely low. Fees ranging from .12 AUD to .18 AUD are commonplace. Australian Stock Exchange (ASX) is the most famous among other exchanges in Australia and it is the 8th largest exchange. Options were first added to the ASX in 1976, followed by warrants in 1990, fixed income securities in 1993 and futures in 1994. From the beginning, fixed income securities were traded electronically. The current electronic system is the Clearing House Electronic Sub register System, abbreviated as CHESS.

c. Stock Exchanges of Nigeria:

Ezirim, et al. (2009) would argue that ICT has positive and significant impact on capital market development of the developing countries. They evaluated the stock market of Nigeria and found out that, growth in market capitalization is affected by the level of interaction between stockbrokers and investors brought about by ICT in the form of internet access, telephone (mainlines and mobile) as well as access to the websites of stockbrokers. Growth in the total value of shares traded is significantly affected by communication technology (telephones). Growth in the volume of shares traded arises from the interaction between stockbrokers and investors mainly via mobile telephony and communications technology especially the increase in the number of stockbrokers and access to telephone lines. Lastly, turnover in the market seem to be affected significantly and positively by access to mobile phone technology. Information and Communication Technology has contributed to growth in the Nigerian Capital Market. The effect is mostly seen in the availability of information to investors and the improvements in the trading patterns of the Exchange.

d. Stock Exchanges of India:

NSE believes that technology will continue to provide the necessary impetus for the organization to retain its competitive edge and ensure timeliness and satisfaction in customer service. In recognition of the fact that technology will continue to redefine the shape of the securities industry, NSE stresses on innovation and sustained investment in technology to remain ahead of competition. NSE's IT set-up is the largest by any company in India. It uses satellite communication technology to energies participation from around 200 cities spread all over the country. NEAT is a state-of-the-art client server based application. At the server end, all trading information is stored in an in-memory database to achieve minimum response time and maximum system availability for users. Each trading member trades on the NSE with other members through a PC located in the trading member's office. The trading members on the various market segments such as CM, F&O, WDM, Currency Derivatives, SLBM, MF and IPO are linked to the central computer at the NSE through dedicated leased lines and VSAT terminals. The telecommunications network is the backbone of the automated trading system has been upgraded to use the more popular and modern IP Protocol which was using X.25 protocol earlier. NSE is one of the largest interactive VSAT based stock exchanges in the world. Today it supports more than 2500 VSATs and 3000 leased

lines across the country. The NSE- network is the largest private wide area network in the country and the first extended C- Band VSAT network in the world. Currently more than 10000 users are trading on the real time-online NSE application. NSE has its online presence at www.nseindia.com. The website displays its live stock quotes, which are updated online and corporate announcements. The website has been designed to cater to the needs of Investors, Members, Issuers and other market participants. NSE today allows members to provide internet trading facility to their clients through the use of NOW (NSE on web), a shared web infrastructure (Website of, 2011).

Overview of the Information and Communication Technology application at capital Market of Bangladesh:

Capital market means the financial market for stocks and for intermediaries or long-term debt. It is the market for long-term funds where securities such as common stock, preferred stock, and bonds are traded. Both the primary market for new issues and the secondary market for existing securities are part of the capital market.

Information Technology (ICT) serving the stakeholders of the various stock markets around the world is of great significance because they reflect the standards, the regulations, the objectives and the mechanisms for the exploitation and usage of money for the benefits of participating companies and investors.

There are two stock exchanges in Bangladesh are Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE). Both the stock exchange operates under Securities Exchange Commission (SEC). Now both the stock exchanges are ICT enabled organization. IPO issue and secondary market operations all are performed with the help of IS and ICT.

Major activities of DSE and CSE:

- Company listing
- Settlement of trading
- Screened based trading system.
- Gifting of share / granting approval to the transaction/transfer of share outside the trading system of the exchange.
- Market Administration & Control.
- Market Surveillance
- Publication of Monthly Review
- Monitoring the activities listed companies.
- Announcement of Price sensitive or other information about listed companies through online.
- Investors' grievance Cell
- Investors Protection Fund

Criteria of the Categories and Their Settlement System and Cycles:

Table1: Category Wise Settlement System & Settlement Cycles:

Category Criteria	Settlement System	Settlement Cycle	Category Criteria
A	Mutual Fund, Regular AGM, Declared and paid at least 10% dividend within sixty days from the date of declaration and Submission of compliance re thereof to SEC within seven working days from the date completion of disbursement	Netting for payment obligation and trade for securities obligation	Pay in day = T+1 Pay out day = T+3
B	Regular AGM, Declared and paid Dividend less than 10% and Submission of the compliance Report to SEC within the time limit	Trade for both securities & money obligation	Pay in day = T+ 1 Pay out day = T+3
G	Greenfield companies	Trade for both securities & money obligation	Pay in day = T+ 1 Pay out day =T+3
N	All newly listed companies except Greenfield companies	Trade for both securities & money obligation	Pay in day = T+ 1 Pay out day=T+3
Z	Irregular AGM or Declared no dividend at all or declared dividend but failed to pay it off or Submission of the requisite compliance report to SEC within the time limit or Not in operation for six months, or Accumulated loss after adjustment of reserve, if any, is negative and exceeded its paid-up capital excluding those who declared dividend.	Trade for both securities & money obligation	Pay in day = T+3 Pay out day = T+7

Source:
www.csebd.org
 [Notes: "T" stands for "Trading day";]

Auto

mated Trading System: A Wide Window of Financial Information of Capital Market

DSE upgraded the Trading System again on 21st December, 2008. The existing HP Non Stop S7806 Server is highly fault tolerant to the fact that no single component failure will halt the system. Its constituent parts are hot swappable and upward compatible; components can be added or removed while the system is running and any compatible new upgraded will work with the system.

Network (LAN / WAN)

The entire Member (238 members) Server Applications (MSA) are connected with Nonstop HP S-Series Server through either DSE LAN or WAN connectivity. Each member has one or more Trader Work Station (TWS). The TWSs are being connected to the Trading Server via respective MSA through LAN and WAN connection.

Now day's members can establish a main office or branch offices to their remote location and can trade smoothly by using different media ADSL, Optical fiber and Radio Link from Dhaka and other important cities such as Gazipur, Narayanganj, Comilla, Hobiganj, Chittagong, Sylhet, Khulna, Barisal, Rajshahi, Bogra at the same time.

Three DSE branch offices located at Chittagong, Sylhet and Khulna are connected via BTTB's DDN link. Another, connectivity for redundancy for the DDN link is also used. There is a plan to reach the DSE branches in same way.

In case of trade interruption due to serious hardware, software, network failure or telecommunication disruption at the Brokerage houses, there is a provision to allow traders to trade at DSE Contingency Trading floor.

Software

The system software is HP Proprietary NonStop KERNEL and includes the database as part of the operating system thereby eliminating the layer typically found in most Database Management Systems (DBMS). The Database functionalities are handled by NONSTOP SQL, which is simply a different operational session for the operating system. The central trading system resides in the Stock Exchange premises, which is running 24 hrs in a day & 365 days in a year.

The application, which runs in DSE for trading, is called TESA (The Electronic Securities Architecture). TESA has two parts: MSA (Member's Server Application) & TWS (Trader workstation). MSA is the "Gateway" between the traders and the Stock Exchange, which manages all the transactions and database operations between the traders and the Trading Engine. TWS is the Front-end Application closer to investors, where they can submit Buy/Sell orders for their desired securities.

Principal Functions of TESA

- **Market Information:** Supplying all market information needed to formulate the buy and sell decisions.
- **Order Management:** Accept, validate and store orders and quotes from broker workstations and / or systems.
- **Order Execution:** Automatically executes orders when buy and sell prices match.
- **Trade Reporting:** Trade execution reports are provided to each trade participant, to the settlement system and / or the depository and to the market.
- **Index Calculation:** Calculates and publishes market indices (DSE General Index & Weighted Average Index.)
- **Market Access:** Provide exchange members with efficient affordable GUI-based tools for accessing the market.

Collecting Real-Time Market Information:

Bids, offers, last sale (i.e. most recent trade price and volume), book and other data are gathered via the Trading engine. It supports TESA's automated and manual trading modules and can process the trades of external and off-market systems.

Collecting company Information

All information supplied by the listed companies is maintained in the TESA database.

Generating Market Statistics

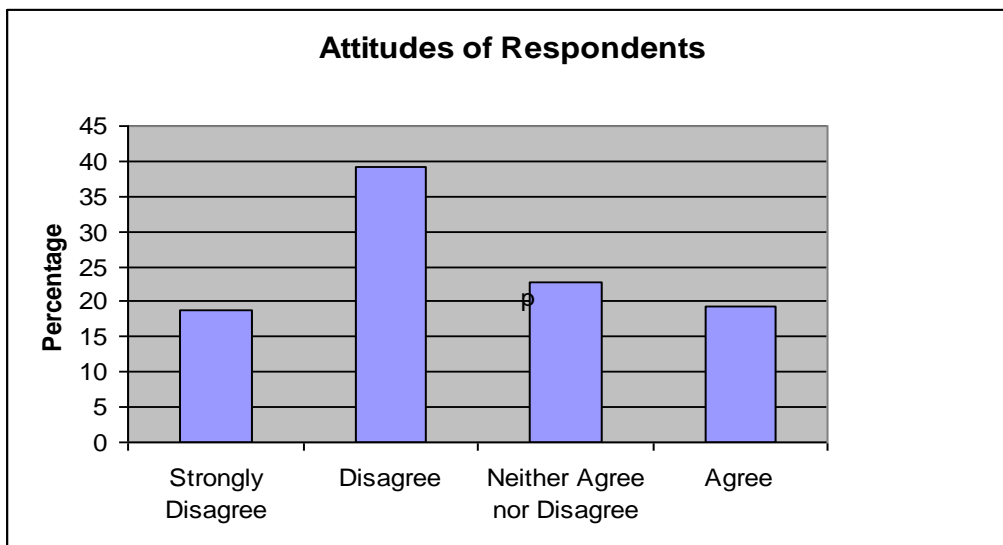
TESA generates market indices on a real time basis. It generates other statistical information such as Price.

Table-1: Participants' attitudes on existing ICT infrastructure of Bangladesh to utilize full Phase application of ICT in capital markets.

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	60	18.8	18.8	18.8
Disagree	125	39.1	39.1	57.8
Neither Agree nor Disagree	73	22.8	22.8	80.6
Agree	62	19.4	19.4	100.0
Total	320	100.0	100.0	

Source: Researcher developed based on survey

Chart-01: Sufficiency of existing ICT infrastructure



Analysis & Discussion:

ICT in Bangladesh is considered as burning issue as it is utilizing in different aspects of the organization as well as govt. decisions. Capital market consists of primary issues and secondary traded for stocks and long-term debt. ICT utilizing here for primary issuing, automated trading in secondary market, market analysis etc. Most of the participants (about 83%) of the DSE and CSE satisfied on the existing ICT application in the DSE and CSE in Bangladesh (Var_01, Table-02, Appendix-01). Again, 82% respondents agreed that ICT application would enhance the development of capital markets of Bangladesh while respondents focusing on application of ICT will increase capitalization, number of participants and reduce settlement time of transactions (Var_02, Table-02, Appendix-01). About 50% of the respondents expect that internet trading could be applied both DSE & CSE in full speed so that participants can perform their buying and selling from their home or

office PC rather than trading house. There are few hazards in capital markets in Bangladesh such as inequality due to lack of information. Inconsistent decision from regulatory bodies such as SEC has been proven as the second most common hazards in share trading. The time lag between the settlement cycles is another prominent hazard. Some respondents also mentioned the network failure as another common hazard while trading via telephones. However, most of the respondents expect to remove such types of hazard from DSE and CSE. Availability of information is the key factor to remove such types of hazard and to ensure stability of the market (Var_06, Table-02, Appendix-01). A remarkable percentage of participants of the capital market of Bangladesh are satisfied or highly satisfied on the existing systems of internet trading, error free & speedy settlement of transactions, and issuing primary share using ICT (Var_09, Table-02, Appendix-01). However, only 19% participants of the capital market give their opinion positively that full speed ICT application is possible in the capital market through existing ICT infrastructure but maximum percentage not agreed on this (Table-1). Correlation between the attitudes between participants and executive of the DSE & CSE on the existing ICT application of capital market is positively related (Table-04).

Conclusion:

Capital market of any country considered as basement of economic and social growth of any country. ICT is the key variable for proper growth and development of capital market of developed as well as developing nation. Bangladeshi capital market is characterized by unstable, semi ICT utilized, propaganda dependent capital market. For ensuring stable growth and information based capital market, needs of ICT is obligatory for this market. Primary or secondary issuing in both cases has to be utilized cent percent ICT infrastructure at the capital market. The financial information system helps provide flawless accurate information while the automated trading system provides the benefits of using the internet system to trade any where at any time. The automated trading system has been introduced in our country recently and people are not much educated about the use of information system and financial information system in the capital market and their impact. So, the paper was dedicated to identify the current condition of the ICT and FIS in the capital market of our country and to show the ways to enhance and to upswing the capability of it by the use of ICT and FIS. The infrastructural backbone should be strong enough to get a smoothen progress in the capital market. The proper knowledge about the FIS is also being needed both for the executives and for investors of stock exchange. If we be able to apply the blessings of ICT and FIS successfully we can expect a well developed capital market with huge number of listed companies and capital. The initiative should come from both governmental and non-governmental related parties.

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Appendix # 01

Table-2: Statistics

		Var_1	Var_2	Var_3	Var_4	Var_5	Var_6	Var_7	Var_8	Var_9	Var_10
N	Valid	320	311	320	320	311	310	310	320	320	320
	Missing	0	9	0	0	9	10	10	0	0	0
Mean		4.20	4.41	1.98	2.33	4.12	4.63	4.56	4.03	4.44	2.43
Std. Error of Mean		.040	.035	.047	.083	.037	.027	.028	.041	.028	.056

Std. Deviation	.708	.626	.836	1.48	.654	.484	.497	.738	.497	1.00
Skewness	-.312	-.577	.029	.626	-.126	-.537	-.235	-.040	.240	.217
Std. Error of Skewness	.136	.138	.136	.136	.138	.138	.138	.136	.136	.136
Kurtosis	-.974	-.595	-1.570	-.938	-.677	-1.723	-1.957	-1.158	-1.955	-1.03
Std. Error of Kurtosis	.272	.276	.272	.272	.276	.276	.276	.272	.272	.272
Minimum	3	3	1	1	3	4	4	3	4	1
Maximum	5	5	3	5	5	5	5	5	5	4

Table-3: Frequency distribution

Var_1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neither satisfied nor Dissatisfied	54	16.9	16.9	16.9
Satisfied	147	45.9	45.9	62.8
Highly Satisfied	119	37.2	37.2	100.0
Total	320	100.0	100.0	

Var_2

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neither Agree nor Disagree	23	7.2	7.4	7.4
Agree	137	42.8	44.1	51.4
Strongly Agree	151	47.2	48.6	100.0

Total	311	97.2	100.0	
Missing	9	2.8		
Total	320	100.0		

Var_3

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Increase Capitalization	114	35.6	35.6	35.6
Increase Participants	97	30.3	30.3	65.9
Reduction Settlement Time	109	34.1	34.1	100.0
Total	320	100.0	100.0	

Var_4

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Internet Trading	159	49.7	49.7	49.7
Speedy and error free settlement	109	34.1	34.1	83.8
Access to the Information	52	16.3	16.3	100.0
Total	320	100.0	100.0	

Var_5

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neither Agree nor Disagree	50	15.6	16.1	16.1

	Agree	174	54.4	55.9	72.0
	Strongly Agree	87	27.2	28.0	100.0

Var_6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	115	35.9	37.1	37.1
	Strongly Agree	195	60.9	62.9	100.0
	Total	310	96.9	100.0	
Missing	0	10	3.1		
Total		320	100.0		

Var_7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Satisfied	137	42.8	44.2	44.2
	Highly Satisfied	173	54.1	55.8	100.0
	Total	310	96.9	100.0	
Missing	0	10	3.1		
Total		320	100.0		

Var_8

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neither satisfied nor Dissatisfied	83	25.9	25.9	25.9
Satisfied	146	45.6	45.6	71.6
Highly Satisfied	91	28.4	28.4	100.0
Total	320	100.0	100.0	

Var_9

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Satisfied	179	55.9	55.9	55.9
Highly Satisfied	141	44.1	44.1	100.0
Total	320	100.0	100.0	

Var_10

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	60	18.8	18.8	18.8
Disagree	125	39.1	39.1	57.8
Neither Agree nor Disagree	73	22.8	22.8	80.6
Agree	62	19.4	19.4	100.0
Total	320	100.0	100.0	

Table-04: Descriptive Statistics & Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
Participants attitudes	4.20	.708	320
Executive attitudes	4.00	.649	20

Correlations

		Participants attitudes	Executive attitudes
Participants attitudes	Pearson Correlation	1	.605**
	Sig. (2-tailed)		.005
	N	320	20
Executive attitudes	Pearson Correlation	.605**	1
	Sig. (2-tailed)	.005	
	N	20	20

** . Correlation is significant at the 0.01 level (2-tailed).

Table-05: Chi -Square Test Statistics

	Var_1	Var_2	Var_3	Var_4	Var_5	Var_6	Var_7	Var_8	Var_9	Var_10
Chi-Square	42.681 _a	95.100 _b	1.431 _a	53.744 _a	78.180 _b	20.645 _c	4.181 _c	22.056 _a	4.513 _d	34.975 _e
Df	2	2	2	2	2	1	1	2	1	3

Asymp. Sig.	.000	.000	.489	.000	.000	.000	.041	.000	.034	.000
a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 106.7.										
b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 103.7.										
c. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 155.0.										
d. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 160.0.										
e. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 80.0.										

