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Intellectual Capital Disclosure by the Listed Fuel & Power and Engineering Firms in Bangladesh

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ABSTRACT
The main objective of this study is to measure the level of intellectual capital (IC) disclosure practices by listed fuel & power and engineering companies in Bangladesh. Like physical assets IC assets are also important for any organization. IC ensures the utilization of physical assets effectively and efficiently. Intellectual capital includes structural capital, relationship capital and human capital. Having quality IC is the prerequisite of smooth operation of an organization. But these important assets are not reported in the financial statement sufficiently or this information is not communicated to the stakeholders properly. The entity can enjoy competitive advantages disseminating information regarding IC and stakeholders may take pragmatic decisions on the basis of this information as well. Profitability, potentiality and sustainability of the organization may also depend on quality of IC. Content analysis method is used in this study. An unweighted disclosure index, with 37 IC items, has been developed. Sample covers 80% firms under fuel & power and engineering industries. As a source of data the corporate annual reports of the companies for the year 2007-2008 or 2008 were used is this study. Out of required items average disclosure score of human capital, structural capital and relationship capital are 37.94%, 64.81% and 60.19% respectively. So, average disclosure score of the sample complains is 49.89%. The regression results show that proportion of independent director, and proportion of audit committee members and market capitalization are influencing factors to disclose IC items in the annual reports.

Key words: Intellectual Capital, Human Capital, Structural Capital, Relationship Capital, Disclosure, Annual Report

1. INTRODUCTION

$\mathscr{T}$raditional financial accounting identifies and records the transactions that are measured in terms of money. So, the traditional financial statement model is unable to reflect new ways of crating business value (Oliveras, Gowthorpe, Kasperskaya, and Perramon, 2008). For this reason, in recent years there has been increasing dissatisfaction with traditional financial reporting and its ability to provide stakeholders with sufficient information on a company's ability to create wealth (Bozzolan, Favotto and Ricceri, 2003). Thus, intellectual capital (IC) is currently the focus of significant discussion and enquiry across the management disciplines and beyond (Roslender and Fincham, 2001). It is recognized that intellectual capital provides a crucial source of value for the

contemporary business enterprise. Present accounting standards do not require the recognition of IC in the financial statements and only a relatively low level of firms disclose IC in their annual reports (FASB, 2001). As a result, there is a growing level of information asymmetry between companies and users of financial statements (Bruggen et al., 2009). The recent mega corporate collapses in several developed countries (e.g. Enron in the USA, HIH in Australia) has heightened the need to review provision of relevant information to investors (Clarke and Dean, 2007).

Like physical assets IC assets are also important for any organization. IC ensures the utilization of physical assets effectively and efficiently. Intellectual capital includes structural capital, relationship capital and human capital. Rastogi (2000) states that IC is the ability owned by an organization as a whole to constantly face existing and potential challenges, and respond in a creative and effective manner. Shih, Chang and Lin (2010) state that any intellectual materials that can create wealth, such as knowledge, information, techniques, intellectual properties, experience, learning ability of organizations, and customer relationships, can be the most valuable assets and most advantageous tools in competition. Dzinkowski (2000) consider IC as the total inventor of capital or knowledge-based resources owned by an organization. In the same way, Bontis (2004) defined IC as a stock of knowledge at a given time. So, IC is capable enough to create wealth for the organization. It has future economic benefits. To acquire or create this capital companies have to incur resources. IC disclosure is an appropriate approach for companies to meet stakeholders' IC information needs (Bruggen, Vergauwen and Dao, 2009). Since stakeholders are not fully aware of the gap between the fair and reported value of the firm (Lev, 1999; Lev and Mintz, 1999), this increase in the "unexplained gap" may tend to support the function of IC disclosure as bridging the "unexplained gap" so that stakeholders can make more informed economic decisions (Abeysekera, 2008).

Most of the researchers (e.g., Guthrie and Petty, 2000; Brennan, 2001; Bozzolan, Favotto and Ricceri, 2003; Goh and Lim, 2004; Abeysekera and Guthrie, 2005; Oliveira, Rodrigue and Craig, 2006; Sujan, and Abeysekera; 2007; Ali, Khan and Fatima, 2008; Davey, Schneider and Davey, 2009; Nurunnabi, Hossain and Hossain, 2011) categorize IC into three basic components – human capital (HC), structural capital (SC) and relationship capital (RC) using different levels. Human capital may be leveled as employee competency (Sveiby, 1997; Goh and Lim, 2004). Structural capital (SC) may be leveled as internal capital (Guthrie, Steane and Farneti, 2009). Relationship capital may be leveled as external capital (Abeysekera, 2007). HC involves the capacity to act in a wide variety of situations to create both tangible and intangible assets (Sveiby, 1997). It cannot be incorporated as external agents, nor can they bought and cannot be transferred, packaged or commercialized (Ortiz, 2009). Examples of this type of capital are know-how, vocational qualification, career development, training program, equity issue, employee benefits, professional experience, educational level, entrepreneurial skills and spirits etc. SC is created by the employees and is generally owned by the organization (Sveiby, 1997). SC indicates

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everything in an organization that supports HC in their work. SC includes management process, information system, corporate culture, intellectual property, financial relations with other institutions etc. RC is the strength and loyalty of customer relations (Kavida and Sivakoumar, 2009). RC refers brands, customer loyalty, quality standard, company image, favorable contract, licensing agreement, franchising agreement, distribution channel, market share etc. So, having quality IC is the prerequisite of smooth operation of an organization. But these important assets are not reported in the financial statement sufficiently or this information is not communicated to the stakeholders properly. The entity can enjoy competitive advantages disseminating information regarding IC and stakeholders may take pragmatic decisions on the basis of this information as well. Profitability, potentiality and sustainability of the organization may also depend on quality of IC. Nowadays, companies increasingly rely on IC in their value creation process, rather than on traditional production factors such as physical and financial capital (Vandemaele, et al., 2005). No company should ignore the importance to disclose such precious assets to the stakeholders. In the present study the researcher tries to observe the present status of IC disclosure in corporate annual report of the listed companies in Bangladesh.

2. OBJECTIVES OF THE STUDY

For the purpose of informed decision making IC information are essential to stakeholders. So, it is expected that the company will disclose their IC in their annual report (AR). Through this study the researcher tries to examine the intellectual capital disclosure (ICD) practices by listed companies in Bangladesh. In line with this the more specific objectives are:

(1)   to measure the level of IC disclosure practices by listed fuel & power and engineering companies in Bangladesh; and

(2)   to examine some company characteristics as determinants of IC disclosure.

3. LEGAL FRAMEWORK FOR DISCLOSURE IN BANGLADESH

The Registrar of Joint Stock Companies and Firms (RJSC), the Securities Exchange Commission (SEC) of Bangladesh, Bangladesh Bank (BB), Insurance Development & Regulatory Authority (IDRA), Dhaka Stock Exchange (DSE), Chittagong Stock Exchange (CSE) are the regulatory authorities who impose the disclosure requirements for the different type of companies. As a regulator of the capital market SEC regulates all of the listed companies in Bangladesh. Besides this, the firms are regulated by their primary regulators. For example, Bangladesh Bank is the regulator of banking and non-banking financial institutions. The companies are to comply with provision of the Companies Act, 1994 (Government of the People's Republic of Bangladesh, 1994). The banking financial institutions are to follow the provisions of the Banking Companies Act, 1991 (Government of the People's Republic of Bangladesh, 1991) and the non-banking financial institutions are to fulfill conditions of the Financial Institutions Act, 1993 (Government of the People's Republic of Bangladesh, 1993). The main functions of DSE are

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listing of companies and monitoring the activities of the companies listed on DSE. Similarly, CSE may impose disclosure requirements. So, the companies are to comply with the listing regulations of the stock exchanges.

There are two professional accountancy bodies in Bangladesh – the Institute of Cost and Management Accountants of Bangladesh (ICMAB) and the Institute of Chartered Accountants of Bangladesh (ICAB). The Institute of Cost and Management Accountants of Bangladesh (ICMAB) is a leading professional body in Bangladesh and it offers professional qualification in Cost and Management Accountancy, with a focus on accounting for business (www.icmab.org.bd). ICAB regulates the Accountancy Profession and matters connected therewith in the country (www.icab.org.bd). ICAB adopts International Accounting Standards (IASs) and International Financial Reporting Standards (IFRSs) (IASB, 2006) as Bangladesh Accounting Standards (BASs) and Bangladesh Financial Reporting Standards (BFRSs) respectively (ICAB, 2006; 2008). The Securities and Exchange Rules (SER), 1987 (Government of the People's Republic of Bangladesh, 1987) is applicable to the companies that are trading on the stock exchanges in Bangladesh. According to Rule 12, the financial statements of an issuer of a listed security shall be prepared in accordance with requirements laid down in the Schedule of this rules and the International Accounting Standards as adopted by the Institute of Chartered Accountants of Bangladesh. Therefore, from 1997, all listed companies are to comply with the IAS and IFRS adopted by ICAB. Box 1.1 presents the list of regulations that are to be followed by concern listed companies of Bangladesh.

Box 1.1: List of regulations for the concern companies of Bangladesh

1. *The Securities and Exchange Ordinance 1969*
2. *Securities and Exchange Rules, 1987*
3. *The Banking Companies Act, 1991*
4. *The Financial Institution Act, 1993*
5. *The Companies Act, 1994*
6. *Insurance Act, 2010*
7. *International Accounting Standards*
8. *Bangladesh Accounting Standards*
9. *International Financial Reporting Standards*
10. *Bangladesh Financial Reporting Standards*
11. *The Listing Regulations of Dhaka Stock Exchange Limited*
12. *The Listing Regulations of the Chittagong Stock Exchange Limited*

Source: Researcher's own analysis

4. LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESIS

Guthrie and Petty (2000) examined the extent to which the various categories of intellectual capital are represented in the annual reports. Total 24 items of IC were coded from three IC categories as internal capital nine, external capital nine and human capital six. Similarly, Brennan (2001) performed content analysis of annual reports with internal capital nine, external capital nine and human capital six. He thinks IC assets are rarely referred to in annual reports and, when referred to, it is in the most qualitative terms. Bozzolan et al. (2003)

studied aiming to answer two research questions namely: what is the amount and content of ICD; and what are the factors that influence different voluntary reporting behaviors. IC items were selected by Bozzolan et al. (2003) as internal structure 8; external structure 9; and human capital 5. Intellectual capital disclosure was measured using a 24-item index dividing into three IC categories; internal, external and human capital by Wong and Gardner (2005) and found that industry sector had little influence on intellectual capital disclosure. Vandemaele, Vergauwen and Smits (2005) conducted a study to investigate IC disclosure. In their disclosure index structural capital items are 8, relational capital items are 9 and human capital items are 5. The findings of Oliveira et al. (2006) are minimum disclosure 5.75%, maximum 72.22% and average disclosure 30.3%. They comment that the voluntary reporting of intangibles is found to be influenced significantly by size, ownership concentration, types of auditor, industry and listing status. Guthrie, Petty and Ricceri (2007) conducted a research named "Intellectual Capital Reporting: Lessons from Hong Kong and Australia". They used unweighted coding system, i.e., score 0 for not reported item and 1 for reported item. Using the content analysis of annual reports of the top 20 firms listed on the Australian stock exchange in 2004 Sujan, and Abeysekera (2007) described the state of IC reporting practices in Australia. The study of Striukova, Unerman and Guthrie (2008) reveals that disclosure of internal capital is 17%, external capital is 61% and human capital is 22% of total ICD. Oliveras et al. (2008) found that there is a greater volume of communication in the area of external (customer/relational) capital than in either internal or employee capital.

April et al. (2003) investigated the intellectual capital measurement, reporting and management of the 20 largest South African listed companies by market capitalization. In their research, only a "0" and a "1" were used, with a value of "1" indicating that the attribute was reported in some form and the number of occurrences was ignored, i.e. a value of "1" was chosen to mean that the attribute was mentioned at least once. Their findings of IC reporting are maximum 75% and minimum 3% and average 36%. Goh and Lim (2004) performed contents analysis for 20 most profitable companies on Malaysian Stock Exchange. They found that IC disclosure is highly in qualitative nature and among the three IC categories, external capital items are most disclosed. Abeysekera and Guthrie (2005) comment that the individual intellectual capital items of each capital category reported by firms in Sri Lanka differed from those found in other countries. Abeysekera (2007) intended to examine the patterns of intellectual capital reporting (ICR) of listed firms in a developing nation and the aim of this paper was to highlight the differences in ICR practice between developing and developed nations. The findings in that paper highlighted the need for a uniform ICR definition and a reporting framework that provides comparative and consistent reporting under the auspices of a regulatory body. ICR differences were identified between Sri Lankan and Australian firms, and it was argued that these differences can be attributed to economic, social and political factors Abeysekera (2007).

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Ali, Khan and Fatima (2008) intended to investigate the level of awareness of Bangladeshi companies about intellectual capital and how disclosures are made in the annual reports. They performed content analysis of annual reports for the period of 2005-2006 of 22 companies listed 0n the Dhaka Stock Exchange on the basis of highest market capitalization. Internal Capital 10, External Capital 10, Human Capital 7 and total 27 items were in the unweighted disclosure index. Their result showed that the companies did not have a positive approach in reporting and interpreting the IC. Nurunnabi, Hossain and Hossain (2011) made a comment that IC reporting depends on the self interests of the company and has no market implication.

4.1 Board Size

As a top-level management body, the board of directors formulates policies regarding disclosure. The level of disclosure is a strategic decision made of the board of directors (Akhtaruddin, et al., 2009). Zahra, et al. (2000) argued that the size of the board is believed to affect the ability of the board to monitor and evaluate management and small board encourages faster information processing. SEC (2006) also prescribed the board size in between 5-20. The collective capability and experience of the board members may ensure the proper disclosure of information. So, it is expected that size of the board of directors is positively related to the level of IC disclosure.

4.2 Independent Director

Cheng and Courtenay (2006) and Chen and Jaggi (2000) found that board with a larger proportion of independent directors are significantly and positively associated with higher level of voluntary disclosure. All companies should encourage effective representation of independent directors on their board so that the board, as a group, includes core competencies considered relevant in the context of each company (SEC, 2006). So, according to SEC (2006) independent directors should be at least one tenth of the total number of directors and subject to a minimum of one. Outside directors are arguably more effective than inside directors in maximizing shareholders' wealth (Akhtarudding, et al., 2009).

4.3 Existence of chief financial officer

To enhance corporate governance in the interest of investors and the capital market the company should appoint a Chief Financial Officer (CFO). CFO directly looks after the disclosure of information of the company. So, if there is no CFO disclosure policy may be overlooked. Therefore, existence of CFO is expected who may ensure proper disclosure of information in the annual report according to the need of the users. Company having CFO is assigned 1, otherwise 0.

4.4 Member of audit committee

An audit committee is formed to effectively monitor and control the validity of accounting information and thus ensure the quality of disclosure (McMullen, 1996). The audit committee should assist the board of directors in ensuring that the financial statements reflect true and fair view of the state of affairs of the company and in ensuring a good monitoring system within the business (SEC, 2006). According to the direction of SEC (2006) the audit committee should be composed of at least three members. Therefore, it is hypothesized that companies

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with a higher proportion of audit committee members to total members on a board may ensure higher level of IC disclosure.

4.5 Affiliation of external audit firm with Big 4

The financial statements of an issuer of a listed security shall be audited by a partnership firm of chartered accountants within the meaning of Bangladesh Chartered Accountants Order, 1973 (The President of the People's Republic of Bangladesh, 1973) consisting of not less than two partners in practice for a minimum of seven years (Government of the People's Republic of Bangladesh, 1987). So, the status of audit firm is important to ensure the quality of disclosure. Firth (1979) argued that larger, well known audit firms may be able to exercise greater influence and that they be associated with higher disclosure level. For this reason some other researchers, like, Nurunnabi and Hossain (2010), Akhtarudding, et al. (2009), Al-Shammari (2007) used this variable. The hypothesis drawn for this variable would be: firms audited by the auditor affiliated with Big 4 are more likely to disclose more IC information in their annual reports than others.

4.6 Assets of firms

The mount of assets of firm is used as a proxy of size of the firm. Several prior studies (e.g., Cooke, 1989; Hossain, 2000; Akhtaruddin, 2005; Nurunnabi, et al., 2011) used size of firm as an independent variable. It is argued that large companies are often scrutinized by stakeholder groups, and therefore positive voluntary IC disclosure might be predicted if a firm is attempting to distinguish itself from other firms (Akerlof, 1970). For this reason, the present study uses size as an independent variable and assets as a proxy of size. Singh and van der Zahn (2007) found that size was a significant factor impacting voluntary IC disclosure.

4.7 Sales to assets

Sales to assets may be use to measure operating efficiency of management. It measures how efficiently the assets of the firms are utilized to generate revenue. Higher ratio indicates more efficiency of management. Therefore, it is expected that efficient management will disclose more information in their annual reports. Hence, the hypothesis is drawn as the companies with a higher ratio of sales to assets disclose IC information to a greater extent than the companies with a lower ratio.

4.8 Market capitalization

Market capitalization is used as a proxy for political visibility and found a significant positive relationship (White, et al., 2007). Nurunnabi, et al. (2011), Watts and Zimmerman (1986) used this variable and argued that firms with more market capitalization disclose more information than the others. Therefore, it is hypothesized that there is a significant association between market capitalization of the firm and the level of IC disclosure in the corporate annual report. Accordingly, the hypothesis developed for the present study is as follows:

H$_1$: There is a significant positive association between the level of IC disclosure and a number of company characteristics.

5. RESEARCH METHODOLOGY

Content analysis method is used in this study as the previous researchers (e.g. Nurunnabi, Hossain and Hossain, 2011; Joshi, Ubha

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and Sidhu, 2010; Bruggen Vergauwen and Dao, 2009; Xiao, 2008; Guthrie, Petty and Ricceri, 2007; Goh and Lim, 2004; Brennan, 2001; Guthrie and Petty, 2000) followed this approach. Like Khan and Khan (2010); Davey, Schneider and Davey (2009); Kamath (2008); Abeysekera (2007); Shareef and Davey (2005); Abeysekera and Guthrie (2004); April, Bosma and Deglon (2003); Olsson (2001) this study used annual reports as source documents as they are most widely distributed and regularly produced documents. In the following sections the paper presents selection of sample and data collection, constructions of IC disclosure index, scoring of disclosure items, data analyzing techniques and measurement of variables.

5.1 Selection of Sample and data collection

There are several types of listed companies in Bangladesh. DSE classifies the listed companies into seventeen industries (DSE, 2008). In this study researcher is considering only two industries – Fuel & Power and Engineering. It is assumed that high quality of IC assets is needed for these types of organizations and that should be disclosed in the annual reports. There are nine firms under fuel & power industry and twenty four firms under engineering industry who are listed up to 2008 (DSE, 2009). So, the total population is 33 firms. Primarily all firms under the selected industries were considered for the survey. As a source of data the corporate annual reports of the companies for the year 2007-2008 or 2008 were used. But out of 33 firms 3 firms (Metalex Corporation, BEMCO and Bd. Welding Electrodes) do not published annual reports of 2008 (DES, 2009). So, actual population is 30 companies. Finally, the researcher collected annual reports of 24 firms for reference year (see Table 1). So, sample covers 80% of population. As per the disclosure index data have been collected from the annual reports of the sample companies using content analysis approach.

Table 1: List of sample companies under selected industries

Sl.	Name of Company	Name of Industry
1.	BOC Bangladesh	Fuel & Power
2.	Padma Oil Co.	Fuel & Power
3.	Eastern Lubricants	Fuel & Power
4.	Summit Power Limited	Fuel & Power
5.	Power Grid Company of Bangladesh Ltd.	Fuel & Power
6.	Jamuna Oil Company Limited	Fuel & Power
7.	Meghna Petroleum Limited	Fuel & Power
8.	Titas Gas Transmission & Dist. Co. Ltd.	Fuel & Power
9.	Aftab Automobiles	Engineering
10.	Aziz Pipes	Engineering
11.	Olympic Industries	Engineering
12.	Singer Bangladesh	Engineering
13.	Atlas Bangladesh	Engineering
14.	BD.Autocars	Engineering
15.	Quasem Drycells	Engineering
16.	National Tubes	Engineering
17.	Bd.Thai Aluminium	Engineering
18.	Anwar Galvanizing	Engineering
19.	Kay and Que	Engineering

20.	Wonderland Toys	Engineering
21.	Rangpur Foundry	Engineering
22.	S. Alam Cold Rolled Steels Ltd	Engineering
23.	National Polymer	Engineering
24.	BSRM Steels Limited	Engineering

5.2 Construction of the IC disclosure index

It is also argued that the information contained in the report usually differs from company to company and selection of proper items of information that are expected to be disclosed in the annual report is not easy task (Akhtaruddin, 2005). For preparing a disclosure index for the study the researcher consulted IC disclosure checklist used in the prior studies. After studying the prior study 37 IC items have been selected for the current research. IC items are classified into three categories – human capital, internal capital (or structural capital) and external capital (or relationship capital). There are 19 IC items under human capital, 9 items under structural capital and 9 items under relationship capital category. Appendix-I presents the disclosure checklist which is used to collect IC data.

5.3 Scoring the disclosure items

There are two recognized methods for determining the level of intellectual capital disclosure – weighted and unweighted. Some of the researchers (like, Abeysekera, 2008; Bozzolan, Favotto and Ricceri, 2003; Brennan, 2001; Nurunnabi, Hossain and Hossain, 2011; Oliveira, Rodrigue and Craig, 2006; Orens, Aerts and Lybaert, 2009; Sujan, and Abeysekera, 2007; Vandemaele, Vergauwen and Smits, 2005; Xiao, 2008) used weighted approach in their study. On the other hand there are some other researchers who used unweighted scoring system, (for example, Ali, Khan and Fatima, 2008; April, Bosma and Deglon, 2003; Davey, Schneider and Davey, 2009; Goh and Lim, 2004; Guthrie, Petty and Ricceri, 2007). Logic behind this approach is that disclosure of more items is more important than disclosure of less items in several ways. Wallace (1988) stated that all disclosure items are equally important to the average users. Besides, there are some items which may not be disclosed in terms of money, e.g. employee competency. Following these logics present study used unweighted approach for scoring and ignoring frequency of disclosure. In this study items are numerically scored on a dichotomous basis. Score "1" is assigned if a company discloses an intellectual capital item in its annual report whereas score "0" is assigned for non-disclosure of a particular items. An unweighted index is defined a ratio of the number of items a company actually disclosed to the total that it could disclose (Akhtaruddin, 2005). The disclosure score for each company is expressed as follows:

$$TICD = \sum_{i=1}^{n} di$$

Where,

$TICD$ = the total intellectual capital disclosure score;

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d = one if the item d_1 is disclosed; zero, if the item d_1 is not disclosed; and

n = number of items.

5.4 Data analysis

To summarize data Microsoft Excel program is used. Data is analysis using SPSS 14.0. The regression technique is used to test the relationship between intellectual capital disclosure and a number of company characteristics. The regression model is as follows:

$$Y = \alpha + \beta_1 \text{ BOARD} + \beta_2 \text{ PINDREC} + \beta_3 \text{ CFO} + \beta_4 \text{ PAUDIT} + \beta_5 \text{ AUDITOR} + \beta_6 \text{ NLASSET} + \beta_7 \text{ SLASSET} + \beta_8 \text{ NLMCAP} + \varepsilon$$

Expected sign (+) (+) (+) (+) (+) (+) (+) (+)

Where,

Y	= the total intellectual capital disclosure index or TICD
α	= constant
β_j	= coefficient of the concern variables (j = 1 to 8)
BOARD	= board size
PINDREC	= proportion of independent director to total director
CFO	= existence of chief financial officer
PAUDIT	= proportion of audit committee member to total directors
AUDITOR	= affiliation of external audit firm with Big 4
NLASSET	= natural log of assets
SLASSET	= percentage of sales to total assets
NLMCAP	= natural log of market capitalization
ε	= the error term

Through the regression model H_1 is tested. The Table 2 presents the operation definition of variables, source of variable collected and expected sign with relationship.

