

The Use of Responsibility Accounting in Textile Industry in Bangladesh

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Abstract: *Responsibility accounting, also called activity accounting or profitability accounting is the collection, summarization and reporting of financial information about various decision centers (responsibility centers) throughout an organization. This paper is an effort to examine the real world practice of responsibility accounting system in listed textile companies of Bangladesh. It also focuses on the overall satisfaction of responsibility accounting system and the significance of each element (i.e. assigning responsibility, establishing performance measures, evaluating performance, assigning rewards and responsibility center) of responsibility accounting system. To achieve these objectives all the listed textile companies have been surveyed. Findings reveal that all elements are important for overall satisfaction of responsibility accounting system and descriptive statistics show that the satisfaction of responsibility accounting system of all listed textile companies sustains in satisfactory level.*

Keyword: *Responsibility Accounting, Textile Industry, Satisfaction Level, Performance Measurers.*

Introduction

In most organizations, a performance evaluation is typically done within the framework of responsibility accounting. Demski (1994) defines responsibility accounting as a scheme in which the measures by which each manager's performance will be evaluated are identified. Ideally, these performance measures will hold a manager accountable for his responsibility center's activities and resources including any impact on other responsibility centers.

Responsibility accounting stresses on communication of information in general and accounting information in particular to various decisional centers. It involves the choices of performance measures that can motivate firm members to take actions the firm desires. To be effective, organizations must ensure that allocation of decision rights and use of appropriate performance measures be designed to maximize firm profits given the

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specialized knowledge available to members of the organization. Measures to evaluate managerial performance should reflect decision rights allocations within the firm (Ali 2010).

This study describes the responsibility accounting system followed by listed textile companies in Bangladesh in respect of five elements, i.e., assigning responsibility, establishing performance measures or benchmarks, evaluating performance, assigning rewards and responsibility centre. It also focuses on the satisfaction level of responsibility accounting system practiced by listed textile companies in Bangladesh.

Objectives of the Study

The purpose of responsibility accounting is to establish and report cause and effect relationships between the activities of specific managers and the financial results of these activities. This study has been conducted to achieve mainly two objectives:

- To explore the present practice of responsibility accounting system of listed textile companies in Bangladesh.
- To measure the satisfaction level of responsibility accounting system in respect of all listed textile companies in Bangladesh.

Methodology of the Study

Sample size:

All listed textile companies (Appendix-1) in Bangladesh have been selected for this study.

Data Collection Procedure

Non-probabilistic sampling technique has been preferred for this study. The study is mainly based on primary data. A structured questionnaire (Appendix-2) has been used for the purpose of collecting primary data. To strengthen theoretical backgrounds of the study different websites, thesis papers and different text books dealing with responsibility accounting have been reviewed.

Data Analysis

To measure the satisfaction level of responsibility accounting practice in listed textile companies “5 point likert scale” measurement has been applied and to get satisfaction level, the average mean is calculated for each variable of responsible accounting system.

An Overview of the Textile Sectors in Bangladesh

Bangladesh has attained a remarkable position in the textile and garments industry for many reasons. Cheap labor and favorable trade status with the EU are the two important advantageous areas. There are huge yarn and fabric demand supply gap in the RMG industries which is presently met by imports. Thus the potential for backward linkage industry has enormous prospect for the textile industry which can supply over 3 billion yards of fabrics during a year to the export oriented garment industry (www.bkmea.com). According to Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), about 85%-90% of this demand is met at present by import from countries like China, India, Hong Kong, Singapore, Thailand, Korea, Indonesia, Taiwan, etc. Fabric demand is also increasing at 20% per annum which offers a tremendous opportunity for further investment. Costs of some key production factors in textile sector for different countries are stated below:

Table: Comparisons of labor costs with the Asian competitors

Country	Labor Cost
Thailand	\$ 1.00/Hour
India	\$ 0.60/Hour
Sri Lanka	\$ 0.45/Hour
Vietnam	\$ 0.40/Hour
Indonesia	\$ 0.40/Hour
Pakistan	\$ 0.40/Hour
China	\$ 0.35/Hour
Bangladesh	\$ 0.25/Hour

Source: Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA).

