# A study on Balanced Scorecard perspective of Performance measurement in Spinning mill of Dindigul District

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**Abstract**

This study (BSC) evaluates the application of a Balanced Scorecard, which was adopted in the early 1990s. Kaplan & Norton devised a method to assess the overall performance of Spinning mills in Dindigul District.. This was accomplished through the use of a quantitative approach. A questionnaire was used to obtain data from selected spinning mills. of Dindigul District found on the Tamilnadu Spinning Mills Association.. The four perspectives, namely customer, internal process, learning and growth, and monetary, were investigated. The findings indicate that indicators in the economic point of view for Spinning mills in Dindigul District only encompass the common financial standards (e.g., ROA, ROE). From a monetary standpoint, it shows that the key technique for spinning mills in Dindigul District is to reach their pre-determined profit goals. . Spinning mills in Dindigul District have a moderate proclivity to try to improve their financial results. Spinning mills must also create their strategy based entirely on both monetary and non-financial indicators that are suited for them, due to limited resources and intense competition.however, this study provides an overview of BSC adaptability in spinning mills and underlines the need for more investigation.

**Keywords:** Balanced Scorecard, Spinning mills, Accounting for Management, Measurement of Results

## Introduction

In the Global textile industry, overall performance became a concern. Interpretation on a global scale and assessment modes have improved significantly since the beginning of the industrial era. In Indian textile industry, overall performance stays mono-criterion, it's mostly interested in productivity and monetary results.. The performance of the Indian textile sector should now be evaluated on a global scale and over the entire product life cycle. One of the most significant difficulties facing businesses is the use of measurements to analyse the overall performance of business divisions. This is due to increased competition, higher expectations, and more customer demand and awareness. (Sroka & Szanto, 2018). One of the major features of postmodernism is the separation of the restrictions between elite and mass tradition As a result of this advancement, the necessity of cultural evaluations and other adaptations to include typical, everyday routines has increased. (Venkateswaran et al, 2019).. In the current corporate context, which is specifically centred on short-term attention, the traditional overall performance measurement approach based on control and cost accounting principles is not applicable. Other flaws include a lack of links between overall corporate performance and strategic goals, day-to-day operations, quality relations, and client satisfaction and loyalty (Grobler & De Bruyn, 2018).

Kaplan and Norton established the Balanced Scorecard (BSC) as a performance measuring tool in the early 1990s, which includes both monetary and non-monetary variables.. Those

factors that are used to make the formal use of non-monetary data in analysing a company's profitability easier. With Kaplan and Norton's balanced scorecard, Lohman and et al (2004) advocated a similar structure. From sustainability to people to the other four factors, they incorporated six perspectives in their method.. The scorecard's major goal is to collect data in order to keep firms focused on their goals and develop appropriate strategies for evaluating and improving their overall performance. Despite the wider adaptation of BSC, the outcomes vary widely from achievement to non-achievement (Awadallah & Allam, 2015; (2012, Parmenter) In addition, research on the BSC's adoption in emerging economies has been found to be lacking. Similarly, in the area of SME's, the majority of previous work has mostly concentrated on private, public, and non-profit enterprises. Basuony, (2014); Hoque (2014); Boateng et al. (2016) As a result, the study aims to broaden the scope of research by examining BSC implementation in Dindigul District spinning mills. This research contributes by emphasizing the total performance management paradigm of spinning mills, which is recognized as a key player in the textile industry. Additionally, this can aid in the presentation of proof on how to respond to changes in the business environment.. It fills a gap in the literature by doing a study on spinning mills, as most research has focused on other industries. It also helps by addressing the resource constraints faced by spinning mills, as well as the highly competitive market. As a result, spinning units in the Dindigul region must be adaptable to market changes that occur frequently and then please clients.

**Review of the literature:**

According to Pakurar et al. (2019), a company's overall performance assessment system must include various measurements in order to assure overall successful strategy performance. In a poll of the top 500 large businesses in various industries, 65 percent of the 107 respondents said their businesses lacked a performance management system. (Smid S & Taskesen, 2002). To compete with Chinese textile and garment companies, textile and apparel makers must develop new strategies. Strategic management and strategic planning take centre stage at this point. (David Fred, 2005). The technology acceptance model (TAM) is a data tool that depicts how customers come to accept and use a technology. (Venkateswaran et al, 2018).