6. RESULT AND DISCUSSION

6.1 Level of IC Disclosure by industry

Table 3 presents the summary of average IC disclosure by two sample industries. There are 19 IC items under human capital (HC) category, 9 IC items under structural capital (SC) category and 9 IC items under relationship capital (RC) category. On average engineering industry discloses 6.19 HC items in their annual reports that is equivalent to 32.57%. Whereas fuel & power industry disclose 9.25 HC items which is equivalent to 48.68%. So, average HC disclosure of fuel & power industry is more than that of engineering industry. In case of structural capital, average disclosure scores of engineering and fuel & power industries are 64.58% and 65.28% respectively. Disclosure pattern of both industries are similar. It is also noted that average SC disclosure is the highest among three categories of IC items (see Chart 1). Regarding RC items engineering industry (63.19%) discloses more items than fuel & power industry discloses (54.17%). Considering total IC disclosure average disclosure score of engineering industry is 17.69 (47.81%) while average disclosure score of fuel & power is 20 (54.05%). So, average disclosure by the firms under fuel & power industry is higher than that of firms under engineering industry.

Table 2: Operational Definition of Variables, Source of Information and Expected sign and Relationship the Regression

Dependent/ Independent Variables	Operational Definition	Source of Information	Measurement	Expected Sign	Relationship
Y	Total IC disclosure index	Annual report of the company	TICD		Index
BOARD	Board size	Annual report of the company	No. of members on board	(+)	Significant positive relationship with TICD
PINDREC	Proportion of independent director to total director	Annual report of the company	No. of independent directors/ No. of directors	(+)	Significant positive relationship with TICD
CFO	Existence of chief financial officer	Annual report of the company	If the companies have CFO = 1, otherwise 0	(+)	Significant positive relationship with TICD
PAUDIT	Proportion of audit committee member to total director	Annual report of the company	No. of audit committee members/ No. of board members	(+)	Significant positive relationship with TICD
AUDITOR	Affiliation of external audit firm with Big 4	List of Big 4 audit firms is collected from http://en.wikipedia.org	If the companies are linked audited by Big 4 Audit Firm in Bangladesh = 1 otherwise 0	(+)	Significant positive relationship with TICD
NLASSET	Natural log of assets	Amount of total assets is collected from annual report of the company	Natural log of assets at the end of accounting period	(+)	Significant positive relationship with TICD
SLASSET	Percentage of sales to total assets	Annual report of the company	Amounts of sales/ total assets	(+)	Significant positive relationship with TICD
NLMCAP	Natural log of market capitalization	Amount of market capitalization is collected from DSE (2008)	Natural log of market capitalization as on June 30, 2008	(+)	Significant positive relationship with TICD

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Table 3: Average IC Disclosure by Industry

IC Category	Total Items	Average Disclosure			
		Engineering		Fuel & Power	
		No. of Item	%	No. of Item	%
Human Capital (HC)	19	6.19	32.57	9.25	48.68
Structural Capital (SC)	9	5.81	64.58	5.88	65.28
Relationship Capital (RC)	9	5.69	63.19	4.87	54.17
Total IC Disclosure (TICD)	37	17.69	47.81	20	54.05

Source: Researcher's own analysis

Chart 1: Average Intellectual Capital Disclosure by Industry
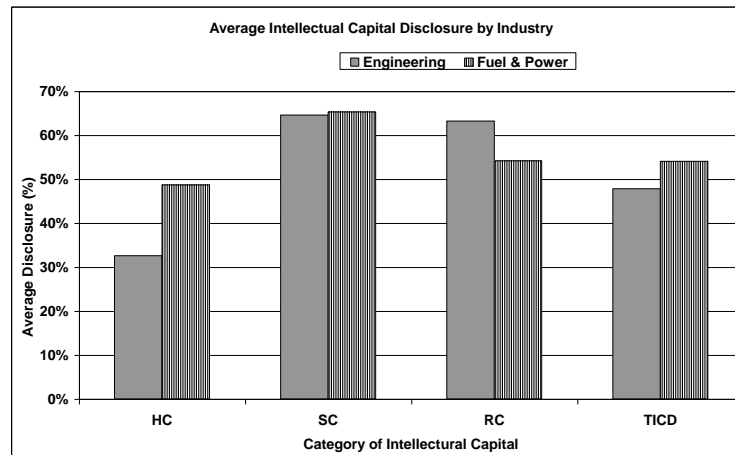
6.2 Level of IC Disclosure by Sample Firms

Out of 19 HC items average disclosure of the sample firms is 7.21 i.e. 37.94% (Table 4). Sample companies disclose, on average, 5.83 SC items out 9 which is corresponding to 64.81%. In the same way average RC disclosure is 5.42 (60.19%). Table 4 shows that out 37 IC items in three categories, the companies disclose only 18.46 items which is equivalent to 49.89%. It can be observed from Chart 2 that the highest disclosure IC category is structural capital (SC). Chart 3 presents the proportion of IC disclosure under three IC categories. Out of total intellectual capital disclosure (TICD) human capital (HC) is 23%, structural capital (SC) is 40% and relationship capital (RC) is 37%. So, the most disclosed category is SC whereas least disclosed category is HC. Table 5 summarizes the prior researchers' findings. Prior researches like, Guthrie, Steane and Farneti (2009), Xiao (2008) also show that the most disclose category is SC. On the contrary other studies, like, Abeysekera and Guthrie (2005), April, Bosma and Deglon (2003),

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Bozzolan, Favotto and Ricceri (2003), Davey, Schneider and Davey (2009), Goh and Lim (2004), Guthrie and Petty (2000), Oliveras et al. (2008), Striukova, Unerman and Guthrie (2008), Sujan, and Abeysekera (2007), Wong and Gardner (2005) show that the most disclosed IC category is RC. The findings of April, Bosma and Deglon (2003), Bozzolan, Favotto and Ricceri (2003), Davey, Schneider and Davey (2009), Goh and Lim (2004), Guthrie and Petty (2000), Guthrie, Steane and Farneti (2009), Sujan, and Abeysekera (2007), Xiao (2008) support that the least disclosed IC category is HC (see Table 5).

Table 4: Average IC Disclosure by Sample Firms

IC Category	No. of Items	Average Disclosure		Proportion of Disclosure (%)
		No. of Items	%	
Human Capital (HC)	19	7.21	37.94	23
Structural Capital (SC)	9	5.83	64.81	40
Relationship Capital (RC)	9	5.42	60.19	37
Total IC Disclosure (TICD)	**37**	**18.46**	**49.89**	**100**

Source: Researcher's own analysis

Chart 2: Average Intellectual Capital Disclosure under Different Categories
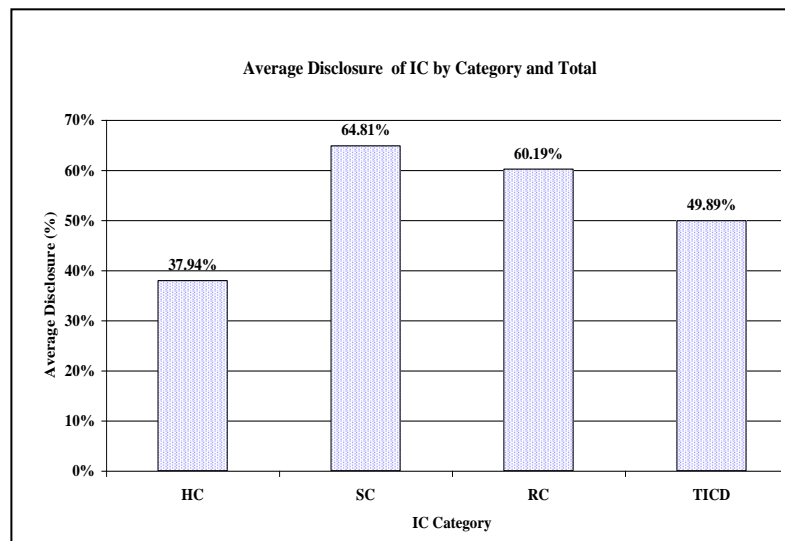
Chart 3: Proportion of Average IC Disclosure under Different

IC Disclsoure by Category
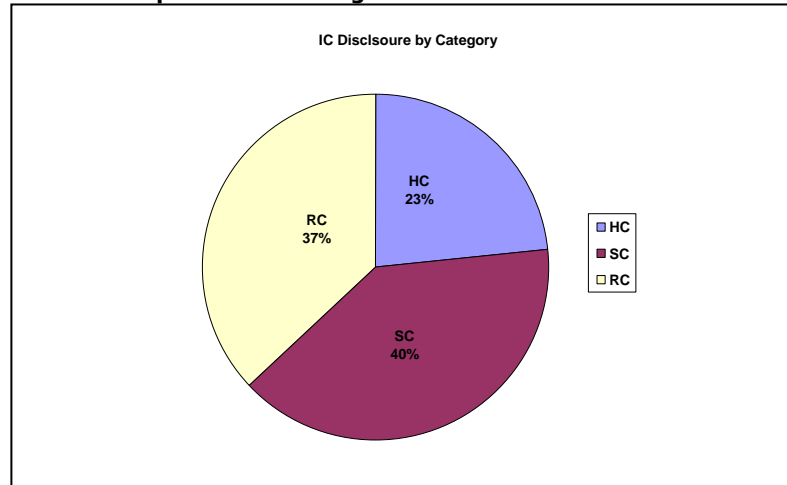
Table 5: Summary of prior research regarding proportion of average IC Disclosure in three Different Categories

Study	Data & Time Reference	Key Findings
Current Study	Bangladesh 2007-08 or 2008	SC=40%; RC=37%; & HC=23% of total IC Disclosure
Abeysekera and Guthrie (2005)	Sri Lanka 1998/1999 to 1999/2000	RC = 1st reported item; HC = 2nd reported item; & SC = 3rd reported item.
April, Bosma and Deglon (2003)	South Africa March 2001	RC=40.1%; SC=30.4%; & HC=29.5% of total IC Disclosure
Bozzolan, Favotto and Ricceri (2003)	Italy 2001	RC = 49%; SC = 30%; & HC = 21% of total IC Disclosure.
Davey, Schneider and Davey (2009)	Europe & North America 2005	RC = 50%; SC = 34%; & HC = 16% of total IC Disclosure
Goh and Lim (2004)	Malaysia 2004 & 2005	RC = 41.4%; SC = 36%; & HC = 21.9% of total IC Disclosure.
Guthrie and Petty (2000)	Australia 1998	RC = 40%; SC = 30%; & HC = 30% of total IC Disclosure.
Guthrie, Steane and Farneti (2009)	Australia 2002/2003, 2003/2004 & 2004/2005	SC = 37%; RC = 33%; & HC = 30% of total IC Report
Oliveras et al. (2008)	Span 2000, 2001 and 2002	RC = 59.6%; HC = 21.9 %; & SC = 18.5 %; of total IC disclosure

Study	Data & Time Reference	Key Findings
Striukova, Unerman and Guthrie (2008)	UK 2004	RC = 61%; HC = 22%; & SC = 17%; of total IC disclosure
Sujan, and Abeysekera (2007)	Australia 2004	RC = 53%; SC = 28%; & HC = 19% of total IC reporting.
Wong and Gardner (2005)	New Zealand 2004	RC = 48%; HC =31%; & SC = 21%; of total IC disclosure.
Xiao (2008)	China 2007	SC = 1st; RC = 2nd ; & HC = 3rd disclosed item.

Source: Literature review

6.3 Result of Product-moment correlation test

Pearson product-moment correlation coefficient is a measure of the correlation between two variables which is also used as a measure of the strength of linear dependence between the variables. Table 6 presents the result of the Pearson product-moment correlation coefficient of dependent and independent variables. Result shows that there is a positive correlation between TICD and NLASSET (.448) which is significant at the 0.05 level (1-tailed). Correlation between TICD and NLMCAP is positive (.550) and significant at the 0.01 level (1-tailed). Besides, BOARD, PINDREC, CFO, AUDITOR, SLASSET are positively correlated with TICD and but these are not significant at 1% or 5% level. On the other hand there is a negative correlation between TICD and PAUDIT (-.223). These results indicate the potential to support hypothesis.

Table 6: Pearson Correlation Matrix

Variable	TICD	BOARD	PINDREC	CFO	PAUDIT	AUDITOR	NLASSET	SLASSET
TICD	1.000							
BOARD	.263	1.000						
PINDREC	.119	-.138	1.000					
CFO	.018	.334	.457(*)	1.000				
PAUDIT	-.223	-.412(*)	.542(**)	.255	1.000			
AUDITOR	.270	.190	.114	.050	.197	1.000		
NLASSET	.448(*)	.508(**)	-.119	.187	-.252	.525(**)	1.000	
SLASSET	.153	.016	-.063	-.151	-.296	-.329	-.226	1.000
NLMCAP	.550(**)	.594(**)	-.249	.158	-.369(*)	.550(**)	.696(**)	.025

Note: The descriptions of the variables are given in Table 2;
* Correlation is significant at the 0.05 level (1-tailed);
** Correlation is significant at the 0.01 level (1-tailed).

6.4 Result of Descriptive Statistics

Descriptive statistics of the dependent and independent variables are presented in Table 7. Result shows that minimum score of HC is 2 and maximum score is 12 out of 19 and mean score is 7.71. SC disclosure score is between 4 to 8 out of 9 items and mean score is 5.83. In case of RC minimum score is 3 and maximum score is 9 out of 9 items. Considering all three categories of IC together minimum disclosure items are 10 and maximum disclosed items are 27 with mean score 18.46.

The mean of BOARD is 7.71 with standard deviation (SD) 2.136. The mean of PINDREC is .1167, CFO is .75, PAUDIT is .3583, AUDITOR is .38, NLASSET is 7.4183, SLASSET is 78.7375, and NLMCAP is 7.1692 (see Table 7).

Table 7: Descriptive Statistics of the Variables

Variable	Minimum	Maximum	Mean	SD
BOARD	5	12	7.71	2.136
PINDREC	.00	.25	.1167	.07738
CFO	0	1	.75	.442
PAUDIT	.00	.67	.3583	.21178
AUDITOR	0	1	.38	.495
NLASSET	4.28	10.91	7.4183	1.85218
SLASSET	.00	334.08	78.7375	79.06322
NLMCAP	3.86	10.64	7.1692	1.96826
HC	2	12	7.21	2.654
SC	4	8	5.83	1.167
RC	3	9	5.42	1.613
TICD	10	27	18.46	4.191

Note: The descriptions of the variables are given in Table 2

6.5 Result of multiple regression analysis

On ordinary least square (OLS) regression model there are eight independent variables. The regression results show that R square and adjusted R square are .643 and .452 respectively. It indicates that the model with included variables can explain the variations at least 45.20% where F value is 3.373 which is significant at .020 level. Durbin-Watson statistic is a test statistic used to detect the presence of autocorrelation in the residuals where the test result 2 indicates no autocorrelation. In the model Durbin-Watson value is 1.958 which indicates the fitness of the model. The regression results show that PINDREC, and NLMCAP are statistically significant at 1 percent levels whereas PAUDIT is significant at 5 percent (see Table 8). The coefficients for BOARD, CFO, AUDITOR and SLASSET are not statistically significant while NLASSET is statistically significant at 10 percent. This result is not similar with the prior study of Nurunnabi, et al. (2011) which used weighted disclosure index.

The hypothesis that companies with the higher proportion of independent directors to total directors (PINDREC) disclose more information than companies with that of lower is supported and this result is similar with Rouf and Hossain (2011), Ahktaruddin, et al. (2009). In the same way, the hypothesis that companies having higher market capitalization disclose more IC information that companies with lower market capitalization is also supported. On the contrary, the hypothesis that companies with larger board size (BOARD), existence of chief financial officer (CFO), higher proportion of audit committee

member (PAUDIT), audited by the auditor affiliated with Big 4 (AUDITOR), larger assets size (NLASSET) and higher ratio of sales to assets (SLASSET) disclose more IC items in their annual report is not supported. Thus, the regression analyses demonstrate that there is a little association between company characteristics and intellectual capital disclosure by the listed Bangladeshi companies.

Table 8: Regression Results

Variable	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	*SE*	*Beta*	*t*	
(Constant)	14.231	4.931		2.886	.011
BOARD	-.556	.448	-.283	-1.242	.233
PINDREC	60.193	16.638	1.111	3.618	.003
CFO	-3.454	2.013	-.365	-1.716	.107
PAUDIT	-14.111	6.112	-.713	-2.309	.036
AUDITOR	-2.155	2.146	-.254	-1.004	.331
NLASSET	-2.073	1.107	-.916	-1.873	.081
SLASSET	-.020	.013	-.373	-1.493	.156
NLMCAP	3.749	1.262	1.761	2.971	.010

Note: The descriptions of the variables are given in Table 2; Dependent Variable is TICD

Model Summary

R	= .808		
R^2	= .643	F	= 3.373
Adjusted R^2	= .452	Sig.	= .020
R^2 Change	= .643	Durbin-Watson	= 1.958

7. CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCHER

The present study is an alternative analysis of intellectual capital (IC) disclosure by the listed companies with different set of variables. Differently with the prior study of Nurunnabi, et al. (2011) this study used unweighted disclosure index. For developing the disclosure index the prior studies of the developing countries were considered. The variables were selected on the basis of the several prior studies which were used to predict mandatory and voluntary disclosure. The objective of the studies to show the IC capital disclosure pattern by the listed fuel & power and engineering firms in Bangladesh. To analyze the association between company characteristics and the extent of IC disclosure was also the objective of the study. Between two industries fuel & power discloses more IC items (54.05%) than engineering industry (47.80). Average disclosure score of the fuel & power and engineering firms is 49.89%. This result is better than Nurunnabi, et al. (2011) (20.72%) and Ali, et al. (2008) (36.16%). It indicates that the fuel & power and engineering companies disclose either qualitatively or quantitatively but not in both ways. This disclosure is better than Chinese firms (47.78%) (Xiao, 2008), South African mining industry

(36%) (April et al., 2003) and even than Portuguese firms (30.30%) (Oliveira, et al., 2006). The extent of IC disclosure is positively associated with proportion of independent directors to directors and market capitalization of the firm. But voluntary nature IC disclosure is not significantly associated with board size, existence of chief financial officer, proportion of audit committee members to total directors, nature of audit firm and sales to assets of the company. Moreover, amount of assets is negatively associated with IC disclosure. Unfortunately the fuel & power and engineering firms are less interested to disclose information regarding competency of the employee.

There are several limitations of this study. First, the sample size is very low, second, only a single year data is considered in this study and third, the constructed index may not be proper. As intellectual capital disclosure is voluntary in nature there is no guideline for selecting disclosure items. The findings of the study should be interpreted considering the above limitations. Further researcher may be conducted overcoming the limitations. Research with inclusion of all industries may be an attractive extension of this study. In spite of these the study may encourage companies disclose more IC items in their annual reports that will ultimately help users to make informed decisions. These IC items may also be disclosed by the companies of other Asian countries. For the betterment of the investors the regulatory authority, like SEC, may give direction to disclose more IC items in the corporate annual report.

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Does Audit Committee Constraint Discretionary Accruals In MESDAQ Listed Companies?

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ABSTRACT

The role and responsibility of audit committee towards credible financial reporting is still much the same, but the issue of selecting appropriate people with the right mind is often challenged. The usual tripartite, namely independence, diligence and knowledge of audit committee is further refined in the recently revised Malaysian Code of Corporate Governance 2007. The study examines the determinants of discretionary accruals in MESDAQ companies. The central issues are the key aspects of audit committee, namely independence, expertise and diligent including the issue of former senior auditor and audit alumni on audit committee and its effect on discretionary accruals. Based on OLS regression on cross-sectional data of 2007, the results suggest that audit committee with higher proportion of financial expertise (former senior auditor or former CFO) and more diligent audit committee are significant for the said purpose. As such, it is argued that audit committee with higher proportion of financial experts would lead to credible financial reporting. However, audit committee with former senior auditor and audit alumni are associated with larger discretionary accruals. In addition, total independent audit committee is positively associated with larger discretionary accruals which lead to possible limited access to pertinent financial information compared to audit committee with an insider.

Keywords: Audit committee, discretionary accrual, audit alumni, MESDAQ

INTRODUCTION

*I*nsofar, evidence on earnings management suggest that motives to engage income increasing or decreasing accounting policies are dissimilar across size and industries (Dechow & Sloan, 1991 on industry model; Teoh, Wong & Rao, 1998 on IPO; Beaver & Engel, 1996 and Liu & Ryans, 1995 on banks). Recently, Ahmad Zaluki (2008), based on a univariate analysis, reports that there are instances of earnings management of Malaysian IPO from 1990 to 2000 at the time of the IPOs (initial public offerings). To some extent, this implies that Malaysian IPOs would try to entice potential investors at the time of IPO similar to Teoh, Wong and Rao. Prior to Ahmad Zaluki"s work, another local study by Abdul Rahman and Mohamed Ali (2006) document some determinants of discretionary accruals including audit committee characteristics for top 100 Malaysian companies. On a larger scale, Mohd Saleh, Mohd Iskandar and Rahmat (2007) investigate some audit committee attributes on earnings management for more than 500

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Malaysian public listed companies the year after the introduction of Malaysian Code of Corporate Governance (MCCG) in 2000. However, both studies have not documented prima facie evidence on audit committee establishment possibly due to the initial years of the MCCG. Thus, the study revisits the relationship between audit committee and discretionary accruals in view of the revised MCCG in October 2007.

The study investigates several pertinent audit committee characteristics and its relationship with discretionary accruals. Firstly, to examine whether audit committee characteristics including having former senior auditor and audit alumni would reduce discretionary accruals. Secondly, to examine whether such relationships between exist in both income-increasing and decreasing discretionary accruals.

While discretionary or abnormal accruals are inevitable, there are practical consequences of earnings management in Malaysia. For instance, Johl, Jubb and Houghton (2006) find some evidence on qualified audit opinion and abnormal accruals when the auditors are Big Five in the pre and post Asian Financial Crisis in 1997-1998. While the results seem suggestive, treating all kinds of audit qualification as the same as in Johl et al. is noisy as this will introduce measurement bias. As discussed in great length in Healy and Wahlen (1999) on previous studies, earnings management to some extent affect resource allocation as it is found that alleged or detected earnings management affect stock price.

Such behavior is not evident in Malaysian IPO as documented in Ahmad Zaluki, Campbell and Goodacre (2009). Ahmad Zaluki et al. (2009, p. 31) state that "Earnings management is less likely during more normal economic conditions and then aggressive earnings management companies do not underperform their more conservative counterparts". The finding implies that there are no penalties from the market on aggressive earnings management over the more conservative earnings management especially in normal economic condition in pre and post 1997-1998 or there could be lack of prudence by the investing public under normal economic condition due to hypes of promising return from IPOs especially in 1990s. Whether the market would correct the situation after three years, as tested in Ahmad Zaluki et al., is still unknown and would be difficult to measure as many other variables may confound the effect, if any.

