

Multi-facet Performance Measurement System for Textile Industries: A Comprehensive Study from Bangladesh

Mofijul Hoq Masum
Assistant Professor
Schools of Business and Economics,United International University (UIU)
Dhaka, Bangladesh.
Contract Address: UIU Bhaban, House # 80, Road # 8/A (Old-15),
Shatmasjid Road, Dhanmondi, Dhaka-1209, Bangladesh.

A.N.M. Asaduzzaman Fakir
Lecturer, Dept. of Accounting & Information Systems, Jagannath University, Dhaka

Abstract
The nature of performance measurement systems of the organizations become changed in the last two decades. In recent days, it becomes obvious that most of the businesses are looking for financial as well as non-financial measurement matrixes. In this study, we have tried to investigate the importance of multi-facet performance measurement system for the textile industries of Bangladesh. Moreover, we have found that it becomes a burning issue for the textile companies to adopt multi-facet performance measurement systems. In this research paper, we have tried to use a modified balanced scorecard which was initially developed by Kaplan and Norton during 1992. We proposed a five dimensional scorecard for the textile sector of Bangladesh which will help the textile sectors to provide a framework to initiate the multi-facet performance measurement system. In our framework, we have tried to identify most important factors under each aspects of the proposed multi-facet performance measurement system.
Keywords: Multi-facet Performance Measurement System, Textile Sectors, Balanced Scorecard, Non-market perspective.

1.00 INTRODUCTION

The textile sector plays a vital role in the national economy of the country. This sector contributes significantly to the national income of the country. Last year its contribution was 13.6% on the total foreign income in Bangladesh (National Budget 2009-2010). As a very dominant component in the foreign earnings process of Bangladesh, this sector must be focused for sustainable development. Any development of a particular sector should be commenced from the operational perspective. Here comes the performance evaluation issue. The primitive form of performance evaluation can not pave the way of efficiency in the textile sector of the country. Kaplan and Norton developed the balanced scorecard a multi-facet performance measurement techniques. The balanced scorecard translates an organization's mission as well as strategy into a comprehensive set of performance measures (Kaplan and Norton, 1996).Besides this the companies should consider both the financial & non-financial factors in case of measuring their performances. The argument put forward in the relevant literature that use of non-financial measures for performance evaluation enables the manager to understand those factors that are most critical to the firm's long term success (Lynch and Cross, 1991; Maisal, 1992; Newing, 1995; Thorne, 1995). The recent performance measurement literature indicates that in uncertain situations, measuring firm performance requires management's greater reliance on non-financial measures such as market share, customer satisfaction, efficient use of R&D, efficiency and quality. Kaplan and Norton (1996) suggest that without such measures no longer can a firm gain sustainable competitive advantages. Hence we believe that the BSC philosophy can provides us the way to ensure the efficiency of the textile companies and accelerate their operations.

In this study we try to develop a BSC model that pave the way to develop a Balanced Scorecard for the textile sector of Bangladesh. In Bangladesh the most prospective sectors are the textile industries. The textile industry has benefited from very similar economic support mechanisms and principles as those directed to the jute sector earlier on, which on the other hand is now regarded as the economy's vulnerable sector. To rescue the textile sector and to achieve a sustainable development, we have to think about the alternative performance measurement techniques. The traditional one way performance measurement system proves its inadequacy to provide proper guideline on this regard. The shortcomings of the traditional performance measurement system push the managers to think about the multi-facet performance measurement system for an instance Balanced Scorecard (BSC). The BSC evaluates the performance of the organizations on the basis of numerous perspectives like financial, customer, internal business process, learning and growth, and non-market perspective (Kaplan and Norton 1996, Figg at. al 2002). Hence, the main purpose of this study is to explain the appropriateness of the Balanced Scorecard philosophy in respect to the textile sector of Bangladesh. In this study

at first, we tried to show the necessity of having a multi-facet performance measurement system. In the next phase of the study we develop a BSC model for the textile sector. It is obvious that this model will provide the way to the textile sector in Bangladesh to achieve operational efficiency hence compete globally.