Impact of Internet on rural economy in India: A Case Study

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Abstract: One of the most major phenomena, affecting people today, is the revolution in information and communication technology (ICT). Central to this is the use of Internet. Today ICT constitutes the fastest growing component of the global economy and the Indian ICT spending is expected to grow 10.3 percent in 2011. However, the agriculture sector in most countries is out of this growth map and Internet access in these areas is usually very marginal if at all. There is a growing consensus that knowledge and information are essential for empowering rural communities. Relevance of use of Internet technology in Agriculture lies in its ability to reduce isolation, facilitate dialogue, provide information and skills training and encourage orderly structure in the system. It is necessary to investigate how its use has contributed in the development of the agriculture sector through an exploratory case based study in India. This will be an exploratory study based on a background and research approach where Internet and participation will be the basic components, by selecting five experts in the field.

The findings of the current study on the use of Internet in agriculture have indicated several encouraging outcomes. Information related to scientific and better farming methods, weather, soil quality, fertilizers and pesticides has become more readily available to farmers. Further, the company using this technology has been able to get a steady supply of good quality produce and the model has been easy to replicate. Farmers appear to have benefited by the new method of trade and the recovery of their costs have become faster leading to less borrowing. Many farmers may have possibly been empowered with better knowledge and greater choices. They may have also learned to value information and scientific methods of farming for improving their quality and quantity of produce.

Key words: Internet, social development, rural development, e-choupal, rural economy.

Introduction

One of the most major phenomena, affecting people today, is the revolution in information and communication technology (ICT). The term is used broadly to address a range of technologies, including telephones and satellite links. Central to this is the use of Internet as a mechanism to transport data in a number of formats including texts, images, sounds and video. Internationally, this revolution has facilitated the globalization of the economy, business, finance and culture (Gomez 1997; Heeks 1999). Today ICT constitutes the fastest growing component of the global economy and the Indian ICT spending is expected to grow 10.3 percent in 2010 and in that Services and Software will be the fastest growing segment till the end of 2014 (Gartner Press release, 2011). In a country like India, where the spread and use of information technology has been phenomenal in urban areas the rural communities are still largely left out (Agarwal, 2009).

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Further, even though Internet access is growing rapidly globally, the rural community in most countries is out of this growth map and Internet access in these areas is usually very marginal if at all. In a country like India, where the spread and use of information technology has been phenomenal in urban areas the rural communities are still largely left out (Agarwal, 2009). The agricultural sector suffers from poor communication infrastructure and weak institutional capacities. There is a growing consensus that knowledge and information are essential for empowering rural communities. Communication is central to this process. Convergence of technologies can help people share knowledge and information. Information intermediaries like social workers, educators and mass media can help rural communities access relevant information. Internet technology can be used for strengthening research and increasing farmer linkages through better agricultural marketing, disaster mitigation through forecasting, monitoring and early warning systems. Relevance of use of Internet technology in Agriculture lies in its ability to reduce isolation, facilitate dialogue, provide information and skills training and encourage orderly structure in the system.

Social development

Participatory development is necessary in terms of sustainability, relevance and empowerment and is considered better than top-down development approaches (Cooke and Kothari, 2002). The main endeavor in such processes is to involve economically and socially backward and neglected population in the decisions that affect their lives (Guijt, 1999). Participation, especially in the context of community, is deeply linked to issues of democracy, power, and asymmetries that historically exist within communities. International organizations like the World Bank and UNICEF have been dealing with community participation through rapid rural appraisal, participative rural appraisal and participative learning for action. "Participation is viewed pragmatically and ideologically—something that helps efficiency, satisfaction and progress, but which is also morally right" (Mumford 1984). The role of modern communication technology towards social development and its improvement is being studied by various researchers (Sahay and Avgerou, 2002; Madon and Sahay, 2002).

Brown's (Brown, D., 1991) information based evaluation methodology is sensitive to context – specificity and seems appropriate in evaluating the success of a participative development project using Internet as a technology. Information based rather than a knowledge-based approach to evaluate social development projects has two major advantages, relative objectivity and equity. Additionally, a project also needs to be measured in terms of its sustainability (Sunden and Wicander, 2006), scalability and profitability. A project may touch the lives of marginalized persons and add value to them but at the same time it is necessary to ensure that it can be sustained and it is not a temporary intervention. For that a social mission as well as a strong business model is necessary so that the project can be self-sustaining and profit generating.

Research question

The objective of this research includes an examination of the use of Internet technology in social development and agriculture. Internet in India like in other developing countries has not spread much to the rural areas, where people are poor, illiterate and marginalized. Participatory development and a sustainable commercial model in rural India can serve as a starting point for community development. This medium has been put to use in some areas. It is necessary to investigate how its use has contributed in the development of the agriculture sector through a case based study to answer the following socially relevant research question: Has this medium been able to bridge the gap in information and knowledge in the rural sector and thus contribute to the improvement in the lives of the farmers?

Study design

To answer this research question the researcher will be using the case of ITC's e-choupal. The ITC group of companies has a yearly turnover of Rs 7.5 billion and its involved in tobacco, cigarettes, paper and packaging, paperboard manufacturing, hotels and tourism, information technology and agricultural exports. Of these the Agri Business Division is one of India's largest exporters of agricultural commodities. The International Business Division was created in 1990 as an agricultural trading company.

ITC is well known for its corporate and social responsibility and it is this philosophy that initiated the e-choupal system, where the business model increased shareholders value as well as contributed to social development. ITC envisioned this project by using Internet as a medium. This will be an exploratory study based on a background and research approach. In this exploratory study Internet and participation will be the basic components, by selecting five experts in the field. The project will be evaluated on the basis of Brown's information based evaluation methodology.

Methodology

The researcher conducted personal interviews with these experts, to gain a better understanding of the linkages among Internet, participatory development and social development. The interviews were conducted to obtain necessary information on existing systems, scalability, profitability and sustainability of the project, along with the range covered, new linkages formed and communication channels established. Further, the researcher visited a mandi and few e-choupals to gain a first hand knowledge about the traditional methods of trade and the Internet impacted new method of trade.

Findings

Agriculture in India

A large part of the Indian population lives in rural areas and is engaged in farming. Agriculture contributes to 23% of India's Gross Domestic Product (GDP), employs 66% of its workforce and feeds its huge population. Moreover, the share of agriculture products to exports is also significant, accounting for almost 15% of export earnings. Years of good agricultural production have been the years of economic prosperity and those of lower output

have been years of economic distress. India gained through its Green revolution in terms of self-sufficiency in food grains. However, the Indian farmer has continued to remain poor. Many reasons may be attributed for that- government regulations, small landholdings, lack of knowledge related to best farming practices, role of middlemen, corruption in the trading cycles, lack of proper storage facilities, limited media reach, illiteracy, unviable direct distribution systems and high dependence on weather to name a few. The World Bank's World Development Report 2000/2001: "Attacking poverty", identifies three main elements of income growth efforts in the rural economy: opportunity, empowerment and security.

Rural marketers on the other hand suffer a great deal due to fragmentation on account of low effort ratio, high cost of transportation due to the geographical dispersion, a customer base that can neither be customized nor is worth customization on account of heterogeneity and a passive distribution system because of poor infrastructure.

Traditional method of trade

The traditional marketing route in the Indian farming system has been through traders, government authorized Mandi's, some cooperative societies and local bartering.

Mandi system

The Mandi's were created through the Agricultural Products Marketing Act to ensure fair distribution of profit amongst the producers, consumers and traders. Each Mandi serves a certain area, which varies from state to state. Farmers bring their entire produce to the nearest Mandi on carts or tractors. Agents who earn commissions, called kachha adatiyas, conduct the trading. These adatiyas are generally a close community who work in cartels and are very rich and sell to a larger trader called pakka adatiya, who in turn takes the produce to a local mandi or a market place, where a larger trader buys the same.

The produce is inspected only by sight and no scientific or formal method is applied. The mandi employee conducts the auction, through an open vocal method. The farmer has to get his produce weighed and bagged either in the weighing area or in the commission agent's house on a manual scale. After this the value of the transaction is computed and the farmer collects his cash from the agents office. The agent also has to pay a small percentage as Mandi fees from the transaction.

The average poor farmer is hit hard by the existing Mandi system in many ways. The farmer has no knowledge of market prices or trends and in most cases fails to get the optimum price for his produce. The farmer is restricted to one Mandi and has to transport his entire produce to the Mandi that often results in loss of quality and wastage, arbitrary judgement of quality, cost of transportation and bagging, and delay in receiving payments to name a few.

Mandi system and large businesses

On the other hand, this system, abounding in inefficiencies, unscientific methods and harassment by the agents create huge problems in procurement for large corporations as well. Because of lack of standard practices, the commission agents pile up both good and bad quality produce together and sell it at higher prices. The agents inflate prices at the Mandis, so that they earn higher commissions. However the profit is never really enjoyed by the farmer and the corporation that buys in large quantities also stands to lose. These companies

never have a direct interaction with the farmers and there is always a problem related to supply-chain issues due to improper storage facilities, wastage and hoarding.

Model of e-choupal

The model of e-Choupal was conceived by the Agri business division of ITC to make the supply chain more efficient and to be able to deliver value to all its customers on a sustainable basis through re-engineering and not re-construction. The model was specifically designed to overcome the characteristic features of Indian agriculture as discussed above namely fragmented farms, poor infrastructure, and the involvement of numerous middlemen.

The concept of e-choupal lay in an Information Technology driven solution based on Internet technology. The intention was to facilitate collaboration between the various stakeholders, scattered over large distances, through a medium of communication and deliver real-time information independent of a transaction.

In the e-choupal, the farmer is empowered to decide whether or not to sell at a certain price. Further, Internet is used as a medium of communication, to be able to deliver real-time information on weather, soil testing, knowledge on best farming practices and also as a tool for procurement of other farming needs like pesticides, farming tools, seeds and fertilizers. E-mailing and Internet chat facilities were also utilized for two-way communication.

The word, Choupal means gathering place in a village in Hindi. An e-choupal is a combination of an Internet kiosk, a village gathering place and an e-commerce hub. E-choupals utilize Information technology to virtually cluster all the different participants in the value chain. The Internet thus helps in reducing and controlling the role of various intermediaries when used as the medium. It uses the physical transmission capabilities of current intermediaries-aggregation, logistics, counter-party risk and bridge financing and disintermediates them from the path of information flow and market patterns.

Sanchalaks who are recruited from farmers and trained by ITC, manage these Internet kiosks. These sanchalaks are then able to provide information on weather, market prices and best scientific farming practices. They perform soil testing, facilitate the sale of farm inputs and also purchase farm produce from the farmer's doorstep through real-time information and embedded knowledge based decision-making.

The e-choupal system has been able to eliminate wasteful intermediation and multiple handling by virtually linking to the 'Mandi' and creating a direct marketing channel. This also significantly reduces the transaction costs.

e-choupals have been able to further benefit farmers by enhancing their farm productivity and better their selling prices.

ITC has been able to lower its net cost of procurement despite paying better prices to farmers by cutting down on the costs in the supply chain that do not add value.

The trade route at e-choupal

A farmer has to carry a sample of his produce to a sanchalak at a local kiosk. The sanchalak evaluates the sample and provides a spot quote. This evaluation is based on inspection of the produce and deductions if any made on some strong basis that has to be explained and justified

to the farmer. If the farmer accepts the price, then the sanchalak gives him a receipt with his name, address, details of the test and its results and the conditional price and approximate quantity. The farmer can now transport the produce directly to an ITC collection center, where a laboratory test is done to confirm the sanchalak's opinion, but it does not alter the price. His produce is then electronically weighed and the farmer can get paid within two hours. These material receiving centers are equipped with state-of-the-art material handling systems to ensure minimum wastage and correct measure. The transportation cost is also reimbursed to the farmer. If the farmer is located in a remote area then he can sell his produce to the sanchalak or a nearby collection center. The farmer does not have to incur any bagging cost.

The previous day's mandi closing price is used to decide the Fair Average Quality price at the e-choupal, which is valid for a day. This information is relayed to the sanchalaks through the ITC's Internet portal. The commission agents at the Mandi's update the daily mandi prices into the e-choupal system.

ITC gains in terms of an assured supply. Farmers are experiencing greater yields due to various information available through the e-choupals. Moreover the e-choupals also trade in good quality seeds, fertilizers and other products at prices that are much lower than the market prices.

Infrastructure of e-choupals

To set up an e-choupal a computer with a reasonable processor, printer and Internet connectivity using a dialup or a VSAT is required. ITC pays for the cost of equipment and the sanchalak, pays for the operational costs like electricity and Internet charges. The sanchalak also earns a commission of 0.5% per ton of processed product and therefore acts as a salesman for ITC. ITC spends a small amount every year towards maintenance, repair, training and a helpdesk for each such kiosk. To overcome the problem of rural electrification, ITC provides battery backup and UPS systems and is now venturing into solar powered batteries. ITC has adopted a Satellite –based technology (VSAT) with a speed of 256 kbps. The operating system used is Windows 98. A Hindi word processor called Ankur is used. Short movies on e-choupal entitled –Sunera-Kal and videos on best farming practices like soil-testing etc are also available. The e-choupal website is the gateway for the farmer. The use is restricted to valid users having logging permission through login name and password verification. As of now, this permission is given to only the sanchalaks.

ITC coordinates with institutions of learning and departments like the meteorological department to develop useful and correct Internet content including weather forecasts, advisories, best farming practices and prices and also coordinates with companies selling agricultural raw materials like fertilizers, herbicides and seeds to enable greater e-commerce. Finally there is a question and answer section that allows users to post questions, which are replied by experts.

Apart from this, since Internet connectivity is available sanchalaks access news related websites, sports related websites, use chat rooms to chat with ITC managers, and also use email to communicate within themselves. Local students also use the Internet for checking their exam results.

Database and Information building through e-choupals

The e-choupal system helps in building up informative databases through routine operations. Data regarding the farmers, like their location, financial condition, farming pattern, creditworthiness, spending patterns create the basis for an opportunity in rural commerce. Most of this information gets fed into the system either automatically based on transactions or manually by the Sanchalak. Thus peak usage periods, preferred e-choupals, most visited websites; interest areas of the local community can also be tracked. This is providing ITC with a huge benefit in terms of future diversification and planning.

Analysis of the findings

According to Brown's information based evaluation methodology, which is sensitive to context –specificity, the criteria of evaluation are based on linkage, coverage and direction.

With the advent of e-choupals using Internet as the medium, farmers in remote rural settings have been brought in touch with the entire world. These Internet kiosks have been able to provide the farmers with information on best farming practices, weather, soil conditions, as well as current market prices. These linkages have also helped the farmer to learn about better fertilizers, herbicides and tools as also an easy way of procuring the same. These linkages have been created through Internet portals written in Hindi, the language mostly used by the farmers in that region. The language barrier has been overcome and as a result information is flowing more easily. Therefore the farmers now have much better access to information than ever. The farmers have also been linked to the Chicago Board of Trade and thus also have an insight into the global prices.

With the involvement of agricultural supplies companies in e-commerce, the farmers can now conveniently order agricultural inputs through the e-choupals. The Web-enabled, real-time data on crop prices available at the e-choupals give farmers a correct idea of the price they can expect from ITC and from different Mandis. This information enables them to take informed decisions, increase their bargaining power and thereby help them to sell their produce at a price that gives them a higher profit margin.

With the availability of the information on weather, soil conditions, scientific methods and use of fertilizers, farmers are getting educated and are being able to utilize their resources better and with information on market trends being easily available, farmers can also align their agricultural output with the market demands.

The other element of empowerment for the rural population has been their inclusion and participation in this revolution. Farmers had actively contributed at the time of design of the project. Further the sanchalak is also a farmer and the roles of the traditional intermediaries have been revised and some of them are now samayojaks or coordinators. The farmers using this facility do not have to face the high handedness of the wealthy traders or the harassment at the Mandis. A renewed sense of pride and confidence has been thus enthused in them. The farmers have also been empowered by better and efficient accounting and weighing techniques. Also due to the less number of hands that a crop changes the quality of produce is retained and wastage is lower. The bagging charges and transportation costs are also reimbursed by ITC. Even though ITC does not pay more to the farmers than the prevailing price, the quick and correct recovery of the money post transaction from ITC has enabled farmers to be more self-sufficient and less dependent on money-lenders and other traditional

agricultural intermediaries. Thus with the availability of these online real-time information and transaction systems the farmer has been more empowered than ever before.

This intervention has also generated the concept of a transparent and accountable system at the grass roots.

It must also be noted that this low technology has had a very high impact in terms of number of people addressed, money generated, loss reduction and gains achieved.

Due to the Database and Information building through e-choupals, banks and lending institutions are showing interest in operating in such areas as the records related to credit history, rating and holdings of farmers are being maintained properly. These links could have never been forged earlier. Just as local produce is being carried away from these villages in a reverse mode, fast moving consumer goods, durable products, automotives, banking and insurance services are also moving in to these villages. This is because connectivity of villages has increased and so have the spending power of the local community. This is thus providing the villagers a window to the outside world and the gap in opportunities between the urban and rural parts of India are reducing.

The introduction of e-choupals at numerous locations has ensured a high coverage in the region. Moreover, by using technologies like VSAT and solar powered batteries for electricity, has made this coverage possible in spite of the absence of basic infrastructure. This model is easily replicable too.

The e-choupal web-portal provides a zone for direct communication. The fact that it is in the local language helps even further. Moreover, it has also been reported by ITC, that websites on local news, cricket, entertainment and mobile phones are visited quite often, as are exam result sites. This indicates a new direction in the way the local farmers are beginning to think and learning to appreciate the value of information. Sanchalaks are in addition engaging in exchange of emails with ITC officials and participating in online chats amongst themselves and with ITC officials.

Based on Brown's theory of evaluation of social development programmes, we see that this model has in every way been successful in providing social development and empowerment to the rural population in a quick and easy way, which would normally have taken years to accomplish if at all by huge coverage, setting up linkages between the rural community and the rest of the country and world and setting up a bi-directional communication channel.

In terms of the project's sustainability, profitability and scalability, we have seen that ITC had started this as a measure to ensure a steady supply of quality farm produce for its agro-business division.