The QWL results in higher working environment which improves the overall performance of organization (Geethanjali et al, 2020). Montava, Garcia, Boner and Diaz (2010) proposed 27 performance metrics for weaving indusry. Management accounting, according to researchers, should report all applicable information that consists of both monetary and non-monetary components associated with the assessment of enterprise units' performance. Suanmali and colleagues (2009) developed key performance indicators (KPIs) for measuring the overall performance of Thai garment units in the supply chain. Allen (2008) identified particular measures that can be used to assess the overall effectiveness of textile and clothing supply chains. The SWOT matrix simply identifies the necessary success elements that may also be carried out into the identification of the distinctive factors of the balanced scorecard**.** (Kaplan & Norton, 1992) Finance, customers, internal business process, and learning and growth were all linked as indicators to the strategic implications of the following specific performance goals. **(Kaplan & Norton, 1992).** It also includes parts of strategic management such as planning, implementing, and monitoring. As a result, it is a critical performance system. In most circumstances, according to Kaplan R.S. and Norton D.P. (2001), the major reason of strategy failure is poor strategy implementation.

Employee morale is a critical component of business operations; strong morale is associated with job satisfaction, high work effort, creativity and initiative, a sense of fulfilment in one's work, and a commitment to one's employer. and the preference to put the success of organization goals ahead of personal desires, thereby improving an organization's overall performance (Sabarirajan, 2016). Many studies have challenged performance measurements that focus primarily on monetary components, such as maximizing earnings and return on capital investment projects, due to accounting manipulation, and they do not consider non-monetary variables, such as client pleasure.

These flaws in traditional overall performance evaluation have prompted commercial business employers and researchers to take action. (Ittner & Larcker, 1998) The Economic Value Added (EVA) mechanism and benchmarking were presented and popularised as an organisational reform strategy through the Xerox Company.. (Abdel-Kader & Luther, 2006). Hoque & James (2000) studied the impact of scale on BSC adoption in overall performance measurement in manufacturing enterprise in Australia was investigated, and it was discovered that the degree of BSC adoption is proportional to the scale.. The usage of BSC in Kenyan SMEs was explored by Chimwani et al. (2013), who observed a gap between three perspectives: customer understanding, internal operations, learning and development, and their applications in SMEs.. Giannopoulos et al. (2013) conducted research in small and medium-sized organisations in the United Kingdom and Cyprus and discovered a generally underappreciated function for BSC in small and medium-sized organizations, which was validated by another study conducted by Sofian et al (2015). Financial overall performance measures imply whether a company's strategy, implementation, and execution are contributing to bottom-line development.

Those measurements, according to Decoene and Bruggeman (2006), duplicate the consequences of previous managerial movements and function as a barometer for achieving profitability goals. From the standpoint of the customer, managers identify consumer and market categories, which are made up of a variety of fundamental or generic measurements of successful outcomes from a properly formulated and implemented strategy. Metrics for internal business processes refer to a company's overall performance in terms of operations that may be required to meet customer and financial goals In addition, they suggest what the company must do internally in order to meet its customers' anticipation. The Learning and Growth perspective emphasizes the infrastructure that a company must construct in order to attain long-term success. People, systems, and organizational procedures are the three fundamental sources of organisational learning and growth. The BSC's financial, consumer, and internal business process goals will almost always expose significant gaps between current people, systems, and strategies and what will be required to achieve breakthrough overall performance. Companies will need to invest in retraining personnel, strengthening information technologies and structures, and aligning organisational plans and routines to close these gaps.