2.00 LITERATURE REVIEW

Performance measurement has become a legislative requirement for the private and local sectors (Margarita IŠORAITĖ, 2008). As the companies are now transforming from industrial age competition to information age competition, their performance measurement system tends to change (Kaplan, Atkinson 2003). During the industrial age , financial control system were developed in companies , such as General Motors, DuPont, Matsushita, and General Electronic, to facilitate and monitor efficient allocations of financial and physical capital (Chandler 1977, Johnson and Kaplan 1987). Hence in that period, the performance measurement system of the earliest companies usually included the financial factors only. However, once new technologies are introduced, major organizational changes are required, as the interaction between people and technology is essential to ensure that business process become more and more effective. So the performance measures which focus on only financial criteria will not reflect the new technological environment (Hoque, 2007). If in the era of modern corporate world we only rely on traditional performance measures, we would probably not get the competitive advantages. Even highly successful organizations have the sense of succeeding in spite of - rather than because of – performance measures (Lynch and Cross, 1999). Return on Equity (ROE) and Residual Income (RI) are important accounting based measures of conventional responsibility reporting and performance evaluation. In today's competitive environment, a company that encompasses severe global competition, advancing technology and increased customer awareness, these measures (ROI, RI) of performance reporting are inadequate for a business unit (Kaplan 1994). In recent years numerous authors have expressed divergent views with the traditional measures of organizational performance, which mainly focus on financial criteria (Lynch and Cross, 1991; Kaplan and Norton, 1996). Moreover, the non- financial performance measures provide a great opportunity for managers to improve entity evaluations and operations (Cited in Lothain, 1987). Recent performance literature indicates that in uncertain situations, measuring firm performance requires management's greater reliance on non-financial measures such as market share, customer satisfaction, efficient use of R & D, efficiency and quality (Govindarajan and Shank, 1992; Ittner and Larcker, 1998; Chenhall, 1997; Perera et al., 1997, Banker et al., 2000; and Hoque and James, 2000). An organization never moves long time successfully without the non financial measures.

The phenomena of Bangladeshi textile industries are one of the live examples for these. Although the growth rate of the textile sectors in Bangladesh was 23% during 2005, it was 15% in the last year (Export Promotion Bureau, EPB). From the literature review of the performance measurement system, it becomes obvious that the aim of the traditional performance measurement systems like Earning per Share (EPS), Return on Investment (ROI), Return on Equity (ROE) etc. was to ensure from shareholders point of view (Dixon et al., 1990; Neely, 1998; Bititci et al., 2000; Munir, Baird, Perera, 2005). While most of these performance systems were developed in the early 20th century, their usefulness became limited as the business environment changed in the latter part of the 20th century (Munir, Baird, Perera, 2005). A survey from the top 1000 organizations of Australia showed that 30% of these organizations had changed their traditional one dimensional performance measurement system (McCunn, 1998). Now it becomes a challenge for the textile sector of Bangladesh to adopt the BSC. The basic observation that has brought about the BSC concept is the use of financial measures (which are lag measures) alone can give misleading signals for continuous improvement and innovation, is relevant to textile sector as well(Dodor, Jean Baptiste K. Gupta Rameshwar D. and Daniels Bobbie, 2008). Moreover the multi-facet performance measurement of BSC will assist the textile sector to link between the vision and strategy. Hence we believe that if any organization adopts the BSC philosophy, they can achieve optimum output from the invested input. And thus we want to apply the BSC philosophy in the textile sector of Bangladesh.

3.00 AN OVERVIEW OF THE TEXTILE SECTORS IN BANGLADESH

Bangladesh has put 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 will be capable to 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), presently, about 85%-90% of this demand is met 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:

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

Figure 01: Comparisons of energy & labor costs with the South Asian competitors
Source: Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA).

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

Figure 02: Comparisons of energy costs with the Asian competitors
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 garments (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. The growth of the Bangladesh primary textile sector (PTS) is shown in Table 7. 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, GAINT report no BG1002). This considers the textile sector as an important area for potential investments. The export made by Garments Industries of Bangladesh is improving 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, Readymade Garments Industries is the leading sector in export sector. So it can be assumed that, if we adopt the BSC philosophy in the textile sector than the phenomena of this sector, especially the backward linkage industries will achieve remarkable progress.