Table: Comparisons of energy & labor costs with the South Asian competitors

Country	Labor Cost	Energy Cost
India	\$ 0.60/Hour	\$ 0.095/KwH
Sri Lanka	\$ 0.45/Hour	\$ 0.087/KwH
Pakistan	\$ 0.40/Hour	\$ 0.08/KwH
Bangladesh	\$ 0.25/Hour	\$ 0.07/KwH

Source: Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA).

The above tables showed that Bangladesh is having the low labor cost advantage to any other Asian competitors and having lower energy cost in comparison to other South Asian nations. We can divide our textile sector demand as into three important areas like domestic yarn and fabric requirements, yarn requirements for export oriented knitwear and yarn requirement for woven ready-made textile (RMG). Bangladesh primary textile sector (PTS) meets around 100 percent, 85-90 percent and 34-40 percent demand respectively. Additionally, a portion of domestic yarn production is supplied to home-textile, terry towel, and denim producers. There are 350 spinning mills, 400 weaving mills, 310 dyeing and finishing mills, 800 knitting and knit dyeing mills and 4,500 garment factories in Bangladesh. Despite a remarkable growth in backward linkage industries, the country's current demand-supply gap of fabric is about 50 percent in terms of cotton-based uses and around 25 percent in terms of non-cotton based uses in RMG sector (Cotton and Products Annual, 2010, GAIN report no BG 1002). This considers the textile sector as an important area for potential investments. The export made by textile industry of Bangladesh is increasing every year although there are exceptions. Strike, layout, shutdown of company, political problem, economic problem, inflation etc. are the prime causes of fluctuations of export in this important sector. But above it, the textile industry is the leading sector in export sector. So it can be assumed that, if we adopt the responsibility accounting philosophy in the textile sector than the phenomena of this sector, especially the backward linkage industries will achieve remarkable progress.

Literature Review

Responsibility accounting refers to multi-divisional firms installing different types of responsibility centers to promote alignment between individual and corporate goals, depending on the decision rights delegated to the subunit managers (Vancil 1979; Horngren et al. 2006). It determines the range of performance measures used to evaluate a manager's achievements under the imperative that this evaluation should best be based on what the manager controls (Demski and Sppington 1989; Zimmerman 2003). The 'span of accountability' (Simons 2000) might range from a narrow focus on spending or revenues in cost and revenue centers respectively to profit centers holding managers accountable for the impact of spending levels or even the efficient utilization of assets on revenues and profit. James R. Martin (1990) stated that responsibility accounting provides a way to manage an organization that would otherwise be unmanageable. He also focused on top-down accounting control under traditional responsibility accounting. Ray H. Garrison (2003) has categorized responsibility centers into three types: cost, profit and investment centers. On the other hand, Iyengar (2000) has specified five responsibility centers viz cost, profit, investment, revenue and contribution centers. Philip Dunn (2002) highlighted the concept as a system of accounting that segregates revenues and costs into areas of personal responsibility in order to assess performance attained by

persons to whom authority has been assigned. Hansen and Mowen (2005) defined responsibility accounting by four elements such as assigning responsibility; establishing performance; evaluating performance and assigning rewards. Robert Anthony defines Responsibility Accounting as “that type of management accounting that collects and reports both planned and actual accounting information in terms of responsibility centers.”

Findings and Analysis

To apply responsibility accounting system all listed textile companies have been surveyed. For analysis the responsibility accounting practice, responsibility accounting system includes responsibility centre criteria in addition to four elements of responsibility accounting model. The following is the research findings and interpretations about five elements of responsibility accounting system of textile:

Assignment of Responsibility and Accountability

Table-1 shows that most the textile industry units (90%) assign responsibility and accountability on organizational unit or department. Group is in second position. Individual process and particular process or operations occupy 3rd and 4th position.

Table-1
Assignment of responsibility and accountability

Bases	Percentage	Rank
Organizational unit or department	90%	1
Group	25%	2
Any particular process or operation	1%	3
Individual person	0%	4

Source: field study

Benchmark for Performance Measurement

Table-2 shows that profit or net income is the most frequent criteria for textile industry as benchmark for performance measurement. It is the most traditional method. Then revenue and operating efficiency measurements are being used which are modern methods. So we can conclude that, textile companies are using both traditional and modern methods simultaneously.