**Research Methodology**

This study used a quantitative research method to accomplish the research objectives.. Exploratory Factor Analysis (EFA) is used in this study to monitor the convergence of the identified variables that are part of the indicator mechanism in the BSC to measure overall corporate performance and to investigate the reliability of these variables**.** This research was conducted in selected spinning mills of Dindigul District out of 90 registered spinning mills with Tamilnadu Spinning Mills Association in this region. The data collected through standardized questionnaire. Cronbach Alpha value was computed to confirm the accuracy of the prepared questionnaire. The research covered only the spinning mills in Dindigul. where the intended respondents were supposed to be. 10 questionnaires were distributed to 25 selected spinning mills to ensure that all mills receive an equal amount of surveys.. Only two hundred of the 250 questionnaires were received in suitable form, while fifteen were unstructured and improper, and thus were eliminated. Table 1 shows the background information of the respondents (78 percent males, 22 percent females),. proving that they have reached adulthood, 76% of those polled are over 25 years old and have extensive professional experience and 81% of those polled had more than five years of experience**.**

**Table I - The respondents' background information**

| Measure | Items | Percent of Response |
|---------|-------|---------------------|
| Gender | Male | 78% |
| | Female | 22% |

| Age | Under 25 years | 24% |
| --- | --- | --- |
| | 25 – 35 years | 27% |
| | 36 – 45 years | 32% |
| | Above 46 years | 17% |
| Education | College diploma | 48% |
| | Bachelors | 37% |
| | Masters | 8% |
| | Others | 7% |
| Experience | Less than 5 years | 19% |
| | 6 – 10 years | 46% |
| | 11 – 15 years | 23% |
| | More than 16 years | 12% |

There are three sections to the questionnaire. The first component of the questionnaire collects demographic information such as respondents' gender and age group, as well as their role, experience, and educational level.. The second component of the questionnaire asks for information on the mills' BSC variables. These questions focus on the respondents' understanding of the phrase "Balanced Scorecard" and the types of BSC variables that are used. The third section of the questionnaire categorizes BSC variables into four categories, all of which are based on management accounting literature and previous study findings: The Financial viewpoint contains sixteen items: The Customer viewpoint consists of seven components., and the Internal Business Process Perspective contains twelve items. There are nine components to the Learning and Growth perspective, as shown in the tables below. Respondents were asked to rate the frequency with which those factors were utilised on a five-point Likert scale, with (1) indicating "never" as the lowest level and (5) indicating "Very often" as the greatest level, and descriptive statistics were used to provide a foundation for discussion.. For three reasons, the tool for measuring every set perspective of BSC was chosen in this study. They may, for starters, be well-documented and indicative of current management accounting literature. Second, they were created and tested independently in previous investigations. Third, they adhere to the essential criteria outlined in the literature review. The Statistical Program for Social Sciences (SPSS) software package is used to evaluate data for the reliability assessment of the BSC four indicators and acquired exploratory factor analysis.

### Table II - Descriptive statistics of BSC variables

| Table 2.1 - Financial Perspective | | Usage | | Importance | |
| --- | --- | --- | --- | --- | --- |
| **Variable Name** | **N** | **Mean** | **SD** | **Mean** | **SD** |
| Revenue growth rate | 200 | 4.69 | 0.75 | 4.55 | 0.90 |
| Revenue / employee growth rate | 200 | 4.54 | 0.77 | 4.40 | 0.91 |
| Profitability ratio | 200 | 4.81 | 0.65 | 4.67 | 0.92 |
| Return on Investment (ROI) | 200 | 4.92 | 0.58 | 4.78 | 0.94 |
| Return on Assets (ROA) | 200 | 4.33 | 0.92 | 4.19 | 0.99 |
| Return on Equity (ROE) | 200 | 4.44 | 1.12 | 4.30 | 0.54 |

| | N | Mean | SD | Mean | SD |
|---|---|---|---|---|---|
| Profitability of turnover | 200 | 1.63 | 0.73 | 1.49 | 0.76 |
| Gross profit margin | 200 | 2.43 | 0.87 | 2.29 | 0.74 |
| Return on Capital Used (ROCE) | 200 | 2.20 | 0.98 | 2.06 | 0.96 |
| Rate of return on cost | 200 | 3.58 | 0.94 | 3.44 | 1.19 |
| Rate of profitability of fixed assets | 200 | 1.63 | 0.77 | 1.49 | 1.04 |
| Rate of stock price increase | 200 | 1.54 | 0.72 | 1.40 | 1.24 |
| The rate of increase of dividends | 200 | 4.76 | 0.79 | 4.62 | 1.84 |
| Profit rate of common stock | 200 | 1.71 | 0.74 | 1.57 | 1.47 |
| Total cost reduction ratio | 200 | 4.59 | 0.77 | 4.45 | 1.94 |
| Rate of unit cost reduction | 200 | 3.40 | 1.20 | 3.26 | 0.88 |