4.00 BALANCED SCORECARD AND TEXTILE SECTOR

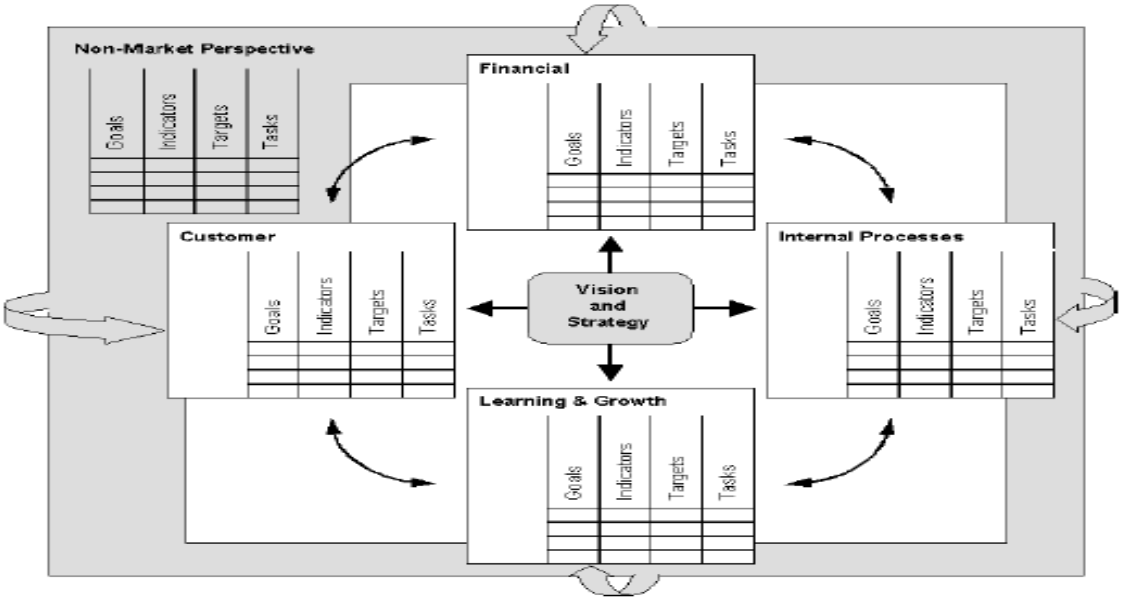
4.01 Theoretical Background of BSC

The balanced scorecard is a strategic management tools which helps managers at all levels to monitor results in their concerned areas. The scorecard is a method of designing, organizing and communicating performance measures across multiple perspectives (i.e. customer, financial, business process and learning and growth), utilizing both short and long term time horizons (Kaplan & Norton, 1996). The scorecard conveys the strategic plan to organization members, and it monitors each perspective simultaneously so that each perspective continuously supports the strategic plan. There's nothing new about using key measurements to take the pulse of an organization. What's new is that Kaplan and Norton have recommended broadening the scope of the measures to include four areas (Alice C. Stewart and Julie Carpenter-Hubin). The four perspectives suggested by Kaplan & Norton were –

- Financial: How do we look to shareholders?
- Customer: How do customers see us?
- Internal business processes: What must we excel at?
- Innovation and learning: Can we continue to improve and create value?

The Balanced scorecard has four processes to bind short term activities to long term objectives. These processes are translating the vision, communicating and linking, business planning and last one is feedback and learning (Kaplan and Norton, 2000). The balanced scorecard involves three layers of management to implement the strategy and vision of the entity. A study conducted by Kaplan and Norton in 2000 showed that the top management formulates the financial and customer objectives. It then mobilizes the talent and information in the next two levels of managers (middle and bottom) by having them formulate the internal business and learning

and growth objectives that will assist them to achieve the financial and customer goals (Kaplan and Norton, 2000). By performing these four processes the balanced scorecard signals all the stakeholders what the organization is trying to achieve for shareholders and customers as well. But the question is whether the four perspectives of the balanced scorecard are sufficient or not. The four perspectives of the Balanced Scorecard are not universal for all the company. No mathematical theorem exists that four perspectives are both necessary and sufficient. Companies rarely use fewer than four perspectives, but depending on industry circumstances and a business unit's strategy, one or more additional perspectives may be required (Kaplan, Atkinson, 2009). Hence to develop the Balanced Scorecard for the textile sector of Bangladesh we add another perspective, Non-market perspective that will consider the social and environmental aspects of the business (Fiegg at all, 2002). The non-market perspective influences all the other four performance measurement perspectives of the organization. Hence in case of developing other perspectives of the BSC an organization has to put emphasis on non-market perspective. Moreover the non-market perspective will help the organization to conduct the corporate social responsibility.