Conclusion

This application of Internet in rural India has been able to define a clear value proposition for all participants- farmers, ITC, Mandis, Sanchalaks and Samayooks. It has been able to empower the rural citizens with timely and accurate knowledge, thus also impacting the quality and quantity of crops. It has been able to organize the agricultural market in the villages under its domain despite having to fight the odds of infrastructure, illiteracy and

traditional market intermediaries. The social impact of introducing Internet based technology in agriculture has been tremendous. The e-choupals have been able to provide a window to the world and many opportunities. It has been able to structure and bring in a scientific edge to the old profession and old methods of trading and farming. The greatest contribution has been social empowerment of the villagers. Farmers have been empowered to take an informed decision through a transparent system. Finally this model has also shown how large corporations can blend their commercial ventures with social development projects.

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EFL Pronunciation: Why is it a Peripheral Skill?

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Abstract: English as a foreign language (EFL) pronunciation is still a peripheral and/or neglected skill in the curriculum, syllabus, material, teaching and learning at all the levels of education in Bangladesh and other similar settings though it is an integrated and integral part of EFL learning directly affecting learners' communicative competence as well as performance. Hence, the paper endeavours to examine why the curriculum and syllabus avoid it, why materials exclude it, why teachers ignore it, why teaching EFL pronunciation is important, and why learning EFL pronunciation is important.

Key words: EFL pronunciation, a skill, peripheral, curriculum and syllabus, materials, teachers, teaching, learning

Introduction

Pronunciation in teaching and learning English as a foreign language (EFL) has received diverse treatments from having no room in the synthetic syllabus and the grammar-translation method to being the major focus in the situational syllabus and the audio-lingual method. With the advent of communicative language teaching in the late 1960s (Richards and Rodgers, 2001), the role of pronunciation in the EFL curriculum commenced encountering questions: whether the focus of the programmes and the instructional methods were effective or not. Until then, teaching pronunciation was "viewed as meaningless non-communicative drill-and-exercise gambits" (Morley, 1991, pp. 485-6). However, with a shift of emphasis from specific linguistic competencies to broader communicative competencies (Hymes, 1972) as goals for both the teacher and the learner (Morley, 1991), the need for the integration of pronunciation with oral communication is conspicuously understood.

Since the commencement of use of the communicative language teaching approach in place of the age-old grammar-translation method in teaching EFL at different levels of education, especially primary, secondary and tertiary levels in Bangladesh in the late 1980s, the listening and speaking skills have started gaining some importance alongside the reading and writing skills. Nonetheless, the former ones are still neglected in the instruction and excluded from the assessment system although it is now clearly realized that the learner's communicative competence as well as performance heavily depends on his/her command of all the basic skills of the target language including listening and speaking. And pronunciation has an inseparable link to communication through listening and speaking (Gilbert, 1984, Celce-Muria, 1987).

Notwithstanding, the curriculums, syllabuses, materials, instruction and classroom activities at the primary, secondary and tertiary levels in Bangladesh and in many other EFL settings as well unfortunately hardly have any substantial space for pronunciation. Hence, this paper purports to examine and address five crucial questions related to the treatment of pronunciation in EFL education: (a) Why do the curriculum and syllabus avoid EFL pronunciation?, (b) Why do materials exclude EFL pronunciation?, (c) Why do teachers ignore EFL pronunciation?, (d) Why is teaching EFL pronunciation important?, and (e) Why is learning EFL pronunciation important?

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Why do the curriculum and syllabus avoid EFL pronunciation?

Although some space has now been allowed to EFL listening and speaking skills in addition to EFL reading and writing in the curriculum and syllabus so as to equip learners with command of the four basic skills resulting in communicative competence demanded by real-life situations, EFL pronunciation still appears to be a neglected and/or ignored skill in many EFL settings including Bangladesh.

At the primary, secondary and tertiary levels of education in Bangladesh, an EFL pronunciation course or EFL pronunciation as a topic in the English courses is hardly given any substantial status at all. As is found in China (Cheng, 1998), an English phonetics course is simply left to chance or given no room in the curriculum and syllabus. Likewise, EFL pronunciation is arbitrarily overlooked in Thailand (Wei and Zhou, 2002). And in Mexico, pronunciation is described as “the Cinderella of language teaching”; that means an often low level of emphasis is placed on this very important language skill (Dalton, 2002). EFL pronunciation thus appears to have little room in the curriculum and syllabus. However, several factors might be identified as being responsible for the present peripheral status of EFL pronunciation in the curriculum and syllabus.

Firstly, the absence of EFL pronunciation from the curriculum and syllabus is indicative of the fact that the curriculum and syllabus designer has arbitrarily, deliberately and/or ignorantly overlooked its importance and avoided its inclusion. Secondly, the exclusion of the pronunciation component from the curriculum and syllabus is suggestive of the designer being unaware of learner needs and pragmatic demands, and remaining affected by some stereotyped ideas and traditional curriculum development processes. Thirdly, the curriculum and syllabus designer might have lacked relevant and adequate knowledge, experience, expertise and training needed for carrying out needs analysis, determining objectives, setting goals, selecting content, and grading and sequencing teaching-learning items, which result in the avoidance of the pronunciation skill. Fourthly, the prevailing rivalry between English literature teaching and English language teaching, as is experienced in many educational institutions and seen in many English educators in Bangladesh, might have impact on the designing of the curriculum and syllabus devoid of EFL pronunciation. Therefore, the curriculum and syllabus designer’s qualifications, expertise, training, sincerity and honesty could seriously be questioned.

Why do materials exclude EFL pronunciation?

The locally produced materials, for example, those prescribed for the students at the SSC and HSC level, and/or the imported overseas ones used to teach/learn EFL do not usually incorporate pronunciation components covering segmentals and suprasegmentals though they have some lessons in listening and speaking skills. This indicates that the local materials developers are either unaware of the importance of pronunciation or incapable of designing pronunciation materials or just blindly confined to the curriculum and syllabus devoid of pronunciation components.

Further, the overseas materials incorporating no pronunciation tips and lessons attract our teachers and others concerned because very many of them do not have any formal and adequate training in English phonetics and phonology as well as EFL pronunciation teaching. It has to be noted here that most of the resource persons involved in writing materials in Bangladesh have literature background, and consciously and/or jealously marginalize EFL listening and speaking skills, especially EFL phonetics and phonology indispensable for enhancing pronunciation skills.

Why do teachers ignore EFL pronunciation?

In the EFL settings like Bangladesh, most of the English teachers have literature background, have hardly studied any courses in phonetics and phonology, and have had little training in EFL pronunciation. Hence, they do not possess useful strategies or techniques for teaching EFL pronunciation in the classroom situation. As they do not know what strategies are appropriate when they meet a specific problem related to pronunciation, they simply avoid pronunciation instruction in the classroom by employing shrewd tricks. Dalton (2002) explains this fact by maintaining:

We are comfortable teaching reading, writing, listening and to a degree, general oral skills, but when it comes to pronunciation we often lack the basic knowledge of articulatory phonetics (not difficult to acquire) to offer our students anything more than rudimentary (and often unhelpful) advice such as, ‘it sounds like this: uuuh.

Besides, the curriculum and syllabus as well as material, for example, those used for the students at the SSC and HSC level in Bangladesh, rarely include any component of EFL pronunciation. This factor allows and encourages the teachers exclude pronunciation skill from their instruction. Furthermore, as in Taiwan, some teachers in Bangladesh might argue that English pronunciation is not important at all, for very few tests would require students to show abilities related to pronunciation or speaking (Lin, Fan and Chen, 1995).

Why is EFL pronunciation teaching important?

Whether teaching EFL pronunciation is useful or not is a widely debated issue amongst second/foreign language practitioners, researchers and exponents. Purcell and Suter (1980, p. 286), on the one hand, opine that pronunciation practice in the class has little effect on the learner’s pronunciation skills and, moreover “that the attainment of accurate pronunciation in a second language is a matter substantially beyond the control of educators”. On the other hand, Pennington (1989) questions the validity of Purcell and Suter’s findings, and states that there is no firm basis for asserting categorically that pronunciation is not teachable or it is not worth spending time on teaching pronunciation. However, Stern (1992, p. 112) maintains “there is no convincing empirical evidence which could help us sort out the various positions on the merits of pronunciation training”.

Varonis and Gass (1982) investigate the factors affecting listening comprehension in native speakers of English exposed to L₂ accents, and conclude that grammar and pronunciation interact to influence intelligibility. Likewise, Nooteboom (1983) postulates that speech production is affected by speech perception, and stresses the need of pronunciation in both listening and speaking. Wong (1987) points out that even when the non-native speakers’

vocabulary and grammar are excellent, if their pronunciation falls below a certain threshold level, they are unable to communicate efficiently and effectively. Gilbert (1995, p. 1) believes that the skills of listening comprehension and pronunciation are interdependent, and contends “if they (learners) cannot hear well, they are cut off from language. If they (learners) cannot be understood easily, they are cut off from conversation with native speakers”.

Moreover, Wong (1993) argues that the importance of pronunciation is even more distinct when the connection between pronunciation and listening comprehension is taken into consideration. Scarcella and Oxford (1994) similarly propound that pronunciation should be taught in all second/foreign language classes through a variety of activities. With the emphasis on meaningful communication and Morley's (1991, p. 488) premise: "intelligible pronunciation is an essential component of communication competence", teachers should include pronunciation in their courses and expect their learners to do well in them. Therefore, we should countenance what Morley (1991) puts forward: The question is thus not whether EFL pronunciation should be taught, but instead what should be taught in a pronunciation class and how it should be taught.

Why is EFL pronunciation learning important?

Learning pronunciation is as important as learning other aspects and categories of EFL so as to master the basic skills contributing to acquiring communicative competence necessary for encoding and decoding information in day-to-day life communication. In this connection, we could consider Tench (1981, p. 1) who rightly maintains:

Pronunciation is not an optional extra for the language learner, any more than grammar, vocabulary or any other aspect of language is. If a learner's general aim is to talk intelligibly to others in another language, a reasonable pronunciation is important.

According to Baker (2006), pronunciation is very important, and learners should pay close attention to pronunciation as early as possible. Otherwise, the result will be that advanced learners find that they can improve all aspects of their proficiency in English except their pronunciation, and mistakes which have been repeated for years are impossible to eradicate. Moreover, pronunciation is definitely the most prominent skill that people notice when a person is speaking. Let us think the anecdote (2007) over:

Whenever I spoke to a person in America, they kept asking me "What? What?". I would repeat my sentence again and again. Finally they would say "Ah-ha!" and then say my sentence, using exactly my words! It was very humiliating. I knew my words and grammar were good, but nobody would understand me, just because of my pronunciation (Antimoon.com).

That is, pronunciation enjoys an important social value (Gelvanovsky, 2002), which indicates that it should be related to prestige of the speaker. Similarly, Hayati (2010) holds that a very important factor influencing the value of correct pronunciation arises from the society's needs and attitudes.

Furthermore, Wong (1993) demonstrates that a lack of knowledge of pronunciation could even affect learners' reading and spelling. To lend support to Wong (1993), we could consider Fraser (2000, p. 7) who opines that "with good pronunciation, a speaker is intelligible despite other errors; with poor pronunciation, a speaker can be very difficult to understand, despite accuracy in other areas". That is to say, learning pronunciation is as essential as learning the other skills of EFL for the learner to have a balanced and inevitable command of the language reflected in his/her listening, speaking, reading and writing.

Conclusion and Suggestion

It is thus conspicuous that the EFL curriculum and syllabus designers, materials writers and teachers for the students at the primary, secondary and tertiary levels in Bangladesh as well as other similar settings avoid and exclude the pronunciation components due to arbitrariness, indifference, ignorance, incompetence, lack of qualifications and expertise, inefficiency, and/or professional rivalry. However, like other aspects and categories of EFL such as reading, writing, grammar, vocabulary and so forth, pronunciation is essential for communication through listening and speaking in real-life situations.

Therefore, the persons concerned with making policies, adopting decisions and appointing curriculum and syllabus designers and materials developers should ensure the qualifications and competencies of the experts so that they can design the curriculum and syllabus in the light of the learners' needs and interests as well as pragmatic demands, and prepare the materials based on the goals and objectives defined and set in the curriculum and syllabus. In addition, the teacher should first have EFL background, then academic and professional qualifications, and finally sufficient training and expertise in applied linguistics and English language teaching so that he/she can work as a resource person possessing the combined qualities of a needs analyst, a manager, a counsellor and a facilitator, and imparting all the skills of EFL encompassing pronunciation to the learner.

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Human Resource Accounting Techniques in Bangladesh: The case of AB Bank Limited and City Bank Limited

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Abstract: Human Resource Management (HRM) is the term used to describe formal systems, devised for the management of people within an organization and to maximize the productivity of that organization by optimizing the effectiveness of its human capital. To evaluate employee effectiveness (knowledge and skills) and to make efficient human resource decision through finding out the proper human capital value, the concept of ‘Human Resource Accounting’ is introduced. Therefore, Different techniques and methods have already been proposed and being used for reporting the human resource value. The paper is to make a review on those HRA techniques regarding international standards and to investigate the pattern of HRA disclosure of Bangladeshi Banks, specifically the case studies of AB Bank Limited and City Bank Limited. As such the study has been undertaken to bridge between theoretical and empirical situation of two banks of the country.

Key Words: Human Resource (HR), Human Resource Accounting (HRA), Human Capital, Human Resource Valuation, Human Resource Disclosure

Introduction

Every business requires physical assets as well as human resources. Physical assets like building, plants, machines, offices, computes, etc. are unproductive without the human resources. M. Narayanankutty defined human resources as the energies, skills, talents and knowledge of people, which potentially can be applied to the production of goods or rendering useful services. Success of the organization is contingent on the quality of the human resource. According to Schultz (1961), human resource can be defined as the abilities and skills of a certain group of people or an individual person that have economic value. Thus, all the plans, policies, and strategies are initiated, performed, executed, implemented, managed, and controlled by the workforce. Therefore profitability, productivity, solvency, and efficiency of any organization is largely depends upon the human resources. The Resource Theory (Conner, 1991) considers that the competitive position of an organization depends on their specific asset that is human resource. Archel (1995) added that it is the human resource that makes all the difference. Human capital is the stock of accumulated knowledge, skills, experience, creativity and other relevant workforce attributes, Nalbantian et al (2004) defined. This capital comprises three components, according to Flamholtz: the value of the knowledge and skill of its workforce as individuals, the differential performance value of people working as a true team or traditional group instead of as a set of individuals, and the differential economic value of a strong corporate culture.

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Human resource accounting, according to Flamholtz, is accounting for people as organizational resource. In 1691, Sir William Petty firstly developed the concept of Human Resource Accounting (HRA), although research into true HRA began in the 1960s by Rensis Likert, which has led many others to evaluate the accounting of human resources (Edmonds & Rogow, n.d.). He stressed the importance of long-term planning of human resources qualitative variables that results greater benefits in the long run. Becker (1964) defined human capital as the productive capabilities of people. In 1965, Cronbach & Glaser and Naylor & Shine developed models for estimating the financial utility of personal selection. According to American Accounting Association (1970), human resource accounting is the process of identifying and measuring data about human resources and communicating this information to interested parties. Thus human resource Accounting would measure all the data relating to people of an organization, which will be helpful in making relevant decisions regarding internal and external matters. Likert and Pyle (1971) identified three objectives of HRA: furnishing cost value information for making management decision, providing a sound and effective basis of asset control, and monitoring effectively the use of human resources. To embrace both human resource accounting and utility analysis, Grojer & Johanson (1996) used the concept Human Resource Costing and Accounting (HRCA). They expressed the management orientation of HRA even more clearly in the assertion that HRA concerns the management of human resources. Roslender (1997) proposed a societal approach to the subject. He uses the term human worth accounting.

Objectives of the study

The study has been undertaken with following objectives:

- i) to evaluate human resource accounting process and international financial reporting standards;
- ii) to assess the need of applicability of HRA in various companies Bangladesh.
- iii) to provide some suggestions to develop proper HRA strategy in different companies.

Methodology of the study

The study was based on secondary sources. It used Annual reports of two banks as well as collect information from internal sources. Moreover, consult different books, journals and Internet were used .Exact sources were mentioned. Time period of the study was from July 2011 to September 2011.

Human Resource Accounting (HRA) and International Financial Reporting Standards (IFRS)

In recent years, organizations have been moving toward adoption of more complex measurement methods in financial reporting compared with the traditional historical cost approach to asset measurement, including a focus on the measurement of the time value of money and present value calculations. Meeting, Luecke & Garceau (2001, p. 57) indicate that in many cases the expected cash flow approach is a better measurement tool than traditional methods, and that CPAs should use it to report asset and liability values in the absence of specific contractual cash flows. Certain current assets are now reported at their fair market

values at each balance sheet date, and many items on the balance sheet that are noncurrent are measured at the present value of the estimated future cash flows. Campbell, Owens-Jackson, & Robinson (2008, p. 31), note that fair value accounting, which SFAS No. 157 requires in some areas of financial statement reporting starting in fiscal years beginning November, 2007, attempts to calculate and report the present value of future cash flows associated with an asset or liability. As accountants have become more accustomed to complex measurement approaches, some similar to the approaches taken in developing HRA value measures, it seems reasonable that non-traditional HRA measures may become more accepted in future financial reports. In addition there has been increased interest in accounting for intangible assets in financial reporting by both the Financial Accounting Standards Board and the Securities and Exchange Commission. As noted in Flamholtz, Bullen & Hua (2002, p. 948), since human resources are a primary component of intangible assets, the state is being set for a renewed interest in HRA from a financial accounting perspective standards affected by these developments. In fact, the Securities and Exchange Commission (January 4, 2008) announced in November 2007 that non-U.S. companies listed on the U.S. stock exchanges could use International Financial Reporting Standards (IFRS) instead of U.S. GAAP, and if they choose to use IFRS, would no longer be required to provide a reconciliation between their reported numbers and U.S. GAAP. However, in recent months, the adoption of the IFRS by U.S. companies has been strongly debated, and it will be seen in the years ahead whether this materializes. Yet, the consideration of international reporting standards is another indication that the environment for financial accounting reporting is one that potentially encourages the consideration of alternative measurement and reporting standards. Since 2001, the International Accounting Standards Board (IASB) has been developing and promulgating the IFRS (International Accounting Standards Board, 2009). Prior to 2001, the International Accounting Standards Committee (IASC) issued International Accounting Standards (IAS), which were adopted initially by the IASB when it replaced the IASC. While the IFRS do not currently have standards requiring HRA, it could be argued that they are moving closer to providing more flexible approaches to accounting measurements and reporting.