This study examines discretionary accruals in another sub-board of the Bursa Malaysia, namely the Malaysian Exchange of Securities Dealing & Automated Quotation (MESDAQ) board. Generally, MESDAQ companies belong to technology-based or technology incubators and other high growth industries (Bursa Malaysia, 2009). Arguably, this is similar with Ahmad Zaluki"s in the sense that MESDAQ companies are relatively new though the study does not intend to study earnings management of MESDAQ companies at the time of IPO. MESDAQ companies are relatively risky since most of them are newly established and more importantly, there is no requirement of profit track record to be listed on MESDAQ unlike the main board or the second board (Bursa Malaysia, 2009). There were 12 companies listed in 2002 and it grew to 124 at the end of 2007 with the highest number of new listings in 2005 (46 companies). Hence, the establishment of audit committee is only few

years old even for the oldest listed MESDAQ companies. This setting offers a good opportunity for empirical works especially on the effect of corporate governance on earnings management.

Recent works have attempted to explain discretionary accruals, a proxy of earnings management, using corporate governance variables such as CEO stock compensation (Meek, Rao & Skousen, 2007), board of directors (Peasnell & Young, 2005; Niu, 2006), audit committee (Bedard, Chtourou & Courteau, 2004; Piot & Janin, 2007) and auditors (Myers, Myers & Omer, 2003; Piot & Janin, 2007; Dowdell & Krishnan, 2004). It is worth noted that some evidence on such effects were also documented on earnings restatement (Lin, Li & Yang, 2006). However, Abdul Rahman and Mohamed Ali (2006) find no evidence on the influence of various aspects of Malaysian audit committee on earnings management in a multivariate setting using more recent data sets of 2003. While it seems premature to reach some solid conclusion, the authors noted that such findings are sufficient to suggest that "…the establishment of an audit committee in listed companies in Malaysia has yet to achieve success in its monitoring role" (Abdul Rahman & Mohamed Ali, 2006, p. 799). Surprisingly, the results belong to top companies after ten years of mandatory requirement of audit committee in Malaysia in 1993. In contrast, Mohd Saleh et al. (2007) find some evidence that independent audit committee and to some extent financial knowledge are relevant in constraining discretionary accruals.

This study extends the previous literature in several ways. Firstly, the study refines the definition of independent audit committee to all independent members rather than majority independent members. Secondly, the study refines the definition of financial expertise to only audit committee members who are previously audit managers/partners and chief financial officer rather than simply a member of Malaysian Institute of accountant (MIA) or any relevant experience. The study also introduces a relatively new variable, namely audit committee members who are formerly senior audit managers/partners and audit committee who are formerly audit alumni of the incumbent audit firm. These variables have been tested in other settings (Iyer & Raghunandan, 2002; Lennox, 2004).

The study revisits these pertinent issues to provide fresh evidence since research on related issues shows that audit committee with such characteristics are different (McDaniel, Martin and Maines, 2002; Menon and Williams, 2004). While the study follows Abdul Rahman and Mohamed Ali (2006) and Mohd Saleh, Mohd Iskandar and Rahmat (2007) on the number of audit committee meetings as a proxy of audit committee diligence, the study differs from both local studies on audit committee independence and audit committee expertise. Specifically, the study employs a stricter definition of independence and expertise to firstly mitigate potential insignificant findings (as reported in both studies) since most companies with high or low discretionary accruals have similar or complied with audit committee establishment required by the Bursa Malaysia, and secondly the refined audit committee variables may contribute to a finer policy or best practices of corporate governance. For instance, it is argued that audit committee member who was previously a senior auditor (senior manager or partner) is

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deemed to be more knowledgeable in current accounting standards than a common MIA member with a minimum of three years experience though the former is also an MIA member.

The organization of the paper is as follows. The following section describes the relevant literature on audit committee and its relationship with earnings management, and followed by a section on research method. The subsequent section discusses the findings of the study and the paper is concluded in the final section.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Literature on earnings management mostly revolves around agency theory that proposes that managers (agent) would not work at all times in the best interest of their shareholders (principal). While financial reporting is a mechanism to ensure that most economic activities are recorded and thus serves as some form of indicators of managers" effort, managers have additional price-sensitive information, and at the same time control the dissemination of such information. This is where accounting standards play their utmost roles. The very idea is that what matters to the business should be disclosed according to limited sets of accounting treatments so that we can compare two companies alike, though this is not the usual case especially of large and diversified corporations. Still, the management can adopt allowable accounting policies such as accounting estimates at their discretion and can be perceived as of lower quality since it will mislead investing publics from the actual situation. Thus, the requirement of an audit committee that was mandated to all Malaysian public listed companies starting from 1993 is thought to be the answer to higher quality financial reporting. Later, the Malaysian High Level Finance Committee proposed in 1999 to formulate a new corporate governance framework, the Malaysian Code of Corporate Governance, emulating the UK"s Cadbury Code to enhance the role of audit committee. Recently, the code is revised for the first time after seven years from its inception.

At present, the Malaysian Code of Corporate Governance (MCCG, 2007) outlines three aspects of audit committee, namely independence, financial knowledge and active monitoring or diligence. Recently, the code was revised on the requirement of independence of audit committee. MCCG (2007, p. 14) states that "The board should establish an audit committee comprising at least three members, a majority of whom are independent. All members of the audit committee should be non-executive directors". Prior to the recent MCCG (2007), there are three kinds of audit committee. The most common is three-person audit committees with one executive director, followed by all outsiders but only two are independent, and all independent directors. It is argued that the latter would provide the best structure of independent audit committee. Thus, there is no surprise when Abdullah and Shaikh Mohamed Al-Murisi (1997) find no support for the proportion of outside directors in audit committee in Malaysia to enhance its effectiveness in Malaysia based on 43 respondents. Their study however, did not differentiate respondents to independent director and affiliate director.

Abdul Rahman and Mohamed Ali (2006) report no association between discretionary accruals and the proportion of independent directors on

audit committee and board of directors. However, Mohd Saleh, Mohd Iskandar and Rahmat (2007) find that audit committee with no executive is associated with lower discretionary accruals. Abbot et al. (2003) find that completely independent audit committee and having at least one financial expert were positively associated with statutory audit fees that suggest for demand for higher quality audit works. In another local setting, Md Yusof et al. (2002) find that audit committee without an executive is positively associated with the issuance of modified going-concern audit opinion based on a sample of 167 distressed companies on the Kuala Lumpur Stock Exchange (KLSE). Though these are separate issues, it is argued that an independent audit committee would contribute positively to the overall financial reporting. Based on the above discussion, the study hypothesizes that:

> H1: Ceteris paribus, total independent audit committee are associated with smaller discretionary accruals

At present, the MCCG (2007, p. 14) states that, "All members of the audit committee should be financially literate and at least one should be a member of an accounting association or body". Though the MCCG requires all financial literate members on audit committee, the issue is whether the requirement of at least one from accounting association fits the definition of having a financial expert. In another survey, five hundred audit committee members from 134 randomly selected companies listed on the NYSE, the AMEX and the NASDAQ indicated that they appreciate "the importance of *all* committee members possessing sufficient expertise in areas related to accounting, auditing and the laws" (DeZoort, 1997, p.224).

McDaniel, Martin and Maines (2002) find that financial expertise and financial literacy have different effects on audit committee effectiveness. They find that financial experts i.e. having a member, who has sound skills in accounting and finance, is better at analyzing complex accounting issue and improving financial reporting quality than those who are finance literates i.e. a member who understand basic accounting and finance issues. However, Abdul Rahman and Mohamed Ali (2006) find no association between audit committee with at least one member is a qualified accountant with lower earnings management. Their results are based on top 100 companies based on market capitalization that may exhibit a different behavior compared to smaller and younger companies such as MESDAQ listed companies. Moreover, bigger companies are more exposed to public scrutiny and tracked by financial analysts, and even more so if they are also index-linked companies. In addition, similar result is documented in Mohd Saleh, Mohd Iskandar and Rahmat (2007) with the exception if such audit committee held more frequent meetings suggesting an interacting effect between frequent meetings and knowledgeable audit committee, though in separation both are not significant. Based on the above discussion, the study hypothesizes that:

> H2: Ceteris paribus, audit committee with financial experts are associated with smaller discretionary accruals

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Abbott and Parker (2000) find that audit committees that meet at least twice per year are more likely to use auditors who are industry specialist and thus suggest for demand of higher audit quality. Andersen, Mansi and Reeb (2004) provide additional evidence on the effects of diligence of audit committee. They find that the frequency of audit committee meetings is negatively associated with yield spreads suggesting that active monitoring by audit committee (AC) is quite important to creditors. However, Abdul Rahman and Mohamed Ali (2006) and Mohd Saleh, Mohd Iskandar and Rahmat (2007) find no evidence that more audit committee meetings is associated with smaller discretionary accruals. Based on the above discussion, the study hypothesizes that:

> H3: Ceteris paribus, more diligent audit committee are associated with smaller discretionary accruals

Iyer and Raghunandan (2002) conducted a survey to 83 alumni and find that alumni who previously works in the area of auditing may not be able to resist disagreement with their former CPA employers. Thus, while the alumnus is familiar with the inner-workings of the incumbent CPA firms, they might not be able to resist probably due to non-senior position held in the incumbent audit firm before departure. However, this issue is also tested in Iyer and Raghunandan. They report that there is no significant association between auditor"s rank and the perception of be able to resolve disagreement. In contrast, Lennox (2004) finds that alma mater affiliations companies are more likely to receive clean opinion especially when the alma mater held a senior position i.e. partner or senior manager. Similarly, Menon and Williams (2004) find that firms having a former audit partner as executives or directors are associated with larger accruals suggesting a potential threat on audit independence. Thus, while it is argued that having an alumnus on audit committee may constraint accruals since an alumnus is well-versed in the audit strategy and inner-workings of the incumbent audit firms but it could also work against the incumbent auditor. This is a difficult and delicate issue though some safeguards are already in place as stated recently under the MIA By-Laws (MIA, 2007). The MIA By-Laws (2007, p. 28) outlines examples that could create familiarity threat of an audit including "A former partner of the firm being a director or officer of the client or an employee in a position to exert direct and significant influence over the subject matter of the engagement". As an extension, this study proposes to focus on former senior auditor (senior manager or partner) on audit committee and its influence on discretionary accruals. Based on the above discussion, the study hypothesizes that:

> H4: Ceteris paribus, audit committee having a member formerly held a senior audit practitioner position are associated with larger discretionary accruals

> H5: Ceteris paribus, audit committee having a member formerly held a senior position of the incumbent audit firm are associated with larger discretionary accruals.

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RESEARCH METHOD

The study examines the population of MESDAQ companies listed on Bursa Malaysia as at 31 December 2007. From 124 listed companies, two companies are dropped from the analysis since they were newly listed on Bursa Malaysia in 2007 and did not have financial information in 2006 which is required in the calculation of the cross-sectional modified Jones model (Dechow, Sloan & Sweeny, 1995). All data are hand-collected from the annual reports. As stated earlier, the measurement of discretionary accruals follows Dechow et al. (1995) without using the coefficients from Jones (1991).

$$\frac{TACC}{ASSET_{t-1}} = \frac{1}{ASSET_{t-1}} + \frac{(\Delta REV - \Delta REC)}{ASSET_{t-1}} + \frac{PPE}{ASSET_{t-1}} + e \qquad (1)$$

Where,
TACC = total accruals measured by net income – cash flows from operation
$ASSET_{t-1}$ = prior total asset
ΔREV = change in sales/revenue
ΔREC = change in trade receivables
PPE = property, plant and equipment
DACC = discretionary accruals from the residual estimated from model 1

There are some important discussions in Bedard, Chtourou and Courteau (2004) with regards to modified Jones model, in particular of measurement errors if it is correlated with omitted variables based on Klein (2002) and Jeter and Shivakumar (1999), among others. In addition, Barth and Kallapur (1996) warn the usage of deflation at mitigating coefficient bias. This concern is apparent in modified Jones model as in Dechow et al. (1995). The idea of deflating dependent variable and independent variable to mitigate heteroscedasticity problem as in model 1 fits this concern. However, such omitted variable bias may be context specific, and as to make the findings comparable especially of local studies, the absolute DACC is then used as the dependent variable in model 2 following Dowdell and Krishnan (2004), Peasnell, Pope and Young (2005), and Abdul Rahman and Mohamed Ali (2006), among others. The study also conducts further analysis on subsamples of income increasing (INCDACC) and income decreasing DACC (DECDACC) as both discretionary accruals may not share the same underlying characteristics or be treated the same as tested in Mohd Saleh et al. (2007). Mohd Saleh et al. (2007), however, use the non-absolute DACC in their main analysis.

The research model is as follows,

$$|DACC| = b_0 + b_1 ACIND + b_2 ACEXPERT + b_3 ACDILIGENCE + b_4 ACSENIORAUD$$
$$+ b_5 ACALUMNI + b_6 LGASSET + b_7 ROA + b_8 BIG4 + b_9 LGAFEE + e \qquad (2)$$

variable	Expected sign	explanation
|DACC|		Absolute discretionary accrual using modified Jones model (Dechow et al. 1995)
Hypothesis		
ACIND	-	Audit committee with all independent members (dummy)
ACEXPERT	-	Proportion of financial experts on audit committee
ACDILIGENCE	-	Number of audit committee meetings
ACSENIORAUD	+	Audit committee with former audit manager/partners (dummy)
ACALUMNI	+	Audit committee with audit alumni (dummy)
control		
LGASET	-	Natural log of total assets
ROA	+	Return on assets
BIG4	-	Big Four auditors (dummy)
LGAFEE	-	Natural log of audit fee

Expected direction for hypothesis variables are as argued under hypotheses development while control variables (LGASET, ROA and BIG4) follow previous theoretical direction as in Bedard et al. (2004), Abdul Rahman and Mohamed Ali (2006), and Fargher, Lee and Mande (2008). To control for audit efforts, the study introduces LGAFEE and argues that higher fees represent additional audit efforts to constraint discretionary accruals including provision of bad debts and doubtful revenue recognition, among others.

RESULTS AND DISCUSSION

Descriptive Analysis
Table 1 shows that the mean and the standard deviation of absolute discretionary accruals are, on the surface, higher than Abdul Rahman and Mohamed Ali (2006) and Dechow et al. (1995) but lower than Dowdell and Krishnan (2004). Abdul Rahman and Mohamed Ali (2006) report a mean of 0.0132 and a standard deviation of 0.07, Dechow et al. (1995) report a mean of 0.002 and a standard deviation of 0.119, and Dowdell and Krishnan (2004) report a mean of 0.209. However, the results are not comparable since all these studies use different modified Jones models. For instance, Abdul Rahman and Mohamed Ali do not include PPE in estimating non-discretionary accruals, Dechow et al. use coefficient from the original Jones (1991) and Dowdell and Krishnan (2004) do not include change in receivable in estimating DACC. Mohd Saleh et al. (2007) report non-absolute discretionary accruals with a mean of -0.013.

About 29 percent appointed all independent audit committee members and since it is a stricter definition than the current regulation, it is lower than 68 percent reported in Abdul Rahman and Mohamed Ali (2006) and Mohd Saleh, Mohd Iskandar and Rahmat (2007) which are basically following the previous recommendation of two-third majority independent directors of the old MCCG (2000). Still, 43 percent appointed an executive on audit committee but this will change from 2008 onwards as the new MCCG (2007) only allows non-executives on audit committee. The remaining 28 percent are not having any executives but are not fully independent. It is still early to guess the breakdown of the new dichotomy of total independent and all outsiders audit committee would be, as many have not released their 2008 annual reports. Some have made changes on their audit committee as the new

MCCG (2007) was revised in October 2007 especially those with December financial year-end.

The average proportion of former senior auditor and chief financial officer on audit committee is only 23 percent. This is even lesser than one expert on audit committee (should be 33 percent on a three-person audit committee). A more logical interpretation is that most MESDAQ companies appoint an MIA member who is not a formerly senior auditor or a chief financial officer but this is still within MCCG (2007). Even with more than 20,000 MIA members as at the end of 2003 (MIA annual report, 2008), Abdul Rahman and Mohamed Ali (2006) find 10 companies that did not appoint any qualified accountant on audit committee. Similar evidence is also documented in Haron, Jantan and Eow (2005) on eleven companies that did not comply with the requirement of having at least one financial literate member. Admittedly, this is not a requirement under the present Malaysian Code of Corporate Governance that implicitly still hold on the notion of financial literacy rather than financial expertise of audit committee. Arguably, they are in better position to evaluate accounting policies; some are new, complex and controversial; under the Malaysian Accounting Standard Board (MASB) regime than just any member with few years experience in banking or finance related industries or an MIA member who are admitted on the basis of a minimum 3 years experience in accounting practice or more doubtfully, the commercial sectors.

TABLE 1
Descriptive Statistics, n= 122

variables	Min	Max	Mean	S.D.
|DACC|	.0003	1.0981	.1652	.1695
ACIND*	0	1	.29	
ACEXEC*	0	1	.43	
ACEXPERT	0	1	.23	.217
ACDILIGENCE	0	7	4.62	.856
ACSENAUD*	0	1	.32	
ACALUMNI*	0	1	.02	
ASET (RM)	3,667,326	527, 518, 777	61,383,146	73,224.275
LGASET	15.11	20.08	17.55	.8451
ROA	-6.29	.31	-.0588	.6082
BIG4*	0	1	.28	
AUDFEE (RM)	5,500	1,298,000	63,031.57	119.118.74
LGAFEE	8.61	14.08	10.676	.7404
PROFIT	-45,473,287	27,243,000	1,798,065	9,383,781.879

*for dummy variables, the mean reported is the frequency

As expected, the average number of meetings is about four to five times in a year, and this is no different than Abdul Rahman and Mohamed Ali (2006) and Haron, Jantan and Eow (2005). However, there is potential measurement error since the number of audit committee meetings should not be based on meetings during financial year but should extend to the day of audit report or about three to four months after financial year-end in Malaysia. Interestingly, about 32 percent appoint former senior auditor (senior manager and audit partner) on audit committee. While all of them are members of the MIA and some hold other

professional accounting membership such as the MICPA and ICAEW, an MIA member may not necessarily hold such senior position prior to appointment on audit committee. There is however, only one case of former senior manager, all others are former partners. There are two cases of audit alumni on audit committee. One of them is formerly managing partner of Big Four.

The size of the company ranges from as small as 3 million to as large as 500 over millions. On average, MESDAQ firms are reporting small profits (an average of about two millions). As also documented in Md Yusof (2007) based on 2006 datasets, Big Four auditors are not dominating MESDAQ companies since more than 70 percent are audited by other international and local audit firms. Previous local studies as in Che Ahmad and Derashid (1995) find that the Big Six audit about 80 percent of the population of the KLSE in 1991 and Abdul Rahman and Mohamed Ali (2006) documented an 81 percent dominance of the Big Four in top 100 companies in 2003. Interestingly, more local firms including single proprietors are auditing MESDAQ companies along with other international audit firms. This is similar to Krishnan (2001) argument. She argues that, "Small auditors may not be able to compete with bigger auditors for larger clients, and might decide to concentrate within an industry on smaller companies" (Krishnan, 2001, p. 132). For example, a local firm, Tan Chin Huat & Co. is auditing seven MESDAQ companies and Horwarth, an international firm, is auditing nineteen companies. It is also noted that, PriceWaterhouseCoopers is the only Big Four that audit one MESDAQ company. As expected, the mean of audit fee is lower than Che Ahmad, Shafie and Mohamad Yusof (2006) or the older evidence in Che Ahmad and Derashid (1995), since MESDAQ companies are smaller, and size is a significant determinant of audit fee (Che Ahmad and Derashid, 1995).

Regression Diagnostics
The study examines classical OLS assumptions including the threat of heteroscedasticity, wrong functional form, and normality, among others. There is no significant threat of heteroscedasticity using a general test on heteroscedasticity based on White test (1980). Still, if such threat exists, the standard errors reported in Table 3 are White"s heteroscedasticity-corrected standard errors. Residual is found to be normally distributed using the Doornik-Hansen test (χ^2 of 47.61 with a p < 0.01) which does not require an asymptotic assumption (Doornik & Hansen, 1994).

Since the study tests the population, multicollinearity threat is minimal (see discussions in Gujarati, 2006 and Wooldridge, 2003 on multicollinearity as a feature of the sample and not the population). Furthermore, multicollinearity does not violate any of the classical linear regression assumptions. Still, Variance Inflation Factor (VIF) yields results ranging from 1.01 to 1.56 which is not far different than 1 for perfect no multicollinearity (Gujarati, 2006). Since multicollinearity is a question of degree, and though some suggest the rule of thumb of VIF exceeding 10 should be investigated carefully, the regression analysis does not suffer from huge swings in variances of any strong correlated independent variables, the highest being ACEXPERT and ACSENAUD

with a spearman rho of 0.512 (correlation matrix is shown in Table 2). While there are some outliers, only few (five) of them are influential points using the DFFITS measure suggested by Belsley, Kuh and Welsch (1980). The study defines influential point based on observations exceeding 95% confidence interval of DFFITS. Thus, such observations are excluded from the main analysis though Bedard, Chtourou and Courteau (2004) dropped all outliers to minimize bias. This however, must be carefully examined. While dropping outliers may seem prudent, it may also introduce bias, loss of degree of freedom and potential explanation. Results using all observations are provided in the appendix for comparison.

Due care on correct functional forms of the independent variables are tested using Ramsey RESET test (Ramsey, 1969). No significant findings are found to suggest potential model misspecification due to functional forms. As asset and audit fee are transformed to logarithmic forms, this will also reduce threats of outliers if any (see Wooldridge, 2003 p. 312-316 on discussion of benefits of logarithmic transformation on outliers).

TABLE 2
Correlations

	|DACC|	ACIND	ACEXPERT	ACDILIGENCE	ACSENIORAUD	ACALUMNI	LGASET	ROA	BIG4	AUDFEE
|DACC|	1	.276**	-0.06	-.040	.132	-.037	-.174	-.539**	-.012	-.088
		.002	.519	.661	.149	.688	.056	.000	.893	.337
ACIND		1	-.049	.067	.031	.026	.004	-.167	-.121	-.039
			.593	.463	.736	.779	.967	.065	.183	.666
ACEXPERT			1	-.064	.512**	.155	.152	.143	-.007	-.040
				.483	.000	.089	.095	.116	.937	.659
ACDILIGENCE				1	-.047	-.054	-.149	-.015	.018	-.056
					.605	.555	.103	.872	.848	.540
ACSENIORAUD					1	.232*	.032	.058	-.073	-.019
						.010	.728	.529	.423	.837
ACALUMNI						1	.066	.028	.137	.038
							.470	.761	.131	.677
LGASET							1	.309**	.220*	.167
								.001	.015	.066
ROA								1	.040	.033
									.665	.719
BIG4									1	.269**
										.003
AUDFEE										1

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

*. Correlation is significant at the 0.05 level (2-tailed).

While it is expected that independent audit committee will be able to constraint discretionary accruals holding other factors fixed as documented in Mohd Saleh et al. (2007), the study finds a controversial and positive direction between independent audit committee with discretionary accruals in both INCDACC and DECDACC models. As such, this may reflects some concerns that independent audit committee may not be able to access all pertinent financial information as documented in PricewaterhouseCoopers (2002). PricewaterhouseCoopers Malaysia (2002) reveals that:

The majority of PLCs indicate that they provide to their INEDs, extensive access to senior management followed by access to company"s documents, information and reports, access to quality information and access to independent professional advice. However, *INEDs felt that they have slightly lesser access to all the above mentioned areas* (emphasize added).