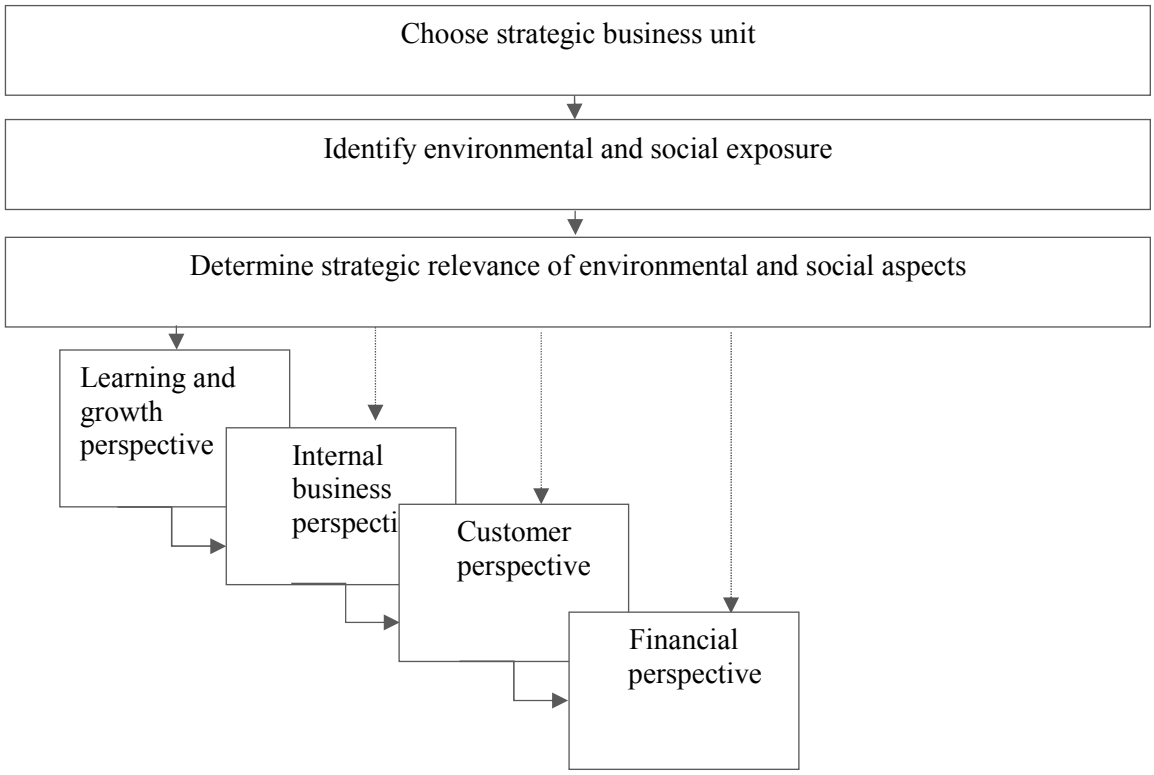


Source: Balanced Scorecard enhanced by non-market perspective (Figge et al. 2002).

Figure 03: Balanced Scorecard enhanced by non-market perspective

4.02 Implementing BSC in Textile Industries in Bangladesh

In order to go for a better picture, in this section BSC will be discussed through a model developed for Textile sector of Bangladesh. Before preparing the original scorecard, it is important to prepare a strategic map in which the cause and effect relationship will be explained. The first step of the company will be to select the specific strategic business unit where it wants to implement the BSC philosophy. After that the company should identify the social and environmental exposure of the business unit. Now-a-days many researchers argue that changes in performance measurement systems are influenced mainly by the external environment of the organization (Hopwood, 1987; Johnson and Kaplan, 1987; Kaplan and Norton, 1992; Meyer and Gupta, 1994; Waggoner et al., 1999; Bourne et ai., 2000; Chow and Van der Stede, 2006). Hence the business people have to consider the relevant social and environmental issues to develop their mission and vision as well as its strategies and objectives. The external congenial atmosphere of the business will influence all the perspectives of the balanced scorecard. BSC is a target oriented performance measurement system. While developing the BSC for the textile sector, we need the industry averages as a basis. The steps of the strategic map for the BSC are given below:



Source: Figge, Hahn, Schaltegger and Wagner (2002).