HR in the Financial Statements (Profit & Loss Account and Balance Sheet)

Generally Accepted Accounting Principle (GAAP) treats most human capital related costs as expenses, instead of assets due to future benefit uncertainty, conservatism, and ethical issue. In addition, as far as the statutory requirements go, the Companies Act 1956 does not demand furnishing of HRA related information in the financial statements of the companies. The Institute of Chartered Accountants of India too, has not been able to bring any definitive standard or measurement in the reporting of human resources costs. While qualitative pronouncements regarding the importance of human resource is often made by the chairmen, in the company's Annual General Meeting, quantitative information about their contribution is rarely recorded or communicated.

More specifically, although an accountant always views an asset as something with a value on the balance sheet, only the procurement/maintenance cost of HR is accounted in the balance sheet and not the asset value. The value of the organization is understated if the value of human resources is not recognized on the financial statements (Edmonds & Rogow, n.d.). To set the things in the right perspective, one school of thought emphasizes the need for incorporating the asset value of HR in the balance sheet. Ripoll and Labatut (1994) identified

two reasons: people are a valuable resource as long as they perform services that can be quantified, and the value of a person as a resource depends on how people are employed which is influenced by the management style. Flamholtz says that People are assets to be employed or used in an optimum manner instead of expenses to be minimized. Here the costs associated with HR are recruitment cost, selection cost, contracting cost, placing cost, training cost, orientation cost, promotion cost, improvement cost, substitution cost, opportunity cost, exit cost, rewards and benefits cost, facilities cost, health and safety cost, consultation and communication cost, severance cost, and so on. Yet, Kearns (2005b) believes that people are value adders, not overheads.

Human Resource Accounting Reporting Variables and Medium of HRA Reporting

Human Resource Accounting (HRA) can be examined from two dimensions: the investment in human resources; and the value of human resources. The expenditure incurred for creating, increasing, and updating the HR quality is known as investment in human resources. The yield that the investment in HR generates will be considered as the basis of human resource value.

HRA involves accounting for the company's management and employees as 'human assets' or 'human capital' that provide future benefits. HRA reporting, in Bangladesh, is a very new concept and it is still in primary stage. Though this is not mandatory for the Companies in Bangladesh to disclose HRA information, many of them are making some HRA disclosure voluntarily. The useful variables of HRA Reporting are as follows: Separate HRA statement; Total value of human resource; Number of employees; Human resource policy; Training and development; Management succession plan; Employment report; Employees' value addition; Human resource development fund; Employees/workers fund; Employees' categories; Managerial remuneration; Retirement benefits; Performance Recognition; Superannuation fund; Other employees' benefits

HRA mainly focuses on the accounting of costs of acquiring personnel along with the programs adopted to enhance personnel efficiency. Users get that information from the following documents, which the firms use as the Medium of HRA Reporting: Profit and Loss Accounting; Notes; Directors' Report; Managing Director's Report; Chairman's Report ;Profile of Business; Credit Rating Report

Methods of Human Resource Accounting (HRA)

Once human resources are recognized as an asset, the biggest challenge is determining the value of the asset. Huixian Yu listed two kinds of human resource evaluating methods: cost method (including historical cost method, up-to-date replacement cost method and opportunity cost method), and value method (including time-adjusted-future return method, re-adjusting time-adjusted-future return method and value index method). Method(s) should be selected and used by considering the user's information needs (Ebersberger, 1981). The useful HRA methods are discussed in the next:

- 1. Historical Cost Method** was developed by R. Lee Brummet, Eric G. Flamholtz and William C. Pyle to measure a firm's investment in human resources. The HR costs are current sacrifices for obtaining future benefits and therefore to be treated as assets. The method suggests capitalizing the firm's expenditure on recruitment, selection, training

and development of employees and treating them as assets. Under this method, capital expenditure on human assets is amortized over an expected life of human assets. When employee is leaving early than unrecovered, will be treated as loss and charged to Profit and Loss Account.

The method is one of the popular methods because of its similarities to normal accounting procedures. Here, training cost would include anything associated with the current job and it would be expensed. Educational costs would be anything associated to the preparation or advancement, and these costs would be capitalized. Another approach that could be used includes all the costs of recruiting, testing, training, and development. The decision of whether to capitalize or expense is based on how long the cost will benefit the company. If the cost will lead to a benefit for longer than twelve months, then the cost will be capitalized (Edmonds & Rogow, n.d.). Its advantage is that the data are objective, approvable and based on the original documents. Nevertheless, historic costs do not represent the worth of an employee; they are merely an assessment of past costs.

2. **Replacement Cost Method** was developed by R. Likert and E.G. Flamhottz. Replacement costs can be defined as the costs that would be encountered today to replace current human resources (Tang, 2005). All the costs of replacement are considered here when an employee is replaced with a person of equal ability. Replacement costs includes: the cost of hiring new employees for existing jobs, the cost of training new employees to the proper level, and the cost of moving employees to new positions or out of the company. The method is based on solid facts: the costs of recruiting and training. Replacement costs are based on the current value of an employee to a company. This value is the present value of the future services that an employee is expected to provide (Edmonds & Rogow, n.d.). Due to the inability of historic cost to aid in making decisions concerning the present and future, some prefer this method (Edmonds & Rogow, n.d.).
3. **Substitution Costs:** Likert (Bowers) imagines an extreme situation for the firm's management. "Suppose that tomorrow all the jobs are empty, but you still have available all the rest of the resources: buildings, factories, industrial plants, patents, stocks, money, and so on; except, of course, for the personnel. How much time would it take you to recruit the necessary personnel, train it until they are able to assume all the existing functions at the present competitive level and integrate it in the organization in the same way they now are?" The mental exercise necessary to rebuild an organization is an excellent way to attract attention to human resources. Certainly, Professor Likert's fiction includes the implicit posing of human resource valuation under substitution (or replacement) cost criteria. To calculate substitution cost, figure in the cost of sacrifice to replace an employee that is already employed. This cost includes exit costs of the leaving employee and recruiting and training of the replacement.
4. **Opportunity Cost Method** was developed by Hekimian and Jones. They considered the opportunity cost as an asset value when the target of an alternative use. Only scarce human resources would have value at any particular point of time. Cost valuation is based upon the conflict of interest that can take place in a firm's internal, fictitious market where several organizational units (divisions) participate. These units must be profit centers, i., their objectives must be expressed in terms of profitability. Clearly, this method envisages computation of monetary value and allocation of people to the most

promising activity and thereby assesses the opportunity cost of key employees through competitive bidding among investment centers. The method is based on the economic loss when the staff left the certain position in the enterprise. The opportunity cost is much closer to the human resource economic value than the previous two methods.

5. **Competitive Bid Price Method** is developed by Hekimian and Jones. Under this method, human resources are valued on the bidding cost. Only scarce work force or employees are considered under this method. The value of human assets is determined by capitalizing the total of bid prices of all the scarce employees in the company. The approach proposes the capitalizing of additional earning potential of each human resource within the company. Hekimian and Jones propose that the competitive bidding process is closely related to the concept of opportunity costs. An investment center manager, bidding for scarce employee in demand, determines the value of human resource.
6. **Behavioral model** aims to establish a set of casual variables through psychosocial test results reflecting the appreciating or depreciating condition of human organization as reflected by a set of intervening variables, which in turn, are likely to result in the achievement of the end result variables. The investments in HR value have been proposed to be amortized over the years in tune with the condition of the human organization.
7. **Total Organizational Method** takes the value of the company as a whole and divides it between the different inputs to the company, and then it divides the amount associated with labor between the different clusters of employees in the company.
8. **Stochastic Rewards Valuation Model** calculates the value of an employee as the discounted sum of values of the 'service states' that the individual will occupy during his/her career with the organization (Dawson, 1994). The model requires five different pieces of information:
 - the mutually exclusive service states that the individual may occupy within the organizational system;
 - the value of each of these service states to the organization;
 - the estimated tenure of the person in the organization;
 - the probability that the individual will occupy each service state at specified future times; and
 - the discount rate to be applied to future cash flows to determine their present value.

Some of this information may be difficult to determine, such as the value of the service states. The creator of this model, Flamholtz, recommends using his 'price quantity method' or 'income method' to determine the values of service states. Flamholtz's Price Quantity Method requires determining what the product of the price per unit of human services and the quantity of the services. Income Method requires predicting the expected earnings of a firm, allocating them between human and other resources, and further allocating them among specified people.

9. **Standard Cost Method** was developed by David Watson. Standard costs of recruitment, training and professional growth for each grade or categories of employees are determined annually and it is compared with the actual cost after recruitment and

replacement. The total standard cost for all personnel of the company is the value of human resources. Variance, if any, is charged to profit and loss account.

10. Current Purchasing Power Method: investment in human assets or workforce is converted into the current purchasing power of money with the help of index number. It is difficult to find suitable index in the changing scenario. Therefore, this method may not be representative of actual value of human resources.

11. Acquisition Costs and Learning Costs Method: According to Flamholtz's model (1973, 1999, p. 59), original HR costs may be explained in terms of two major categories of costs: *acquisition costs* and *learning costs*. In HRA system, these costs are reported in asset accounts with future economic benefits rather than as expenses.

Acquisition costs (direct costs of recruitment, selection, placement; and indirect costs of promotion or hiring within the firm) are capitalized and written off over the expected useful life of the employees. If personnel leave before the anticipated period of service, the unamortized portion of costs remaining in the company's books is written off against the Profit And Loss Account in that year. On the other hand, amortization of costs is rescheduled if the period of service exceeds the anticipated time.

Learning costs include the direct costs of formal training and orientation and on-the-job training. From the Management Accounting point of view, an accurate estimation of the learning factor is essential to obtain a good prediction of the product cost and is important in the labor force. On the other hand, the enterprise can make decisions about its HR investments if it knows which benefits will be reported. In this sense, the learning factor or experience curve provides information for decision-making and resolution of problems regarding the rising costs of the labor force where new fabrication processes or specialized jobs are important.

12. Economic value models: Flamholtz (1999, p. 160) noted that the concept of HR value is derived from general economic value theory, and like all other resources people possess value because they are capable of rendering future service. Thus an individual's value to an organization can be defined as the present value of future services the individual is expected to provide for the period of time. Lev and Schwartz advocated the estimation of future earnings during the remaining life of the employee and then arriving at the present value by discounting the estimated earnings at the employee's cost of capital. The method considers the probability of the person dying before the retirement age. Flamholtz proposed HR value on parance with the roles the employees perform, which is in accordance with the service state they occupy. The model also considers the present value of the future services at different service states and takes into consideration the migration of an employee from one service state to other.

Harmonson advocated the HR value as the present value of the future wages payable for the next five years discounted at the adjusted rate of return. The adjusted rate of return is the average rate of return on the owned assets of all firms in the economy multiplied by efficiency ratio of the organization. This method attempts to bring into question the effectiveness of ROI of the industry on the assumption that there are no extraneous factors and that the results were due to efforts of the employees.

13. Non-monetary Measures of HR may refer to a simple inventory of skills and capabilities of people within an organization and to a list of professional credentials of key personnel within an organization. It is the application of some non-monetary behavioral measurement techniques like- performance evaluation, assessment of potential, attitude measurements for assessment of the contributions of various individuals or groups to an entity. The approach appears to have substantial promise for successfully measuring all elements of the employees' total value to an entity.

Case Studies on Bangladeshi Banks

Moore (2007) suggests that the value of human capital should be more fully considered when making decisions about the acquisition and disposal of people and he notes that the accounting practices currently employed by companies can have an undue influence in driving the strategic decisions of these companies. By considering Moore's suggestion, we have tried to find the strategic decisions on productivity of human capital of two Banking organizations (*Arab Bangladesh Bank Limited* and *City Bank Bangladesh Limited*) of Bangladesh.

The Case of Arab Bangladesh Bank Limited:

AB Bank Limited, the first private sector bank was incorporated in Bangladesh on December 31 1981 as Arab Bangladesh Bank Limited (ABBL) and started its operation with effect from April 12, 1982. AB Bank is a corporate and trade financing bank. In 2001, Bank took a step forward starting Merchant Banking Operation through a separate Wing. Subsequently, bank also got access to Brokerage business through utilization of Brokerage License of Arab Bangladesh Bank Foundation (ABBF). *'To be the trendsetter for innovative banking with excellence and perfection'* – is the vision of ABBL. They believe in the level of dedication, professionalism, winning spirit and drive to achieve as the most significant factors toward the success of the bank. Therefore, ABBL values compliance to national policies, customers, shareholders, and their team members. They provide secured and satisfied employment and ensure the contribution of each individual to the success of ABBL. For the success of ABBL, one of the key operational indicators is *'productivity of the employee'* that is shown in the Table-1.

Table – 1: Improvement of Arab Bangladesh Bank Limited in 2009 and 2010.

Taka in Million

	2010 (tk.)	2009 (tk.)	Growth (%)
Operating Profit per employee	0.37	0.30	24%
Net Profit after Tax per employee	0.18	0.17	7%
Total Asset per employee	6.62	5.48	21%

(Source: Annual Report of Arab **Bangladesh Bank Limited 2010**)

While preparing the financial statements, ABBL applied most of the Bangladesh Accounting Standards (BAS) and Bangladesh Financial Reporting Standards (BFRS) as adopted by the Institute of Chartered Accountants of Bangladesh as applicable to the Bank. From Table-1, it

is clear that HR Strategy of ABBL is to ensure sustainable growth through steady and stable value creation for all the stakeholders including the employees. According to Notes to the Financial Statements (Annual Report 2010), among all other BAS, ABBL complied with ‘Employee Benefits (BAS-19)’ and ‘Accounting and Reporting by Retirement Benefit Plans (BAS-26)’. The bank also reported its operations under two business segments (ABBL and Subsidiaries) as per BFRS-8 “Operating Segment”, where they shown the *Salary and Allowances, Directors’ Fees, and Auditors’ Fees* as Operating Expenses of ABBL. In addition, ABBL uses all the Medium of HRA Reporting, but not expresses all the HRA Reporting Variables, this paper mentioned in earlier section.

The Case of City Bank Bangladesh Limited:

City Bank is a top bank among the oldest five Commercial Banks operating in Bangladesh, which started their journey on 27 March 1983. To be the leading bank in the country with best practices and highest social commitments, the Bank is operating four distinct business divisions - Corporate & Investment Banking, Retail Banking (including Cards), SME Banking, and Treasury & Market Risks. Although the bank is aggressive in banking and self-driven, they empower people, create leaders and drive change. Therefore, the human resource-oriented mission of City Bank is to maintain the high moral and ethical standards, to ensure participative management system and empowerment of human resources, and to nurture an enabling environment where innovativeness and performance are rewarded.

City Bank treats people with respect and dignity. The bank believes in putting the right people at the right place. In most part of 2011, their 2685 employees worked together to make possible the technological advancement, expansion and modernization that the bank set to achieve and to anticipate the customers’ needs and ensure their satisfaction. Sustainable business growth, dynamic and talented human capital, excellent risk management, involvement of mid level management in the decision making processes and an efficient IT platform – City Bank prioritizes these factors that created a solid foundation already. These key strengths provided the reason for The Asian Bankers to recognize City Bank as “*The Strongest Bank in Bangladesh-2010*”. The bank is now improving the quality of human resources by strengthening their competencies that is shown in the following Table 2 and Table 3.

Table 2: Quality Improvement of Human Resources

Details	2010	2009
Operating Profit per employee (Taka in Million)	1.50	0.90
Operating Profit Ratio (Percentage)	56.2	51.6

(Source: Annual Report of City Bank Ltd. 2010)

Table 3: Operating Performance Ratio per Employee

(Taka in million)

Details	2006	2007	2008	2009	2010
Total Operating Income per Employee	1.30	1.30	1.60	1.80	2.70
Operating Profit per Employee	0.80	0.60	0.80	0.90	1.50

(Source: Annual Report of City Bank Ltd. 2007, 2009, **2010**)

City Bank believe that HR is to keep the wheels of the business rolling in the right direction and with the desired pace. Therefore, they developed the Management Trainee Program to develop a strong pool of future leaders. The total number of employees at December 31, 2010 stood at 2685 compared to 2,424 in 2009. 552 employees were hired in the year 2010 alone. 662 employees participated in 79 training programs, of which 54 were local public courses and 25 were international programs. Also, a number of local and foreign training programs were organized to improve the skill-set of SME team members with focus on sales techniques, financial analysis, and business health assessment. It is to be noted that information provided by the Directors was qualitative, not quantitative; although the bank is entitled to show remuneration of employees as well as managers in the Income Statement as Operating Expenses (shown in the Table 5).

Table 5: A Shorter View of Income Statement for the Year Ended 31 December 2010

Particulars	2010 (Taka)	2009 (Taka)
Total operating income (A)	7,301,070,396	4,367,880,343
Salaries and allowances	1,649,083,246	1,194,956,965
Chief Executive's salary and fees	13,320,400	11,304,000
Directors' fees	937,000	536,000
Auditors' fees	906,500	365,750
Total operating expenses (B)	3,200,831,687	2,112,244,711
Net Profit (C = A - B)	4,100,238,709	2,255,635,632

(Source: Annual Report of City Bank Ltd., 2010)

The Bank is committed to practice a fair flexible remuneration policy, which covers all regular employees. The Board is the final authority for approval of this policy; and hence the Board amends and reviews the policy on recommendation of the Managing Director / Management Committee periodically. They review the Gross Salary Range at least once every two/three years. Human Resources Division (the Strategic partner of City Bank)

facilitates this exercise based on the changes in the market. Table 4 shows the Gross Salary Range and Salary Breakdown (of Employees and Mangers) practiced by City Bank during the year 2010.