Table-2
Benchmark for Performance Measurement

Benchmarks	Percentage	Rank
Profit or net income	88%	1
Revenue	56%	2
Operating efficiency	22%	3
Quality improvement	18%	4
Cost control reduction	17.5%	5
Efficient utilization of invested resources	16%	6
Contribution margin	6%	7

Source: field study

Performance Measurement Technique

Evaluation of the performance depends on the benchmark for performance measurement. Textile companies use only quantitative techniques. Table-3 depicts that quantitative techniques are most common for textile companies. Among the quantitative techniques performance report, budget and income statement occupy more percentage for evaluating performance.

Table-3
Performance Measurement Technique

Techniques	Percentage	Rank
Performance report	61%	1
Income statement	42%	2
Budget	39%	3
Return on assets	28%	4
Ratio analysis	25%	5

Source: field study

Reward System

If the performance is in satisfactory level, the assigned person, group or organizational department is rewarded. The reward system can vary from organization. Table-4 illustrate that among 22 textile companies, the most commonly used systems are bonus and promotion. About 73% textile industries are using increase salary criterion for rewarding accountable person, group or department. Appreciation letter and gain sharing are less common reward system in textile sector.

Table-4
Reward Systems

Reward system	Percentage	Rank
Bonus	82%	1
Promotion	78%	2
Increase salary	73%	3
Profit sharing	42%	4
Appreciation letter	0%	5
Gain sharing	0%	6

Source: field study

Responsibility Centre

Though responsibility is assigned on individual person, group, organizational unit or department basis, they are mainly responsible for safeguarding cost, revenue, profit, investment or contribution margin of their respective activities or units. Table-5 portrays that investment centre is most familiar practice for textile industry. Then second and third preference come on profit centre and revenue centre.

Table-5
Responsibility Centre

Types of centre	Percentage	Rank
Investment centre	80%	1
Profit centre	32%	2
Revenue	22%	3
Cost centre	18%	4
Contributinal margin	6%	5

Source: field study

Satisfaction of each Variable of Responsibility Accounting System

To find out the satisfaction of each variable of accounting system, we have calculated the *mean* value of each variable of responsibility accounting system. The mean value of each responsibility accounting variable are given as follows.

Table-6
Mean of Assigning Responsibility Variables

X (Rank)	F(frequency)	FX
1 (highly satisfied)	7	7
2 (satisfied)	6	12
3 (indifferent)	6	18
4 (dissatisfied)	3	12
5 (highly dissatisfied)	0	0
Total Result	N=22	$\sum FX=49$

$$\begin{aligned} \text{Here, mean of } X &= \sum FX \div N \\ &= 49 \div 22 \\ &= 2.227273 \end{aligned}$$

Table-7
Mean of Benchmark for Performance Measurement Variables

X (Rank)	F	FX
1 (highly satisfied)	4	4
2 (satisfied)	4	8
3 (indifferent)	9	27
4 (dissatisfied)	5	20
5 (highly satisfied)	0	0
Total Result	N=22	$\sum FX=59$

$$\begin{aligned} \text{here mean of } X &= \sum FX \div N \\ &= 59 \div 22 \\ &= 2.681818 \end{aligned}$$

Table-8
Mean of Performance Measurement Technique Variables

X (Rank)	F	FX
1 (highly satisfied)	8	8
2 (satisfied)	9	18
3 (indifferent)	4	12
4 (dissatisfied)	1	4
5 (highly dissatisfied)	0	0
Total Result	N=22	$\sum FX=42$

$$\begin{aligned} \text{Here mean of } X &= \sum FX \div N \\ &= 42 \div 22 \\ &= 1.909091 \end{aligned}$$

Table-9
Mean of Reward System Variables

X (Rank)	F	FX
1 (highly satisfied)	7	7
2 (satisfied)	5	10
3 (indifferent)	7	21
4 (dissatisfied)	3	12
5 (highly dissatisfied)	0	0
Total Result	N=22	$\sum FX=50$

$$\begin{aligned} \text{Here mean of } X &= \sum FX \div N \\ &= 50 \div 22 \\ &= 2.272727 \end{aligned}$$

Table-10
Mean of Responsibility Centre Variables

X (Rank)	F	FX
1 (highly satisfied)	5	5
2 (satisfied)	6	12
3 (indifferent)	11	33
4 (dissatisfied)	0	0
5 (highly dissatisfied)	0	0
Total Result	N=22	$\sum FX=50$

$$\begin{aligned} \text{Here mean of } X &= \sum FX \div N \\ &= 50 \div 22 \\ &= 2.272727 \end{aligned}$$

To measure the overall satisfaction on responsibility accounting system of textile industry in bangladesh, all variables are considered seperately. It is discovered from the descriptive statistics (table-11) that, all the variables pertain to satisfactory level.