Figure 04: Steps involved in preparation of BSC

4.02.1 Financial Perspective: As the investors and the stakeholders firstly look into the financial condition of the textile sector we have to ensure the sound and lucrative financial health which can be ensured by financial perspective. As we have observed earlier, financial measures are backward-looking, 'lagging' indicators; yet they are needed to determine whether process improvements ultimately translate into financial success (Pandey, 2005). Here for the textile sector of Bangladesh we compute the average ROI of 57% while calculation is shown in Table 3 but the ROI for 2008-2009 was 78 %. So we set our goal as 80%. Again we set two other measures for achieving the target is turnover growth as 20% (Table 5) and return on sale as 4.5%.

4.02.2 Customer Perspective: The objective of customer perspective is to ensure sustainable and loyal customer for the organization**.** The leading indicator of customer perspective shows how textile industry plans to be successful in the market. To achieve our financial goal we assumed that we have to acquire market share of 3% (same as Ministry of Textiles and Jute, Production Planning Report; Table: 8). Again achieving more market share is dependent on some other issues like customer satisfaction, customer retention etc. Market analysis has shown that durability and toxic free products are the most important aspects. Thus to increase the market share we have to ensure customer satisfaction, the toxic free products and durable products, customer relationship and environmentally friendly and socially responsible image. These factors are therefore considered in a corresponding performance driver. From our study we have detected some factors like increased market share, customer satisfaction and delivery lead time. For increased market share we set up a target of 3%, for customer satisfaction all the organization should try to satisfy their customer. Hence our target is to ensure highly satisfied customer for the organization. Last of all our delivery lead time should be reduced. Based on the previous experiences we set up a target to delivery the product within 90 days.

4.02.3 Internal Process Perspective: Internal process links the strategies of learning and growth with the customers. Therefore, problems in the textile sectors regarding to this aspect need to be considered as well. Textile Blogs identified four challenges for textile sectors in Bangladesh. They are Lead Time, insufficiency of the raw materials, rare existence of research and development in the garments factory and Buyer compliance (Bangladesh Garments Statistics and Future Challenge).

Considering the above four issues we designed our internal process perspective. These four issues will ensure the customer i.e. buyer image and smooth production (Bangladesh Garments Statistics and Future Challenge). For toxic free durable production and socially responsible image we assumed to go for process reengineering i.e. innovative process to ensure a production process which lead to skirting of toxic and ensure low cost. It is obvious that low cost and toxic free production process will also help us to generate more return on sales. Three performance drivers are assumed to be important for such production process is Quality

controlled purchasing, Energy efficiency i.e. efficiency in water-electricity and other energy uses and avoid using harmful substance in production. We have a target to bring the toxic free production at a minimum level that is 0% toxic free production. Again we have a target to reduce 2% of the production cost of the company. The organization can get the quality assurance certificate by meeting up ISO 9001 standards.

4.02.4 Learning and Growth Perspective: The information age environment of the organizations requires new capabilities to get competitive success. The ability of a company to mobilize and exploit its intangible or invisible assets like the employee skills, efficiency etc. has become far more decisive than investing in and managing physical, tangible assets (Itami, 1987). Moreover, highly motivated and satisfied employees are a key prerequisite for successfully implementing an ambitious strategy. Therefore employee satisfaction turns out the important strategic core issue in the learning and growth perspective in textile industry. (Figge, Schaltegger and Wagner 2002). So we arranged strategy map to adopt more training to ensure full exploring of employee potentials and rearrange internal infrastructure to ensure healthier and safer work environment. For textile sector we have selected three measures, employee health and safety, per employee training, and employee satisfaction to ensure highly motivated and satisfied employee. A textile company should have a target to ensure a highly safe and hygienic working atmosphere, arrangement of regular employee training session and highly satisfied employee.