Table 4: Salary Breakdown of City Bank Limited during 2010

Components	EVP & SEVP	AVP up to SVP	Up to SEO
Basic	54.00%	54.00%	54.00%
House Rent	25.00%	27.00%	27.00%
Medical	10.00%	8.00%	4.00%
PFT	11.00%	11.00%	11.00%
Conveyance	0.00%	0.00%	4.00%
Gross	100.00%	100.00%	100.00%

(Source: HR Service Excellence: Learning Module, Compensation & Benefits Policy, City Bank Limited, Mimeo)

The following value added statement shows the total wealth created, how it was distributed to meet certain obligations and reward those responsible human resources for its creation, and the portion retained for the continued operation and expansion of the Bank.

Table 6: Value Added Statement for the Year Ended December 31 2010 (figure in Million)

Details	2010 (Tk.)	(%)	2009 (Tk.)	(%)
Total Operating Income	4,888	100	2,733	100
Distribution of Value Addition:				
To Employees as Salaries & Allowances	1,663	34.01	1,206	44.14
To Shareholders	1,849	37.83	819	29.96
To Govt. as Income Tax	1,150	23.53	569	20.83
Depreciation	226	4.63	139	5.07

(Source: HR Service Excellence: Learning Module, Compensation & Benefits Policy, City Bank Limited, Mimeo)

Like Arab Bangladesh Bank Limited, City Bank also uses all the Medium of HRA Reporting, but not expresses all the HRA Reporting Variables. According to International Financial Reporting Standard (IFRS) – 2, the organizations have to pay their managers a ‘Share-based Payment (effective from 2005)’. It was adopted by Bangladeshi Standards in July 2006 and had been effective from January 2007 (Standards Forum Bangladesh, 2009). But in this issue of Share-based Payment, we observed that both the banks are not following the Standard. Moreover, City Bank has no strict Rewarding Policy, which is one of the causes of Global Financial Crisis, according to Wise and Ali (January 2011).

Concluding remarks and Recommendations:

Without the inclusion of the value of HR in the Asset side of Balance Sheet, the true financial position of the firm is not reflected. The application of HRA will also undoubtedly improve the quality of Financial Accounting, although the economic value of HR cannot be measured accurately, through HRA. The actual reason is the uncertainty in human life and the high employee mobility. In addition, there is no uniformed standard for HRA unlike Financial accounting and no specific and clear-cut guidelines for calculating ‘cost’ and ‘value’ of human resources of an organization. Therefore, it is difficult to determine the actual value of HR through those methods discussed in this paper.

Now a days, many firms developed their own methods for calculating the value of HR and also disclosing their HRA report by using different HRA techniques, which are suitable to them. However, the experimental part of this paper reveals that none of the companies discloses all the human resource accounting information items. More emphasis should be given in the companies to apply international standard of human resource accounting system in Bangladesh. Further research can be done focusing on the pattern and trend of HRA disclosure of Bangladeshi companies by randomly selecting the sample size for collecting HRA information.

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Medium of Instruction at Private Universities in Bangladesh: A Reflective Analysis

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Abstract: *English is the official medium of instruction at most private universities in Bangladesh. There are some clear reasons for using English as medium of communication at tertiary level. However, there are controversies over whether Bangla or English should be used as language of instruction in the classroom. This paper analyzes performance of Bangla speaking students who use English as a foreign language in Bangladesh. A pilot survey conducted among teachers and students suggested that English language use may adversely affect performance of tertiary level learners. Analysis of students' breakdown of grades reveals that there are strong possibilities that students perform well when Bangla is used instead of English for lectures and discussions in classes. Consequently, it is proposed that that English learning should be practiced outside the curriculum. Moreover, this paper attempts to justify why Bangla should be preferred to English as a medium of communication in the classroom.*

Keywords: Bangla, English, Private Universities, Bangladesh

Introduction

Bangladesh is one of the monolingual states in the world with the native language Bangla, used by 98% of the population; there are other native languages apart from Bangla such as Urdu, Monipuri, Chakma, Santali, Garo, Rkhain and Tipra (Hasan, 2011). It is evident that in higher institutions of learning like universities and colleges, English has commonly been used as a medium of communication for a long period of time. However, research done suggests that English hampers effective teaching and performance. As a matter of fact, students adhere better to lectures when it is given in a native language like Bangla than English. Both teachers and students have given their opinions regarding their preferred language for communication in the classroom. Moreover, it is irrational to think that a “computer science” course taught in English will meaningfully improve English language skills of Bangla speaking students. Others recommend that English language skills should be taught outside the curriculum. This paper argues that Bangla may be preferable to English as a medium of instruction in classroom teaching.

Objectives of the study

The general objectives of the study were to assess (1) the opinions of the experts on the medium of instructions in the class, (2) students' and teachers' experiences with English as the medium of instruction in the classroom, and (3) recommend policy changes involving the medium of instruction in the private university classroom.

Methodology

In regards to the methodology for the study, a qualitative research was adopted because of the descriptive nature of the topic. The topic of language in the classroom is descriptive in nature, thus calling for qualitative responses. In relation to the diverse nature

of the topic, this research was designed to help mobilize adequate information for addressing all aspects of the topic. Through qualitative research design, the participants were offered a chance to present their opinions. Both primary and secondary data was incorporated in the study. This helped in provision of sufficient data for addressing the research topic and questions. Through qualitative research design, the participants were given the opportunity to present their opinions. This is unlike the adoption of quantitative data, which relies more on statistical data.

Primary data were collected from a focus group (2011), two surveys of students and teachers (2011), and student grade records (2009-10) of Presidency University. The focus group composed of five expert teachers from BUET, University of Dhaka and Presidency University who were involved in curricula design. The surveys involved 20 teachers and 100 students from five private universities

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(Presidency University, Dhaka International University, Atish Dipankar University of Science and Technology, South East University and East West University) who were randomly selected and were given two sets of questionnaire designed to determine their opinions regarding the classroom language. For the secondary data, scholarly articles and text books related to language and education were used as source.

Potential reasons for making English the official language at private universities

English has been used in the Bengal region since the British merchants entered the subcontinent (Bangladesh, 2011). Large scale use of the language was triggered by the establishment of colonial schools in the 17th century (Banu & Sussex, 2001); it became the first foreign language widely known amid native languages because of the commercial and political activities of the British. The language is taught as a compulsory subject in many public and private academic institutions. The main reason why English became popular in Bangladesh is that it proved expensive to publish books in Bengali for learners to use. Pragmatically, forcing students at the tertiary level to study in Bangla would land them in many challenges since there are inadequate academic resources in the language (Hasan, 2011), while most of the reference sources and informative materials are commonly available in English. It was found necessary for higher institution to use English in research specifically in science, technology and humanities.

Additionally, if students lack proficiency in English, it would be impossible for them to interpret information into their native language (Banu & Sussex, 2001). Just like other countries have done, there is need to have some medium of translation where a common language is chosen for use. This allows students to quickly advance their knowledge and skills. The need for a common language for translating research information and books has contributed to the growing necessity to increase application of English both nationally and globally (Banu & Sussex, 2001). Furthermore, globalization is a factor that has made English to be commonly used in tertiary institutions in Bangladesh. Learners need not to be left out in terms of cultural, scientific, technological and academic exposure in the external world. Consequently, universities aim at exposing their students to educational opportunities abroad where English is the common language of communication. Moreover, this makes

learners to be dynamic in policies and practices whenever they are in foreign countries. In other words, English allows students to effectively compete globally for skills gained in various academic disciplines (Hasan, 2011).

A focus group of experts, who are involved with private universities in Bangladesh, suggests that there are several possible reasons for making English language the medium of instruction in private universities (Appendix A). The reasons are: (1) English medium education opens the door to greater employment opportunity, (2) it may help gain international acceptability, (3) the perception that higher education “should” be in English, (4) almost all advanced texts are in English, and (5) it increases social status (They pointed out that people may not admit this publicly).

To provide a contrast, or as a side note, it should be pointed out that there is no governmental requirements or encouragement for making English the medium of instruction in educational institutions of Bangladesh; on the contrary, the constitution of Bangladesh and several commissions recommend the use of Bangla as medium of instruction (Hasan, 2011).

In deciding the language of instruction in a real classroom, regardless of the reasons, several factors should be considered to enhance delivery of basic knowledge, skills and to ease communication. Evidence indicates that multilingualism can have adverse effects on learners especially when they have little proficiency in a particular language (Irujo, 2004). In most cases, multilingualism is prone to challenges such as low level of skill among teachers (Banu & Sussex, 2001). Additionally, inappropriate curriculum design and lack of facilities hamper learners from learning the language of instruction. In this case, preliminary results indicate that Bangla serves perfectly well for learners in Bangladesh. Nonetheless, citizens need a lingua franca that will enhance them to communicate with other people in the rest of the world. In this case, English has been preferable to be used in industries, technology and in tertiary level of education (Banu & Sussex, 2001).

Does the English Language hamper proper teaching and learning in Bangladesh?

There have been concerns on the impact of using English as the language of communication in classrooms. Researchers confirm that quality of education is the most important factor in enhancing development of states' economy. Therefore, they assert that learners should possess high level of literacy that should be grounded on their mother tongue (Burstall, 1975). In this case, it is emphasized that Bangla should be used instead of English to improve learners' performance. In line with this, it has been noted that use of English tends to limit learners' competence in academics. For instance, pronunciation is an integral aspect of any spoken language (Gardner, 1985). Some learners in Bangladesh view practicing it as meaningless especially in foreign languages like English. For this reason, learners' performance is dependent on their command of English in terms of basic skills, listening and speaking. Although the Bangladesh government has tried to improve State of English use in the country, serious problems have continued to emerge in connection to students' performance. A survey conducted among secondary school students revealed that more than 80% of learners have weakness in the basic skills that encompasses reading, listening and speaking (Banu & Sussex, 2001). Most of the learners were found to dislike use of English as language of instruction in class. Due to the fact that different groups of students are weak in certain areas of language basics, their proficiency is affected and this leads to poor

performance in class (Lambert, Havelka & Gardner, 1960). Moreover, it was figured out that 75% of teachers do not emphasize enough on the need for students to improve in grammar (Banu & Sussex, 2001). Instead, they only stress writing skills. In this case, 50% of students who join universities blame their teachers for not encouraging them to practice all the basics like pronunciation, spelling and listening (Banu & Sussex, 2001).

Use of vocabularies, grammatical structures and other basic skills act as barriers for learners to understand some concepts taught in English. Having mastered a first language, it becomes difficult for students to learn a second language; hence they make wrong statements through writing and speech (Banu & Sussex, 2001). Low proficiency both in sentence structure and vocabulary use at times interferes with learners' ability to express themselves both in class and in public (Lambert, Havelka & Gardner, 1960). It is worth noting that proficiency in English differs with age and gender since high level of skills are attainable at a young age, but this potential diminishes as individuals advance in age (Gardner & Lambert, 1959). Evidence from student survey indicates that men have higher competence in English hence they perform relatively well in higher education as opposed to women, and additionally, availability of motivational assistance in academics is more rampant in Bangla than in English (Gardner & Lambert, 1959). In this case, teachers tend to highly motivate learners well in their local language and they also have the necessary skills. Lack of adequate knowledge in English among teachers lowers the rate of motivation of the learners. Clearly, learners perform better in their native language than in English (Gardner, Tremblay & Masgoret, 1997). It is also worth noting that in some instances, teachers lack the necessary skills to teach English (Gardner & Lambert, 1959). This makes them unable to administer instructions in classrooms or identify errors made by learners.

In a pilot survey conducted in several private universities in Bangladesh, students were asked, "Do you have any problem understanding the topic if teachers give the lectures in English?" 75 out of 79 respondents said, "Yes" (Appendix B). In a corresponding survey teachers were asked, "Do you face any problem when using English in the classroom?" 13 out of 17 respondents said, "Yes;" their problems included having to repeat instructions and students not following the lecture (Appendix C). Both teachers and students seem to think that English language serves as a barrier in the classroom.

Students perform better when instructions/lectures are given in Bangla

On inspecting student performance, it is evident that they performed better in a course that was taught in Bangla as opposed to English. According to linguists, it is evident that mother language instruction is quite reliable and easier to understand than foreign languages (Gardner & Lambert, 1959). Naturally, Bangla can be understood as learners read through text books and communicate in classrooms. Research indicates that foreign languages diminish the natural flow in imagination in the mind of learners; hence, their ability to innovate is interfered with (Banu & Sussex, 2001). In this essence, students have a stronger fluency and a more predictable accuracy in giving commands and adhering to instructions given in their native language (Gardner & Lambert, 1959). Several education commissions in Bangladesh recommend the use of Bangla as medium of instruction. According to the constitution of Bangladesh, Bangla is recognized as the national language and nothing is (Khan & Hossain, 2011).

Recently, a limited survey of grades of undergraduate students at a private university was conducted. The analysis discovered that students scored higher marks in a course where the medium of instruction was English (see Table 1). Interestingly, in courses that taught language skills, the differences in score was greater. Here, each course had two sections that followed same syllabus and testing standards. Although it was not a randomized trial, students in all sections had similar academic backgrounds.

Table 1

Course Code	Course Section	Course Content	Semester	Number of Students	Medium of Instruction*	Average Score (Total)/100	Difference in Score (+)
BUS 103	3	English reading and Writing	Spring 2009	30	English	61.15	
BUS 103	1		Spring 2009	22	Bangla	71.55	10.4
ENG 101	3	English reading and Writing	Summer 2009	36	English	60.32	
ENG 101	1		Summer 2009	30	Bangla	69.68	9.36
BUS 201	1	Business Communication	Spring 2010	26	English	67.59	
BUS 202	2		Spring 2010	25	Bangla	69.44	1.85
PHI 301	1	Engineering Ethics	Summer 2010	33	English	67.63	
PHI 301	2		Summer 2010	32	Bangla	70.38	2.75

*Language used approximately 80% of the time.

(Source: Author's survey)

Bangla is widely and commonly applied in a wider context of the society in Bangladesh. However, students often lament that they are unable to use English outside the classroom. This fails to help them preserve proficiency of English, leading to poor performance when English is used as the medium of communication in classrooms (Gardner, Tremblay & Masgoret, 1997). In terms of similarities, students feel that English is so different from their native language that they easily get tired of practicing it. A survey conducted revealed that students find English as diverse and complex in its words, meanings and vocabularies thus get more confused when using it; to them, the sentence pattern is a nightmare that messes up their understanding and application in academic situations (Banu & Sussex, 2001). In most cases, students waste so much of their time mastering English and might that they risk not performing as well as they would have if they used their native language to study. Therefore, the proposition that Bangla should be made the main medium of communication in all levels of learning must be seriously considered

To fulfill course objectives, language barriers should be removed. In our case, the use of English is a barrier.

Apparently, it has become impossible for learners to achieve objectives laid in their course outlines due to language complications. Instances where learners are hampered due to language barriers are common. This issue should be tackled at all costs in order to improve performance (Gardner & Lambert, 1959). However, to eliminate language barrier, native language should be used in classrooms. English language should be taught outside the curriculum right from grade I to tertiary level. The aim is to enable learners to obtain a high proficiency of English as they approach the tertiary level of studies (Banu & Sussex, 2001). To limit inconveniences, it is worth to note that advance preparation will enable them to adopt and use English effectively to progress academically at university level. In line with this, attempting to teach and improve English through a *computer science* course is not logical; such attempts would undermine the main course objective. In fact, the local language should be used to develop vital training manuals and facilities where mastery of English is not recommended (Gardner & Smythe, 1981). This will help the mass to learn general applications like internet browsing, office software and media player skills.

It is definite that there should be a universal network of languages to see into it that language barriers do not occur locally, nationally or globally (Gardner & Smythe, 1981). In this case, a convenient language should be used to ensure that communication takes place between students and their teachers. However, due to emerging issues occasioned by globalization, there is a need to motivate and encourage people to learn several languages (Gardner & Lambert, 1959). Since every country is reliant on others for issues such as trade, education, commerce, technology and politics, there must be common means of communication. To emphasize this, students should be aided to learn foreign languages to help them interact with external world (Gardner & Smythe, 1981). At this juncture, it is beyond doubt that English is important as a second language though use of Bangla should be highly emphasized to promote unity and good performance in academic study.

Conclusion

Most private universities in Bangladesh use English as their official medium of classroom instruction. In contrast, Bangla is the most widely used language in the country hence learners perform well in class while using it as opposed to English. The policy of using English as medium of instruction in private universities should be reviewed, even for English language courses, as it may constitute an unhelpful language barrier. However, foreign languages and specifically English should be learnt outside the curriculum to improve proficiency in tertiary levels of education where it is commonly used in research. English remains necessary for learners to engage with the wider world of education, technology and commerce.

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Appendix A

MEDIUM OF INSTRUCTION IN THE CLASS ROOM FOCUS GROUP, September 2011

The focus group included five expert teachers who have been directly or indirectly involved with policy making, and curriculum design and development in private universities in Dhaka. They were presented with the question: *Why do the private universities officially have English as the “medium of instruction?”*

Outcome of the focus group:

No one was completely sure about the exact reasons of making English the official language used in the classroom. However, they suggested several points. Below are the points listed according to the emphasis those received from the experts:

1. English medium education opens door to greater employment opportunity
2. It may help gain international acceptability
3. Perception that higher education should be in English
4. All advanced texts are in English
5. It increases social status (pointed out that people may not admit publicly!)