Regression Analysis

Table 3 shows that the model explains about 46 percent of the variation in |DACC| compared to about 26 percents in Abdul Rahman and Mohamed Ali (2006) and 30 percent in Mohd Saleh et al. (2007) albeit this study employs fewer predictors or determinants. This issue was noted by the authors stating that their adjusted R^2 is small (12%). Though Abdul Rahman and Mohamed Ali and Mohd Saleh et al. do not originally report the unadjusted R^2, our calculation suggests that their unadjusted R^2 should be 26.42% and 30.1% respectively which are comparable with previous studies. A significant drop from unadjusted R^2 of 26% to adjusted R^2 of 12% in Abdul Rahman and Mohamed Ali (2006) shows that there are some irrelevant/insignificant predictors in the specified model, in particular by the many board of director variables. However, one question remains, do all these variables jointly explain the variation though individually they are not statistically significant. For instance, the coefficient of CEO duality (b = -0.37), concentrated ownership (b = 0.89), and proportion of independent directors (b = 1.42) on board of directors in Abdul Rahman and Mohamed Ali can be argued as fairly moderate though they might have high standard errors or low t-values (not originally reported as well). A joint-hypothesis test would be able to answer whether these variables do not jointly explain the variation. For the sake of brevity, t-value is also not reported in Table 3 but it can be calculated with ease.

As the result shows an R^2 of 46%, this implies that more variation can be explained in the case of MESDAQ companies compared to top 100 companies and this is even more evident in DECDACC model (R^2 of 73%). This is expected considering that top 100 companies are usually conglomerates and such diversity would include different accounting policies adopted at subsidiaries" level that later form the consolidated accounts at holding companies. Hence, larger variation would be difficult to be captured using fewer control variables. With proper controls, this issue can be mitigated. It is noteworthy that Abdul Rahman and Mohamed Ali (2006) tested six control predictors to isolate size, liquidity, leverage, profitability, Big Five auditor and growth effects in their main analysis. Among the three models in Table 3, the predictors explain highest variation in income decreasing discretionary accruals model and this is particularly contributed by profitability (ROA) and diligent audit committee. In |DACC| model, ROA explains about 30 percent of the variation in a single predictor OLS regression.

While it is expected that independent audit committee will be able to constraint discretionary accruals holding other factors fixed as documented in Mohd Saleh et al. (2007), the study finds a controversial and positive direction between independent audit committee with discretionary accruals in both INCDACC and DECDACC models. As such, this may reflects some concerns that independent audit committee may not be able to access all pertinent financial information as documented in PricewaterhouseCoopers (2002). PricewaterhouseCoopers Malaysia (2002) reveals that:

> The majority of PLCs indicate that they provide to their INEDs, extensive access to senior management followed by access to company"s documents, information and reports, access to

quality information and access to independent professional advice. However, *INEDs felt that they have slightly lesser access to all the above mentioned areas* (emphasize added).

TABLE 3
OLS Regression

DV IV	Expected direction	|DACC| Coefficient (std. error)	INCDACC Coefficient (std. error)	DECDACC Coefficient (std. error)
const		0.264 (0.212)	0.521 (0.404)	-0.325 (0.270)
ACIND	-	0.010 (0.027)	0.048* (0.034)	0.046** (0.027)
ACEXPERT	-	-0.009 (0.045)	-0.076* (0.052)	-0.043 (0.068)
ACDILIGENCE	-	-0.002 (0.010)	-0.021* (0.015)	-0.025** (0.013)
ACSENIORAUD	+	0.044** (0.024)	0.063** (0.030)	-0.003 (0.036)
ACALUMNI	+	-0.145*** (0.037)		0.077** (0.035)
LGASET	-	-0.006 (0.012)	-0.035* (0.024)	0.010 (0.014)
ROA	+	-0.142*** (0.012)	0.265** (0.126)	0.164*** (0.007)
BIG4	-	0.026 (0.030)	0.070* (0.054)	-0.017 (0.029)
LGAFEE	-	-0.002 (0.020)	0.028 (0.024)	0.0146 (0.016)
n		117	53	64
R^2		0.457	0.258	0.725
Adjusted R^2		0.411	0.123	0.679
F		24.289***	2.527**	236.77***

***/**/* Significant at 1%, 5% and 10% respectively at 1-tailed

With possible limited access to financial data, independent audit committee may not be able to discharge their function optimally, in this case, to constraint discretionary accruals. Such setting would allow large discretionary accruals to escape the scrutiny of independent audit committee. Conversely, audit committee with an executive or non-independent non-executive director is associated with lower discretionary accruals. There is a need to further investigate this issue since there are quite a number of MESDAQ companies that have the CEO or the finance director on audit committee. Thus, there is an information asymmetry between independent audit committee and the management on financial matters which suggest that there should be some trade-off between having fully independent audit committee and audit committee with one executive director since the executive member can provide a bridge between audit committee and the

management. However, this is no longer an option under the current MCCG (2007). The study tests the alternative, audit committee with no executive as outlined in the revised MCCG and also tested in Mohd Saleh et al. (2007) and find similar result.

There is no evidence to suggest that audit committee with financial expertise and more diligent audit committee are significant in the absolute DACC model but further analysis in INCCDACC and DECDACC show that such findings do not hold. There is weak evidence (p < 0.10) in INCDACC model and stronger evidence in DECDACC model (p < 0.05) that more diligent audit committee would constraint larger income increasing or decreasing discretionary accruals respectively. Similarly, audit committee with financial experts is significant in INCDACC with the expected direction. Arguably, such audit committee may curb excessive manipulation of financial performance in MESDAQ companies.

Interestingly, having former senior auditor on audit committee is associated with larger accruals and this is in line with Menon and Williams (2004). At least two explanations can be deduced from this finding. Firstly, they may exerts some influence on incumbent auditors at constraining accruals or secondly, as suggested by Menon and Williams (2004, p.1116), they may be also "…attracted to firms that share some characteristics that is also associated with high accruals". Audit committee with an alumnus is significant in DECDACC model suggesting the possibility of taking a "big bath" or building "cookie jars" or alternatively, a more conservative accounting adoption by such alumni.

While company size is negatively significant in Abdul Rahman and Mohamed Ali (2006), there is no evidence that size does matter in MESDAQ. While Abdul Rahman and Mohamed Ali (2006) find no evidence of ROA with a positive theoretical direction, this study find that ROA is significant and negative in absolute discretionary model. While a crude explanation would be that more profitable MESDAQ companies are engaging in lesser discretionary accruals, a more plausible explanation is that profitable MESDAQ firms may have predicted their accruals fairly accurately or in other words, lesser timing problems. Conversely, a less profitable and loss-making MESDAQ companies would compel to engage in larger discretionary accruals in order to minimize unfavourable market reaction, at least from the |DACC| model. In similar vein, Menon and Williams (2004) find that distressed firms using Zmijewski Financial Condition score (Zmijewski, 1984) are more associated with larger discretionary accruals. This warrants further investigation. Both models (INCDACC and DEC DACC) show that the direction is positive suggesting that more profitable MESDAQ companies engage in more aggressive discretionary accruals similar to Mohd Saleh et al. (2007). Thus, this reinforces the need to test discretionary accruals separately into income increasing or decreasing accruals rather than the absolute value as in Bedard et al. (2004). This test is absent in Abdul Rahman and Mohamed Ali. However, Bedard et al. employ a non-random procedure based on an arbitrary definition to separate aggressive earnings management and low earnings management that may induce sample selection bias. As such, their results should be cautiously viewed within this context. A joint hypothesis test on ACIND, ACEXPERT and

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ACDILIGENCE shows that all three do not explain significant variation of |DACC| but as discussed earlier, using unsigned discretionary accruals is problematic (Hribar and Nichols, 2007).

Unlike Francis, Maydew and Sparks (1999) and Menon and Williams (2004) that find evidence of Big Five auditors with lower discretionary accruals, audit firm size and their efforts (as proxied by audit fees) are not significant suggesting that audit quality dimension to some extent is not evident in constraining discretionary accruals, though limited to MESDAQ companies. Abdul Rahman and Mohamed Ali (2006) also find similar finding in top 100 Malaysian companies. However, there is weak evidence (p < 0.10) that Big Four auditor is associated with income increasing discretionary accruals. Consequently, one would argue that Big Four auditors may not be able to constraint upward opportunistic earnings management. Alternatively, there are also possibilities of omitted variable bias i.e. one that explain upward discretionary accruals and correlated with Big Four auditor as also argued in Menon and Williams (2004) on the positive sign of former audit partners and discretionary accruals. Still, while one would argue that endogeneity problem may plague Big Four effect, factors such as audit fee and company size that are previously associated or correlated with Big Four auditor in audit fee literature, and at the same time may explain discretionary accruals are already included. Nevertheless, theoretically, there is a need to revisit the existing discretionary accruals models as in Abdul Rahman and Mohamed Ali (2006) or Menon and Williams (2004) as such threat exists. One practical implication from this finding is whether audit firms in Malaysia, big or small, are able to withstand aggressive earnings management in a more difficult situation, such as potential delisting, bankruptcy or potential violation of going-concern assumption as partly documented in Johl et al. (2006) and Menon and Williams (2004). Replication in this area is warranted in view of incoming economic recession.

CONCLUSION AND WAY FORWARD

The study finds some evidence that having all independent audit committee may not bode well to constraint earnings management. The study suggests that this move should be supported with free or unlimited access to financial information similar to executive directors. Otherwise, an independent audit committee is handicapped and is limited to available resource that may not be effective in monitoring discretionary accruals. There is weak evidence that audit committee with financial expertise i.e. former senior auditor and former CFOs would be able to constraint upward earnings management.

A more puzzling result is the issue of having senior auditor on audit committee. While their existence constitutes a higher expertise compared to an average MIA member, discretionary accruals are larger. The study also finds that more profitable firms engage in larger earnings management. To some extent, this is also in line with findings in Menon and Williams (2004) who document that distress companies are more likely to engage in larger discretionary accruals. Obviously, more replications are needed before we can reach any solid conclusion.

The study is limited to MESDAQ companies. Still, the results give

insights on prevalent characteristics that may not surface in larger and well-established public listed companies. It is noted that there are competing measurements of discretionary accruals and some are promising as recently documented in Francis, LaFond, Olsson and Schipper (2005) and Cohen, Dey and Lys (2008) on real and accrual earnings management. Nevertheless, the search for true measurement is an on-going expedition and may not escape the "Scylla and Charybdis" of earnings management.

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APPENDIX

TABLE 4
OLS Regression

DV IV	Expected direction	|DACC| Coefficient (std. error)	INCDACC Coefficient (std. error)	DECDACC Coefficient (std. error)
const		0.325* (0.325)	0.315 (0.498)	- 0.428** (0.398)
ACIND	-	0.054** (0.030)	0.115*** (0.043)	0.008 (0.039)
ACEXPERT	-	-0.061 (0.071)	-0.083 (0.094)	- 0.016 (0.097)
ACDILIGENCE	-	-0.013 (0.016)	-0.024 (0.024)	-0.028* (0.020)
ACSENIORAUD	+	0.075** (0.033)	0.111*** (0.046)	0.014 (0.044)
ACALUMNI	+	-0.076 (0.087)	0.059 (0.150)	0.065 (0.094)
LGASET	-	-0.001 (0.018)	-0.002 (0.031)	0.022 (0.021)
ROA	+	-0.142*** (0.023)	0.296** (0.180)	0.162*** (0.021)
BIG4	-	0.030 (0.033)	0.082* (0.055)	-0.006 (0.041)
LGAFEE	-	-0.011 (0.030)	-0.009 (0.035)	0.004 (0.025)
n		122	56	66
R^2		0.350	0.325	0.617
Adjusted R^2		0.297	0.019	0.555
F		6.682***	2.456**	10.041***

***/**/* Significant at 1%, 5% and 10% respectively at 1-tailed

Auditors' Perception towards Time Schedule Pressure and Reduced Audit Quality Practices: A Study from Bangladeshi Context

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ABSTRACT
Research on Reduced Audit Quality Practices (RAQP) has consistently shown the serious negative consequences of this practice in the auditing profession. However, research in RAQP is relatively few in emerging or newly industrialized countries and much of the relevant literature is derived from developed countries. Therefore, this study examines the effect of time budget pressure on RAQP in the context of a developing country, Bangladesh. Based on a mailed questionnaire survey to the auditors, the results suggest that RAQP does occur in Bangladesh audit firms, particularly in non-big four firms.

Keywords:, Reduced Audit Quality Practices Dysfunctional Audit Behavior, Audit Quality, Time Budget Pressure, Bangladesh.

INTRODUCTION

In recent years, there has been much discussion about the auditing profession especially after the highly publicized collapse of Enron in the United States followed by other major accounting scandals such as WorldCom and Parmalat. These scandals have certainly shed light on the quality of audit work, which is hard to examine and observe by people outside of the audit firm. Shareholders often view such scandals as indicators that auditors can fail to fulfill their duties. This raises questions about auditors' integrity and objectivity. The Enron collapse and the dissolution of its auditor, Arthur Andersen, mark a new environment for the auditing profession, the "post-Enron era". Auditors that work in the "post-Enron era" are more exposed to rigid environment with increased regulation specifically the passing of the Sarbanes-Oxley Act in the United States of America.

Ironically, despite the strengthening regulation of the accounting profession and numerous researches conducted on audit quality, scandals on accounting irregularities continue to occur and the next question to be answered is what has gone wrong. Recently, the Bangladeshi share market was hit by a high profile financial scandal. Accordingly, auditors are often blamed for failing to discover these

material misstatements and the effectiveness of the external audit function has been questioned by various parties.

One specific concern related to the issue surrounding the auditing profession is the behaviors of auditors under high pressure. In the "post-Enron era", where auditors are required to do more work without increasing their audit fees due to competitive audit market, a need to balance between providing quality of audit work and profitability of an engagement may arise. This cost-quality conflict increases the pressure on auditors influencing the way auditors react and the final output of the audit. In the accounting literature, much research has already been conducted on auditor behavior that could directly influence audit quality such as Reduced Audit Quality Practices (RAQP) and the factors that cause RAQP. Most of the studies consistently found that under certain pressure levels, auditors tend to engage in RAQP (Kelley & Margheim, 1990; Otley & Pierce, 1996). Among others factors investigated by previous studies, time budget pressure has consistently been a significant factor leading to RAQP (Alderman & Deitrick, 1982; Coram, Ng, & Woodliff, 2003; Gundry & Liyanarachchi, 2007; Kelley & Margheim, 1990; Otley & Pierce, 1996; B. Pierce & Sweeney, 2004). Understanding the consequence of time budget pressure is crucial for audit firms as this may help them to better understand the adverse impact of time budget pressure on audit personnel and audit quality, and to identify possible ways of better managing such pressure. However, research on audit quality and time budget pressure is relatively small in numbers in emerging or newly industrialized countries. It has been observed that the occurrence of RAQP and the effect of time budget pressure can vary cross-nationally (e.g.; Coram et al., 2003; Kelley & Margheim, 1990; Otley & Pierce, 1996). Therefore, this study aims to explain and examine the issue of audit quality in the Bangladeshi context.

In this study, time budget pressure as measured by budget attainability and budget emphasis was examined along with five RAQP, namely premature signing-off on a audit program step, reducing the amount of work performed on an audit step below what the auditor would consider reasonable, failing to research an accounting principle or technical issue, making superficial reviews of client documents and accepting weak client explanations. The objective is twofold. First, to increase our understanding of the occurrence of RAQP in Bangladesh that is significantly different in terms of culture (Claessens, Djankov, & Lang, 2000) and legal environment (Johl et al., 2007) from other countries investigated previously, and second to examine the effect of time budget pressure faced by auditors on audit quality. Specifically, this study attempts to answer the following questions:

** Do RAQP exist in Bangladesh? And what is the incidence of the five main types of RAQP?

** Does budget attainability affect RAQP?

** Does budget emphasis affect RAQP?

LITERATURE REVIEW
Audit Quality
The quality of audit work is very important not only to the audit firm but

also to the public. Audit quality is the fundamental element that explains the demand for auditing service. Audit quality can be defined from various perspectives. The most prevalent definition of audit quality in the accounting literature is the market-assessed probability that the financial statements contain material errors and that the auditor will both detect and report errors and irregularities in financial statements (DeAngelo, 1981). Other definitions that have been used are the probability that an auditor will not issue an unqualified report for financial statements containing significant misstatements (Lee, Liu, & Wang, 1999), the accuracy of the information provided by auditors (Davidson & Neu, 1993; Krinsky & Rotenberg, 1989; Titman & Trueman, 1986), and the degree to which the auditors comply with applicable auditing standards (J. M. Cook, 1987; Krishnan & Schauer, 2001; McConnell & Banks, 1998; Tie, 1999). Although there are various definitions given to audit quality, to some extent, they share similar dimensions that relate to the competence and independence of auditors. Studies on audit quality have used two approaches; audit firm differentiation and behavioral perspective. For the former, as audit quality is not directly observable and measurable, various proxies for audit quality have been developed in the literature. This approach indirectly examines audit quality and investigates the differences between audit firms using different proxies of quality measurement, such as pricing differentials (Asthana, Balsam, & Kim, 2009; Francis & Simon, 1987; Palmrose, 1986, 1989; Simon & Francis, 1988; Simunic, 1980; Wang, O, & Iqbal, 2009), firm size or reputation (Francis & Simon, 1987; Kanagaretnam, Krishnan, & Lobo, 2009; Krishnan & Schauer, 2000; Simon & Francis, 1988), litigation risk (Bell, Landsman, & Shackelford, 2001; Seetharaman, Gul, & Lynn, 2002; Venkataraman, Weber, & Willenborg, 2008), industry specialisation (A. M. Ali, Sahdan, Rasit, & Lee, 2008; Almutairi, Dunn, & Skantz, 2009; Carson, 2009; Craswell, Francis, & Taylor, 1995; DeFond, Francis, & Wong, 2000) and users' perceptions of audit quality (Almutairi et al., 2009). On the other hand, the behavioral approach investigates audit quality based on work performed by audit personnel and uses more direct approach. Coram et al. (2003) named this approach as the "look behind the audit veil". This approach involves investigating auditors' behaviors during the audit engagement and assessing whether they are acting appropriately when carrying out audit procedures. This approach is based on the assumption that auditors' behaviors would be reflected in the auditing engagement such as in the audit work and the errors made by auditors. The approach is also known as "reduced audit quality practices" or RAQP.

Given that the work of audit firms is under scrutiny due to high profile scandals involving big audit firms, it is important to understand auditors' behaviors because despite being classified as high quality audit firms (as high fees, brand name, industrial specialist are found to be associated with high quality audit in previous studies), See, Balsam, Krishnan, and Yang (2003), Josept V. Carcello and Nagy (2004), Craswell et al. (1995), Francis and Simon (1987), Palmrose (1986), Simon and Francis (1988). The incidence of RAQP is still problematic in big firms. Furthermore, as RAQP is closely associated with the fundamental audit quality attributes

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of competence and independence, the incidence of RAQP may affect the final product of audit firms, which is the auditor's opinion. Previous studies have also found that the individual and team member variables to be more important than firm attributes in explaining audit quality (Boon, McKinnon, & Ross, 2008; Joseph V. Carcello, Hermanson, & McGrath, 1992). Therefore, this study adopts the RAQP behavioral perspective approach in investigating the audit quality issue.

Reduced Audit Quality Practices (RAQP)

The incidence of RAQP in audit firms has been the focus of studies over a long period of time and in many countries such as Australia (Coram et al., 2003), France (Herrbach, 2001), Ireland (Otley & Pierce, 1996; B. Pierce & Sweeney, 2004), Mauritus (Soobaroyen & Chengabroyan, 2006), New Zealand (E. Cook & Kelly, 1991; Gundry & Liyanarachchi, 2007), United States (Alderman & Deitrick, 1982; Donnelly, Quirin, & O'Bryan, 2003; Kelley & Margheim, 1990; Malone & Roberts, 1996) and United Kingdom (Willett & Page, 1996). Most of the studies showed that a relatively high number of auditors have been involved in RAQP and provided evidence that auditors tend to compromise audit effectiveness by not properly executing the audit program. For instance, Coram et al. (2003), Kelley and Margheim (1990), and Otley and Pierce (1996) found that more than 50% of the auditors surveyed committed at least one RAQP throughout their career.

RAQP is defined by Herrbach (2001, p. 790) as the "poor execution of an audit procedure that reduces the level of evidence gathered for the audit, so that the collected evidence is unreliable, false or inadequate quantitatively or qualitatively". RAQP occurs when auditors do not properly execute audit procedures required to complete their tasks. This behavior not only will have a negative effect on individual auditors (e.g., in performance evaluation), it also threatens the outcome of the engagement and the validity of the audit opinion thus affecting the overall firm's performance and users' economic decisions. Although RAQP does not necessarily lead audit firms to issue inappropriate audit opinion, however, it would increase the audit risk (Coram et al., 2003), in the sense that the probability of firms issuing the wrong opinion is higher.

This research stream originally emerged from the report issued by the AICPA's Cohen Commission in 1978 [Reference for this report has been obtained from other studies, e.g. Alderman and Deitrick (1982) and Margheim and Pany (1986)]. The Cohen Commission report provides some important insight on auditors' behaviors and provides evidence that it is normal for auditors to sign-off audit program without performing necessary audit procedures, not recording the omission of those audit procedures or not substituting it with other alternative audit procedures or steps (Alderman & Deitrick, 1982). The report also disclosed that approximately 60% of the auditors surveyed engaged in premature sign-off (Margheim & Pany, 1986).

In general, RAQP has both, direct and indirect implications on audit quality. Underreporting of time is a behavior engaged by auditors that indirectly affect the audit quality (Kelley & Margheim, 1990; Otley & Pierce, 1996). Lack of human resource management, budget revision,

and unrecognized time pressure on future audit are the consequence of underreporting of time (Donnelly et al., 2003). On the other hand, a considerable amount of research effort has examined the behaviors that directly affect audit quality, which are incomplete execution of audit programs and audit procedures that are necessary in completing audit task, including premature signing-off (Alderman & Deitrick, 1982; Donnelly et al., 2003; Kelley & Margheim, 1990; Margheim & Pany, 1986; Otley & Pierce, 1996; B. Pierce & Sweeney, 2004; Raghunathan, 1991), accepting weak client explanations or doubtful evidence (Coram et al., 2003; Gundry & Liyanarachchi, 2007; Kelley & Margheim, 1990; Malone & Roberts, 1996; Otley & Pierce, 1996), failing to research an accounting principle (Kelley & Margheim, 1990; Otley & Pierce, 1996), made superficial reviews of client documents (Kelley & Margheim, 1990; Malone & Roberts, 1996; Otley & Pierce, 1996), reduced the amount of work performed on audit step (Kelley & Margheim, 1990; Otley & Pierce, 1996), rejecting awkward looking items from a sample and not testing all of the items in a selected sample (Coram et al., 2003).

Studies in RAQP have extensively focused on premature sign-off. Premature sign-off is defined as the "audit personnel signing-off on audit program steps before completing one or more of the required audit procedures" (Raghunathan, 1991, p. 71). Alderman and Deitrick (1982) replicated and extended the Cohen Commission study to investigate the existence of premature sign- off among auditors of big firms in the United States and the reasons for such behavior. They found that 31% of the auditors believed that premature sign-off occurred in their office and more importantly, this undesirable behavior occurred when the auditors believed that the step was unnecessary to the audit. Margheim and Pany (1986) found that auditors in non-big firm believed that premature sign-offs were more likely to occur in smaller firms than in big firms. While Alderman and Deitrick (1982) and Margheim and Pany (1986) used auditors' perceptions, Raghunathan (1991) examined auditors' actual behaviour. He found that 55% of the auditors had prematurely signed-off on the audit program.