| Table 2.2 - Customer Perspective | | Usage | | Importance | |
|---|---|---|---|---|---|
| Variable Name | N | Mean | SD | Mean | SD |
| Number of complains/ customers | 200 | 1.89 | 0.75 | 1.75 | 0.18 |
| Time to settle a complaint | 200 | 1.65 | 0.78 | 1.51 | 0.71 |
| Percentage of customers leaving the company | 200 | 1.93 | 0.74 | 1.79 | 0.71 |
| Frequent use of the product customer | 200 | 2.74 | 0.99 | 2.60 | 0.64 |
| Incorrect delivery rate | 200 | 2.23 | 0.97 | 2.09 | 1.12 |
| New customers turnover | 200 | 2.21 | 1.08 | 2.07 | 0.64 |
| Percent of new customers who intend to return | 200 | 3.70 | 0.76 | 3.56 | 0.82 |

| Table 2.3 - Internal Business Process Perspective | | Usage | | Importance | |
|---|---|---|---|---|---|
| Variable Name | N | Mean | SD | Mean | SD |
| New product sale as percentage of total sale. | 200 | 3.47 | 0.87 | 3.33 | 0.76 |
| New market revenue/ Total revenue ratio | 200 | 1.58 | 0.87 | 1.44 | 0.98 |
| R&D spending as a percentage of overall cost | 200 | 2.49 | 0.86 | 2.35 | 0.79 |
| Rate of non-standard products | 200 | 4.54 | 0.86 | 4.40 | 0.72 |
| Rate of Returned Goods | 200 | 2.59 | 0.92 | 2.45 | 0.72 |
| New product ratio / total product | 200 | 4.90 | 1.11 | 4.76 | 0.74 |
| Number of turns of inventory | 200 | 3.40 | 1.01 | 3.26 | 1.11 |

| The storage time of the goods | 200 | 2.19 | 1.19 | 2.05 | 1.13 |
|---|---|---|---|---|---|
| Time of freight | 200 | 2.57 | 1.40 | 2.43 | 0.76 |
| Suppliers who meet the standards as a percentage | 200 | 3.47 | 0.99 | 3.33 | 0.69 |
| The rate at which the supplier delivers the goods in a timely manner | 200 | 2.22 | 1.09 | 2.08 | 0.72 |
| The business's supplier is a percentage of its suppliers | 200 | 2.59 | 0.86 | 2.45 | 0.74 |

| Table 2.4 - Learning and Growth Perspective | | Usage | | Importance | |
|---|---|---|---|---|---|
| Variable Name | N | Mean | SD | Mean | SD |
| Coefficient of equipment renewal | 200 | 2.38 | 0.87 | 2.24 | 0.84 |
| The percentage of indirect workers having a postgraduate degree | 200 | 2.99 | 0.73 | 2.85 | 0.68 |
| The proportion of indirect workers who have a college degree | 200 | 2.91 | 1.20 | 2.77 | 0.72 |
| Proportion of indirect workers with a bachelor's degree | 200 | 1.62 | 1.35 | 1.48 | 1.17 |
| At a high pace, direct labor with a high skill level is required. | 200 | 1.58 | 1.01 | 1.44 | 0.89 |
| Rate of return on investment in information technology | 200 | 3.57 | 0.80 | 3.43 | 0.75 |
| Employee retention rate | 200 | 2.54 | 1.57 | 2.40 | 0.85 |
| Rate of exchange experience work | 200 | 2.68 | 0.84 | 2.54 | 0.88 |
| Rate of training staff training/total cost | 200 | 2.70 | 0.92 | 2.56 | 0.75 |