Appendix B

MEDIUM OF INSTRUCTION IN THE CLASS ROOM

SURVEY FOR PRIVATE UNIVERSITY STUDENTS OF BANGLADESH, September 2011

(Questions and responses)

Survey questions exclude *or do not refer to* English Speaking and Listening, Conversational English and remedial English courses. Therefore, questions refer to only reading and writing based courses like Reading Comprehension, Marketing, Math, etc. Questionnaire is designed for the first year or freshman students.

1. How many credit hours did you complete?
 1. 0-12, 19
 2. 13-24, 48
 3. 25-36, 29
 4. Over 36, 4

2. What is the medium of instruction in your university?
 1. English, 78
 2. Bangla, 5
 3. Don't know/not sure, 17

3. How many teachers use only English for lecture and discussion?
 1. All teachers, 3
 2. Most teachers, 25
 3. Some teachers, 52
 4. No teachers, 20

4. Do you have any problem understanding the topic if teachers give the lectures in English? (Do not answer this question if you had not have a class where the teacher gave any significant part of a lecture in English)
 1. Yes, 75
 2. No, 4

5. What language should be used for lecture and class discussion?
 1. English, 11
 2. Bangla, 80
 3. Not sure, 9

Note: 100 students from 5 different private universities in Dhaka (DIU, Presidency, SE, ADUST and Dharul Ihsan) completed the survey. The number of responses of a particular option is indicated by a number at the end.

Appendix C
MEDIUM OF INSTRUCTION IN THE CLASS ROOM
SURVEY FOR PRIVATE UNIVERSITY TEACHERS OF BANGLADESH, September 2011
(Questions and responses)

Survey questions exclude or do not refer to English Speaking and Listening, Conversational English and remedial English courses. Therefore, questions refer to only reading and writing based courses like Reading Comprehension, Marketing, Math, etc. Questionnaire is designed for teachers who have taught for at least one year at a private university.

1. Does the university you teach in have *English* as the official medium of instruction (lecture and class interaction/discussion)?
 1. Yes, 18
 2. No, 1
 3. Not sure, 1

2. If you have answered “yes” in question #2, why do you think the private universities in Bangladesh have made English language the medium of instruction in the classroom? (Mark 3 possible reasons)
 1. To give it the appearance of higher quality than the Bangla medium public universities, 13
 2. Program will be internationally accepted, 7
 3. Higher studies are conducted in English, 4
 4. English Medium instruction boosts the image/prestige of the institution, 9
 5. The programs were copy of English Medium universities of North America and UK, 9
 6. Students will be forced to learn English, 9
 7. Text books are in English, 3
 8. Other reasons, 2

3. What language (at least 75% of the time appx.) is used in your classroom for lecture and discussion?
 1. English, 4
 2. Bangla, 15
 3. Mixed (English and Bangla equally), 1

4. What language is most effective as the medium of instruction in a private university’s classroom?
 1. English, 2
 2. Bangla, 14
 3. Mixed (English and Bangla), 4

5. Do you face any problem when using English in the classroom? (*3 participants did not answer*)
 1. Yes, 13
 2. No, 4

6. If #5 answer is “yes”, what are the problems? (Mark 3 possible reasons)
1. Feels uncomfortable to use the language, 0
 2. Students tend not to ask question, 6
 3. Has to repeat instructions, 12
 4. Students don't follow lecture, 9
 5. Students' class participation declines, 5
 6. Course contents are difficult to cover, 6
 7. Other reasons, 1

Note: 20 teachers from 5 different private universities in Dhaka (Presidency, DIU, ADUST, SE and Dharul Ihsan) completed the survey. All teachers have at least a master's degree. The number of responses of a particular option is indicated by a number at the end.

Human Resource Accounting – A Look into the Theory

Tarun Tapan Dhar *

Nikhil Chandra Shil **

Abstract: Human resource accounting (HRA) is a relatively new area in accounting literature and an obvious addition to the current state of knowledge. Perhaps, this is the hot area now where professionals and academicians across the world hold divergent opinions. Traditionally, corporate world have had a very small period focus at the time of measuring the value of human resources. But in a sophisticated age where manufacturing environment is characterized by JIT, TOC, Lean etc. the attitude towards the valuation of human resources changes to a greater extent. Thus, the paper put emphasis on different accounting and measurement theories of human resources. It also includes a brief discussion on intellectual capital due to its perceived importance in explaining the sophisticated way of considering the value of human resources.

Key Words: Human Resource Accounting, Intellectual Capital, Human Resource Management.

Introduction

Adam Smith, in his classic work "Wealth of Nation" classified the factors of production into four; namely, Land, Labor, Capital and Organization. The modern management stalwarts reclassified them as 4 Ms; namely, Men, Material, Machinery and Money. The terms 'Labor' and 'Men' have now been christened as 'Human Resource'. Popularly known as HR, the Human Resource is not just the number of pairs of active hands engaged in any organization. HR is above the simple number game. It may be thought of as the total knowledge, skills, creative abilities, talents and aptitudes of an organization's workforce. It is the sum total of inherent abilities, acquired knowledge and skills of the employees.

The debate on the significance, validity and reliability of including human resource in the asset column of the balance sheet of a commercial organization is not new. While one school of thought¹ argues for quantification of the human resource as an asset, the other group dismisses the very thought of assessing the all-pervading intangible asset as it is beyond

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valuation and, in fact, invaluable. Nevertheless, attempts have been made by various researchers to quantify the human resource by an array of permutations and combinations. Some have put forward certain calculations such as *SpE* (Sales Per Employee), *RR* (Recovery Rate), Utilization percentage, *PpH* (Profit Per Head) and *CpP* (Compensation Per Profit) while some others have advocated *CIV* (Calculated Intangible Value) method and *MVA* (Market Value added) approach equating HR with Intellectual Capital. But the predicament of the accountant still lingers, as there is no full-proof formula to quantify the omnipresent human resource without which no organization can come into existence.

In any organization the most important input is the human element. The success or failure of a company very much depends on the persons who man the organization. It is a matter of common knowing that capital issues of even new undertakings are oversubscribed, if they floated by competent persons. This is because the investor in the capital market places high value in the human ability rather than any other factors like net worth, yield, price earnings ratio which are not available in the case of a new company. Even among nations, countries like Japan, West Germany and Korea are able to make rapid strides, thanks to the human resources, not in terms of numbers but in terms of quality, devotion to work and loyalty to the velocity. Japan, a country which is not endowed with much of natural resources, is not handicapped at all, thanks to its human resources with the help of which that nation can surmount any difficulty. History is replete with examples of several great personalities like Christ, Buddha, Prophet Mohammed, Sankara and Vivekananda to realize what single individual can achieve without any material resources. In business also the greatest asset is the human resource of the enterprise and not the plant, equipment or the magnificent buildings it owns. It is worth recalling what Alfred Marshal said long ago “the most valuable of all capital is that invested in human beings”. However, it is unfortunate that the balance sheets do not exhibit this most vital asset, while capital invested in other assets is shown. This is one of the severe limitations of present day financial statements which hinder the uses of these statements from ‘making full use of them’.

In today’s knowledge based economy Human resource is considered as the most valuable resource and in most of the cases organizations success depends on it. Human resources management (HRM) refers to the policies and practices including human resource planning, job analysis, recruiting, selection, orientation and training, compensating, performance appraisal and labor relations. (Gary Dessler 2007).The paper is a theoretical one which is based on different textual material like texts, scholarly research paper and articles. The discussion starts with a background of human resource accounting with some references of literature. Then, the concept of human resource accounting is introduced with some definitions, objectives followed by a discussion of human resources accounting technically with the dilemma that accountants face. Finally, the paper concludes with a detail discussion on some measurement theories of human resource accounting developed so far.

Background and Literature Review

The traces of a rudimentary HRA can be found in the Medieval European practice of calculating the cost of keeping a prisoner versus the expected future earnings from him. The prisoners in those days were seen to be the general property of the capturing side. Consequently, after the victory a quick decision regarding whether to capture a prisoner or to kill him had to be taken based on the costs involved in keeping him and the benefits accruing from killing him. However, these represented very rough measurements with limited use. The

development of HRA as a systematic and detailed academic activity, according to Eric G Falmholtz (1999) began in sixties. He divides the development into five stages. These stages are outlined below in brief:

Stages	Period	Focus
First Stage	1960-66	Deriving HRA concepts from other studies like the economic theory of capital, psychological theories of leadership- effectiveness, the emerging concepts of human resource as different from personnel or human relations; as well as the measurement of corporate goodwill.
Second Stage	1966-71	Developing and validating different models for HRA that covered both costs and the monetary and non-monetary value of HR. The aim was to develop some tools that would help the organizations in assessing and managing their human resource/asset in a more realistic manner.
Third Stage	1971-76	Focusing on the issues of application of HRA in business organizations. R.G. Barry experiments contributed substantially during this stage. (R.G. Barry Corporation:1971)
Fourth Stage	1976-80	The area of HRA is ignored and declined primarily because the complex issues that needed to be explored required much deeper empirical research than was needed for the earlier simple models.
Fifth Stage	1980 onwards	Sudden renewal of interest in the field of HRA partly because most of the developed economies had shifted from manufacturing to service economies and realized the criticality of human asset for their organizations.

Table 1: Stages in the development of HRA (author's personal compilation from Falmholtz, 1999)

Research into true human resource accounting began in the 1960s by Rensis Likert. It defends long-term planning by strong pressure on human resources' qualitative variables, resulting in greater benefits in the long run. Economists like Gary Becker S, Lester Thurow, Mincer Jacob, and Schultz T.W. have dealt with the concept of the rate of return of investment in human capital and reported varying observations. The basic premise of Flamholtz G, the theory of accounting for human resources, is: (i) people are valuable resource of an enterprise; and (ii) information on the investment and value of human resource is useful for internal and/or external Decision-making.

The original cost model of Brummet et al suggested capitalization of the firm's expenditure on recruitment, selection, orientation, training and development of people, and treat them as assets for the purpose of human resource accounting. The amounts so capitalized are to be shown in the balance sheet, under the heading human assets, as distinguished from physical assets. The amortization and write-off policies of conventional accounting methods shall be applied to human assets as well. The opportunity cost model advocated by Hekimian Jones

gave impetus to assess the opportunity cost of key employees for quantitative base for planning and controlling the activities of human resource function.

Hermanson proposed an adjusted present value model to quantify the value of human capital of a company. According to him, the amount of future wages payable represents a liability, while human resources (or operational assets) are an asset in the balance-sheet. Lev, Schwartz valued human capital as the present value of the future earnings of the people till retirement. Likert developed a model to diagnose the changes in human organization over a period of time. The human variables are divided into three categories:

- i) Causal variables;
- ii) Intervening variables; and
- iii) End-result variables.

The interaction between causal and intervening variables has been shown to affect the job satisfaction, costs, productivity, and earnings.

Flamholtz developed a model to measure the human resource value to the organization with the help of stochastic process. He considered the movement of employees from one position to another over a time period. The value of human resource as established by Flamholtz is equal to the present value of the future rewards adjusted with the probability of mobility and separation.

Rao developed a system of human resource accounting, and illustrated its application in a transport equipment manufacturing concern. He has designed the system based on the input/output control mechanism. The output variables of the system are described to be the indicators of human resource development and utilization. The human resource investments are measured through human resource investment sub-system. To identify the human resource investments, a distinction is made between human resource current costs and human resource investments. All the human resource costs, whose benefits are expected to effect in future periods, are treated as investments. Then the annual human resource investments are adjusted to the tune of changes due to intake or separation or natural deterioration. The intake of people results in the addition of human resource investments, while separation necessitates writing off of human resource investments. Human resource deterioration is measured and adjusted with the help of amortization rates in each year under study.

Looking at different proposals (Conner, 1991) the resource theory considers human resources in a more explicit way. This theory considers that the competitive position of a firm depends on its specific and not duplicated assets. The most specific (and not duplicated) asset that an enterprise has is its personnel. It takes advantage of their interdependent knowledge. That would explain why some firms are more productive than others. With the same technology, a solid human resource team makes all the difference (Archel, 1973).

HRA: Definitions, Objectives and Scopes

The Human Resource Accounting is a scaling tool that generates the quantitative control information about the contribution of human resources for promoting industrial productivity. The American Accounting Association's Committee on Human Resource Accounting has defined human resource accounting as "Human resource accounting is' the process of

identifying and measuring data about human resources and communicating this information to the interested parties". Thus, the basic premises underlying the theory of Human Resource Accounting are:

- (1) People are valuable resources of an enterprise;
- (2) The usefulness of manpower as an organizational resources is determined by the way in which it is managed; and
- (3) Information on investment and value of human resources is useful for decision-making in the enterprise.

It helps in developing financial assessments for the people within the organization and monitoring of these assessments in the light of net accounting policy of the concern from time to time. The purpose of HRA is to improve the quality of human resources decisions made both internally and externally concerning and organization. However, the specific objectives of Human Resource Measurement may be outlined as under:

- (1) to assist the management in taking suitable decisions regarding investment on human resources;
- (2) to provide information to all people concerned regarding the earning potential of human resources of the organization;
- (3) to assess the efficiency of human resources in obtaining productivity and profitability; and
- (4) to provide comparative information regarding costs and benefits associated with investment in human assets.

The primary purpose of human resource accounting is to facilitate the management of people as organizational resources. It can also be called as human resource management accounting, i.e., the application of accounting to the management of human resources.

Rensis Likert (1971), one of the earliest proponents of the subject, has listed the following objectives of Human Resource Accounting:

- (1) To furnish cost value information for making
- (2) Management decision and maintaining human resources in order to attain cost effective organizational objectives.
- (3) To allow management personnel to monitor effectively the use of human resources.
- (4) To provide a sound and effective basis on asset control, i.e., whether assets are conserved, depleted or appropriated.
- (5) To aid in the development of management principles by classifying the financial consequences of various practices.

Human resource accounting aims at depicting the human resources potential in money terms while casting the organization's financial statements. With the emergence of the knowledge economy, recognition of human capital as an important part of the enterprises, total value has gained importance.

The concept of human resource accounting can be basically examined from two dimensions: (i) the investment in human resources; and (ii) the value of human resources. The expenditure incurred for creating, increasing, and updating the human resource quality is known as investment in human resources. Such investment yields fruitful results like higher productivity and higher income to the organization. The yield that the investment in human resources generates will be considered as the basis of human resource value. The American

Accounting Association defines human resource accounting as “measuring data of human resources and communicating the information to the interested parties”. It has rightly pointed out that human resource accounting would measure all the data relating to the people of an organization, and this data when reported to either the shareholders, or managers, or government, or any other agency, will be helpful in making the relevant decisions.

Organizations, trying to reflect the ‘value’ of “its people” are using different approaches. The US Financial Accounting Standard Board, in its recent Exposure Draft on Business Combinations and Intangibles refers to human resource as ‘broad—based intangibles—workforce-based assets i.e., intangible assets that relate to the value of the established employees or workforce of a company. They include:

- (1) Assembled workforce, trained staff
- (2) Non-union status, strong labor relations, favorable wage rates
- (3) Superior management or other key employees
- (4) Technical expertise
- (5) Ongoing training programs, recruiting programs.

This represents the first formal acknowledgement ever regarding the accounting for human resources by an authoritative body responsible for the promulgation of accounting standards.

HR Accounting

Attempts to account the HR are not new. It was Rensis Likert (Bowers, 1973) who initiated research into HR accounting in the sixties. He stressed the importance of long-term planning of human resource's qualitative variables that result in greater benefits in the long run. Any resource will have two sides i.e. its assets value and the cost of procurement; HR is not an exception. But curiously enough in the case of HR, only the procurement/maintenance cost is accounted in the balance sheet and not the asset value.

The cost of HR encompasses the following:

Cost of Recruiting: This starts from the time of searching for human resources. It includes the publicity, mailing, rejected applicants and contracted applicants.

Cost of Selection: It corresponds to the selected personnel. The components are derived from the candidate's interview (traveling, lodging/boarding, organization of exams and selective tests).

Cost of Contracting: This begins from the selection of personnel. It includes the cost of formulating the contract, travel and other incidental expenses.

Cost of placing: It is a variety of administrative costs, necessitated by situating the new employees in their job.

Cost of training: A greater part of this cost is the salary of the trainee who is unproductive. It hold good for the supervisor's or the trainers lost time while coaching the employee to do the job correctly. Costs also originate from a decrease in the productivity of the rest of the workers whose jobs are adversely affected by the deficiencies of the new employees.

Cost of Orientation: This cost generally includes adapting the new person to the organization as a whole and to a specific job. The cost of familiarizing the new employee with the personnel policy, products and services of the organization and the organizations in general is hardly estimable.

Cost of Promotion: It originates every time an employee changes his job in the same category or another due to promotion.

Cost of Improvement: This cost is for maintaining and improving the real potential of every employee.

Cost of Substitution: This includes the exit costs of the leaving employee and recruiting and training of the replacement.

Opportunity Cost: It is the estimate of an asset value that is the target of an alternative use.

Exit Cost: This cost covers the lost efficiency prior to separation, job vacancy cost during the new search and termination pay.

In addition to the above, the cost of HR includes the following also:

Rewards: Cash-like and non-Cash-like

Facilities: Tools, Fixtures/Fittings and accessories at work essential for the welfare of the employees.

Health and Safety: Specific policies (Statutory and Voluntary) implementation systems, Consultation and communication overheads, Pensions and contributions to social security payments, Severance Costs: Retirement, Redundancy and Dismissal.

Accountant's Dilemma

When no established formula is available, the accountant is in a fix to evaluate the asset value of HR. Some workers suggest that the following data could be used for inclusion in the balance sheet.

FTEs: Full Time Equivalent staff, (the formulae may aggregate part time, short-term and long-term contract staff).

Headcount (H): Total FTEs at month end.

Revenues (R): Total operating income, say, in terms of total sales.

Expenses (E): Operating expenditure excluding tax, interest etc.

Profit: R Less E

Cash-like Rewards (C): Emoluments i.e. salaries, wages, overtime, bonuses and commissions.