Kelley and Margheim (1990) examined, in addition to premature sign-off, four other types of RAQP such as reduced amount of work performed on audit step, accepting weak client explanations, failing to research an accounting principle and made superficial reviews of client documents. Interestingly, unlike the previous studies, their study of staff and senior auditors in one of the big audit firms in the United States found that auditors were less likely to engage in premature sign-off (8%). Instead, they found that auditors mostly engaged in accepting weak client explanations (33%) and reduced the amount of work performed on audit step (31%). Further, Kelley and Margheim (1990) found that more than half of the staff auditors engaged in at least one of the five types of RAQP during the audit engagement. Consistent to Kelley and Margheim's (1990) results, Malone and Roberts (1996) found premature sign-offs are the least likely RAQP used by auditors.

Subsequent studies on RAQP showed increasing trends in RAQP and provide evidence that these undesirable acts could be highly problematic

to the profession and should trigger a warning alarm to regulatory bodies. Coram et al. (2003) who investigated 38 auditors from various sizes of firms in Australia found that 63% of the auditors admitted "sometime" to use RAQP. They also found that more than 40% of the auditors noticed their colleague "sometimes" had used RAQP in speeding up audit testing. The results of Otley and Pierce (1996) are more disturbing as they found that 88% of the senior auditors in three of the Big 6 firms in Ireland admitted to engaging in at least one of these RAQP. Various factors that are associated with the occurrence of RAQP have been investigated in previous studies and time budget pressure has consistently been significant to RAQP (Alderman & Deitrick, 1982; Coram et al., 2003; Gundry & Liyanarachchi, 2007; Kelley & Margheim, 1990; Otley & Pierce, 1996; B. Pierce & Sweeney, 2004).

Time Budget Pressure

Time budget pressure occurs when an audit firm allocates an inadequate number of hours for auditors to complete specified audit procedures (Margheim, Kelley, & Pattison, 2005). Auditors are responsible for ensuring that audit tasks are completed within the budget allocated by management and in accordance with auditing standards, regulations and rules. Nevertheless, it is difficult to balance these responsibilities resulting in the compromise of one of the elements (Robertson, 2007). Time budget pressure has been widely studied from two perspectives; budget attainability and budget emphasis.

The former focuses on the ability of the auditors to perform their audit engagement while maintaining high quality in limited time or cost. Budget attainability is considered as a major problem faced by public accounting profession (DeZoort & Alan, 1997). Otley and Pierce (1996) argued that auditors will behave unprofessionally under time budget pressure and are more likely to be involved in dysfunctional behavior. Empirical results seem to add weight to these arguments. For example, Kelley and Margheim (1990) surveyed 85 staff and senior auditors from two big audit firms to identify whether time budget pressure had an impact on RAQP. They found that as budget attainability increased, RAQP and under-reporting of time decreased. These results support the findings of E. Cook and Kelley (1988) who found that 22% of the auditors will engage in RAQP in order to achieve the budget set by the firms. A similar finding has been found in a recent study conducted by Coram et al. (2003). Of the 60% of auditors surveyed by Coram et al. (2003) who admitted to engaging in RAPQ, almost 80% of the respondents cited time budget pressure as a factor in committing these acts. As the time budget pressure increased, auditors' performance decreased significantly (McDaniel, 1990), thus suggesting that as auditor's perception of budget attainability decreased, the higher the possibility that auditors will engage in unprofessional behaviors.

On the other hand, budget emphasis or achievement has been viewed as a measure of "efficiency" of auditors. Promotion is one of the major control mechanism employed by audit firms to ensure employees behave in the best interest of the firms (Pokémon, 1990).

Accordingly, as time budget achievement is perceived as a critical performance evaluation criterion for career advancement by auditors (Ettredge, Bedard, & Johnstone, 2008; Kelley & Seller, 1982; Otley & Pierce, 1996), auditors have incentives to commit undesirable behavior (E. Cook & Kelley, 1988; Coram et al., 2003; Houston, 1999), which can be associated with audit quality threatening behaviors. It is easy to understand that when auditors are struggling to meet the budget which could have a detrimental effect on their performance evaluation, many auditors see RAQP as a way out. Otley and Pierce (1996) found that almost 70% of senior auditors from three big firms perceived budget achievement as important in the overall evaluation of performance. Their study also showed that 45% of the senior auditors perceived budgets were generally very difficult to achieve. Lau and Buckland (2001) indicated that budget emphasis was significantly associated with job-related tension. As the time budget emphasis is seen by auditors as a critical performance indicator and could lead to the high stress experienced by auditors, it is believed that emphasis on time budget is associated with RAQP.

RESEARCH METHODOLOGY
Sample
The respondents consisted of staff and audit seniors in non-big four audit firms in Bangladesh. Staff and seniors auditors were selected mainly because previous studies had found high incidence of RAQP at these levels (Alderman & Deitrick, 1982; Gundry & Liyanarachchi, 2007; Kelley & Margheim, 1990; Otley & Pierce, 1996; Raghunathan, 1991). Auditors in non-big four audit firms were selected because previous studies mainly focused on big four audit firms (Kelley & Margheim, 1990; Otley & Pierce, 1996; Bernard Pierce & Sweeney, 2006; Raghunathan, 1991). As this is a preliminary study, a convenience sampling technique was used where the researchers solicited the aid of contact auditors to co-ordinate the research. Questionnaires were distributed and collected by the contact auditors in selected firms. 70 questionnaires were sent to contact auditors and 44 useable responses were received, a response rate of 63%. Among the respondent, 77% are the staff auditors and 23% are the senior auditors. Respondents have an average of less than 2 years of audit experience.

Questionnaire Design
The following five RAQP used by Otley and Pierce (1996) and Kelley and Margheim (1990) were adopted; prematurely signing-off on a audit program step, reducing the amount of work performed on an audit step below what the audit would consider reasonable, failing to research an accounting principle or technical issue, making superficial reviews of client documents, and accepting weak client explanations. Respondents were asked to indicate the frequency of each type of RAQP encountered in the previous year of audit work. For budget attainability and budget emphasis measures, instruments were adopted from Otley and Pierce's (1996) study. Respondents were asked their perceptions on the attainability of their time budget for

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financial statement audits in the last year, whereas for the latter, respondents were asked direct questions about their perception of the importance of budget achievement in their overall performance evaluation.

RESULTS
Descriptive Analysis
Table 1 presents the frequencies of specific RAQP committed by auditors. From Table 1, the five practices are commonly used by auditors during their audit engagements. The percentage of auditors who reported to "often" or "always" engaging in the following RAQP is: 15.9% for premature sign-off; 20.5% for reduced audit work below what they considered reasonable; 13.7% for failed to research an accounting principle and accepted weak client explanation; and 45.5% for superficial reviews of client's documents. Most of the auditors (ranging from 47.7% to 68.2%) admitted "at least sometimes" to engaging in RAQP. This study shows a high incidence of RAQP among the auditors compared to Otley and Pierce (1996) and Coram et al.(2003) with 88% and 63% of auditors admitting to engaging in RAQP. In addition to that, of some concern is the fact that all of the auditors admitted to committing at least one type of RAQP. This appears to contradict to results of Otley and Pierce (1996) who found that 12% of respondents indicated never for all four types of RAQP, and Coram et al.(2003) found 37% of auditors never engaged in any type of RAQP.

Table 1: The Frequencies of Specific RAQP Engaged by Auditors (frequencies in brackets)

RAQP	Always	Often	Sometimes	Rarely	Never
Prematurely signing-off on a audit program step	2.3% (1)	13.6% (6)	68.2% (30)	11.4% (5)	4.5% (2)
Reduced work below what you considered reasonable	2.3% (1)	18.2% (8)	56.8% (25)	13.6% (6)	6.8% (3)
Failed to research an accounting principle	2.3% (1)	11.4% (5)	63.6% (28)	15.9% (7)	6.8% (3)
Made superficial reviews of documents	11.4% (5)	34.1% (15)	47.7% (21)	6.8% (3)	0% (0)
Accepted weak client explanation	2.3% (1)	11.4% (5)	61.4% (27)	22.7% (10)	2.3% (1)

For time budget emphasis, respondents were asked questions about their perception and desired importance of budget achievement in the performance evaluation as used by Otley and Pierce (1996). From Table 2, 31.8% of the respondents perceived budget achievement is highly emphasized by their firm as part of performance evaluation. This result appears to be consistent with Otley and Pierce (1996) where 37.1% of auditors perceived budget achievement was very important for performance evaluation. The desired level of importance of budget achievement closely matches (27.3%) the perceived level of importance of budget achievement (31.8%). These results indicate that non-big four audit firms may place budget achievement as one important criterion in promoting their staff.

Table 2: The Frequencies for The Importance of Budget Achievement (frequencies in brackets)

Response	Desired	Actual (perceived)
Very important	27.3% (12)	31.8% (14)
Quite important	50.0% (22)	40.9% (18)
Some importance	22..7% (10)	27.3% (12)
Little importance	0% (0)	0% (0)
Not important	0% (0)	0% (0)

Table 3: Auditors' Responses to Tight Budgets (frequencies in brackets)

Response	% of Respondents	
Work harder but charge all time properly	61.4%	(27)
Under-report time by working on personal time	52.3%	(23)
Reduce the quality of audit work to meet budget	29.5%	(13)
Request and obtain and increase in the budget	34.1%	(15)
Shift time to a non-chargeable code	11.4%	(5)
Shift time to a different client	20.5%	(9)

The respondents were also asked how they respond when they feel a time budget is unattainable. A summary of responses is presented in Table 3. Again, the results appear to be similar to Otley and Pierce's (1996) study where 61.4% of the respondents tended to work harder and 52.3% tended to under-report time when facing a tight budget, followed by request additional budget and RAQP. Otley and Pierce's (1996) found that auditors most likely to work harder (75%), followed by under-report time (54%) and quality reduction (36%) when facing tight budget. Although only 29.5% of the auditors would engage in RAQP under tight budget conditions, the results show that time budget pressure could have a detrimental effect on auditor's behaviors which consequently could influence the audit quality. With regard to budget attainability, the respondents were asked about their perception of the budget in the last year. As shown in Table 4, in general, the majority of the auditors indicated that the last year's budget that they worked on was attainable although with considerable effort.

Table 4: The Frequencies of Time Budget Attainability (frequencies in brackets)

Response	% of Respondents	
Impossible to achieve	0%	(0)
Very tight, practically unattainable	2.3%	(1)
Attainable with considerable effort	70.5%	(31)
Attainable with reasonable effort	25%	(11)
Very easy to attain	2.3%	(1)

Statistical analysis

The basic statistical analysis was performed using Spearman Rho correlation analysis instead of linear regression analysis. The reason is mainly because the number of respondents used in this study is small, which does not meet the condition required for regression analysis [Green (1991) recommends a minimum number of sample size for regression analysis is 50 + 8k, where k is the number of predictors. Based on his recommendation, the minimum number of respondents for this study to use regression analysis is 66 (50 + 16)] and the data are not normally distributed. For each respondent, the overall measure of RAQP is the sum of his/her scores on five RAQP items. Thus, each respondent's overall score ranged from 5 to 25. Higher scores represent greater incidence of RAQP. A correlation matrix is presented in Table 5. Following prior research (E. Cook & Kelley, 1988; Coram et al., 2003; Gundry & Liyanarachchi, 2007; Kelley & Margheim, 1990; Otley & Pierce, 1996), it is expected that time budget pressure is positively associated with RAQP. However, for this study, budget attainability and budget emphasis were not significantly related to the tendency of the auditors to engage in RAQP.

Table 5: Correlation Matrix

	RAQP	Budget Attainability	Budget Emphasis
RAQP	1	-.20	.08
Budget Attainability		1	.24
Budget Emphasis			1

DISCUSSION AND CONCLUSION

This study provides evidence that RAQP is highly problematic in auditing profession, particularly in Bangladesh. The preliminary results show that auditors in non-big four firms tended to engage in RAQP, with more than 70% committing these practices at least sometimes. Auditors are most likely to engage in superficial reviews followed by reduced audit work and premature sign-off. Few of the auditors failed to research an accounting principle and accepted weak client explanation. The worst scenario is that all of the auditors involved in this preliminary study admitted to engaging in at least one type of RAQP. This may show an increasing trend in auditors involved in such unprofessional behaviors which could have a detrimental effect specifically on the audit opinion.

The results of this study also revealed that most of the auditors perceived budget achievement is important in their career development and desired the firm to place high emphasis on budget achievement for performance evaluation. This study also found that most of the auditors perceived the budget that they worked on in the previous audit year was generally attainable. In contrast, Otley and Pierce (1996) found almost 17% and 29% of the auditors in their sample indicated budget was impossible and very tight to achieve, respectively. This inconsistency may be due to the fact that their respondents were from big four firms, whereas this study focuses on non-big four audit firms, which has different environment and

client structure. Basically, time budget is a reflection of the firm's client structure. The majority of non-big four firms' clients are non listed companies, with less complex accounting structure and guidelines. This could justify why the auditors in this study feel less pressure from time budget. The finding on budget attainability also supports the results obtained earlier where the auditors in non-big four firms preferred their firm to place high emphasis on budget achievement as one of their performance indicators because the budget generally was achievable.

With regard to RAQP, time budget pressure does not appear to be associated with these behaviors. This could be understood when most of the auditors do not perceive time budget as their main problem when it could be achieved, although with considerable effort. Although time budget pressure is not a major concern, there are a number of auditors stating that they will resort to RAQP as a means to meet the budget if they faced tight budgets. One of major concerns highlighted by this study is the high incidence of RAQP among the auditors. Although RAQP does not mean the audit opinion is inappropriate, but the probability of this occurring is higher (Coram et al., 2003) especially when staff and seniors auditors are the ones involved directly in the audit fieldwork and their work forms a basis for the audit opinion. One possible reason for the high incidence of RAQP is weak enforcement by related agencies, such as the Institute of Chartered Accountants of Bangladesh (ICAB).

While this study makes an important contribution to the audit quality debate, there are a number of limitations that are inherent in this current study. One of the limitations is that the results of this study may not be representative of the population because of the small number of respondents. In addition to that, the sampling technique, convenience sampling, is also subject to few disadvantages such as sampling bias. Further, the results of this study cannot be generalized and should be interpreted in the context of the Bangladeshi auditing environment. The study only examined senior and staff level in non-big four firms, therefore, the findings are also not generalisable to other auditor levels and big four firms. The survey method involving postal questionnaire is also exposed to certain problems, particularly related to the credibility of the answer given by respondents and little control over who completes a postal questionnaire, which can lead to bias.

Further research needs to be done to understand further the reasons that could lead to auditors' behavior which threatens audit quality. In particular, other relevant variables that occur in auditors' working environment for example team structure and leadership may be identified and examined.

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Use of Accounting Information in a Multi-Project Organization – The Role of Temporality and Permanency

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ABSTRACT
Studies on the use of accounting information have with a few exceptions not highlighted the role of the organizational form for the use of accounting information. In studies of management and organi-zation the multi-project organization (MPO) and its managerial implications has received an increased attention during the last decade, but its implications for the use of accounting information has not been studied in any depth. Accordingly is the aim of the paper to explore how the MPO's dimensions of temporality and permanency shapes the use of accounting information in a multi-project organiza-tion. The aim will be pursued by a case study of a Swedish building and construction company. Based on the empirical data it is concluded that the temporality of operations implies that higher level man-agers need more encompassing non-financial information in order to judge accounting information and by that they also get more involved in operations. At the same time, operation managers, i.e. the site manager in a project, have a central role when accounting information for higher level managers is generated. Finally is it suggested that multi-project organizations needs to be categorized in future studies of the use of accounting information in multi-project organizations.

Key words: Management Accounting, Accounting Information, Multi-project Organizations, and Construction Industry.

INTRODUCTION

$\mathscr{S}$tudies of the use of accounting information have been approached in different ways. One major direction has applied a contingency framework and by surveys identified relationships among contextual variables like environmental uncertainty, span of control, task interdepend-ence, and decentralization in studies of design and performance of management accounting systems (see e.g. Chenhall and Morris, 1984; Gul and Chia, 1994). In another direction, not using contingency theory, surveys have been used in order to inquire the use of accounting information for decision making by operations managers (see e.g. Foster and Gupta, 1994). A third direction is based on case studies these are of a more explorative nature (see e.g. Jöns-son and Grönlund, 1988; McKinnon and Burns, 1992; Ahren, 1997). However, no wider at-tention has been paid to how the organizational form shapes the use of accounting informa-tion. Even if accounting research on inter-organizational relations have received an increased attention in studies

of accounting and control within different organizational forms (see e.g. Lind and Thrane, 2005), has the majority of studies focused on different kinds of inter-organizational relations among organizations these can be regarded as more or less permanent organizations.

In studies of management and organization the multi-project organization (MPO) and its managerial implications has received an increased attention during the last decade (see e.g. Midler, 1995; Söderlund, 2004). A multi project organization can best be described as an organization where operations mainly are organized by projects defined by scope, time and costs. Traditionally projects has been used as an organizational form for managing tasks these not have been considered as a part of a firm's ordinary operations, for example different change initiatives, implementation of new IT-systems, and product development. However, during the last ten to fifteen years it has been more and more command that organizations, others than traditional MPOs in engineering, construction and defence industry, more widely use projects in order to organize day to day activities (Blomquist and Söderholm, 2002). Ac-cordingly, many firms turn out to be in situations of multi-project environments in order to increase flexibility and to respond fast to customers changing demands. The emergence of MPOs has put management into situations of managing more or less intertwined projects. This development has in practice given rise to management models aimed at organize and manage sets of more than one project (see e.g. Turner and Keegan, 1999; Turner, 1999, Räsänen and Linde, 2004).

However, the use of accounting information in multi project organizations has not been studied in any depth, neither in management accounting studies more generally, nor in studies of use of accounting information. One of the few studies conducted on the use of ac-counting information in MPOs is Veeken and Wouter's (2002) study of operation managers' use of accounting information systems in a road building company. But the study had its prime focus on operations managers' use of accounting information implied that no further elaborations were made upon the eventual role of the MPO in shaping the use of accounting information. When MPOs and traditional line organizations are compared, the MPO is distin-guished from traditional line organization by its constitution of two clearly identifiable enti-ties: the temporary entities (the projects in which operations are organized) and the perma-nent entity (the line organization). This division can be assumed to have implications for the use of accounting information. Traditionally, for short term activities, managers generally use non-financial data (se e.g. McKinnon and Burns, 1992), but as the time horizon lengthens accounting numbers become more important (see e.g. Jönsson and Grönlund, 1988; Veeken and Wouters, 2002). Thus, for the use of accounting information in the MPO at lest two im-plications can be identified. First, in the in the temporary entity of the MPO, what implica-tions have the temporality for the use of accounting informationn? Second, due to the pro-jects' limited life time and that the MPO consists of a number of projects in different stages, how is reliable accounting information produced for the permanent organization? Against this background is the aim of the paper to explore how the MPO's dimensions

of temporality and permanency shapes the use of accounting information. This aim will be pursued by a case study of a Swedish building and construction company.

Use of accounting information and multi-project organizations
Management accounting has focused on calculating organizational performance for decision making, coordination and motivation using techniques such as cost allocation, responsibility centres, transfer prices, product costing, performance measurement, and budgeting in order to contribute to an increased value of the firm (Hansen and Mourtisen, 2007:3). In line with this it can be assumed that accounting information, like cost reports, which should allow compar-ing actual costs and the budgeted costs for work done (see Anthony and Govindarjan, 1998), is the most common accounting information used in a MPO. The main reason for this as-sumption is the temporality of operations and the focus on deadlines, and accumulated costs. Moreover, the reports on costs and financial results should provide information about the current status of the activities for which the manager is responsible and if problems are iden-tified, the reports should help the manager to take action and resolve the problems (McKinnon and Bruns, 1992). However, in a MPO, cost- and finical reports are not always the most central information for managers when they should take action and resolve problems for these they are responsible.

In a MPO context Veeken and Wouters (2002) have studied the use of accounting in-formation in a project based company as an example of how operations managers use ac-counting information in their daily practice. In the study it was concluded that information on prices and expected costs was crucial for pre-planning purposes for both higher and lower level managers in order to understand expected project costs, identifying financial risks, and plan the execution of the project in order to meet cost targets. But during project execution higher level managers depended upon out-put oriented information of actual costs versus budgeted costs for monitoring projects. Lower level managers, on the contrary, relay on ob-servations of processes and use action centred skills to manage the economic result of the project. Even though Chapman (1997) claimed that accounting information can take the role of a `learning machine` supporting managers in dealing with uncertainties and understand financial consequences of action for responding to uncertainty, Veeken and Wouters (2002) did not find that lower-level managers used accounting numbers in order to identify and solve problems. This observation is consistent with the findings by Jönsson and Grönlund (1988) who found that out-put oriented accounting numbers did not support lower-level managers learning processes, but such information was appropriate for higher-level managers. Instead, operation managers need to be able to connect the measures with other sources of informa-tion, because they need to see with their own eyes and talk to people closest to the events (*ibid*: 524). Accordingly suggested Veeken and Wouters (2002:364) that the usefulness of accounting information for operations managers depends on if the information is consistent with the type of skill based action

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managers take in order to manage costs.

When the use of accounting information in the permanent part of an MPOs is dis-cussed, the concept of project portfolios is closely related. The definition of project portfolio is "a group of projects that are carried out under the sponsorship and/or management of an organization and have to compete for scarce resources (people, finance, time etc) available from the sponsor (Archer and Ghasemzadeh, 1999). When project portfolios are discussed topics of portfolio performance, portfolio control and context dependency has been studied (see e.g. Muller et al, 2008). Because projects in portfolios studied have had a large variety, for example new product development, change projects, projects with a clear end customer etc, attention has been paid to a portfolio's alignments with company strategies, value maxi-mization, relations between single project success and portfolio performance (Martinsuo and Lehtonen, 2007).

When it comes to evaluation of single projects and how they contribute to the portfolio more traditional finical measures like Net Present Value, Internal Rate of Return, Return on Investment, Pay back time and cost benefits techniques are suggested (Archer and Ghasemzadeh, 1999). But also risk assessment and market research has been tools suggested the evaluation of single projects (*ibid*). However, in research on management of MPOs it seems to have been too much focus on the resource allocation while Engwall and Jerbrandt (2003: 408) stated that:

> "*research on multi project management has to go beyond resource allocation and start addressing incentive structures, accounting systems and other deeply embedded features of the organization*".

It can be assumed that governance of project portfolios needs to be differentiated with regard to characteristics of projects in the portfolio, for example if the portfolio solely con-sists of business projects with external customers, or if it is a mixture of new product devel-opment- and change projects. Moreover, by drawing on the prescriptive research stream on project management it can be claimed that managers in the permanent organization might have a faith in tools and methods developed for planning and control of projects, leading to that the single project is regarded as a self regulating entity (Linderoth, 2008). Because, nor-mative models for management and control of project performance, can be seen as tools promising to deliver controllability and by applying these tools an effective intra-organizational integration and optimal utilization of scarce resources would be achieved (see e.g. Sahlin-Andersson and Söderholm, 2002; Blomquist and Söderholm, 2002; Cleland, 1997; Clark, 1999). In the building and construction industry this tendency have been rein-forced by the bureaucratization of the project manager function, where project managers con-ceive their work as becoming more and more concerned with administrative matters (Styhre, 2006).

