

# Internal Control Practices of Information Technology Sector (IT Industry) in Bangladesh

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## Abstract

Internal control plays a significant role in maintaining sustainable development of any industry. Preventing and detecting fraud and protecting the organization's resources as a whole can be achieved easily through proper internal control practices. In this study several aspects of internal control practices in the Information Technology (IT) sector have been identified. Sample of thirty companies were chosen from both public and private sector. Primary data were collected through a questionnaire survey. Results indicate that most of the cases companies are practicing acceptable level of internal control, while in some cases they are not doing so accordingly which can be the concerning sectors for further improvement. The findings of this paper will help managers, owners, board of directors, audit committee and other controlling bodies get an overview of the internal control practices within Information technology (IT) sector.

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**Index terms**— information technology (IT) industry, internal control (IC), corporate code of conduct, cost-benefit analysis.

## 1 Introduction

he role of the Information Technology (IT) industry in the economy of Bangladesh is getting powerful gradually. IT sector is emerging as a pivotal player in the world economy. Today Bangladesh is one of the best destinations of sourcing IT support internationally that provides a large contribution to the growing economy of this country. The wind of digitalization brings a bridge between prosperity and success gradually. Thus, its sustainability is of much significant for the development and moving the national economy faster. Internal control is one of the focal mechanisms to establish the long-term sustainability of any institution. It obviously aids to ensure the achievement of the practice pursued by the companies in the IT sector is one of the key-determining indicators of the sustainability of this emerging sector. Young energetic human resources are devoted in this sector that is sometimes out of touch as there is no clear-cut guideline from the regulatory body yet. The operating costs of IT companies are rising and placing profitability and sustainability at stake. The recent Digital Bangladesh concept makes the sector more promising internationally. Indeed, proper controlling systems, guiding tools and its implementation could lead this promising sector faster to contribute in the economy.

## 2 II.

## 3 Statement of the Problem

Bangladesh is one of the fastest growing IT empowering destinations. In near future IT will emerge as a key player in the continual push for national development. According to the Bangladesh Association Software and Information Services (BASIS, 2012) survey the IT industry has consistently grown in recent years at export was 101.36 million USD and the growth were over the last year 54.80% (BASIS, 2014). The area of IT is expanding faster where companies are involved in customized application development and maintenance; IT enabled services,

and E-commerce/Web services for both domestic and international market. The key strength is energetic young talent people. Though the sector is growing day by day with the support of government and other non-government agencies the competition is increasing internationally. Therefore the sustainability of this highly valuable sector is therefore, of much concern. This study focuses on the vigilance of internal control system and policy of companies in the IT sector. The outcome aftermath guides to understand the present scenario as a whole.

### 4 III.

## 5 Literature Review

From the very beginning corporate governance had been a major interest to the researchers. The way a company is directed and controlled is referred to as corporate governance (Cadbury, 2000). Corporate governance ensures accountability to shareholders or stakeholders (Keasey and Wright, 1997), creates mechanisms for controlling managerial behaviour (Tricker, 1994), ensures that companies are running according to the laws (Dunlop, 1998), ensures that reporting systems are prepared in such a way that good governance is facilitated (Kendall, 1999).

Corporate governance contributes to the value of the firm. According to Black (2001), Klapper and Love (2004), Gompers et al.(2003) and ??einer and Schmid (2005) corporate governance has been playing a pivotal role in developing the value of the firm and the relationship between the two is positive in both developed and developing countries. Good corporate governance practice is required to calculate the cost of capital in a capital market. Rouf (2011) identified the positive relationship between value of the firm and board independent director & chief executive officer duality which are two among four mechanisms of corporate governance. Corporate governance and internal control is closely related. According to Mihaela and Iulian (2012) there are important associations between corporate governance and internal control and without excellent internal control practice corporate governance is not feasible. Internal control can be referred to as policies and procedures that are used to attain an effective management of business. The auditors consider internal control as a relevant factor in case of assessing risks of material misstatement of financial statements (Mihaela and Iulian, 2012).

Through this study it has been tried to identify the internal control practices of Information Technology Sector (IT Industry) in Bangladesh. The information technology (IT) industry of Bangladesh experienced in using computers about five decades. At the very beginning days the Information Communication Technology (ICT) sector in Bangladesh mainly focused on hardware operations. Soon after this several public and private financial, non-financial institutions and industrial concerns started using computers, mainly for accounting and payroll applications and customer services. Unfortunately the financial crisis prevailed during liberation war in 1971 that hampered largely the expansion of computer uses in the Bangladeshi corporate sector. However in 1982 a computer center was established at the Bangladesh University of Engineering and Technology that was renamed later as the Department of Computer Science & Engineering that played a pivotal role in Bangladeshi IT education and expansion.