4.02.5 Non-market perspective: Non market perspective actually deals with social and environmental aspects (presented in table bellow) which significantly influence the success of textile sector's strategy as formulated in other perspectives. So it is appropriate to introduce an additional perspective. The non-market perspective can be designed by answering the following questions:

- Are there any environmental or social aspects which influence the success of textile via non-market mechanisms?
- Do these environmental or social aspects represent strategic core issues at which Textile has to excel in order to successfully execute its strategy?
- What is the substantial contribution of the strategic non-market aspects to the achievement of Textile's strategy? (see Figge et al. 2001; Figge et al. 2002)

For Bangladesh perspective the social aspect of child labor represents the core non-market success factor of Textile's strategy. This is mainly due to most of the buyers are of EU and USA. We identified a socially responsible image as a core strategic issue in the customer perspective. If we prove that no child labors are used in the textile sector of the country, we may satisfy the foreign buyers which ultimately aid to achieve our strategic objective. If the Bangladeshi textile sector succeeds to position itself as a credible marketer of products "free of child labor", this will lead to a sustained competitive advantage. The lagging indicator, child labor in the non-market perspective is thus causally linked to the customer perspective. (Figge et al. 2001; Figge et al. 2002). The textile company should have a target to remove the child labor, ensure the congenial working atmosphere like norms and ethics and ensure minimum wage rate declared by the government republic of Bangladesh.

Environmental & Social exposures of Textile Industries	
Emissions	Waste water polluted by chemical substances (e.g. dyeing agents, dyeing salts, pesticide etc.)
Waste	Residues of dyes and dyeing salts.
Material input and intensity	Residues of dyes and dyeing salts. Water consumption of washing and dyeing processes. Use of chlorine based dyeing agents.
Energy intensity	Use of heavy metal based dyeing salts. Pesticide pollution of pre-products.
Noise and vibrations	Energy consumption of drying and steaming processes.
Working atmosphere	Provide congenial and hygienic environment. Visits by the NGOs (Human Rights Watch etc.)
Nature of payment	Payment should be regular on due time. According to the structure of the government.

Source: Figge F., Hahn T., Schaltegger S. and Wagner M. (2002),

Figure 05: Environmental & Social exposures of Textile Industries

5.00 A PROPOSED BSC MODEL FOR TEXTILE SECTOR

After reviewing the above strategic map, the BSC model for the textile sector is developed as follows (based on the industry average performances):

Financial Perspective			
Objectives	**Measures**	**Targets**	**Initiatives**
Fund availability, Effective & efficient financial management	ROI Turnover Growth Return on Sale	60% 20% 4.5%	

Customer Perspective			
Objectives	**Measures**	**Targets**	**Initiatives**
Sustainable and loyal customers	Increased Market Share Customer Satisfaction Delivery Lead time	3% High 30 days	

Internal Process Perspective			
Objectives	**Measures**	**Targets**	**Initiatives**
Environmentally friendly and durable production system	Toxic reduction Production Cost reduction Quality assurance	0% 2% Meeting up ISO 9001 standards	

Learning and Growth Perspective			
Objectives	**Measures**	**Targets**	**Initiatives**
Highly motivated and satisfied employment	Employee health and safety Per employee In-house training hour Employee satisfaction	As per the industrial act One session in each month high	

Non Market Perspective			
Objectives	**Measures**	**Targets**	**Initiatives**
Freedom of action, Legitimacy and Legality	NGOs, Labor union's Minimum wage rate Work environment Child Labor	As per the govt. structure Congenial working environment. Should be eliminated	

Figure 06: Proposed BSC Model for Textile Sector

6.00 CONCLUSION

Several companies especially in the United States have already adopted the balanced scorecard; as Kaplan and Norton observed, their early experiences using the scorecard have demonstrated that it meets several managers' needs. The Balanced Scorecard integrates measures derived from strategy. While retaining financial measures of past performance, the Balanced Scorecard introduces the drivers of future performance. The drivers encompassing customers, internal business process, learning and growth, and non market perspectives are derived from an explicit and rigorous translation of the organizations strategy into tangible objectives and measures. For these circumstances, we think the BSC philosophy also provides the way to the textile sectors of the country to compete globally. After conducting the study, we do believe that the local textile companies should use this multi-dimensional performance measurement technique and precisely it will enhance the efficiency of the individual company and accelerate its operations as well. Moreover, this philosophy will integrate the vision and mission of the individual company with its strategies. Hence it will assist the companies to achieve their long term success. Our suggestion is, if any company wants to develop the BSC model as their performance measurement system, at first they will have to keep the industry average scorecard in front of them than based on this industry average scorecard they should develop their targets. Finally the top management will develop the policies to achieve the pre-determined target and to evaluate the operations as well.

7.00 REFERENCES

Dodor, Jean Baptiste K. Gupta Rameshwar D. and Daniels Bobbie (2008) "A Framework for Governmental Organizations Balanced Scorecard." *Journal of Financial Accountancy*, Vol. 13, 27-39.