Thus, how can the use of accounting information in MPOs be understood? For the man-agers in the permanent organization and in the temporary organization it can be assumed that traditional management accounting tools like budgeted costs and actual costs is the account-ing information with highest relevance. But managers in the

temporary organization (opera-tion managers), relay on non financial information when managing and controlling actions. Thus, due to the temporality of operations in the MPO, the most important non-financial in- formation is the progress of the time plan. This is a general claim with regard to all kinds of MPOs. But what kind of accounting information is used in MPOs solely consisting of busi-ness projects with external customers? I.e. operations are organized by projects. In this case it can be assumed that traditional measures on the profitability on investments loose in rele-vance, because it is a customer doing an investment in the project carried out by the MPO.

Data collection and case description
Due to the relatively modest scope of literature in the field, a qualitative case study approach has been chosen. The qualitative approach is appropriate when a study aims at creating clarity and an understanding for a social phenomenon, in this case the use of accounting information in MPOs. Furthermore does Yin (1994: 9) argue for qualitative case studies when:

> *"…a „how" or „why" question is being asked about a*
> *contemporary set of events over which the investigator has little*
> *or no control."*

In this paper the "how" questions is related to how accounting information is used on various levels in a MPO in order to analyze how temporality and permanency shape the use. Furthermore does Vaivio (2007) argue that qualitative research in the field of management accounting contributes with an enhanced understanding of a context bound phenomenon in a field.

In order to reveal how accounting information is used on various levels in MPOs various techniques of data collection have been applied:

* First, data has been collected by participant observation by presence at 46 meetings, encompassing 82 hours, at construction project worth 50 million € over two years, and managed as a partnering project. The meetings participated in have been produc-tion meetings by the main contractor, involving the site manager, vice site managers, foremen, and representatives for construction workers. Projecting/design meetings with representatives for including the main contractor, the subcontractors and their consultants, and the client representatives. Meetings of the quality group with a re-sponsibility for internal quality audits. Internal "check meetings" by the main contrac-tor including the site manager, vice site managers, purchaser, cost accountant, project-ing manager, planning manager.
* Second, data has been collected by following a vice site manager during one day at the construction site.
** Third, access has been had to all meeting minutes from the internal meetings and to the projects document database.
** Fourth, data has been collected by 15 interviews with actors on different hierarchical levels in the company. Interviewed persons are for example the CEO and CFO of the company, the head of the accounting and finance department, the head of a regional unit, the head of a business district, site managers, one ICT-manager, one

design manager and managers in R & D departments.

The studied company, Alfa Construction, a subsidiary of the Beta corporation, is one of the top three construction companies on the Swedish market with a yearly turnover of ap-proximately 25 billion Euros and with 8000 employees, before the financial crisis. Alfa is organized in 4 regions with and consisting of 86 business districts these are divided into con-struction and infrastructure.

Use of accounting information in a multi–project organization

In this section the use of accounting information in Alfa will be presented. First is it de-scribed what kind of accounting information that generally is considered as important, and some general trends in the use of accounting information will be presented. Thereafter the use of accounting information in the permanent organization will be described, and finally, the use of accounting information in the temporary organization will be described.

During the last couple of years there has been a change in Alfa's focus on perform-ance measures. From that of creating profitability by growth, for example by striving for be-ing the largest construction company in the Nordic countries, to a focus on profitability. This is for example expressed in the goals the new CEO is emphasizing: being the most profitable construction company in the Nordic countries, which should be achieved by for example re-ducing the costs by 5% per year. The focus on profitability is rather clear when the use of accounting information on different hierarchical levels in Alfa is more closely scrutinized. Two measures are salient: profit margins and the net cash flow these also are central in the reward system. The consistency in the focus on profit margins is further confirmed when a head of a region and the head of a business district are interviewed. Both state that monitor-ing projects' performance is the number one priority and there has been an increased focus on different kinds of costs, because the company wants to get a better control over the costs for both materials and sub-contractors. A main reason for the cost focus, regardless the contractual form regulating a project, is that the price is regarded as more or less fixed. This implies that the analysis of cost structures and their development is a main task for managers of pro-ject portfolios and managers of single projects in order to achieve to the profit margin set.

The use of accounting information has changed during the last two, three, decades in the company. A site manager states that for 20-25 years ago, he never saw some invoices for materials and from sub-contractors, all invoices were sent to the local line office. The main focus for site managers was to build and finish the project on time. Today, site managers have to electronically sign all invoices these concerns the actual project and they are expected to continuously follow up the accumulation of different costs. Moreover, two decades ago fol-low-ups of single projects were conducted on a yearly basis, but today quarterly follow-ups are made, and some site managers even do monthly follow-ups. An experienced site manager claims that the increased frequency of follow-ups and making forecasts of the financial re-sults depends on demands from the stock market to get quarterly reports from the companies. The need for these check points can be claimed to be of

special importance in a MPO. Be-cause it consists of number of projects in different stages, implies that an estimation is needed of the accumulated costs and revenues of each of the ongoing projects in order to estimate costs and revenues for the MPO. Finally the question can be raised if the increased demand for more frequents check points also is a consequence of the decreased time span between design and production, implying that there is less time for planning the project activities. All higher level managers interviewed state that one has to be better on planning again, like in the 1970s. An interpretation of this opinion is that the project is regarded as a self regulating en-tity delivering a promised profit to the company if the planning is adequately executed. But when the time for planning decrease, uncertainty arise if the project can deliver the profit or not, implying a need for a more frequent cost control.

Use of accounting information in the permanent organization
Regarding the use of accounting information in the permanent organization, the CFO inter-viewed states that a large part of her department's work is on budgets and forecasts. The CFO and the CEO, together with the regional managers and the regional controllers, make assess-ments of the regions' performances with a focus on profit margins and net cash flows. There are also many discussions about risk management and risk assessment for different projects. The higher level management's interests for individual projects can be seen as a reflection of the investment regulations. Each managerial level, from the business district manager, to the regional manager, and the CEO can make investment decisions up to a certain financial limit weather the company should accept a project or not. For large projects the final decision is passed to the board, because failures in projects can jeopardize the future for the company. Moreover, before a contract is signed, a few of checkpoints has to be passed. Before a deci-sion is made if a bid should be calculated, a risk assessment is made for the object, and when the bid is calculated an assessment is made if a bid should be offered. The CFO states that the new CEO, who assesses bids for projects over 30 million Euros, has been more rigorous in the assessment of bids and even sent back some that he considered not sufficiently worked through. When a bid finally is won a higher level manager should approve a permission to start the production, based on the planning conducted.

When a bid is won and the production has started the budget follow ups and forecasts are done four times per year. The purpose with this follow-ups is to conduct an assessment of how the actual cost accumulation has developed compared to the budgeted cost accumulation for different accounts (for example material, wages, and sub-contractors), and the status of the cash flow in the project, because the company should not act as the client's bank. Another central accounting task in a project is to conduct forecasts for the remaining time of the pro-ject. An assessment of different risks and opportunities are made with regard to if costs can increase for certain activities or materials, or if costs can be saved for certain activities or materials. The business area manager, who is responsible for a portfolio of projects, conducts first the follow-up

together with site managers and generates the information, for the projects the business area manager has in the project portfolio. The business area manager is also re-sponsible for reporting the results of the follow-ups into the accounting system and than the business area manager meet the regional manager and the regional controller and go through the report. According to the CFO do the regional managers go into different depths in the reports depending on the size of the region and if the numbers, both financial and non-financial (most common the time plan) deviates from the budgeted numbers. Profit margins and net cash flow are the essential key ratios for the regional managers, but for lager projects they go more into details. This procedure is repeated when regional managers meet the CEO and CFO. In these meetings the accounting information is more aggregated, but still is de-tailed attention is paid to single projects over a certain finical value. The CFO states that CEO is continually informed about the progress in projects worth more than 30 million Euros. Ex-cept for the monitoring of profit margins and net cash flows, do higher level manager pay attention to different key ratios based on costs and for example the volume or area of buildings. A site manager states that managers in the permanent organization are very interested in these key ratios, but for him information of time and costs is the most central.

Thus, in the process of follow-ups, out-put oriented information, like the comparison of budgeted costs and cash-flows, with the actual costs and cash flows is the crucial account-ing information for higher level managers. And, as will be described later, action related in-formation is crucial for operation managers. In this sense is the use of accounting information by higher- and lower level managers is similar to that reported in earlier studies (see e.g. Jönsson and Grönlund, 1988: Veeken and Wouters, 2002). But in one sense it can be claimed that the studied multi-project organization differs from other types of organization. The higher level managers scrutinizing of individual projects can be seen as a source for interven-tion in the operations and as a consequence of the multi-project organization. A regional manager stated that keeping track on the projects' performance is a key issue in the industry. This is a rather logical stance taken because it is the projects that generates the incomes and the majority of costs in the company. Moreover higher level manager interests of following certain projects more in detail become rational if it is taken into consideration that they ap-prove projects up to a certain financial value. This implies that they also have the ultimate responsibility for the project, even if the project belongs to the project portfolio of a business area manager. Thus, what information is needed in order to manage this responsibility? Tra-ditionally the reports on costs and financial result should provide information about the cur-rent status of the activities for which the manager is responsible and if problems are identi-fied, the reports should help the manager to take action and resolve the problems (see McKinnon and Burns, 1992). However, in this situation it can be argued that solely account-ing information is not sufficient for higher level managers. In order to contextualize the ac-counting information traditional project management information is needed.

Finally, because the company not has any volume related out-put goals

and the financial goals instead are oriented towards profit margins, the responsibility for generating the volume falls on the business area manager and to some degree on the regional manager. In this sense the generation of budgets occurs in a bottom up process. In the company there are some informal rules of thumb regarding the turn over a business area manager and a regional manager should generate in order to legitimize their existence. This could of course lead to a temptation to accept projects with a low profitability in order to keeping up the volume and turn over, but because the incentive system is based on profit margins generated, the managers should avoid the temptation to accept projects with low profit margins.

Use of accounting information in the temporary organization
When observations are made in the setting of a building and construction project there is a focus on costs, but it is even more focus on the time plan by actors in the project. The most common performance measure is the consumption of time and the progress of different ac-tivities these are controlled against the time plan. In the meeting minutes from the produc-tions meetings and in the discussions at the production meetings, costs are seldom directly mentioned. In the minutes from 25 meetings, costs are expressed in a monetary value 5 times. Another 5-10 times costs are in focus when it is discussed whether some specific equipment should be rented or bought, or when the importance of developing some system for keeping track on rental machines is discussed. By these occasions it is interesting to note that the costs discussed comprise just a tiny part of the total project budget. At the check point meetings, costs are more commonly discussed, due to the fact that purchases is the main topic on the meeting agenda. Often it is commented that some supplier's offers are to expensive, or that some sub-contractor who is a bit more expensive than the cheapest one should be chosen, because the total costs is lower.
However, at the production meetings costs are in focus, but expressed in terms of re-courses and activities. One such example is when staffing is discussed, which is a separate topic in all production meetings and in the meeting minutes. The workers representative has a continuous dialogue with the management of the project about the staff needs for the coming weeks. Always present issues are if there is staff enough for the progress of the project, if the present staff is occupied for the next one or two weeks, will there be superfluous staff that needs to be sent to some other projects, or can activities be re-scheduled. Moreover, in order to establish a better in-direct cost control, a detailed "rolling" two weeks plan for staffing and scheduling of activities to be executed the coming two weeks is repeatedly conducted.
A further mean that express the embeddedness of costs in different time measures is for example is the so called staff curve that is compulsory in all projects. The staff curve is constructed by the site manager, or delegated to a co-worker in larger projects. The point of departure is the production schedule used and a break down structure is made where different activities are scheduled and the staffing per activity is estimated. The site manager gets a list with the number of staff per activity over time and the site manager strives for having the staff curve

as uniform as possible over time by re-scheduling activities where it is possible. Because the salary also is known for the staff, is it also possible to produce a cost curve for the staff. Than the site manager controls how the staff curve corresponds to the time plan for the project. For example, if the project is on the curve but ahead of the time plan, the staff has been more efficient compared to the plan.

On the question what is the most important governance tool, a site manager inter-viewed answers: "*You have it behind your back*" and points at the Gantt-chart where all ac-tivities are scheduled. Accordingly answers the manager also the question what information he first reacts on. I.e. are different activities in the project ahead of or behind the time plan when the actual consumption of time for each activity is compared with the budgeted con-sumption of time for the activity. He also states that he notice the progress of the work when is walking around at the construction site and talk to people. But even higher level managers are controlling by impressions. The site manager's manager, who is responsible for three pro-jects of similar size, is walking around the construction site during his weekly visits in order to expire the general feeling at the construction site and observe how activities are done, and that activities these are supposed to be done, are done. This way of controlling the progress of the work is, however, based on long experiences from managing construction sites. The site manager state that his manager has been working as site manager for 10 to 15 years. Another site manager with a long experience states regarding the quarterly follow ups, that when the numbers emerge than it is too late to do something and he states that you often have a feeling for how the project is performing. These observations are fully consistent with previous ob-servations of operation managers' use of accounting information, where the usefulness de-pends on if the information is consistent with the type action managers take in order to man-age costs (van der Veeken and Wouters, 2002:364). Operation managers need to be able to connect the measures with other sources of information, because they need to see with their own eyes and talk to people closest to the events (Jönsson and Grönlund, 1988:524). How-ever, as described here, also higher level managers are using the strategy of "walking around" in order to get an impression of status of the project and contextualize the accounting information. In the context of the building and construction industry, this might depend on that almost all higher level managers once upon a time have been managers on a construction site.

However, the sense making of accounting information, embedded in time plans, by walking around, encompass a minority of cost control. In the pre-planning of the project the site manager constructs an account plan with about 50 accounts for different types of expenditures. One site manager interviewed is not satisfied with the accounting system, because invoices are entered into one system, they can be viewed in another, and are allocated on dif-ferent accounts in a third system. Therefore, the site manager has his own spreadsheet where he can book invoices on the different costs accounts, compare with the budgets for the different accounts, and do the forecast for the different cost accounts for the remaining project time.

What furthermore is worth to highlight is that the lower level managers are directly involved in the production of accounting information that higher level managers acts upon. When the project starts, the site manager starts planning the production process, for example in which order different parts of the building should be built, the need for staffing and purchases of material, and sub-contractors. For example in the project studied, in the meeting minutes from the internal "check meetings" it is always emphasized that resources in the purchase budget should be linked to a time plan. This is one example of how scheduling of different activities in the temporary organization generates an input for the forecasted accounting information (cash flow and cost accumulation) that higher level managers have an interest in to monitor.

Concluding discussion
The findings from the analysis of the case have to large degrees been coherent with them from the studies by Jönsson and Grönlund (1988) and Veeken and Wouters (2002) regarding higher and lower level managers use of accounting information. However the permanent and temporary dimension of MPOs and especially the organization of operations in temporary organizations (projects) has created special conditions for the generation and use of account-ing information. The project can be seen as a profit centre, but because the price is regarded more or less as fixed, the project becomes in practice a cost centre that also is reflected in the generation and use of accounting information in the project setting. One obvious consequence is the comparison of budgeted versus actual cost by certain points in time and the generation of forecasts for cost accumulation for the remaining time of a project. This activity, originating from site managers, can be claimed to distinguish operations managers in temporary organizations from operations managers in permanent organizations. An operation manager in a permanent organization mostly is concerned with *ex post* accounting information, for exam-ple regarding unit prices for past periods etc. In the temporary organization, the site man-ager's generation of *ex ante* accounting information is as important as monitoring *ex post* accounting information. The generation of *ex ante* accounting information can be claimed to be even more important than monitoring and generating *ex post* accounting information, be-cause the site manager continuously makes rough estimate of the projects progress by information gained from the time plan and the actual progress of activities. By the generation of *exante* accounting information, the operation manager (the site manager) in the MPO becomes tightly interlinked with higher level managers in the permanent organization. In this sense it can be claimed that the site manager in MPOs has a unique role in the process of generating accounting information used by higher level managers, compared to operations managers in permanent organizations.

The permanent and temporary dimensions of the MPO gives rise dual logic in evaluating operations. From the level of the project portfolio and above traditional accounting in-formation like profit margins and cash flow is important accounting information. But in the temporary organization, time is the most important information when managers would create an immediate overview of project performance. This also

implies that higher level managers cannot regard the temporary organization as a black box delivering a certain profit margin and cash flow for two reasons. First, the evaluation of the permanent organization's perform-ances is based on calendar time (quarters and years) and the evaluation of the temporary or-ganization's performances is based on the project time, i.e. the accomplishment of project task on time and budget. In this respect, higher level management need to arrange a transla-tion of performances based on project time into performances based on calendar time, which is done by the follow ups, in order to generate accounting information for evaluating the per-formance of the permanent organization. Second, depending on the financial size of a project, higher level managers will be more or less directly involved in projects. In this situation, the traditional accounting information generated is not enough for higher level managers in order to fully judge the progress of the projects for which they have the ultimate responsibility. Traditional project measures like the progress different activities compared to the time plan, and risk judgments becomes necessary information for higher level managers in order to con-textualize and judge accounting information from a larger project.

The temporary and permanent dimension of MPOs furthermore implies that accounting information is translated back forth to a time plan. In this sense the time plan becomes an important link between higher level managers and lower level managers and can be consid-ered as a boundary object (Star and, 1989):

> "*Boundary objects are objects which are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual-site use. They may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable means of translation. The creation and management of boundary objects is key in developing and maintaining coherence across intersecting social worlds.*"

At the outset accounting information like profit margins, standards costs and other costs are used when a bid (budget) for a project is composed. If the bid wins, a temporary organiza-tion is established where a time plan is outlined and the costs for different activities are trans-lated into a time plan giving meaning for operation managers and helping them making sense of events. By the progress of the time plan higher level managers get operation related infor-mation that translate the meaning of accounting information in order to make judgments if profit margins can be achieved. However, in order to be able to make sense of the time plan and connect it to accounting information, higher level managers need to be knowledgeable about the nature of operations in the temporary organization.

To conclude, this study has focused on a company in an industry where operations ex-clusively are organized in temporary organizations and the projects are business projects with an external customer, implying that the projects is the company's revenue generating source.

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With regard to earlier studies on MPOs and management accounting tools used, the picture has to be revised. In the kind of MPO studied, other management accounting tools than tradi-tional tool for evaluating investments are used. Accordingly, when the use accounting infor-mation is studied in MPOs, clarifications are needed with regard to the characteristics of the MPO under study. Is it for example an MPO encompassing solely business projects, or does the MPO consist of a mixture of business projects, development projects, and change pro-jects. What furthermore is interesting to study in other kinds of MPOs, is higher level manag-ers interconnections with the temporary organization regarding what kind of accounting in-formation they use and what kind of non financial information that is needed in order to con-textualize and judge the accounting information.

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Testing Random Walk Hypothesis for Dhaka Stock Exchange

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ABSTRACT
The primary objective of this study is to test weak form of market efficiency of Dhaka Stock Exchange (DSE). A random walk test is performed for the weak form of efficiency. The daily returns of the individual shares listed under the DSE-20 index over the period of January 1999 to December 2009 are considered. Dhaka stock exchange is well known as the growing emerging market. The returns were tested using Dickey-Fuller unit root test and a nonparametric test, the Runs test. In order to test weak form efficiency hypothesis, we analyzed runs tests. The Dickey-Fuller unit root test which is a popular test for the testing of the market efficiency. The run test is also used as a powerful tool to test of random walk in the stock market. It is concluded that both the results of Dickey-Fuller tests and the results of run tests are similar and rejected random walk in DSE.

INTRODUCTION

$\mathcal{T}$he increasing importance of stock markets, especially in emerging markets is one of the most striking features of international financial development over the past two decades. The most important emerging markets are in Asia and Latin America. Among them the emergence of DSE is becoming important day by day. The term efficiency is used to describe a market in which relevant information is impounded into the price of financial instruments. An 'efficient' market is defined as a market where there are large numbers of rational, profitmaximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. In an efficient market, competition among the many intelligent participants leads to a situation where, at any point in time, actual prices of individual securities already reflect the effects of information based both on events that have already occurred and on events which, as of now, the market expects to take place in the future. In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value." (Eugene F. Fama 1965). Informational efficiency of financial markets has attracted much interest among financial scholars and practitioners. Fama (1970) has been the first to develop the Efficient Markets Hypothesis. After more than two decades, Fama (1991) reviews the voluminous theoretical and empirical work undertaken by numerous researchers on the informational efficiency of stock markets. The market

efficiency theory has been intensely studied over the last 30 years. In this theory Fama put forward the principles of market efficiency (Fama1991). The main were consolidated in 1970 by Eugene Fama in his"Efficient Capital Markets: A Review of The o r y and Empirical Work. This theory is well known today as the Efficient Market Hypothesis (EMH). Fama divided market into three which indicate the market efficiency levels: weak form, semi-strong form, and strong form. The random walk theory asserts that price movements will not follow any patterns or trends and that past price movements cannot be used to predict future price movements.
There are three forms of the efficient market hypothesis in finance literature:

1. The "Weak" form asserts that all past market prices and data are fully reflected in securities prices. In other words, technical analysis is of no use.
2. The "Semistrong" form asserts that all publicly available information is fully reflected in securities prices. In other words, fundamental analysis is of no use.
3. The "Strong" form asserts that all information is fully reflected in securities prices. In other words, even insider information is of no use.

Securities markets are flooded with thousands of intelligent, well-paid, and well-educated investors seeking under and over-valued securities to buy and sell. The more participants and the faster the dissemination of information, the more efficient a market should be. This study aims to test the weak-form efficiency hypothesis in Dhaka Stock Exchange using Dickey-Fuller unit root test and runs test.
A common test for market efficiency is to see whether a price follows a random walk, a test that can be applied at the level of individual stocks, groups of stocks, or a market index. If a stock price or market index does follow a random walk, then it can be concluded that investors will be unable consistently to earn abnormal returns. This is consistent with stocks being appropriately priced at their equilibrium values. If a market does not follow a random walk, then there may be distortions in the pricing of capital and risk, which has implications for the allocation of capital within an economy.

OBJECTIVE OF THE STUDY
The aim of this paper is to find out a rigorous test of the random walk hypothesis on the Dhaka Stock Exchange which is the well known growing emerging market. A random walk test is performed for weak form of efficiency. The testing of market efficiency of the market used Dhaka stock exchange's daily stock returns for random walk over the period from January-1999 to Dec-2009.

REVIEW OF RELATED LITERATURE

The random walk model was first developed by Bachelier (1900) in which he asserted that successive price changes between two periods is independent with zero mean and its variance is proportional to the interval between the two time periods. So the movements of stock prices should have any trend indicating the weak form of efficiency. Usually it is believed that the stock markets of the developing countries (Such as South Asian) are not efficient. So it is possible to make abnormal return by analyzing the trends of price of the stocks. That means it is possible to earn additional return by using technical analysis or charting. The available literature shows a mixed reaction of efficiency in developing stock markets. Some researchers could not reject the null hypothesis of random walk such as Chun (2000), with the help of some variance ratio tests, found that the Hungarian capital market was weakly efficient. Dickinson and Muragu (1994) found evidence consistent with the EMH in their study of the Nairobi Stock Exchange. Zychowicz et al. (1995) concluded that on the Instanbul stock exchange, daily and weekly returns diverge from a random walk, while monthly returns are consistent with weak form of market efficiency. There are other studies as well that found weak form of efficiency such as Barnes (1986) on Kuala Lumpur Stock Exchange, Ojah (1999) on the four Latin American countries' market etc.