Benefits (B): Other rewards that may or may not be taxed as 'benefit in kind' such as cars, pension, company loans etc.

Staffing Performance Indicators (Carme et al., 1999)

Internal

1. Sales per Employee: It indicates general employee productivity. Compare SPE this year over last year and with SPEs of rival organizations (benchmarking). Their turnover may be smaller but they may have a better SPE.

$SPE = R/H$; H may increase if the business expands.

2. Recovery Rate: Aggregate compensation and benefits then divide by revenue. RR compares staffing costs with revenues delivered. A decreasing RR is desirable.

$RR = C + B/R$

Unraveling influences on RR can be difficult. The impact on additional Investment should show through in RR later - revenue increases whilst staffing costs fall.

3. Utilization Percentage: It can be applied e.g. to a consultancy company or school whose main business is allocating or selling the time of its staff. We assume that an increase in U% is desirable.

$U\% = R/C + B$

R (revenue) can be substituted by another measurable output e.g. Wagons delivered, dustbins emptied, examination results (points). Calculation must include staff costs of the whole business unit- Direct and support staff.

External

4. Profit per Head: Like RoCE, shareholders and business analysts may use profit per head or profit before-tax-per head to focus on employee related costs and returns.

$PpH = P/H$

A firm's PpH rating may highlight under-achievement and profit potential when compared to industry competitors. Corporate predators may be attracted. A publicly funded organization such as a college may see its funding reduced if its funding authorities use the ratio as a control measure.

5. Compensation per Dollar Profit: This evaluates profit against cost/employee rather than headcount. Interpretation can be difficult. CpP can swing with profits e.g. where there are close links between profits and staff compensation (profit related bonuses). CpP is negative where a firm is making a loss. CpP may indicate that better management could improve cost-effectiveness or controls.

$CpP = C + B/P$

Getting VfM from Personnel/HRM services

We can evaluate the productivity/ contribution (value for money?) of those delivering personnel/HRM services to the business. Organization size, location, corporate culture etc however makes external comparisons more difficult.

6. Personnel Services Expenses (PSE): It is the total operating expenses of the personnel/4RM section (personnel salaries, cost of facilities/ equipment, training and development budgets, research/ project expenditure, communications activities etc).
7. Personnel Services Headcount (PSH): It is total FTE for the personnel/ HR section in the calculation period.
8. Personnel Services Cost % (PSC): Divide PSE by total operating expenses (E) to identify trends and to influence budgeting processes.

$$PSC = PSE/E$$

For each operating unit, split the PSE element into its constituent budgets. Identify the proportion that, say, central personnel services are consuming compared to decentralized personnel sections. An operating unit may have a worsening PSC whereas another's may be steady yet have increased training and reduced recruitment costs. The former may be investing in training people who then leave for another job.

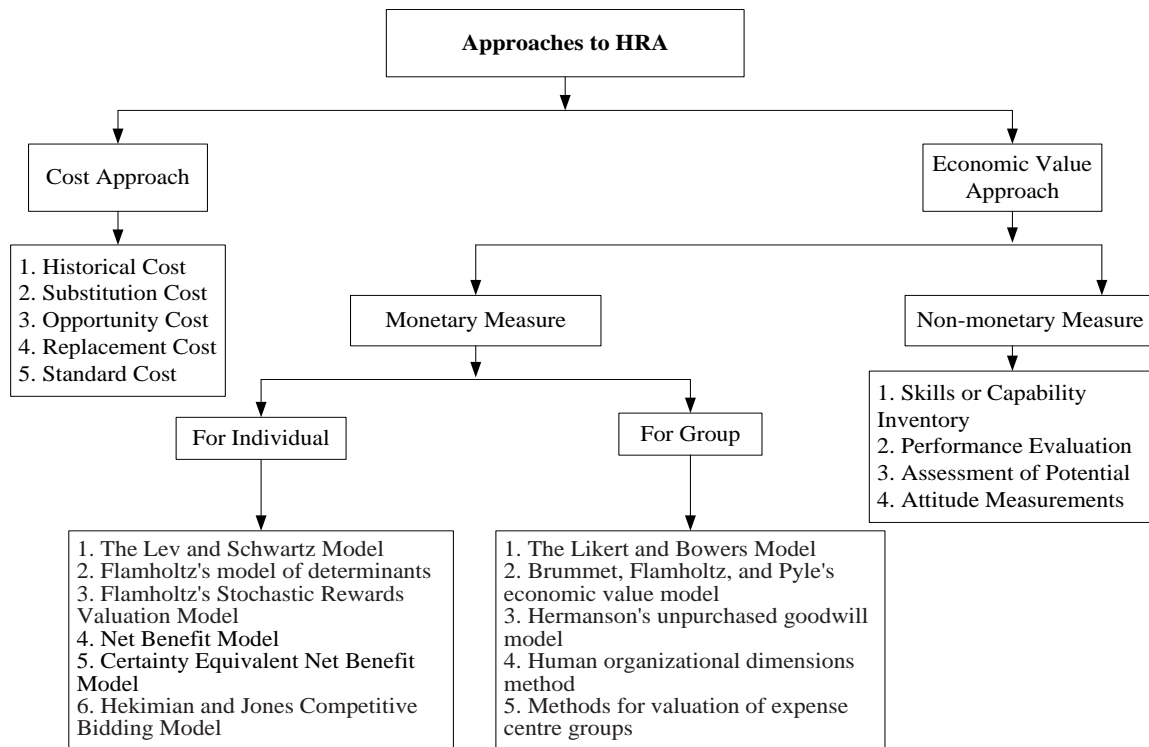
Measurements in Human Resources Accounting

When a firm invests in human resources by acquisition and training, it anticipates a future generation of profits and services. Training in firms is an activity that develops the worker's capacity to improve efficiency and job quality, therefore, the enterprise increases its profitability. The training concept is generally used to define three different issues like capacitation, training, and development (Guzman et al.). Capacitation is the worker's acquisition of knowledge and skills necessary for his job. Training better adapts the worker to the job, and development focuses on promotion to higher job levels.

Creative training comes from the firm's planning process and makes personnel capable of doing their job. Inside creative training, three different actions can be distinguished that will incur some expenses. Those training expenses are related to jobs and profession evolution, improvements in global services, and innovation or change in projects. In any case, expenses derived from creative training are considered long term because they increase the firm's added value.

Competitive strategic training maintains the firm's competitive level. Expenses derived from competitive strategic training will be considered as current expenses since they appear as a consequence of short-term actions that maintain the firm's competitive level, even though its absence may lead to a decrease in the employee's qualifications. However, the biggest challenge in HRA is that of assigning monetary values to different dimensions of HR costs, investments and the worth of employees. The two main approaches usually employed for this are:

1. The cost approach which involves methods based on the costs incurred by the company, with regard to an employee.
2. The economic value approach which includes methods based on the economic value of the human resources and their contribution to the company's gains. This approach looks at human resources as assets and tries to identify the stream of benefits flowing from the asset.



The Cost Approach

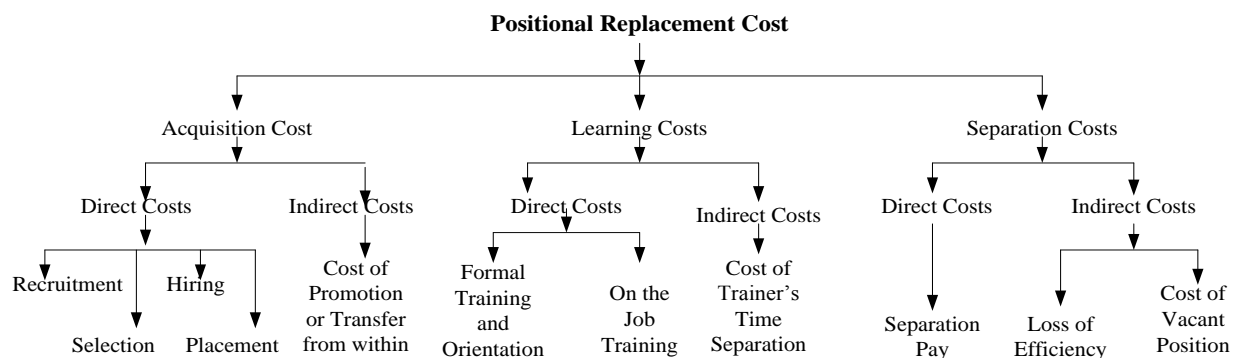
Cost is the current sacrifice of value to obtain some anticipated benefits or services in future. All costs have two dimensions, viz., the expense and the asset portions. The expense portion is that which provides benefits during the current accounting period (usually the current financial year), whereas the asset portion is that which is expected to give rise to benefits in the future. Arriving at a clear distinction between the two, however, remains an accounting problem even today (Flamholtz, 1999). Different methods of HRA under the cost approach are discussed below:

Historical Cost: The historical cost of human resources is the sacrifice that was made to acquire and develop the resource. It represents the original cost of human resources in the conventional accounting sense, and includes such costs as personnel recruitment, training, and development. Under this method, the cost of acquisition i.e. selection, hiring, training costs of employees are capitalized and written off over the expected useful life of the employees. In case the personnel leave the company before the anticipated period of service, then the unamortized portion of costs remaining in the company's books is written off against the profit and loss account in that year. If the period of service exceeds the anticipated time, then amortization of costs is rescheduled. From the management accounting point of view, an accurate estimation of the learning factor is essential to obtain a good prediction of the product cost and is also important in the labor force. The learning factor or experience curve provides information for decision making and resolution of problems regarding the rising costs of the labor force where new fabrication processes or specialized jobs are important.

Substitution Costs: The substitution cost of human resources is the cost that would have to be incurred if present employees are to be replaced. Likert (Bowers) imagines an extreme situation for the firm's management.

“Suppose that tomorrow all the jobs are empty, but you still have available all the rest of the resources: buildings, factories, industrial plants, patents, stocks, money, and so on; except, of course, for the personnel. How much time would it take you to recruit the necessary personnel, train it until they are able to assume all the existing functions at the present competitive level and integrate it in the organization in the same way they now are?”

The mental exercise necessary to rebuild an organization is an excellent way to attract attention to human resources, which is now seen in a new light. Certainly, Professor Likert’s fiction includes the implicit posing of human resource valuation under substitution (or replacement) cost criteria. To calculate substitution cost, figure in the cost of sacrifice to replace a human resource that is already employed. This cost includes exit costs of the leaving employee and recruiting and training of the replacement.



Opportunity Costs: Some authors consider that opportunity costs are not the alternative to historical costs nor substitution costs, but estimates these costs without mistake. Opportunity costs are considered as “an asset value when [they are] the target of an alternative use” (Hekimian and Jones). Cost valuation is based upon the conflict of interest that can take place in a firm’s internal, fictitious market where several organizational units (divisions) participate. These units must be profit centers, that is, their objectives must be expressed in terms of profitability.

Replacement Cost: It is a current rupee measure of the expenditure required for a business entity to replace its existing investment in human resources. Replacement costs could be positional i.e. replacing personnel for particular positions or personnel i.e. replacing specific talent or ability of particular persons.

Standard Cost: Under this method, standard costs of recruiting, hiring, training, and developing per grade of employees are determined annually. The total standard cost for all personnel of the company is the value of human resources.

Economic Value Approach

Economic value refers to the appropriately discounted amount of net cash inflows generated by the human resources of a firm over their economic service lives. Some authors refer to the economic value method as the present value measuring technique or use the term in conjunction with the opportunity cost approach.

a) The Lev and Schwartz Model

Under this approach, the value of human resources of an organization is determined according to their present value to the organization. This model has been developed by Brauch Lev and Aba Schwartz in 1971. They are of the opinion that determination of the total of a firm's labor force is a straightforward extension of the measurement procedure of an individual value to the organization. They have divided the whole labor force into certain homogeneous groups such as skilled, unskilled, semi-skilled, technical staff, managerial staff etc. and in accordance with different classes and age groups. Average earnings stream for different classes and age groups are prepared for each group separately and the present value for the human capital is calculated. The aggregate present value of different groups represents the capitalized future earnings of the firm as a whole. They have advocated the use of cost of capital rate for the purpose of capitalizing the present value of the future earnings of the employees. According to this model, the value of human capital embodied in a person who is 'y' years old, is the present value of his/her future earnings from employment and can be calculated by using the following formula:

$$E(V_y) = \sum_{T=y} P_y(t+1) \sum_T \frac{I(T)}{(I+R)^{t-y}}$$

Where $E(V_y)$ = expected value of a 'y' year old person's human capital

T = the person's retirement age

$P_y(t)$ = probability of the person leaving the organization

$I(T)$ = expected earnings of the person in period I

R = discount rate

This method of accounting is basically oriented towards measuring changes in the employees' value rather than employers' gains from the employees. Unless the employees' payments are directly linked to employee productivity or the company performance, the changes in the value of employees will not reflect the changes in the employees' contribution. As pointed out by Prabhakara Rao (1993) under the Lev, Schwartz model, the value of human resources will be more or less increasing, even if the organizations continuously incur losses/decrease in profitability. The attitude and morale of the employees, the contribution of the employees to the organization, and such other factors are out of the purview of the Lev, Schwartz model.

b) Flamholtz's model of determinants of Individual Value to Formal Organizations

According to Flamholtz, the value of an individual is the present worth of the services that he is likely to render to the organization in future. Typically, this value is uncertain and has two dimensions. The first is the expected conditional value of the individual. This is the amount that the organization could potentially realize from the services of an individual during his/her productive service life in the organization. It is composed of three factors:

- i. productivity or performance (set of services that an individual is expected to provide in his/her present position);
- ii. transferability (set of services that he/she is expected to provide if and when he/she is in different positions at the same level);

- iii. promotability (set of services that are expected when the individual is in higher level positions).

The second dimension of an individual value is the expected realizable value, which is a function of the expected conditional value, and the probability that the individual will remain in the organization for the duration of his/her productive service life. The interaction between the individual and organizational determinants leads to job satisfaction. The higher is the level of job satisfaction; the lower is the probability of employee turnover. Therefore, higher is the expected realizable value.

c) Flamholtz's Stochastic Rewards Valuation Model

The movement or progress of people through organizational 'states' is called a stochastic process. The Stochastic Rewards Model is a direct way of measuring a person's expected conditional value and expected realizable value. The expected realizable value of an individual is the present worth of future services expected to be provided during the period he is expected to remain in the organization. A person's expected conditional value and expected realizable value will be equal, if the person is certain to remain in the organisation, in the predetermined set of states, throughout his expected service life. The model presumes that a person's value to an organization depends upon the positions occupied by him in the organization. The movement, of people from one organization role to another is a stochastic process with rewards. As people move and occupy different organizational roles, they render services (i.e., rewards) to the organization. However, the roles they will occupy in future will have to be determined probabilistically for each individual. The model suggests a five steps approach for assessing the value of an individual to the organization:

1. Forecasting the period will remain in the organization, i.e., his expected service life;
2. Identifying the services states, i.e., the roles that he might occupy including, of course, the time at which he will leave organization;
3. Estimating the value derived by the organization when a person occupies a particular position for a specified time period;
4. Estimation of the probability of occupying each possible mutually exclusive state at specified future times; and
5. Discounting the value at a predetermined rate to get the present value of human resources.

It is based on the assumption that an individual generates value as he occupies and moves along organizational roles, and renders service to the organization. It presupposes that a person will move from one state in the organization, to another, during a specified period of time. In this model, exit is also considered to be a state. Use of this model necessitates the following information:

1. The set of mutually exclusive states that an individual may occupy in the system during his/her career; in this model, exit is also considered a state;
2. The value of each state, to the organization;
3. Estimates of a person's expected tenure in the organization
4. The probability that in future, the person will occupy each state for the specified time.
5. The discount rate to be applied to the future cash flows.

This model is certainly an improvement over the Lev and Schwartz. However, the main drawback of this model is the extent of information required to make the necessary estimates of the values of the service states, the expected tenure, and the probability that the individual will occupy the state for the specified period of time. Further, it will be tremendously expensive way to predict career movements of exit probabilities on an individual basis. Moreover, data developed on the basis will involve large variance which will reduce usefulness of the model. However, if this information can be made available, this model emerges as one of the most sophisticated models for determining the value of individuals.

d) Net Benefit Model

Morse (1973) suggested this approach. Under it the value of human resources is equivalent to the present value of the net benefits derived by the enterprise from the service of its employees. The following steps are involved under this approach:

1. The gross value of the services to be rendered in future by the employees in their individual and collective capacity.
2. The value of direct and indirect future payments to the employees is determined.
3. The excess of the value of future human resources (as per (1) above) over the value of future payments (as per (2) above) is ascertained. This represents the net benefit to the enterprise because of human resources.
4. By applying a predetermined discount rate (usually the cost of capital) to the net benefit, the present value is determined. This amount represents the value of human resources to the enterprises.

e) Certainty Equivalent Net Benefit Model

This approach has been suggested by Pekin Ogan (1976) is, in fact, an extension of net benefit approach of morose. Under it, the value of human resources is determined by taking into consideration the certainty with which the net benefit's in future will accrue to the enterprise. The method' involves the following steps:

- (a) Net Benefit from each employee. (as determined under the previous approach)
- (b) Certainty factor at which the benefits will be available in future.
- (c) The certainty equivalent benefits will be calculated by multiplying the certainty factor with the net benefits from all employees. This will be the value of human resources of the enterprise.

f) Hekimian and Jones Competitive Bidding Model

This approach suggests competitive bidding for scarce employees in an organization i.e. opportunity cost of employees linked to scarcity. The approach proposes the capitalizing of additional earning potential of each human resource within the company.

In this method, an internal market for labor is developed and the value of the employees is determined by the managers. Managers bid against each other for human resources already available within the organization. The highest bidder 'wins' the resource. There is no criteria on which the bids are based. Rather, the managers rely only on their judgment.