Kaplan, Robert S. and David P. Norton (1992). "The Balanced Scorecard: Measures that drive performance." *Harvard Business Review* (January-February): 71-79.

Kaplan, Robert S. and David P. Norton (1993). "Putting the Balanced Scorecard to work." *Harvard Business Review* (September- October): 134-147.
Kaplan, Robert S. and David P. Norton (1996). "Using the Balanced Scorecard as a strategic management system." *Harvard Business Review* (January-February): 75-85.
Kaplan, Robert S. and David P. Norton (2001a). "Transforming the Balanced Scorecard from performance measurement to strategic management:" *Part I. Accounting Horizons* (March). Vol.15, No. 1, 87-105.
Kaplan, Robert S. and David P. Norton (2001b). "Transforming the Balanced Scorecard from performance measurement to strategic management:" *Part II. Accounting Horizons* (June). Vol. 15, No. 2, 147-161.
A.D. Chandler, The Visible Hand: The Managerial Revolution in American Business (Cambridge : *Harvard university Press*, 1997).
H. T. Johnson and R.S. Kaplan. Relevant Lost: The rise and Fall of Management Accounting (Boston: *Harvard Business School Press*, 1987).
Alice C. Stewart and Julie Carpenter-Hubin, The Balanced Scorecard Beyond Reports and Rankings *Journal of Business Venturing* and *Advances in International Comparative Management,* Winter 2000–2001.
Isoraite Margarita (2008). "The Balance Scorecard Method: From Theory to Practice." *Intellectual Economics,* No. 1(3), p. 18–28.
Hoque, Z., Lokman, M. and Alam, M. 2001: Market Competition Computer-aided Manufacturing and Use of Multiple Performance Measures: An Empirical Study, *The British Accounting Review*, Vol. 12, pp. 1-17.
Lynch, R. L. and Cross, K. F. 1991. Measure up! London: Blackwell Publishers.
Govindarajan, V. 1984. Appropriateness of accounting data in performance evaluation: an Empirical Examination of Environmental uncertainty as an intervening variable. Accounting Organization & Society, pp. 125-135.
Hoque, Z. and James, W. 2000, Linking balanced scorecard with size market factors: Impact on organizational performance, *Journal of Management Accounting Research*, Vol.12, pp.1-17.
Kaplan, R. S.; Norton, D. P. Strategy maps. Converting Intangible Assets into Tangible Outcomes. *Harvard Business Review, 2002.*
Ittner, C. D., Larker, D. F. and Rajan, M. V. 1997. The Choice of Performance Measures in annual Bonus contract. *The Accounting Review*, Vol. 2, No. 2, April, pp. 231-256.
Robert S. Kaplan; Anthony A. Atkinson; Advanced Management Accounting, Third edition, 2003.
Strategic Management Accounting, Zahirul Hoque, 2005.
Cotton and Products Annual, 2010, GAINT report no BG1002
Balanced Scorecard: Myth and Reality" Pandey, I.M. PP-56
Bangladesh Garments Statistics and Future Challenge, Textile Blogs_ http://articles.textileclass.com/bangladesh-garments-statistics-and-future-challenge/
Figge F., Hahn T., Schaltegger S. and Wagner M. (2002), "The Sustainability Balanced Scorecard-Theory and Application of a tool for Value-Based Sustainability Management" Paper presented at the Greening of Industry Network Conference 2002, Gothenburg. "Corporate Social Responsibility- Governance for Sustainability"

8.00 APPENDIX

Table: 1

Capital investment in RMG sector (In 10 million Taka)	
Year	**Total investment**
2004-2005	351.2
2005-2006	327.8
2006-2007	270.3
2007-2008	328.6
2008-2009	373.1

Source: Bangladesh Bank and BGMEA

Table: 2

Profit made by RMG sector (In 10 million Taka)	
Year	**Profit**
2004-2005	110.12
2005-2006	174.73
2006-2007	142.19
2007-2008	228.66
2008-2009	289.17

Source: BGMEA new membership File

Table: 3

ROI Calculation			
Year	**Profit**	**Total investment**	**ROI**
2004-2005	110.12	351.2	31%
2005-2006	174.73	327.8	53%
2006-2007	142.19	270.3	53%
2007-2008	228.66	328.6	70%
2008-2009	289.17	373.1	78%
Average ROI			**57%**