On the other hand there are other studies suggesting that the stock markets are not efficient meaning the prices do not follow random walk. Such as Macskasi and Molnar (1996), found the possibility of abnormal return by using the returns of BUX index of the Budapest Stock Exchange. Gordon and Rittenberg (1995) aimed at testing the Warsaw Stock Exchange (WSE) efficiency. The authors apply a filtering rule to 23 shares for a relatively short period (June 1993 – July 1994) and suggest that either the weak form efficiency does not apply to WSE or "prices do not adequately reflect information at a given point of time, thus resulting in sufficient time lags of which investors can take advantage". Vosvorda et al. (1998) investigate the EMH for the Prague Stock Exchange reject the weak form market efficiency supporting their argument on magnitude of autocorrelation between subsequent returns.

Hassan (1999) studied on time-varying risk return relationship of DSE, shows significant serial correlation, implying the stock market is inefficient. Mobarek (2000) concluded that Dhaka Stock Exchange does not follow random walk and there are significant autocorrelation at different lags that concludes that DSE is not week form efficient. Kader(2005) has no evidence that Dhaka Stock Exchange is weak form efficient by testing whether any technical trading strategy yielded abnormal profit or not by using technical trading rule(K% filter rule.). Islam (2005) analyze the predictability of share prices of DSE found evidence of short term predictability and can be interpreted as inefficiency of the DSE.

DATA AND METHODOLOGY

To test the Random Walk hypothesis the daily price of the shares listed under DSE 20 index were used. The data of the study were collected from the DSE library. The DSE-20 index comprises ACI, AMCL (Pran),

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Apex Tannery, Bata Shoe, BATBC, BD Lamps, BOC, Beximco Pharma, Dhaka Bank, GQ Ball Pen, Islami Bank, Meghna Cement, Monno Ceramics, NBL, Prime Bank, Singer BD, Southeast Bank, Square Textile, Square Pharma and Uttara Finance. The DSE introduced the index as a benchmark for financially sound listed companies. Daily returns of the selected companies have been calculated using the MS Excel, the other soft wares used in are SPSS and Eviews 5. The SPSS was used for the results of the Runs test and Eviews was used for ADF (Augmented Dicky Fuller Test).

The formula for calculating the daily return was

$$R = \frac{P_t - P_{t-1}}{P_{t-1}} * 100$$

Whrere P_t=Price of the share at time 0 P_{t-1}= Price of the share at time-1.

RUNS TEST

The runs test is a non-parametric test, in which the number is calculated and compared against its sampling distribution under the random walk hypothesis. A run is a sequence of consecutive positive or negative returns. Using the laws of probability, it is possible to estimate the number of runs that one would expect by chance, given the proportion of the population in each of the two categories and given the sample size. Too many or too few runs in the time series can be a result of autocorrelation. By comparing the total number of runs in the data with the expected number of runs under random walk hypothesis, the test of the random walk hypothesis may be constructed. It has been shown that the distribution of the number of runs converges to a normal distribution asymptotically when properly normalized (see Campbell et al. (1997) for extensive discussion). To perform the test, the sampling distribution of the total number of runs in a sample is required. The test statistic used is the standardized normal variable Z (Z ~$N (0, 1)$). Positive Z indicates that there are too many runs in the sample, negative value of Z that there are less runs that one would expect if the changes were random. The important advantages of this test are its simplicity and independence of extreme values in the sample (Bradley, J. 1968). A run test examines the tendencies for losses or gains to be followed by further losses or gains, regardless of their size. This test is performed by examining a time series of returns for a security and testing whether the number of consecutive price gains or drops shows a pattern.

A price gain is represented by a "+", a price drop is represented by a "-" and "0" shows that return is zero. A run is defined as a return sequence of the same sign. Under the null hypothesis that successive outcomes are independent, the total expected number of runs is distributed as normal with the following mean:

$$\mu = \frac{N(N+1) - \sum_{i=1}^{3} n_i^2}{N}$$

and the following standard deviation:

$$\sigma_{\mu} = \left[\frac{\sum_{i=1}^{3}[\sum_{i=1}^{3} n_i^2 + N(N+1)] - 2N(\sum_{i=1}^{3} n_i^3 - N^3)}{N^2(N-1)} \right]^{\frac{1}{2}}$$

Our hypothesis for run test shown as the following;

H0: Stock returns follow random walk.
H1: Stock returns do not follow random walk.

At 1% and 5% significance levels, the null hypothesis of a unit root cannot be rejected except when a linear trend is included with the financial index.

AUGMENTED DICKY FULLER TEST (ADF)
In the terminology of time series analysis, if a time series is stationary, it is said to be integrated of order zero, or I(0) for short. If a time series needs one difference operation to achieve stationarity, it is an I(1) series; and a time series is I(n) if it is to be differenced for n times to achieve stationarity. An I(0) time series has no roots on or inside the unit circle but an I(1) or higher order integrated time series contains roots on or inside the unit circle. So, Examining stationarity is equivalent to testing for the existence of unit roots in the time series.

A pure random walk, with or without a drift, is the simplest non-stationary time series:

$$y_t = \mu + y_{t-1} + \varepsilon_t , \varepsilon_t \sim N(0, \sigma_\varepsilon^2) \dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where μ is a constant, which can be zero, in the random walk. It is non-stationary as Var $(y_t) = t\sigma_\varepsilon^2 \to \infty$ as $t \to \infty$. It does not have a definite mean either. The difference of a pure random walk is the Gaussian white noise, or the white noise for short:

$$\Delta y_t = \mu + \varepsilon_t , \varepsilon_t \sim N(0, \sigma_\varepsilon^2) \dots\dots\dots\dots\dots\dots\dots\dots (2)$$

The variance of Δy_t is σ_ε^2 and the mean is μ.

The presence of a unit root can be illustrated as follows, using a first-order autoregressive process:

$$y_t = \mu + \rho y_{t-1} + \varepsilon_t , \varepsilon_t \sim N(0, \sigma_\varepsilon^2) \dots\dots\dots\dots\dots\dots\dots\dots (3)$$

Equation (3) can be extended recursively, yielding:

$$y_t = \mu + \rho y_{t-1} + \varepsilon_t$$
$$= \mu + \rho\mu + \rho^2 y_{t-2} + \rho\varepsilon_{t-1} + \varepsilon_t$$

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The basic Dickey-Fuller (DF) test (Dickey and Fuller 1979) examines whether $\rho < 1$ in equation (3), which, after subtracting y_{t-1} from both sides, can be written as:

$$\Delta y_t = \mu + (\rho - 1)\ y_{t-1} + \varepsilon_t = \mu + \theta\ y_{t-1} + \varepsilon_t \dots\dots\dots\dots (4)$$

The null hypothesis is that there is a unit root in y_t, or $H_0 : \theta = 0$, against the alternative $H_1 : \theta < 0$ or there is no unit root in y_t. The DF test procedure emerged since under the null hypothesis the conventional $t-$distribution does not apply. So whether $\theta < 0$, or not can not be confirmed by the convention $t-$statistic for the θ estimate. Indeed, what the DF procedure gives us is a set of critical values developed to deal with the non-standard distribution issue, which are derived through simulation. Then, the interpretation of the test result is no more than that of a simple conventional regression. Equations (3) and (4) are the simplest case where the residual is white noise. In general, there is serial correlation in the residual and Δy_t can be represented as an autoregressive process:

$$\Delta y_t = \mu + \theta\ y_{t-1} + \sum_{i=1}^{p} \phi_i \Delta y_{t-i} + \varepsilon_t \dots\dots\dots\dots\dots (5)$$

Corresponding to equation (5), DF's procedure becomes the Augmented Dickey-Fuller (ADF) test. We can also include a deterministic trend in equation (5). Altogether, there are four test specifications with regard to the combinations of an intercept and a deterministic trend.

EMPERICAL RESULTS AND ANALYSIS

The rule of thumb of the DW (Durbin Watson) Statistic is that if it is 2 or near 2 the series can called random. In almost every case the DW statistic found 2 or near two showing the randomness of the return series. But this is not the statistic upon which the study can be concluded. The better measure of randomness is the ADF test.

Firstly the ADF test results can be seen in the table -1. The test has been performed using the Eviews-5 software at level using the Schwarz info criterion. In case of every company the one sided t (Calculated) value is less than the table ADF value both at 1% and 5% level of significance rejecting the null hypothesis of having a root within the unit circle. The result of this table can be interpreted that there is specific trend in the change of price of the stocks listed under the DSE 20 index. So there is a very high possibility of earning abnormal returns by using the past prices.

Table-1: Test results of Unit Root using ADF (Augmented Dicky Fuller) Test

Company	ADF (Calculated)	ADF (1%)	ADF (5%)
ACI	-33.56944	-3.432376	-2.862321
AMCL_Pran	-9.364247	-3.432391	-2.862328
Bata	-54.39716	-3.43241	-2.862336
BAT BC	-23.44778	-3.432427	-2.862343
Bd Lamps	-54.26211	-3.432409	-2.862335
BOC	-21.27466	-3.432397	-2.86233
Bex Pharm	-23.74598	-3.432382	-2.862323
Dhaka BNK	-27.05595	-3.432669	-2.86245
GQ. Ball Pen	-13.58295	-3.432444	-2.862351
IBBL	-53.6163	-3.43241	-2.862336
Modern Cem	-33.39938	-3.432417	-2.862339
Monno	-20.26631	-3.43241	-2.862336
National BNK	-15.84808	-3.432392	-2.862328
Prime BNK	-18.36925	-3.432654	-2.862444
Singer	-28.25103	-3.432402	-2.862332
Southeast BNK	-24.88731	-3.432665	-2.862448
Square Tex	-24.82882	-3.433225	-2.862696
Square Pharma	-61.97577	-3.432385	-2.862325
Uttara Fin	-65.22243	-3.432446	-2.862351
Apex Tannery	-6.811141	-3.432393	-2.862328

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Table-2: The ADF test value at different lags

Company	Lag1	Lag5
ACI	-47.00536	-33.56944
AMCL_Pran	-46.67494	-24.11314
Bata	-54.39716	-22.02413
BAT BC	-75.36966	-23.44778
Bd Lamps	-54.26211	-22.02202
BOC	-49.08456	-21.98033
Bex Pharm	-67.73119	-23.74598
Dhaka BNK	-51.19375	-27.05595
GQ. Ball Pen	-49.6873	-32.68863
IBBL	-53.6163	-21.79882
Modern Cem	-48.18838	-33.39938
Monno	-49.72402	-28.56205
National BNK	-54.82736	-25.01758
Prime BNK	-64.12589	-23.03108
Singer	-63.87309	-28.25103
Southeast BNK	-35.64776	-24.88731
Square Tex	-50.46119	-24.82882
Square Pharm	-61.97577	-21.84853
Uttara Fin	-65.22243	-22.0025
Apex Tannery	-48.35816	-19.67788

Among the companies the Pran AMCL and Apex tannery is showing significantly higher calculated value than the other companies of the index depicting a more random price movement. The table 2 is also providing some evidence of trends in the price movements. If we look in the second table we can see that at different lags the calculated value is not even nearer to the significant table values. So with the unit root test we can reject the null hypothesis of randomness of share prices listed under DSE 20 index.

Secondly the results of the runs test using the SPSS 12 can be seen in the table 3 bellow. Where n1 is the number of positive movement and n2 is the number of negative movements of the return series of the selected shares of the DSE.

Table-3: Runs test result

Company	n1	n2	Expected run	No. of obs. run	Z Statistic
ACI	1463	1491	1477.86	1468	-0.363

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AMCL_Pran	1474	1475	1475.49	1514	1.418
Bata	1444	1463	1454.43	1500	1.69
BAT BC	1388	1502	1443.75	1402	-1.556
Bd Lamps	1454	1454	1455	1433	-0.816
BOC	1465	1466	1466.49	1456	-0.388
Bex Pharm	1474	1474	1475	1340	-4.974
Dhaka BNK	1303	1303	1304	1239	-2.547
GQ. Ball Pen	1439	1439	1440	1445	0.186
IBBL	1453	1454	1454.49	1290	-6.103
Modern Cem	1450	1451	1451.49	1426	-0.947
Monno	1456	1456	1457	1492	1.297
National BNK	1465	1481	1473.95	1388	-3.168
Prime BNK	1313	1313	1314	1248	-2.576
Singer	1460	1460	1461	1430	-1.148
Southeast BNK	1306	1306	1307	1252	-2.153
Square Tex	1066	1066	1067	1042	-1.083
Square Pharm	1469	1470	1470.49	1356	-4.225
Uttara Fin	1459	1432	1446.37	1435	0.131
Apex Tannery	1477	1477	1478	1443	-1.288

From the RUNS analysis we know that if the number of observed run and number of expected runs are equal, it can be concluded that the series is following a Random walk. But the results of the table are not satisfying the criteria. In addition to the Z statistic is either negative or positive so the return series is not random of the selected stocks of DSE. As the return series of the shares found non random so we can reject the null hypothesis of Stock returns follow random walk.

CONCLUSION
A unit root is a necessary condition of random walk. The objective of the study is to assess whether the prices of the shares of the DSE follow random walk or not. If the price follows a random walk the market can be efficient in the weak form. Otherwise it is possible to gain abnormal returns by using technical analysis or charting. Two statistical techniques have been applied one is parametric (ADF test) and the other is nonparametric (RUNS test). Both the techniques reveal same conclusion about the return series of the selected shares that is the DSE stock exchange. That is, the DSE is not efficient at weak form. So it is possible to find trading strategies to beat the market and gain abnormally. The result is conforming the findings of Mohiuddin et al (2009) a very recent study on the DSE. The result concluded that the future prices of shares of the DSE can be predicted. So the possibility of price manipulation is very high. This information is particularly important for the regulators as well as for the investors. The regulators can use this finding in

enhancing the market base and availability of information to control further manipulation. On the other hand the investors can use this information to develop better trading strategies to enhance their capital gain. Besides, the finding can also help the issuers to take timely measures to make their share piece stable. This will facilitate their smooth functioning.

To solve this problem of inefficiency there are lots to be done by the facilitators of the market such as SEC. This problem persists because of information asymmetry and presence of insider traders. The SEC has to enhance the market surveillance, issue policy directives to ensure free flow of information. By enhancing the market surveillance the number of insider trading can be curtailed. This will reduce the scope of price manipulation in the capital market. As a result the market will be able to behave as it should be.

As the other South Asian capital markets have similarities with the DSE, so this study will be able to provide important insights to the stakeholders of the capital markets of this region. The findings of the study can be very useful for the security market regulators of the south Asian countries to formulate policies and issue regulatory guidelines for the stakeholders of the capital markets. It can also contribute to aware the general investors in their decision making process of investment in the capital market securities.

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Industrial Policy of Bangladesh 2010-A Critical Evaluation

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ABSTRACT
Reviewing the characteristics of the economy of Bangladesh and realizing the prospects of industrial sector, it is our view that the promotion and expansion of industrial sector is the most time befitting task for economic development of Bangladesh. Industrial policy should be formulated with a view to maintaining balanced regional growth through setting up of prioritized industries. The main objective of the study is to find out the problems lie in the present policy and suggest how to overcome those. Data have been collected mainly from secondary source to conduct the study. This paper does not criticize all the aspects of the policy, only four important and controversial aspects of Industrial Policy, 2010 have critically been evaluated. These are: private sector; small, cottage, micro, high-tech and rural industries; women participation in industrialization and priority determination for industrial development. Adequacy of various types of incentives offered in the policy for setting up of prioritized industries as well as problems in maintaining coordination for policy formulation and monitoring activities for implementation of policy measures have been discussed and evaluated. This paper expresses the reasons of failure of previous industrial policies in the pace industrialization. This study also scrutinizes the problems lie in the present policy and as such the pragmatic steps that should be taken for industrialization and incorporated in the industrial policy for achieving over all economic emancipation of the country. Accordingly an endeavor has been made to suggest for removing the structural impediments and policy obstacles in this paper. This study suggests and emphasizes on preparing a policy for building a strong domestic industrial base i.e. local demand and need based home industries and to way out for development and expansion of export-oriented and import-substitute industries and protecting them from outside competition.

Introduction

$\mathscr{D}$evelopment of a country depends upon the economic policy of that country. If the policy is formulated in time and appropriate form, the country would be developed rapidly and viably. Government has to be very much careful while preparing any policy. It should be prepared according to the necessity and demand of mass people as well as the availability of raw materials. In fact, there are so many factors to be considered while preparing a policy for the development of a country. All the policies such as trade policy, industrial policy, agricultural policy, import policy, export policy, fiscal policy, monetary policy etc. are included in economic policy. Which sector should be given more

emphasis- agriculture or industry or both? Whether the private or public sector will play positive role in the development process of the country, whether the import substitute or export-oriented industries would be set-up or both? What will be the duty structure and what will be the strategy of poverty alleviation, to which sector would be given subsidies etc. are the policy matters. The previous industrial policies as well as other policies such as trade policy, import policy, export policy, agriculture policy etc. have to be carefully reviewed and find out what were the problems and obstacles in implementing those ones. In order to formulate a time befitting policy, government has to collect adequate and authentic data and information from proper sources. Policies have to be formulated with some objectives, primarily the objectives of economic policy should be following the prevailing socio-economic condition of the country and ultimately to raise the living standard of the people. If the policy is to prepare with above objectives, the following matters have to be considered while preparing policy. These are: employment generation, enhancement of contribution to GDP, earning foreign currency through export, development of entrepreneurial, managerial and labour skills, enhancement of women participation in industrialization and so on. In addition, policy should be formulated so that the equitable distribution of wealth, balanced regional growth and geographical dispersal of economic activities is possible.

From the above discussion, it is seen that the policies are prepared to achieve some objectives. But achievement of the objectives of a policy fully depends upon its implementation and proper implementation of a policy measures depend upon the monitoring and evaluation system of that one (Shah Alam; 1997: 2).

Agriculture sector employs 79%, 59% of labour force in mid 70's and mid 80's respectively whereas in 2002-2003 this sector employs 51.69% of labour force following the industry sector 13.56%. So, it is evident here that the employment rate of agriculture sector is declining over the years. Again, the contribution of agriculture sector to G.D.P was 33.07%, 29.23%, 25.03% and 21.11% in the year of 1980, 1990, 2001-2002 and 2006-2007 respectively. On the other hand, the contribution of industry sector to G.D.P in those years was 17.31%, 21.04%, 26.20% and 29.77% respectively (Economic Review Bangladesh; 2007:24). It is evident from another review that agriculture sector employs the highest number of labourforce which is 43.6% of total labourforce where as the industries sector employs 13.56%. At the same time, the contribution of agriculture sector to GDP is 20.29% where as the contribution industries sector to GDP is 29.93% in 2009-2010 (Economic Review of Bangladesh-2011:20).

It is obvious from the above discussion that the contribution of agriculture sector has been declining for years together whereas the contribution of industrial sector increasing. Since, the employment rate as well as contribution to G.D.P of agriculture sector has been declining for years together and this sector has been running with heavy population pressure, so excess manpower of this sector should be shifted to another sector. In our country, 80% of the total population lives in rural areas. But no productive activity exists in the

rural areas. New job opportunity should be created considering our natural resources and population. Beside this, equitable distribution of wealth, geographical dispersal of economic activities, balanced regional development should be ensured. Setting-up of labour-intensive industry may utilize the resources optimally and may produce different goods and services. The produced goods and services may meet up the domestic demand on the one hand and on the other hand, surplus goods and services may be exported abroad, thus could earn foreign exchange. Considering the importance of the industry the Government of Bangladesh has been emphasizing on setting-up small, medium, cottage and rural industries in the country.

It is found from the above discussion that the industrial sector would create a positive impact on other sector of economy in a number of ways. So, the industrial policy should be formulated keeping in view probable all variables.

Most of the Asian countries are the country of low industrial base and low per -capita income i.e. developing one. Of course, some of the Asian countries such as China, Japan, Singapore and Malaysia etc. are the developed one. They have developed themselves through the development of industrial sector. Bangladesh also has a vision to develop itself through the development of industrial sector. So, if the policy is formulated with due care and caution for Bangladesh that may be useful for other Asian countries also.

The present paper is an endeavour towards critical evaluation of the industrial policy of Bangladesh 2010. A critical evaluation of the policy may help to find out the problems and bottlenecks facing by the policy makers and at the same time problems in implementing the policy programmes. If there is any negligence, non-cooperation, unwillingliness or inefficiency of the authority concerned, it would be found out through this evaluation. If the above reasons are extracted from the study, it may help the policy makers to prepare a beneficial, accurate and time befitting industrial policy in future which is necessary and helpful for Bangladesh as well as also for other Asian countries. So far, a few studies have been conducted on "Criticism on Industrial Policy 2010-A critical Evaluation" and realizing the necessity of such evaluation, the present paper titled "Industrial Policy of Bangladesh 2010-A Critical Evaluation" has been undertaken.

Objectives of the study
The main objective of this paper is to criticize the proposed industrial policy, 2010 and the specific objectives are:
1. To examine the suitability and pragmatic impact of privatization move in the economy of Bangladesh.
2. To evaluate the policy implications to small, medium, cottage, micro, high-tech and rural industries.
3. To determine the indicators of prioritized industry for the development of industrial sector in particular and economic development in general.
4. To analyze the necessity of participation of women entrepreneurs in industrialization.

5. To suggest some possible modest measures to formulate an acceptable and modified industrial policy.

Methodology
Mainly secondary data have been collected for conducting the study. Data have been collected from industrial policy 2005, 1999 1991, RIP 1986, NIP 1982, the industrial investment policy, 1973 and proposed industrial policy, 2010. Beside these, annual report of BSCIC, Published official documents, Newspaper, Statistical book, Economic review of Bangladesh, Economic trend of Bangladesh and so on. A few primary data have been collected through interviewing with the executives of privatization commission and ministry of industry. All the aspects of this policy have not been evaluated in this paper. Only the following important and controversial aspects of this policy have been evaluated.
1. Private sector.
2. Small, medium, cottage, micro, high-tech and rural industries.
3. Determination of prioritized industries for the development of industrial sector.
4. Women participation in industrialization.
For critical evaluation of the policy and getting historical background and perspective, some of the previous policies as well as the socio economic condition of our country have been brought into discussion.

Commitments in the Industrial Policy
Now-a-days public sector has been regarded as unskilled one. On the contrary, private sector has been and is becoming a potential one. At present, government has placed the most emphasis on private sector development. Of course, it is done from the evidence of successes of some private enterprise which have been converted from public sector. This policy has been prepared for massive employment, women participation at every tier of economic activities, augmentation domestic and foreign investment, enhancement of the growth of exports etc. This one has been prepared on the basis of careful evaluation of industrial policy 1991, 1999 and 2005. The privatization move has been started from after preparing industrial policy 1991. The fruits of privatization drive have started to come thereafter. The economic philosophy of the government has started to fulfill from now on. Now, privatization move has been regarded as the prime one of the government for country's industrialization. It has been observed in the policy that the previous policies had some objectives, strategies and programmes, but these had not been achieved. Lack of matching initiative, procedural complication imposing unfavourable condition to the entrepreneurs, dishonesty of officials in the arena of industrial loan, inefficiency in both the public and private sectors and failure in project implementation are the reasons of not achieving the target.
In this policy the following vision, objectives and strategies will be paid emphasis.
1. The proposed industrial policy envisages an increase in the industry sector's share in GDP from the present 28 percent to 40 percent by 2021 and seeks to raise the proportion of the

workforce employed in industry from the present 16 percent to 25 percent of the country's total labour force by 2021.