Table-11
Satisfaction of each Variable of Responsibility Accounting System

Variables	N	Mean
Satisfaction on accounting responsibility	22	2.227273
Satisfaction on Benchmark for performance measurement	22	2.681818
Highly satisfaction on Performance measurement technique	22	1.909091
Satisfaction of Reward system	22	2.272727
Satisfaction of Responsibility centre	22	2.272727

Here N=number of companies.

In table-6, the result shows that only one variable of responsibility accounting system in bangladesh is at highly satisfactory level as the performance measurement technique. The others variables are at satisfactory level.

Conclusion

The idea behind responsibility accounting is that each manager's performance should be judge by how well he or she manages those items under his or her control. This concept is rarely, if ever, applied successfully in practice because in modern organizations, among the departments, inter-relations and inter-departments are mostly observed. So it becomes almost impossible to demarcate responsibility centers by clear-cut outlines. Here, we did try to apply the controllability concept produce responsibility reports where each layer of management is held responsible for all subordinate management layers. This study underlines the significance of the crucial variables that should be taken into account in order to have the satisfaction in the practice of responsibility accounting systems. At last, if all textile companies follow modern basis for all five elements what we did consider for study, their satisfaction level of responsibility accounting system will be higher because all elements of responsibility accounting system are positively co-related.

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Appendix-1

The name of all visited textile industrys are..

1	Al-Haj Textile
2	Alltex Industries Ltd.
3	Anlimayarn Deying Ltd.
4	Apex Spinning & Knitting Mills Limited
5	CMC Kamal
6	The Dacca Dyeing & Manufacturing Co. Ltd.
7	Delta Spinners Ltd.
8	Desh Garments
9	Dulamia Cotton
10	H.R. Textile
11	Maksons Spinning Mills Limited
12	Malek Spinning Mills Ltd.
13	Metro Spinning.
14	Mithun Knitting
15	Modern Dyeing & Screen Printing Ltd.
16	Prime Textile
17	Rahim Textile
18	R.N. Spinning Mills Limited
19	Safko Spinnings
20	Saiham Textile
21	Sonargaon Textiles
22	Square Textile

Appendix-2

Survey Questionnaire

Part-A

Name of the organization:

1. What is the basis for assigning responsibility in your organization?
2. What are the benchmarks for performance measurement in your organization?
3. Which quantitative and qualitative performance measurement techniques are taken by?
4. By which form reward is given in your organization?
5. What type of responsibility centre is in use in your organization?

Part-B

Here is given the following scale with five responses (1= Highly satisfied, 2= satisfied, 3= Indifferent, 4= Dissatisfied and 5= Highly dissatisfied). Put a tick mark in the following level of agreement.

6. Are you satisfied with the assignment of responsibility in your organization?

1	2	3	4	5
Highly satisfied	Satisfied	Indifferent	Dissatisfied	Highly dissatisfied

7. Are you satisfied with the benchmark for performance measurement in your organization?

1	2	3	4	5
Highly satisfied	Satisfied	Indifferent	Dissatisfied	Highly dissatisfied

8. Are you satisfied with the performance measurement techniques in your organization?

1	2	3	4	5
Highly satisfied	Satisfied	Indifferent	Dissatisfied	Highly dissatisfied

9. Are you satisfied with the reward system in your organization?

1	2	3	4	5
Highly satisfied	Satisfied	Indifferent	Dissatisfied	Highly dissatisfied

10. Are you satisfied with the responsibility centre in your organization?

1	2	3	4	5
Highly satisfied	Satisfied	Indifferent	Dissatisfied	Highly dissatisfied