

The Balanced Scorecard and its Application as a Strategic Decision-making Tool

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This paper reviews the various aspects of the Balanced Scorecard, which is a strategy implementation tool based on defining and monitoring the key factors important for the business; and also its application in the new product development process and the goal-driven measurement methodology. The product mix of jobbing type of industries is very important from the point of view of their long-term profitability. The study discusses the importance of the critical success factors (both internal and external to the firm) that holistically define the attractiveness of products / market segments, and then suggests modification and extension of the Balanced Scorecard so that it can be used as an objective strategic decision-making tool for product portfolio management.

Field of Research: Strategic Management, Jobbing Industries.

1. Introduction

A firm's success probability depends whether its business strengths not only match the key success requirements for operating in the target market, but also exceed those of its competitors. In any multi-product manufacturing scenario, profitability on a long-term basis is a function of the product mix. Moreover, meeting existing demand and/or completely utilizing capacity do not always coincide with or guarantee maximum profitability. In jobbing type of industries, erosion of profits due to improper product mix is not a very uncommon phenomenon; sometimes leading to even non-viability of the business. The strategy of the firm has to be so designed that there is a proper fit between external opportunities and internal strengths while working around external threats and internal weaknesses. This study first looks into the various aspects of the Balanced Scorecard, which is effectively used as a strategy implementation tool by identification and monitoring of factors important for the firm to be competitive and profitable.

However, most of the common strategy formulation methods like Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis or Product Life Cycle (PLC) analysis are qualitative tools involving a lot of subjectivity in the process of decision-making. This paper seeks to formulate a business model by modifying and extending the Balanced Scorecard into a decision-making tool so as to eliminate subjectivity and objectively define the holistic market attractiveness of a

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product / market segment, which would help in identifying the right product mix in jobbing type of industries.

2. Literature Review

Comprehensive analysis of current and foreseeable business scenario, balanced against capacity, capability and investment, can help manufacturers optimize their product mix and prioritize their sales and marketing efforts to minimize risk and maximize profitability on a long-term basis.

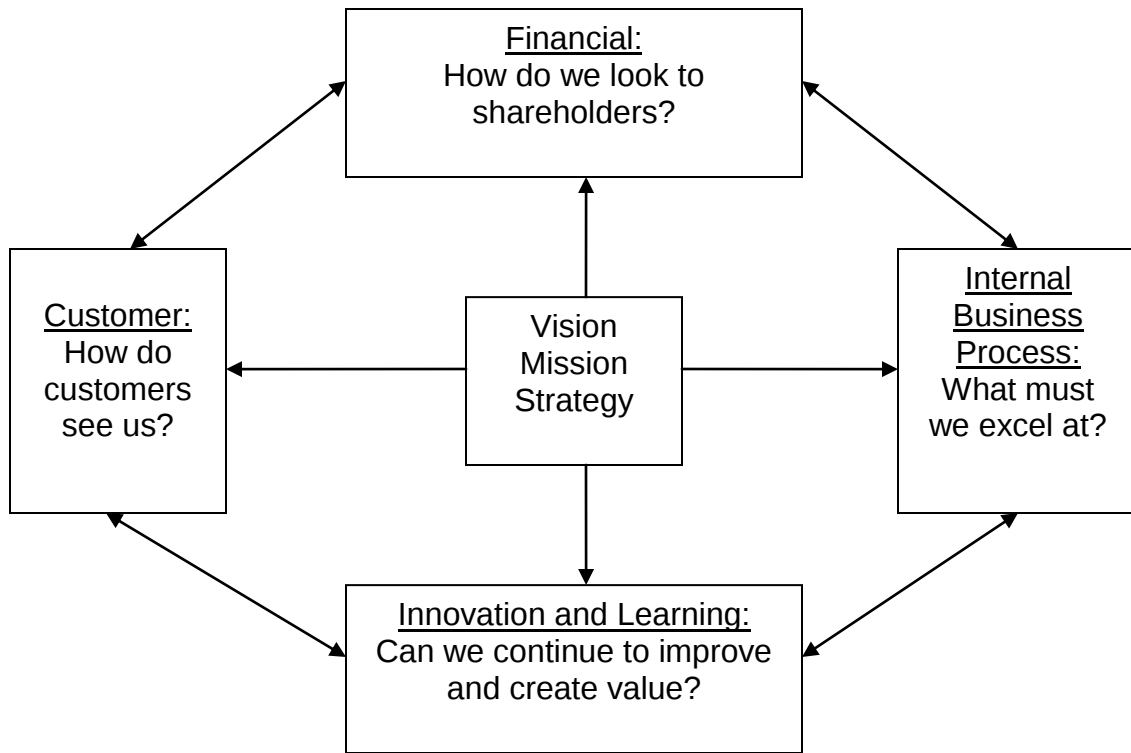
The ability of a company to mobilize and exploit its intangible or invisible assets has become far more decisive than investing in managing physical, tangible assets (Kaplan and Atkinson, 1998). Intangible assets enable an organization to develop customer relationships that retain the loyalty of existing customers and enable new customer segments and market areas to be served effectively and efficiently, introduce innovative products and services desired by targeted customer segments, produce customized high quality products and services at low cost with short lead times, mobilize employee skills and motivation for continuous improvements in process capabilities, quality, and response times, and deploy information technology, data bases, and systems.