2. Economic development and uphold the governments' facilitating role in creating a favourable atmosphere in order to expedite private investments in the country's industrialization keeping in mind the background of a free market economy and globalization, private initiatives have been accepted as the main driving force.

3. In order to accelerate the privatization process, state-owned industrial enterprises would be sold/transferred/leased or administered by the Privatization Commission or concerned ministries with utmost transparency.

4. Encouraging in setting up of industries with private entrepreneurships and where it is difficult but very important and essential for national interest, setting up of industries with public initiative in those sectors.

5. For generation of employment, reduction of unemployment and alleviation of poverty; assist in the speedy expansion of cottage industries and SMEs and for further investment in these sectors.

6. Prioritize the expansion and development of agro-based and agricultural processing industries, and provide inspiration for the expansion of poultry and dairy industry.

7. Produce high-value added products through development and application of appropriate technology and Increase productivity at enterprise level, an increase of export through export diversification.

8. The ultimate objective of the Industrial Policy 2010 is to prepare a medium and long-term policy framework for industrialization.

In the free market economy and globalized trade regime, it is asserted that the private sector will be developed easily and rapidly. For this reason, this sector has been placed emphasis and as such given various types of incentives which are as follows:

1. Provide special facilities as well as infrastructural support to Cottage, micro, high-tech as well as Small and Medium Enterprises (SMEs) located in- different parts of the country.

3. The objective is to diversify and produce goods of world standard and value added items so that they help to diversify our exports as well as assist backward linkage industries on a priority basis.

4. Provide assistance for augmenting the sub-contracting system.

5. As a priority sector, consider software programming, readymade garment and textile industries the in view of their special contribution to the national exchequer.

6. Balanced regional growth of industries across the country by providing incentives, wherever necessary.

7. Provide a long-term credit fund in order to generate industrial production capacity i.e. acquiring plant, machinery etc. and also a venture capital fund to support in the commercial production and marketing of creative industries as well as ensure the availability of the working capital timely from financial institutions after the setting up of an industry.

Revenue and Financial Incentives

The government has taken various initiatives for providing revenue and financial incentives viz., tax holiday, tax exemption for different areas for different period and rates, accelerated depreciation allowances, tax policy benefits, incentives for NRBs, equal treatment for local and foreign investors etc. Following are the initiatives regarding revenue and financial incentives undertaken by the Government of Bangladesh as per Industrial policy 2010:

1. Industries, newly established in Dhaka and Chittagong Divisions other than three hilly districts will receive 100% tax holiday facility for first two years, for Rajshahi, Khulna, Sylhet and Barishal Divisions as well as three hilly districts, it is for first three years. 50% tax holiday facility is applicable for next two years after first two years in Dhaka and Chittagong Divisions except three hilly districts and this rate is for three years after first three years in Rajshahi, Khulna, Sylhet and Barishal Divisions as well as three hilly districts. In fifth and final year, the tax holiday facility is at 25% in Dhaka and Chittagong Divisions other than three hilly districts and this rate is applicable in seventh and final year for Rajshahi, Khulna, Sylhet and Barishal Divisions as well as three hilly districts. In addition that tax holiday facility would be provided for small and cottage industries, agro-processing, diamond cutting, steel production from billet, jute industries and textile sector.

2. The provision of accelerated depreciation as well as four-tier customs duty structure will be continued. Duties and taxes on import of raw material for producing goods would be less than on import of finished goods.

3. VAT would be exempted for full-fledged and local production-oriented and employment generating industries. Apart from this, VAT would be reduced and if necessary exempted for rural small industry, agro-processing, fisheries and dairy industries. It is applicable for the enterprises of locally full-fledged generator and production of electricity as well as production and supply of solar panel as alternative of electricity.

4. Tax exemption would be provided on income of the private sector, power-generating company which will start production before June, 2012 from the date of commercial operation. Over and above, an assurance would be given in the policy not to discriminate in case of duties and taxes between the same type of industries established with private and public venture as well as local and foreign investors.

5. Capital investment limit would be increased 67% in acquiring plant, machinery and equipment of small and cottage industries.

Criticism of the policy

Industrial policy is prepared by the ministry of industry for the development of industrial sector in particular and overall economic development of the country in general. Now, in the age of open market economy, we have to match with it. So, the policy has to be prepared matching with this system of economy. But we have to see that whether the system is helpful for attaining our primary objective of

economic development or not? From the past experience, it is seen that a decision is taken to introduce a system in our country without consideration of the affected factors or issues properly and accurately. From the careful scrutiny of the policy, it is observed that different types of industries and initiatives such as export-oriented industries, agro-based industries, local raw material based industries, local technology based industries, augmentation of women participation in industrialization, attract foreign investment etc. have been mentioned in this policy. But there is no clear-cut indication that which type of industry will be set-up and developed in the long-run or which will help us for attaining economic development. In this policy, export-oriented and import substitute industries have been given top-most priority. But it has not been mentioned that which type/size of industries viz large, medium and small or cottage industries can fulfill the envisaged objectives. There should have clear-cut direction or decision in this regard. In exception of this, considering the availability of raw materials, cheap labour as well as convenience of transportation and of marketing the produced goods, the location for establishing different types of industries should be determined in the policy.

Though emphasis have been given on rural industries in this policy, but keeping in mind the above mentioned factors, it should be mentioned that which type of industries should be set up in rural areas and which type of industries should be set up in sub-urban areas. In fact, this type of instruction has not been presented at all in this policy. Private sector has been receiving increased emphasis since last three decades. The argument lies behind it that the private sector is more efficient and productive than public sector. But, is there any absolute evidence in favour of this argument? For which very nature the public sector is inefficient? Government never searches/investigates the reason of its inefficiency or law productivity. If it is done so, the following reasons might be revealed:

All activities of a government are run following its political vision. In 1972-73, the then government was on the belief of socialism. To the end of view the nationalization move was started vigorously. On the contrary, it is argued that the move was prompted by the then government which was needed to keep the abandoned enterprises operational at any cost (Sobhan Rahman; BIDS, 1990: 20). From the above discussion, it can be said that the objectives of nationalization programme were not clearly stated. The later argument is quite acceptable for the rapid development of war-ravaged Bangladesh. But, the harmful happenings that happened during nationalization move, many immature and semi-skilled managers had been appointed within the enterprise. Apart from these, some inexperienced persons were appointed in those enterprises. In the consequence, mismanagement and inefficiency have been created and it was inevitable in the nationalized enterprise i.e. public sector.

Further, it is argued that the purposes of nationalization programme were not clearly defined. As a result, hesitations and confusions crept up regarding policy formulation and institution building for management of the nationalized industries. this also responsible for

inefficiency of the public sector (Ahmed, Qazi Khaliquzzaman, et. al; BIDS, 1987:3)

After passing the immediate post-war government, the nationalization move was stopped and privatization move was started by the then government. And privatization drive was at final stage while formulating this policy. For rapid development of private sector, various initiatives in the form of monetary, fiscal, exchange rate policy favourable to this sector were offered of from the time of boosting up privatization drive i.e. from NIP 1982 and RIP 1986. Actually, it was a mission without vision of the previous governments. There was no proper arrangement of monitoring regarding the use of the incentives offered for private sector. It is doubtful that these incentives are used with honesty and their true spirit by the private sector (Masud & Hymayun; DUJBS, 1995: 1-19). Apart from this, it is a question that why proper monitoring system is not existed in implementing different undertaken initiative? It is not impossible for the government rather reluctance. So, from this reality, it can be said that the government is keeping itself aloof from the development of public sector of the country in the name of economic emancipation through the development of private sector.

The fruits of the policy depend upon its implementation. From the past experience, it is inferred that there are much good tales in the policy but no clear-cut direction regarding implementation of these. Furthermore, no coordination is maintained among the concerned ministries or bodies. As a result, other concerned ministries or bodies do not care for the implementation of the policy prepared by the ministry of industry. Before privatizing the public sector saying inefficient and loosing one, government should look into the above mentioned matters meticulously. It is firmly believed that the control of private sector is somehow difficult for the government. From this point of view, in some cases, public sector is beneficial and well-fare to the mass people of the country. In reality, through privatization in such way as like in Bangladesh, the benefit or wealth will go to the hands of a limited person of the country. As a result they may become the master of the business arena i.e. ultimately they control the industry, trade, business of the county going beyond the reach of the government. In the consequence, at a certain stage government has to take stand against those masters in running the economic activities of the country which hinders the development of industrial sector in particular and economic development in general. Over and above, many industries have become sick. Government has formed a body named "Sick Industry Rehabilitation Cell" for re-starting the commercial operation of these sick industries. The function of the cell has been confined in identifying the number of sick industry. The reasons of being sick of the industries have not been detected properly and so that no pragmatic initiative is taken for rehabilitating these industry. It is admissible that the all most all the sick industry are of public sector concern. The above reason is also one of the reasons of inefficiency and sluggish performance or poor contribution to GDP of public sector. It is notable here that the policy, by and large, emphasized the development of enterprises and not the development

of entrepreneurship. The right emphasis could have been entrepreneurship development through the provision and introduction of various entrepreneurial development programmes. Entrepreneurship development programmes has been conspicuously neglected.

Over and above, government has been continuing offer certain facilities and incentives to attract and encourage investment in industrial sector. A careful study of the documents on the policy of incentives and facility so far provided that there exists a wide gap between policy announcement and implementation steps. Government announced tax holiday on the basis of location of industry irrespective of the size and nature of one. But it should be on the basis of size as well as nature of industry. Because the facilities avail of other than government ones are not equal and same nature of different types of industry. Apart from this, in this policy priority has been paid on imposing tax at reduced rate rather tax holiday. And the reduced rate had not been fixed. In fact, tax holiday is more encouraging weapon than tax reduction. There is no clear-cut announcement regarding credit-equity ratio. The policy has announced that the rate of interest will be reduced on loan. But it has not been reduced rather increased. The following table exhibits the interest rate on loan of different financing agencies and banks:

Table-1: Interest on Loan

Name of financing institutions	Large and Medium Industry		Small-Scale Industry	
	2002	2007	2002	2007
Sonali Bank	9-13	12.5	11.5-12.0	12.0-12.5
Janata bank	10.0-12.0	11.0-12.58	11.5	10.0-12
Agrani Bank	10.0-12.0	13.0	11.5-12.0	12.0
Rupali Bank	10.0-12.0	12.5	11.0-12.0	12.0
BKB	10.0-13	11.5	12.0-13.5	10.0-11.5
BSB	10.0-12.0	10.0-12.0	10.0	10.0-11.0
RAKUB	12.5	12.0	10.0-12.5	12.0
BSRS	10.0-12.0	10.0-12.5	10.0	11.0
BASIC	13.0	11.5-13.5	11.5-12.0	11.5-12.5

Source: Economic Review of Bangladesh -2007:50

From the above table it is revealed that all most all the financing institutions have increased the interest rate on loan in 2007 in respect of 2002 whereas, it was supposed to reduce the rate of interest on loan in the immediate past industrial policy, 2005.

Although, the interest rate on loan has come down to 12.37 in the fiscal year of 2009-2010 from 13.46 in 2008-2009. But it has gone up high again in 2010-2011 to 12.52. So, the high interest rate is an impediment in the pace of industrial development (Economic Review of Bangladesh -2011:58).

Industrial Policy and Women Entrepreneurs

In Bangladesh the sex ratio of the population is 106 males per 100 females i.e. half of the total population is women. So, it is not possible to achieve economic emancipation keeping aloof such a bulk section of population from developmental activities. Women of our country must

be involved in economic activities mainly in industrial sector i.e. manufacturing process. It is seen over the last decade, there have been substantial progress in women participation and success in socio-economic activities, especially in industrial activities in Bangladesh as elsewhere in world. So, Women's participation in the countries industrialization must be ensured on a wider scale. With a view to ensuring participation of women entrepreneurs in industrialization, it is announced in the proposed industrial policy-2010 that special emphasis will be given to identify women entrepreneurs capable of running independent and self-sufficient industries and businesses all across the country. Virtually, such type of initiative has not yet been taken. In this proposed policy, women entrepreneurs will be encouraged for setting-up and running agro-based, electronic, ceramic and hosiery industries. Furthermore, the women entrepreneurs will be encouraged in establishing cottage industries of decorative item, leather goods, embroidery, imitation items, block, boutique, handicrafts of bamboo and cane, toys and other gift items. For making them efficient entrepreneurs and for successful running of their enterprise, they must be provided trade wise pragmatic training as well as adequate technical and financial assistance. Realizing their need, the proposed policy has announced that women entrepreneurs will be provided modern technical training in cooperation with different institutions under the ministry of industry. But in practice, no pragmatic training programme other than some workshops of encouraging speech has been held for making them skilled in their trade. For providing financial assistance easily and adequately to true women entrepreneurs, it has been proposed to establish a separate bank under public and private initiative. In fact, same type of declaration had been declared in the industrial policy, 2005. But it is a matter of great regret that it has not yet been established and even has not come into discussion at any level-neither government nor private level. They should be assisted to improve the standard of goods produced by them, create new markets, publicize, promote and sell their products in local and foreign markets. But no initiative in this regard especially for women entrepreneurs has been taken from the aspect of government or from any business forum.

Policy Implications in Micro, Small, Medium, Cottage and Rural Industries

Small, Medium, cottage and rural industries can make significant contribution to the economy of Bangladesh by producing exportable surpluses of commodities together with local value addition and creation of employment opportunities. In fact, the role of these industries in generating investment, savings, profit, employment opportunities, export, equal distribution of wealth, dispersal of economic activities and improvement of peoples' living standards as well as national development is very important. To this end, forward linkage, backward linkage, value addition activities and productivity improvement should be accelerated in order to establish and expand medium, small, cottage, micro and rural industries in the manufacturing sector. Realizing this reality, these industries have

attracted the attention of policy makers and as such this sector has been emphasized in the industrial policy, 2010. This is consistent with the socio-economic condition of our country. Financing of these industries in off-farm rural economic activities are largely depend upon equity financing from personal and family savings. But for playing significant role in economic activities and national development, massive establishment of these industries with adequate facilities is required. With this end of view, currently banks and financial institutions are coming forward to provide finance to these industries.

It is seen that the contribution of agriculture sector to total labour force has been declining for years together. The increasing employment seekers should be absorbed to other sectors. It is argued that an effective agrarian reform though necessary, cannot do much for this. Other urban sectors also do not hold out bright prospects for the rural unemployed and underemployed (Ahamed, Qazi khaliquzzaman et al; BIDS, 1987:8). In these circumstances, rural industries can employ the rural unemployed and underemployed people.

In Bangladesh large-scale industries are situated in urban areas and its fruits are enjoyed by urban people largely, the profit earned from this sector goes to their hands. On the other hand, small-scale industries are usually established in rural or semi-rural areas and relatively common people can invest in this sector and the profit earned from the industries also goes to hands of the industry owners, who are mostly rural people. So, by establishment of small-scale industries, equitable distribution of wealth, geographical dispersal of economic activities and balanced regional growth is mostly possible. Beside these, Setting up of small-scale industries creates job opportunities. To cater the need of employed people many super markets, schools, colleges, madrasas, roads etc. have been established and the financial transactions and communication activities many banks and post offices have been established surrounding the small industries, thus creating job opportunities and expanding economic activities. As economic activities have snow balling effect with one another, many sister organizations have been established thus contributing to national exchequer.

To manufacture some loose items in large scale industries production cost may raise because setting up of large industry requires huge capital. On the other hand, small-scale industries may produce these items with less cost which may be used in running the large scale industries and thus production cost of large industry may be reduced.

Considering the problem as well as importance of these industries, emphasis has been given on these ones in the past and even in the present proposed industrial policy. But from the previous experience, it is seen that the commitments or doings announced in the policy have been implemented a little. That is why, the policy is confined in a paper or in an announcement only. As such the policy that is prepared with a great hope of country's development can meet a little of it.

To review the proposed industrial policy, 2010 a brief discussion comes relevantly over proposed SME policy, 2010 that is prepared a supplementary to the original one. From the past experience it is found

that no coordination between the two policies has been made. Besides, who will monitor and implement the SME policy, no separate body or direction is there in this regard. In fact, what is needed to be done is not only emphasis on policy but also the much needed action mere policy formulation is not sufficient. Our experience shows that policies have not been implemented effectively and no effective follow-up system exits.

Problems of large, medium and small industries are not identical. But it seems these three sectors were viewed in Government policy from almost the same angle. Excepting minor concessions in some cases and in some specific areas, no real discrimination was made in the provision in incentives and fiscal concessions between large, medium and small industries.

Though there is a distinction of definition of different types of industries in Industrial policy, 2010 but a good deal of confusion exists regarding the scope, concept of large, medium and small, micro industry. This situation has led to many difficulties in developing and executing proper promotional assistance programmes by the concerned institutions keeping in view the special needs of the specific industry. Further, the promotional and financial institutions were also left in confusion about decision-making on the specific units to be supported. In the absence of clear-cut concept and scope, determination of priority by the promotional agencies has been seriously handicapped.

Small-scale, cottage, micro and rural industries are scattered all over the Bangladesh. Emphasis should be given on its institutional network. Existing network like BSCIC, sericulture board, handloom board, commercial banks, etc. do not constitute a potential network. Over and above, generally most of the small entrepreneurs and the owners of cottage industries do not know the activities and provision of facilities of these institution and those who know about these, cannot avail of their facilities due to unfavourable terms and conditions such as collateral security, complicated official formalities, in some cases, non-cooperation or ill/corrupt mentality of the officials. For the interest of the economic development of the country, the small and cottage entrepreneurs should be acknowledged about the activities and provision of facilities of these institutions. The concerned institutions have to take the responsibility to aware the entrepreneurs and as such they have to decentralize their operation. The concerned institutions have some centralized operation through which the small and medium industries are provided facilities. Virtually, cottage and rural industries are remained out of the operational reach of these facilities provided. So, emphases have to be given to this aspect on urgent basis.

How and which industry to be prioritized
Bangladesh is a low-industrial base, low per capita income and unemployment problem, low-export and high import dependent country. To cater the need of the country, a large amount of foreign exchange has to be saved and earned. It is possible only through increasing export. So, export-oriented industries should be prioritized. In fact, export-oriented industries are the only way to rapid

industrialization. As such government has already identified the export-oriented industry as the thrust sector as well as one of the main objectives of the policy is to set-up and develop the export-oriented industries.

During last two decades, it is seen that garment export have increased manifold. This sub-sector has been earning a large amount of foreign exchange. For years together, it has been facing a great challenge due to withdrawal of quota system by USA and European countries. Yet, still now this sub-sector is earning a large amount of foreign exchange. It is a matter of great regret that there is no initiative for sufficient supply of electricity. That is why, these industries are facing serious shortage of power and ultimately the production of these industries are being handicapped and in some cases stopped which resulted to reduce earning foreign currency. In fact, for continuous running of the prioritized industries, supply of power has to be ensured to these one. Special care should be taken to minimize the power shortage.

Before determining the export-oriented industry as the prioritized one a strong domestic industry as the industrial base should be built and then protect them from outside competition that means, we have to create a protected domestic demand and market of the prioritized industries. So, we must build industries based on domestic demand and then give them necessary protection from outside competition. The basic priority should be given on industrial development and to do so, priority has to be paid at first on domestic consumption of indigenous goods, secondly, substitution of import through local production and finally, production for export. This opinion is notable that one may tell the import substitute industries and export-oriented industries cannot be developed side by side. But actually, set-up of only one type industries is risky. So, we must set up and develop the import substitute industries alongside the export-oriented industries on the basis of careful study of our comparative advantage and in conformity with the changing global economy.

Findings of the Study

This paper has identified the limitations of preparing an industrial policy as well as some important and controversial issues of the proposed industrial policy 2010. Findings of the study disclosed the privatization of public industries is continuing without considering keen necessity of public enterprises for the country and handing them over to unskilled person and in the consequences, the development of industrial sector and ultimately the over all economic development of the country is being hindered. Capable of playing vigorous role in industrialization of the country, women entrepreneurs should be provided adequate financial and technical support. Financial institutions as well as other supportive agencies cannot constitute an effective network. For this reason, the entrepreneurs will not be receiving their desired support and assistance. Beside these, there is no sufficient provision of training for entrepreneurship development.

High interest rate of borrowed capital, non-availability of long-term capital, political instability, red-tapism, lack of coordination among the concerned ministries or bodies, lack of carefulness to the activities of

one ministry by other ministries, not finding out the genuine problems and the prospects of industrial sector, not taking opinion form concerned authorities as well as dynamic entrepreneurs and specialists before preparing policy, not taking opinion form concerned authority after preparing draft of the policy for necessary modifications and adjustments, assigning the responsibility for monitoring and implementing the policy programmes to the incompetent authority may be the obstacles in implementing and monitoring the policy programmes. In fine, it is said that there are many good words/tales in the paper but main problems lie in implementing and monitoring the undertaken project.

Suggestions and Recommendations
Many problems and limitations have been found out from the overview of the policy. Suggestions and recommendations have been given for preparing a policy in future within the purview of the study. The study recommended as follows:

1. The industries which will be developed in the long-run should be mentioned in the policy.

2. A strong and pragmatic implementation and monitoring cell have been formed to implement and monitor the policy measures. The authority assigned for performing this task has to be empowered adequately.

3. Maintain a good coordination among the different ministries or bodies concerned while preparing policy so that it can be implemented easily and effectively as well as the concerned ministries or bodies other than ministry of industry cannot ignore their responsibility or show callousness or relax. In addition, maintaining coordination among the concerned ministry is essential on a ground that there should have a consistency among different policy such as export policy, import policy, revenue policy, monetary policy etc prepared by concerned ministries.

4. Before preparing policy, opinion has to be taken from different ministries or bodies, dynamic entrepreneurs and other experts on this subject for identifying the problems and prospects of industrial sector. After preparing draft of the policy it is urgent need to take opinion again from different officials or expert and institutions. Even there may hold a public debate over the industrial policy so that the limitation of this sector is possible to be found out.

5. Take proper and pragmatic initiative to ensure the financial and technical assistance of banks and other financing institutions and at the same time the conceptual confusion and ambiguity regarding types and scope of industry have to be removed with a view to taking concrete decision with regard to provide facilities by the financing institutions.

6. For rapid industrialization of the country enhancement of participation of women in industrialization is an urgent need. For boosting up their role in this sector a separate bank has to be

established for women entrepreneurs for providing them facilities in easy manner.

7. For expediting the setting up and development of small, medium, cottage, micro high-tech and rural industries policy has to be with adequate infrastructure and less-expensive utility services.

8. Special care for supply of electricity has to be taken. Because without sufficient supply of electricity, production will be stopped. Steps would be taken by the government in order to minimize power shortage in running the enterprises. To this end, solar power and municipal refuse may be used to generate power.

9. The commitment to privatization programme and shift overnight should be reconsidered. Apart from this, public enterprises should be handed over to the true, active and skilled private entrepreneurs.

10. Prioritized industry should be determined based on domestic demand and necessary protection must be given to these industries from outside competition. Competition should be ensured among the domestic units. The establishment of a strong domestic industrial base is necessary for the development of export-oriented industries.

11. Policy should be formulated for imparting trade-wise training to the entrepreneurs and to do so, one training institute at each upazila of Bangladesh is necessary.

12. The `Sick Industry Rehabilitation Cell" has to be empowered and make it effective with regard for restarting these industries.

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