At present there are over 800 registered software and ITES (IT Enabled Service) companies in Bangladesh (BASIS, 2013). Besides there are also few hundred of unregistered small and home-based software and IT ventures doing business for both local and international markets. Individual and organizational body conducted different study to understand about this emerging industry. One of the main IT governing organizations, Bangladesh Association of Software and Information Services (BASIS), surveyed on three hundred of its member companies to understand the business nature, business volume and size of companies. The result revealed that over the 70% of the companies were found to be involved in development and maintenance of software for their clients. Also a number of those are simultaneously engaged in and almost half of the total surveyed companies are involved in providing range of IT enabled services (data/form processing, graphic/web design, content management etc.)(BASIS, 2013).These emerging new business and service delivery models might define the industry. With regard to average size of enterprises within the industry, it is interesting to note that, the distribution is quite spread with respect to both revenue size and employment number. Individual entrepreneur's i.e joint venture, private company owns majority of the firms where only few are publicly traded companies. Currently there are over one thousand registered software and ITES companies in the country employing over 70,000 ICT professionals. Out of these companies, around 60% are mainly domestic market focused while 40% are mainly export focused (BASIS, 2014).

Islam, Md. Saiful (2000) said that Bangladesh went on line in 1996 but the advancement in the field IT is not encouraging as then neighbouring due to various barriers encountered in multiple spheres. Moreover, poor infrastructure, including frequent power crises, and slow and unreliable internet connections are the most immediate problems. Despite facing challenges like high price of internet bandwidth, absence of submarine cable, lack of infrastructure, skilled human resources and software Technology Park. The absence of policy reforms for software export and import, strict regulation, tax waiver for internet use, bank loans and content development efforts by the government make the survival of new IT companies difficult. The current competition level in the software industry is another major challenge, since many large and small local companies provide fierce competition to new initiatives of small companies. Thus, different news articles and reports have shown that companies in the IT industries need to address several shortcomings to maintain their position in the global market and continue contributing to the national economy. Feng et al (2009) found a positive association between internal control and management forecast accuracy. They also found a positive relationship between management ability

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and implementation of strong internal controls, suggesting that internal controls may be one way to address firm's shortcomings. Inappropriate recording of accounting transactions, making illegal transactions, fraud, all these are the results of lack internal control practices which have a negative impact on firms' financial performance and its profitability. While there are some studies on policy, guide-line, and other physical problems in the IT sector, but previous studies have not assessed the internal control practices in the IT sector, neither internationally nor locally. So lack of attention to the system practices and development calls for pioneering research in this area. INTOSAI (2004) updated the Guidelines for Internal Control Standards for the Public Sector, originally conceived in 1992. In their guidelines they IV.

## 6 Methodology of the Study

This study used survey method to collect information on internal control practices within the companies in the IT sector. A questionnaire, consisting of 18 separate questions was adopted from ?ilkinson, Michael, Vasant & Bernard (2000) and Saha & Mondol (2012). These questions were primarily close ended. Besides, some additional questions were used to capture descriptive comments. In order to have a clear overview of the current situation, 100 respondents were surveyed from 30 IT organizations including seven Dhaka Stock exchange (DSE) enlisted public limited company and rest 23 are private limited company. Private limited companies which are operating for around ten years and more than ten years were chosen. The questions have been placed into five broad categories. These are as follows: 1. Management philosophy and operating style 2. Organization structure 3. Assignment of Authority and responsibility 4. Human resource policies and practices

## 7 Cost Benefit Analysis

The respondents were issued separate set of question(s) under each category. The complete survey appears in Appendix. All the respondents are the members of top management of the chosen companies.

Respondents have been chosen based on purposive sampling method.  
V.

## 8 Analysis of the Study Findings

The internal control structure of the companies has been analyzed from five different perspectives:

Among the respondents seventy percent (70%) of them replied that they accentuate short-term profits and operating goals even it is detrimental of long-term goals; the remaining thirty percent (30%) claimed they focus on long-term goals. This practice should be reviewed, because in the long run this practice will limit the growth of company. Eighty percent (80%) respondents responded that they are dominated by only few individuals, whom results in lower participation of majority in decision making. In contrast, only ten percent (10%) responded that they have well practice as management body is dominated by enough members that increase accountability. And the rest 10% preferred not to answer this question.

Of the studied companies, more than one third (35%) are conservative toward electing accounting policies, while 40% of the respondents said they are aggressive in selecting from available alternative accounting policies. They think that aggressiveness in selecting and applying accounting policy is necessary for profitability.