The Balanced Scorecard: It is a set of measures that allows for a holistic, integrated view of business performance. The scorecard was originally created to supplement “traditional financial measures with criteria that measured performance from three additional perspectives—those of customers, internal business processes, and learning and growth” (Kaplan and Norton, 1996). Subsequently, it was developed as a strategic management system linking long-term strategy to short-term targets, and to communicate the multiple, linked objectives that companies must achieve to compete on the basis of capabilities and innovation, not just tangible physical assets. The Balanced Scorecard serves to identify the major strategically relevant issues of a business and describes and depicts the causal contribution of those issues that contribute to a successful achievement of a firm’s strategy (Figge et al, 2002).

The Kaplan and Norton Balanced Scorecard looks at a company from four perspectives as illustrated in Fig.1.

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Fig.1: The Balanced Scorecard



By viewing the company from all four perspectives of financial, customer, internal business process, and learning and growth, the Balanced Scorecard provides a more comprehensive understanding of current performance (Alice and Carpenter-Hubin, 2000-01). It thus translates mission and strategy into objectives and measures, organized into these four perspectives.

It retains the financial perspective since financial measures are valuable in summarizing the readily measurable economic consequences of actions already taken. Financial performance measures indicate whether the company's strategy, implementation, and execution are contributing to bottom-line improvement.

In the customer perspective of the Balanced Scorecard, managers identify the customer and market segments in which the business unit will compete and the measures of the business unit's performance in these target segments. This perspective typically includes several core and generic measures of the successful outcomes from a well-formulated and implemented strategy. The core outcome measures include customer satisfaction, customer retention, new customer acquisition, customer profitability, and market and account share in target segments.

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In case of the internal business process perspective, executives identify the critical internal processes in which the organization must excel. The critical internal business processes enable the business unit to deliver the value propositions that will attract and retain customers in target market segments, and satisfy shareholder expectations of excellent financial returns.

The learning and growth perspective identifies the infrastructure that the organization must build to create long-term growth and improvement. The customer and internal business perspectives identify the factors most critical for current and future success. Businesses are unlikely to be able to meet their long-term targets for customers and internal processes using today's technologies and capabilities. Also, intense global competition requires that companies continually improve their capabilities for delivering value to customers and shareholders. Organizational learning and growth come from three principal sources: people, system, and organizational procedures. The financial, customer, and internal business process objectives on the Balanced Scorecard will typically reveal large gaps between existing capabilities of people, systems, and procedures and what will be required to achieve targets for breakthrough performance. To close these gaps, businesses must invest in re-skilling employees, enhancing information technology and systems, and aligning organizational procedures and routines. These objectives are articulated in the learning and growth perspective of the Balanced Scorecard.

The Balanced Scorecard meets several managerial needs. Firstly, it brings together, in a single management report, many of the seemingly disparate elements of a company's competitive agenda: becoming customer oriented, shortening response time, improving quality, emphasizing teamwork, reducing new product launch times, and managing for the long term. Secondly, it guards against sub-optimization. By forcing senior managers to consider all the important operational measures together, the Balanced Scorecard lets them see whether improvement in one area may have been achieved at the expense of another (Kaplan and Norton, 1996).