Table 4: Apparel Exports from Bangladesh in Value and Volume

	TOTAL APPAREL EXPORT (Millions of $)							TOTAL APPAREL EXPORT (Thousands of dozens)						
	WOVEN		KNIT		TOTAL		Growth in Monthly Totals	WOVEN		KNIT		TOTAL		Growth in Monthly Totals
Year	Total	Monthly	Total	Monthly	Total	Monthly		Total	Monthly	Total	Monthly	Total	Monthly	
2002-03	1,240.48	103.37	204.54	17.05	1,445.02	120.42		36,053.88	3,004.49	10,663.56	888.63	46,717.44	3,893.12	
2003-04	1,291.65	107.64	264.14	22.01	1,555.79	129.65	**7.67%**	34,351.00	2,862.58	10,815.00	901.25	45,166.00	3,763.83	**-3.32%**
2004-05	1,835.09	152.92	393.26	32.77	2,228.35	185.70	**43.23%**	47,210.00	3,934.17	15,301.90	1,275.16	62,511.90	5,209.33	**38.40%**
2005-06	1,948.81	162.40	598.32	49.86	2,547.13	212.26	**14.31%**	48,820.04	4,068.34	23,185.45	1,932.12	72,005.49	6,000.46	**15.19%**
2006-07	2,237.95	186.50	763.30	63.61	3,001.25	250.10	**17.83%**	53,450.33	4,454.19	27,536.07	2,294.67	80,986.40	6,748.87	**12.47%**
2007-08	2,844.43	237.04	937.51	78.13	3,781.94	315.16	**26.01%**	65,590.00	5,465.83	32,604.37	2,717.03	98,194.37	8,182.86	**21.25%**
2008-09(JULY-AUGUST)	561.54	280.77	177.21	88.61	738.75	369.38	**17.20%**	12,186.00	6,093.00	6,464.00	3,232.00	18,650.00	9,325.00	**13.96%**

Source: Bangladesh Exports Promotion Bureau (EPB)

Table: 5

Year	Growth	
	Value	**Volume**
2003-04	7.67%	-3.32%
2004-05	43.23%	38.40%
2005-06	14.31%	15.19%
2006-07	17.83%	12.47%
2007-08	26.01%	21.25%
2008-09(JULY-AUGUST)	17.20%	13.96%
Average	21%	16%

Table: 6

Output of RMG sector (In Million US $)	
Year	**Output value**
2004-2005	61.28
2005-2006	56.61
2006-2007	65.94
2007-2008	74.52
2008-2009	102.15

Source: Export Processing Bureau (EPB).

Table: 07

YEARS	MILLION US$			GROWTH
	WOVEN	KNIT	TOTAL	
2001-02	3,125	1,459	4,584	-6%
2002-03	3,258	1,654	4,912	7%
2003-04	3,538	2,148	5,686	16%
2004-05	3,598	2,820	6,418	13%
2005-06	4,084	3,817	7,901	23%
2006-07	4,658	4,554	9,212	17%
2007-08	5,169	5,533	10,702	16%
2008-09	5,919	6,429	12,348	15%

Source: Export Promotion Bureau (EPB), Government of Bangladesh

Table 8: Projected demand for fabrics for domestic

(Unit: Million metres)

Year \ Growth rate	Projected demand for fabrics				
	Domestic market (growth rate 4.75%)[a]	Exports through RMG			Grand total
		Knitwear[b]	Woven (growth rate 3%)[c]	Total	
2004/05 (Base year)	1 960	2 140	1 740	3 880	5 840
Projected					
2005/06	2 050	2 675	1 790	4 465	6 515
2006/07	2 150	3 210	1 845	5 055	7 205
2007/08	2 252	3 720	1 900	5 620	7 872
2008/09	2 360	4 200	1 960	6 160	8 520

Source: Ministry of Textiles and Jute, Production Planning Report.

Notes:

[a] Projected demand for fabrics for domestic consumption assumed to increase at 4.75 per cent per annum up to 2009/10.

[b] Projected knitwear exports assumed to increase at a declining rate from 2004/05 to 2009/10 at 25 per cent, 20 per cent, 16 per cent and 13 per cent, respectively, per year.

[c] Projected woven garments exports assumed to increase at an average rate of 3 per cent per year from 2004/05 to 2008/09.