## 9 a) Management Philosophy and Operating Style

(2) Assignment of Authority and responsibility. According to them, the control environment imitates the alertness and attitude of the managers, owners, board of directors and audit committee regarding the significance and inevitability of the internal control within the firm. accounting unit is good for company. Forty-five (45%) percent of the IT companies have separate and distinct internal audit function. Half of the companies (50%) do the internal audit and accounting functions by the same department. This causes more error and inaccuracy. This practice also prohibits the cross checking opportunity. The rest 5% opted not to answer this question.

Near about three-fourth (70%) of the companies' surveyed, subordinate managers' report to more than one superior. In 25% of such cases, subordinates have only one superior for reporting purpose. This indicates the lack of proper distribution of authority in the companies. Another 5% remained neutral. Explicit job description can guide the employees and increase their enthusiasm. Employees evaluated for their performance. Fairly a large share (90%) of the companies surveyed, have written job descriptions for its employees defining specific functions, attributes needed for job and evaluation criteria. Only a small portion (3%) does not have such job description. More than half (60%) of respondents said that there is a prerequisite for written approval before making any changes to the existing information systems. More than a quarter (30%) of the respondents denied having any such requirements in their company. This indicates the lack of adequate assignment of authority and responsibility in organizations.

Forty five (45%) of the companies clearly outline employees and managers. Half of the remaining twenty percent (10%) do not have delineation of authority and responsibility to employees and managers and other half (10%) did not respond to the question.

In most of the companies (72%), there is a system of proper delegation of authority to employees and departments. In contrast, twenty one percent (21%) of the companies do not have such system of authority. Delineation of the boundaries and delegation are important because these are ways by which opportunity for

sharing knowledge increases and manager multiples himself. This practice also brings steadiness, skill and accuracy to a concern. And the remaining rest in this regard 7% preferred not to answer. Proper training practices regarding internal controls, ethical policies, and corporate code of conduct for newly recruits are prevalent in most of the companies (88%); 6% of the respondents said that such training is not present in their companies. Absence of such an orientation program for new employees may have an adverse effect in terms of control and achievement of intended goal. In this case, 6% decided not to respond.

Grievance procedure is a mean of dispute resolution used to address complaints by employees, suppliers, customers, and/or competitors. This procedure should be in place to maintain a congenial working environment within any organization. In the study, findings revealed that three-fourth (75%) companies have this practice. Ten percent (10%) of the companies have not implemented any such procedure for their employees. The remaining 15% of the can know what is expected to them and how they will be the margins of authority and responsibility related to respondents preferred not to state anything regarding this issue.

Most of the companies (90%) maintain a sound employee relation program. Such program ensures healthy employee relation practice within the organization and show management's commitment to employee. Only six percent (6%) of the respondents said they do not have any such program in position that signifies that management is careless about the significance of employee relation. The other four percent (4%) of the respondents opted to remain silent.

Eighty nine percent (89%) of the respondents said that they work in a safe and healthy working environment. As almost all the respondents are from management group so the responses from them would be yes in most of the cases. However, the recent establishment of High Tech Park for IT made a great mark. But still some IT firms are being operated in residential zone where required industrial safety tools and equipments are not available in the workplaces. These reports indicate there is still gap to maintain a safe and healthy work environment in the IT sector. Among the remaining 11% of the respondents, 7% admit that safety and healthy working environment is absent in their organization and rest 4% preferred not to response.

In today's competitive business settings managing deadlines, meeting targets, lack of time to fulfil personal and family commitments may create stress, depression among the employees. In force counselling program can ease the situation to a great extent. Among the surveyed companies 84% of them claimed to have such counseling program in their organizational setting. Only 9% of the respondents said that counseling program is not still in place for the employees, while the remaining 7% were silent when asked about this issue.

Employee turnover has been a common phenomenon in recent period. Better opportunity, more salary, career growth opportunity, and grievance from present job etc. may cause the employee to switch organization or job. Confidentiality of information and goodwill of the company will be maintained if there is a proper and well-managed separation program for the employees who are leaving the company. Less than half (43%) of the respondents said that they have such separation programs in force for employees who leave the firm. Exactly half (50%) of the respondents replied that they do not have such separation program available. Employees who have access to cash and other negotiable instruments are bonded in thirty three percent (33%) of the cases. This practice is in action to ensure safety of cash and other negotiable instruments. On the other hand, almost half (48%) of the companies do not have any such policy to bond employees having such access to cash and negotiable instruments. Remaining nineteen percent (19%) of the respondents opted not to answer. This may be due to the skepticism against bonds. Overall, three-fourth percent (75%) of the respondents think that internal control practices present benefit better than the cost involved to the organization.

In contrast, nine percent (9%) of the respondents denied the statement. Remaining sixteen percent (16%) of the respondents opted not to answer. Internal control is more than an accounting function because it includes people and the relationship with them. Several benefits of the internal control practices within the organization were identified by the respondents.