The test result obtained six variables with a correlation coefficient better than 0.5 and an Alpha coefficient of 0.831 in the Reliability Assessment of Financial Variables Scale**.** The test result obtained two factors that have the correlation coefficient larger than 0.5 and Alpha coefficient = 0.812 in the Reliability evaluation of the customer variables scale**.** The test result obtained six variables with a correlation coefficient of larger than 0.5 and an Alpha coefficient of 0.821 in the reliability assessment of internal business variables**.** The test result obtained five variables with a correlation coefficient larger than 0.5 and an Alpha coefficient of 0.814 in the Reliability evaluation of the learning and growth factors.

The findings of the Exploratory Factor Analysis (EFA) are shown in the table below. The EFA obtained nineteen variables with a KMO coefficient of 0.779 that converge into four groups. The findings suggest that perspectives on internal company processes, learning and

growth, and customers were all high; nevertheless, financial perspectives remained an

understudied area in which implementation in the organization remains challenging.

**Table III - Findings of the Exploratory Factor Analysis**

| BSC Variables | Cpmponent | | | |
|---|---|---|---|---|
| | **1** | **2** | **3** | **4** |
| **Internal operations** | | | | |
| New product income as a percent of overall income | 0.771 | | | |
| New product ratio / total product | 0.702 | | | |
| Percentage of suppliers that meet the requirements | 0.673 | | | |
| The price at which the supplied gives you the goods in a well timed manner | 0.662 | | | |
| Rate of non-standard products | 0.65 | | | |
| Supplier as a percentage of the company's revenue | 0.589 | | | |
| **Financial** | | | | |
| Return on Investment (ROI) | | 0.836 | | |
| Return on Equity (ROE) | | 0.733 | | |
| Revenue / employee growth rate | | 0.675 | | |
| Return on Assets (ROA) | | 0.577 | | |
| Revenue growth rate | | 0.55 | | |
| Profitability ratio | | 0.547 | | |
| **Learning and Growth** | | | | |
| Rate of training staff training/total cost | | | 0.9 | |
| The proportion of indirect workers who have a college degree | | | 0.801 | |
| Rate on investment costs information equipment | | | 0.773 | |
| The proportion of indirect workers who have a postgraduate degree. | | | 0.752 | |
| Employee retention rate | | | 0.687 | |
| **Customer** | | | | |
| New client turnover is at an all-time high. | | | | 0.894 |
| % of new consumers who want to come back | | | | 0.808 |

These results demonstrate that the organization's management still relies on traditional accounting practices. These findings are supported by the findings of M'maiti (2014), who found a similar problem among Kenyan managers, and Shamsi Bawaneh (2019), who researched Manufacturing Companies in Jordan. It was also stressed that traditional techniques such as assessing historical data impede the company's economic growth, limiting its ability to employ economic resources effectively. As a result, this research suggests that in order to enhance financial

development statistics, the corporate vision should be linked to the financial perspective as well as market dynamics.

**Conclusion**
The current study demonstrates that BSC's applicability and many perspectives are pertinent to the spinning mills in the Dindigul District.. Understanding the BSC perspective enables an organization to priorities its planning, continue its requirement evaluation, provide in a clean structure for continuous quality improvement,

and set up an exceptional integrated culture and environment, according to the managers' responses. It reveals that managers had acceptable knowledge and practise mechanisms in the areas of customers, learning, and development, as well as the international business process; nevertheless, they lacked knowledge in the area of financial perspective development. The results show that the transition to a BSC monetary viewpoint is still insufficient, underlining the necessity for strategic planning to address the requirements for a smooth deployment of BSC across several overall performance. The current study also shows that more research is needed to better understand and may be analyse variables influencing the adoption of BSC in textile mills for overall performance assessment In order to improve the economic component, the company's economic performance should also be compared to its competitors and rivals. For a better analysis, manufacturing companies should compare their earnings to those of their competitors. Similarly, it argues that the BSC strategy can help to link overall performance indicators with the firm enterprise approach in Spinning mills, resulting in excellence and efficiency.

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