Non-monetary Methods for Determining Value

The non-monetary methods for assessing the economic value of human resources also measure the Human Resource but not in dollar or money terms. Rather they rely on various indices or ratings and rankings. These methods may be used as surrogates of monetary methods and also have a predictive value. The non-monetary methods may refer to a simple inventory of skills and capabilities of people within an organization or to the application of some behavioral measurement technique to assess the benefits gained from the Human resource of an organization.

1. The skills or capability inventory is a simple listing of the education, knowledge, experience and skills of the firm's human resources.
2. Performance evaluation measures used in HRA include ratings, and rankings. Ratings reflect a person's performance in relation to a set of scales. They are scores assigned to characteristics possessed by the individual. These characteristics include skills, judgment, knowledge, interpersonal skills, intelligence etc. Ranking is an ordinal form of rating in which the superiors rank their subordinates on one or more dimensions, mentioned above.
3. Assessment of potential determines a person's capacity for promotion and development. It usually employs a trait approach in which the traits essential for a position are identified. The extent to which the person possesses these traits is then assessed.
4. Attitude measurements are used to assess employees' attitudes towards their job, pay, working conditions, etc., in order to determine their job satisfaction and dissatisfaction.

Measurements of Group Value

a) The Likert and Bowers Model:

Likert and Bowers propose causal, intervening, and end-result variables, which determine the group's value to an organization. Causal variables are those which can be controlled by the organization. These variables include managerial behavior and organizational structure.

Intervening variables reflect organizational capabilities and involve group processes, peer leadership, organization climate, and the subordinates' satisfaction. Both, the causal and the intervening variables determine the end result variables of the organization. The end-result, dependent variables reflect the achievements of the organization or the total productive efficiency in terms of sales, costs, earnings, market performance, etc. They are dependent on the causal and the intervening variables.

b) Brummet, Flamholtz, and Pyle's economic value model

The Brummet, Flamholtz, and Pyle model follows the principle that a resource's value is equal to the present worth of the future services it can be expected to provide, and therefore it can provide a basis of measuring the value of a group of people. According to this method, groups of human resources should be valued by estimating their contribution to the total economic value of the firm. Thus a firm's forecasted future earnings are discounted to

determine the firm's present value, and a portion of these earnings is allocated to human resources according to their contribution.

c) Hermanson's unpurchased goodwill model

According to Hermanson, the unpurchased goodwill notion is based on the premise that 'the best available evidence of the present existence of un-owned resources is the fact that a given firm earned a higher than normal rate of income for the most recent year. Here Hermanson is proposing that supernormal earnings are an indication of resources not shown on the balance sheet, such as human assets. Even though his method of valuing human resources is explicitly intended for use in a company's published financial statements rather than for internal consumption, this would necessarily involve forecasting future earnings and allocating any excess above normal expected earnings to human resources of the organization. However, the assumptions would be subject to the uncertainties involved in any forecast of future events.

d) Human organizational dimensions method

Based on the Likert-Bowers model of group's value to an organization this method is based on the relationship among causal, intervening and end-result variables. The causal variables influence the intervening variables, which, in turn, determine the organization's end result variables. Hence changes in the key dimensions of organization can be used as dependable indicators for forecasting future changes in productivity and financial performance.

Monetary estimations of changes in human value of organizations

For computing a monetary estimate of the expected change in the value of human organization, the following steps are suggested:

1. Measure the key dimensions of human organization, using a Likert scale at specified time periods. These are in non-monetary measurements.
2. The scaled responses to questionnaire items called 'scores' are then standardized by statistical methods to take into account the degree of variability of the set of responses. This is done for responses in each time period.
3. The difference between two standardized scores from one period to the next is then calculated. This difference (called delta) represents the change in an index of specified dimensions of the human organization.
4. From present changes in dimensions of the human organization, the expected future change in end result variables is estimated. Specifically, for a given variable the delta is multiplied by coefficient or correlation between that variable and the end result variable. This provides an estimate in standard scores of the anticipated change in the end result variable attributable to a change in the human organizational dimension believed to cause that change.
5. Lastly, the standard scores are converted into the measuring monetary units for the end result variables.

e) Methods for valuation of expense centre groups

Flamholtz proposes three methods for valuation of expense centre groups. In all these measures, the surrogate value is used for estimation. The three methods are:

1. Capitalization of Compensation
2. Replacement Cost Valuation, and
3. Original Cost Valuation

Capitalization

The capitalization method involves capitalizing a person's salary and using it as a surrogate measure of human value. This value may be ascertained for groups as well as individuals. The value of the group is essentially the aggregate value of the individuals comprising the group.

Capitalization of compensation method is not considered an ideal method of group valuation because it ignores the possible effects of synergy. However, this method may be used to arrive at an approximation of a group's value to the firm.

Replacement cost valuation

The replacement cost of a group is defined as the sacrifice that would have to be incurred today to recruit, select, hire, train and develop a substitute group capable of providing a set of services equivalent to that of a group presently employed. This method involves considerable subjective estimates, which reduce its validity and replicability.

Original cost valuation

The original cost valuation method involves estimation of the original cost of recruiting, selecting, hiring, training, and developing a firm's existing human organization. The need for using original costs to value groups arises out of the necessity of estimating the cost of developing an effectively functioning team. Teamwork is essential for effective communication, decision-making, coordination and several other critical organizational processes. Yet, when the original costs are used to make an estimation of the value of the expense centre, the costs of generating this teamwork are largely ignored.

Intellectual Capital

Intellectual Capital of a firm is its possession of the knowledge, applied extensively, organizational technology, customer relationships and professional skills that position it with a competitive edge in the market. It is the intellectual material - knowledge, information, intellectual property and experience - that can be put to use to create a corporate legacy. Most researchers in their definition of Intellectual Capital include factors like technology, leadership, ongoing employee training, brand names and trademarks and even speed of response to client service calls. If we have a look at a contemporary balance sheet we would invariably find an entry under the subheading of goodwill Trademark and Brand emphasized unusual but real assets such as trademarks. By contrast Intellectual Capital looks beyond to more ineffable assets such as the ability of an individual to learn and adapt. The measurement of IC can be broadly classified in two categories:

1. Indirect Measures
2. Direct Measures

The direct measures ascribe the money value to the constituents of intangible assets calculation whereas the indirect measure ascribes intellectual capital to the performance of the company.

Calculated Intangible Value (CIV) Method

The method (CIV) for measuring IC is based on the return on assets concept (ROA) based on the average pre-tax earnings of a company for three to five years. This average is then divided by the average tangible assets of the company over the same period. The resulting ROA is compared with the company's industry average to calculate the difference. This excess ROA is then multiplied by the company's average tangible assets to calculate an average annual excess earning. Dividing this by the cost of capital of the company yields the IC.

$$IC = (ROA \text{ of Co.} - ROA \text{ of Industry}) * (\text{Avg. assets of Co.} / \text{Cost of Capital of Co.})$$

Market Value Added (MVA) Approach

The buyer, not the seller, defines value. A company therefore is worth what market says.

$$\text{Price Per share} * \text{Total number of shares outstanding} = \text{Market Value}$$

The simplest, measure of intellectual capital is the difference between the market value of the company and its book value. This value is known as the market value added of the company.

$$\text{Market value of the Company} - \text{Net Worth} = \text{Market value Added} = \text{IC Net Worth} = \text{Equity} + \text{Reserves}$$

The assumption here is that everything left in the market value after the accounting of fixed assets must be intangible assets.

Conclusion

During the past decade, the concept of HRA has been tuned to the requirements of a knowledge economy by focusing on such intangible assets as intellectual capital, relationship capital, etc. Various tools for this purpose have been developed, some of them being Skandia Navigator, HR Balance Score Card, Knowledge Capital Earnings, Economic Value Added, Intellectual Asset Valuation, Knowledge Audit Cycle etc. (For a comprehensive summary see Karl-Erik Sveiby, 2004). Whatever the tool or approach to HRA, much of the potential for developing human resource accounting capability and gaining its advantage depends upon the availability of and accessibility to the required data. In those organizations, where the data is not readily available or routinely maintained, the first step towards HRA will have to be HRIS.

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Notes and Comments

Outcome Based Engineering Education: A paradigm shift

M M Shahidul Hassan*

Abstract: Education is the process that leads to learning or change in behavior of the student. Traditional education approaches based on direct instruction of facts and standard methods and has not emphasized on soft skills needed in jobs e.g. communication skills, interpersonal skills, analytical skills, working attitude etc. On contrary the basic tenets of Outcomes-based education (OBE) are described as being about shifting the focus of educational activity from “teaching to learning; skills to thinking; content to process; and teacher instruction to student demonstration”. Author suggested that the nation expects that Bangladesh University of Engineering and Technology (BUET) will play a leadership role in bringing the change in our education system. If BUET successfully implements OBE, then other universities will be inspired to implement it.

Keywords: OBE, BUET, Education

Introduction:

Education is the process that leads to learning or change in behavior of the student. Learning is not simple information transfer of neither textual nor MM information. It includes developing certain cognitive (Problem solving, analysis and Synthesis) abilities and Psychomotor abilities or thinking abilities such as problem solving, analysis, organizing information, transforming information, learning to learn etc. Education uses the complex interactions in the institution to achieve learning. These interactions are planned to achieve certain goals or outcomes. Traditional education approaches based on direct instruction of facts and standard methods and has not emphasized on soft skills needed in jobs e.g. communication skills, interpersonal skills, analytical skills, working attitude etc. On contrary the basic tenets of Outcomes-based education (OBE) are described as being about shifting the focus of educational activity from “teaching to learning; skills to thinking; content to process; and teacher instruction to student demonstration”. OBE has emerged as a major direction for educational reform. It grows out of concern that the education system cannot adequately prepare students for life and work in the twenty first century. This phenomenon prompted the engineering academics in Europe and North America to explore new ways of designing education for the training of engineers. OBE is described as means of focusing and organizing a higher learning institute’s entire program and instructional efforts around the clearly defined outcomes the institute expects all students to demonstrate when they leave the institute.

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Discussions:

Educational literature evolving OBE has emerged in different forms over the last few decades but the definitions of outcome based education suggest that it is characterized by the development of clearly defined outcomes, the design of learning activities to assure the demonstrated performance, the monitoring of individual performance through the use of criterion referenced assessment and the provision of remediation and enrichment. OBE can be understood as teaching and learning approaches that are based upon a set of predetermined objectives and outcomes. The term outcomes in this matter would be a set of values or 'wish list' on what a student should acquire upon their educational program completion. These attained values may be classified as values seen immediately upon graduation or a few years after graduation. An OBE approach is a total dynamic approach to education where the course structure will evolve as the requirements of the syllabus and students changes. The approach aims towards effective Teaching, Learning (what the students learn) and Assessment (to check if the students have learnt it). In brief, OBE answers the following questions: (i) what must the student learn? (ii) what do the teachers want the student to learn? (iii) how does what student learn affect the overall educational outcome? (iv) how do the teachers make sure that the student learns what they are intended to learn?

Students are expected to be able to do more challenging tasks other than memorize and reproduce what was taught. Students should be able to: write project proposals, complete projects, analyze case studies, give case presentations, show their abilities to think, question, research, and make decisions based on the findings, be more creative, able to analyze and synthesize information, able to plan and organize tasks, able to work in a team as a community or in entrepreneurial service teams to propose, solutions to problems and market their solutions.

Engineering education predominantly uses complex interaction between teachers and students, students and students, students and instructional materials, students and labs, environment and society to achieve learning. OBE is a better option compared to traditional education for engineering program. Recently Australia, Canada, the Republic of Ireland, Hong Kong, India, Malaysia, Japan, Sri Lanka, Singapore, South Korea, Taiwan, New Zealand, Russia, Germany and South Africa have implemented OBE. Institutions of higher learning in UK and USA adopted OBE more than a decade ago. An engineering program must specifically indicate its learning outcomes based on requirements of the Program Educational Objectives (PEO) and Program outcomes (PO).

PEOs are broad statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve. On the other hand, POs are narrower statements that describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire in their graduation through the program. The program must evaluate student performance, advice students regarding curricular and career matters, and monitor student's progress to foster their success in achieving program outcomes, thereby enabling them as graduates to attain program objectives. Engineering programs must demonstrate that their students attain the following outcomes: (a) an ability to apply knowledge of mathematics, science, and engineering; (b) an ability to design and conduct experiments, as well as to analyze and interpret data; (c) an ability to design a system, component, or process to meet desired needs

within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability; (d) an ability to function on multidisciplinary teams; (e) an ability to identify, formulate, and solve engineering problems; (f) an understanding of professional and ethical responsibility; (g) an ability to communicate effectively; (h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context; (i) a recognition of the need for, and an ability to engage in life-long learning; (j) a knowledge of contemporary issues; (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. Program outcomes are outcomes (a) through (k) plus any additional outcomes that may be articulated by the program. Program outcomes must foster attainment of program educational objectives. There must be an assessment and evaluation process that periodically documents and demonstrates the degree to which the program outcomes are attained.

To ensure the quality of the outcome based engineering program, faculty need to provide assessment tools to measure outcomes of each undergraduate engineering course. The faculty at Alabama A&M University, has adopted the SEAARK (e-mail: aamzxd01@aamu.edu.EDU) teaching approach for instruction and teaching. SEAARK stands for Knowledge, Repetition, Application, Analysis, Evaluation and Synthesis in reverse order. SEAARK starts from the basics to the complex levels of learning. At the “Knowledge” level, students need to define, introduce, describe, name, relate, explain, identify, and remember concepts and principles. At the “Repetition” level, students need to repeat and discuss concepts and principles. At the “Application” level, students need to apply, demonstrate, interpret, and illustrate concepts and principles learned. At the “Analysis” level, students need to learn to calculate, solve, compute, compare and to derive. At the “Evaluation” level, students need to learn to evaluate, decide, recommend, justify and to assess. At the “Synthesis” level, students need to learn to design, conduct, perform, create, produce and propose new tasks. The outcome based course assessment and evaluation tools are a combination: (1) Homework assignments, (2) Quizzes, (3) Exams, (4) Class Attendance, (5) Design Project and laboratory written reports, (6) Design Project Oral Presentation, (7) Computer Simulation using FORTRAN, C, Mat Lab, Lab view, (8) Prototype development, (9) Laboratory Testing / Project teamwork. (10) Course assessment (by students), (11) Instructor’s teaching performance evaluation (by students)

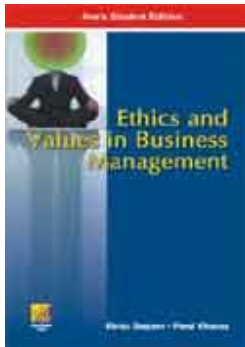
Conclusion

The quality and relevance of education that an engineer in Bangladesh receives is of great importance to our country’s development and economic activities. The nation therefore has a great stake in how our engineering universities are giving education to our graduates and how our engineers are being trained. Our nationhood emerged out of a long process of struggles and scarifies which culminated in a war of liberation. The war that entails pool of blood attaches pain, sorrow, grief and tears of the individual. People who sacrificed their lives had dreamt of a homeland in which they could speak their language, embrace their culture, and move the country towards technological developed one. But unfortunately, we have forgotten the spirit of liberation. We have not paid attention in quality education. Time has come to review our education system. Traditional education is not appropriate for today’s world. The country who wants to be a signatory member of a multinational agreement for the mutual recognition of engineering degrees, i.e. the Washington Accord (WA) must implement OBE.

This will be an endorsement that the engineering education system has demonstrated a strong, long-term commitment to quality assurance in producing engineers ready for industry practice in the international scene.

Understanding of this OBE is very important before implementing it. A group of educationists should first study this modern OBE system and recommend the procedure of implementation. Bangladesh University of Engineering and Technology (BUET) is the oldest and most prestigious engineering institution in Bangladesh. The nation expects that BUET will play a leadership role in bringing the change in our education system. If BUET successfully implements OBE, then other universities will be inspired to implement it. We also expect that Government will come forward to introduce OBE in private and public universities.

Book Review- Ethics and Values in Business Management



Author	Rinku Sanjeev Parul Khanna
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Reviewed by: Muhammad Abdul Mannan Chowdhury, PhD, Professor of Economics, University of Chittagong, Bangladesh.

Today, Ethics has become the buzzword in the corporate world because of globalization and communication explosion. Ethics is a part of business and the business cannot overlook the various ethical issues such as Managerial Values, Ethical Dilemmas, Social Responsibility, Employee Discrimination etc. This book entitled “Ethics and Values in Business Management” provides as in-depth knowledge and insight to the budding Leaders and Professionals to develop necessary reasoning and analytical skills to achieve managerial effectiveness. The book was jointly authored by Rinku Sanjeev and Parul Khanna. It also offers comprehensive information on the study of Ethics, Ethos and Values and its relevance to the business organization. The book also insists on nurturing human values in all organizations. Through the medium of the book another fact is unfolded that Ethics is not just a subject of study but also a reflection to our own Values and responses to the various moral and ethical queries. Business ethics education empowers students with information and skills that will lead to better communication and more ethical decision-making worldwide.

The book describes and enlightens its readers to varied concepts as Values-Meaning & Nature, its Formation and Types of Values; Value in Context of Business; Value across Culture; Need of Value in Global Change; Secular vs. Spiritual Value a detailed description of Ethics its Relation to Value, Norms, and Morals is also a highlight of the book. The emerging Contemporary Ethical Issues such as Spirituality in the Workplace; Indian Ethos for Management; Vedanta and Managers are also described. According to <http://www.au.af.mil/au/awc/awcgate/ndu/strat-ldr-dm/pt4ch15.html>, individually or organizationally, values determine what is right and what is wrong, and doing what is right or wrong is what we mean by ethics. To behave ethically is to behave in a manner consistent with what is right or moral. Virtually, ethics and values are highly co-related.

The book is a brilliant joint effort of two highly experienced and talented faculty members Rinku Sanjeev and Parul Khanna of a prestigious and renowned center of higher education and learning. The book has been widely acclaimed and is also a reference book for various

Indian Universities, as well as different Universities of this sub-continent. Authors' must be appreciated for this wonderful book.

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