## 10 Global

It facilitates and accelerates in decision making, increases efficiency of internal operations, identifies and reduces financial, human resources, technological and political risks, increases financial security and credibility, empowers to focus on future growth rather than past, ensures better control over the organization and resources, maximizes profit, eliminates and minimizes meaningless cost and expenses from savings, time savings, helps proper evaluation of financial and nonfinancial performances, managing large employee groups effectively, maintains order and discipline and ensures safety of employees and resources, helps to deal with overall operations related to supply chain and others, and ensures good corporate governance as a whole.

## 11 VI.

## 12 Conclusion and Suggestion Further Research

The aim of this study is to obtain a concrete idea of the effectiveness of internal control practices in the Information Technology (IT) sector in Bangladesh. The IT sector contributes considerably to the development of the national economy of Bangladesh. This sector plays well both domestic and international market in the means of creating employment and generating foreign currency gradually. A handsome amount of the foreign export income comes from this sector every single year and increasing sharply, thus it is gradually getting an influential role running

the economy wheel faster. In recent time this sector getting more focuses nationally and internationally. This recent initiative by different wings including national, international, government and private suggest the need for purposeful evaluation of the sustainability of this industry. As the international market is highly The responses to the eighteen questions asked to the respondents suggest that some improvements need to be made. However, majority of the organization do have control systems in place. Around fifty percent of the company's internal audit function is not separated and distinct from accounting. Less than fifty percent of the respondents reported that-1. The institution is actually not maintaining conservatism while choosing from alternative accounting policies, 2. There is no proper separation programs for employees who leave the firm and 3. Employees are not bonded who have access to cash and negotiable instruments. This study includes respondents from management only. A future study including respondents from representatives of management, employee and regulatory groups would discover if there is agreement between these stakeholders. No relationship has been developed between the benefits derived from the internal control practices and the costs involved. A cost benefit analysis could be done as well. Another future research area can be the relationship between organizational profitability and effectiveness & efficiency of internal control in place in that organization to verify the contribution of internal control to the profitability.

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Questions	YES	NO	PNA*	Total
Does management emphasize short-term profits and operating goals to detriment of long-term goals?	70%	30%	0%	100%
Is the management group dominated by one or a few individuals?	80%	10%	10%	100%
Is the management conservative toward selecting from available alternative accounting policies?	35%	40%	25%	100%

[Note: \* PNA=Prefer not to answer]

Figure 1: Table 1 :

2

Questions	YES	NO	PNA*	Total
Is the up to date organization chart prepared, showing the names of key personnel?	75%	25%	0%	100%
Is the internal audit function separate and distinct from accounting?	45%	50%	5%	100%
Do subordinate managers report to more than one superior?	70%	25%	5%	100%
PNA=Prefer not to answer				

Figure 2: Table 2 :

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Questions	YES	NO	PNA*	Total
Does the company prepare written employee job descriptions defining specific duties and reporting relationships?	90%	3%	7%	100%
Is written approval required for changes made to information systems?	60%	30%	10%	100%
Does the company clearly delineate to employees and managers the boundaries of authority responsibility relationships?	80%	10%	10%	100%
Does the company properly delegate authority to employees and departments?	72%	21%	7%	100%
PNA=Prefer not to answer				

Figure 3: Table 3 :

4

Questions	YES	NO	PNA*	Total
Are new personnel indoctrinated with respect to internal controls, ethics policies, and corporate code of conduct?	88%	6%	6%	100%
Are grievance procedures to manage conflict in force?	75%	10%	15%	100%
Does the company maintain a sound employee relations program?	90%	6%	4%	100%
Do employees work in safe, healthy environments?	89%	7%	4%	100%
Are counseling programs available?	84%	9%	7%	100%
Are proper separation programs in force for employees who leave the firm?	43%	48%	9%	100%
Are employees who have access to cash and other negotiable instruments bonded?	33%	48%	19%	100%
PNA=Prefer not to answer				
e) Cost Benefit Analysis				

Figure 4: Table 4 :

5

Questions	YES	NO	PNA*	Total
Are the internal control practices in your organization offering any benefit to your organization at all? If yes, how?	75%	9%	16%	100%

[Note: \* PNA=Prefer not to answer]

Figure 5: Table 5 :

## .1 Appendix

Dhaka Stock exchange (DSE) enlisted public limited companies

[Bdcom Online] , Ltd Bdcom Online .

[ Daffodil Computers Ltd] , *Daffodil Computers Ltd*

[ Orion Informatics Limited 27. Promiti Computers and Network] , *Orion Informatics Limited 27. Promiti Computers and Network* (Pvt) ltd)

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## 12 CONCLUSION AND SUGGESTION FURTHER RESEARCH

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