Many leading, large Indian companies have implemented Balanced Scorecard in their organizations. Tata Steel, which was established in 1907, is Asia's first and one of India's largest integrated steel plants in the private sector. It achieved business excellence and the status of the lowest cost producer through several strategic initiatives over a period of time. The company found the Balanced Scorecard a good tool to translate strategies into measurable goals (metrics) and communicate metrics and strategic actions to the lower levels of the organization. It uses the Balanced Scorecard to break down strategy into its component elements and track performance from the top to the bottom (Pandey, 2005).

Application of the Balanced Scorecard in the New Product Development process: The application of the Balanced Scorecard approach to product innovation is promising for decision-making as it establishes the conceptual basis for obtaining

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a full integration of a Performance Measurement System into the New Product Development process (Jiménez-Zarco et al, 2006). The Balanced Scorecard can be adapted to the innovation process. This objective involves translating the usual performance dimensions into operative indicators as well as proposing new performance dimensions and indicators. In short, the proposal attempts to build a system that allows to measure quality and performance throughout the new product development process and also detect those factors that condition the final and sustainable success of product innovation.

Traditionally, the four main perspectives of the scorecard permit a balance between short-term and long-term objectives, between desired outcomes and the performance drives of those outcomes, and between hard objective measures and softer, more subjective measures. While the multiplicity of measurements on a scorecard system can sometimes be seen as confusing, properly constructed scorecards contain a unity of purpose since all the measurements are directed toward achieving an integrated strategy.

Typical innovative financial goals have to do with profitability, growth and shareholder value. Even though the primary aim in launching a new product is to return a profit to the firm in the long run, short term profitability criteria continue to be the most frequently used measurements of performance in studies of new product success. At the same time, survival can be measured by cash flow, success by quarterly sales growth, and operating income by division, and prosperity by increased market share by segment and return on quality. Nevertheless, other financial measurements that should be taken in this evaluation are shareholder benefits, profit-margin, payback period, cost and development/investment costs, risk assessment and cost-benefit data.

The customer-based measurements of new product performance include customer acceptance and satisfaction, perceived product quality, customer acquisition and customer retention. Others have also defined success from the customer point of view as a new product which satisfies new needs, wants or desires; shows outstanding performance compared to other products, and benefits from an imaginative combination of product and communication. It is also suggested that customer loyalty criteria as well as perceptions of the superiority of the product in terms of added value, quality or brand image should be considered among the customer-based criteria.

Regarding the company-based criteria, it is necessary to incorporate certain indicators relating to the degree of market orientation, and consequently, the degree of customer orientation; the level of quality offered to the customer; and orientation towards innovation and the ability to anticipate the needs and preferences existing in the market.

Market potential, which is part of the market factor, is an essential aspect that should be considered and valued when establishing the success possibilities of

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a new product market launch. It is defined by the level of the market's growth and size, the company market position, the level of customer loyalty and satisfaction with existing brands, the degree of familiarity with the product class and the lack of competition in the marketplace. As another determinant of the new product's success, this factor is used in most strategy models to allocate resources to new and existing businesses or products.

In parallel to the market attractiveness research, the current competition and its operation and reaction ability towards the firm's actions should be contemplated. Hence, in order to estimate the success capability of the innovation process as well as its market performance, it is necessary to use indicators that evaluate capacity for reaction of the competition, the degree of marketing orientation of the competition, the quality of the competitors' products, and the image of competitors' products.

Another set of factors that should be taken into account are the product characteristics, which include the product advantage, product-company synergy, and product-market synergy. Products that deliver a superior service outcome are competitive products, offer unique customer benefits, provide faster, more efficient and more reliable services, have a higher quality image, offer better value and are usually more successful.

Furthermore, product-company synergy constitutes a strong predictor of success. This construct is related to the degree to which the resources required to develop market innovations fit the firm skills. In other words, this factor involves the firm's ability to benefit from its existing delivery systems, human resources, sales, market research system and managerial skills. More specifically, the literature recognizes two main types of service-company synergy, i.e., the innovation-marketing synergy, and the innovation-technology synergy. Whereas innovation-marketing synergy indicates whether the new service can take advantage of the current marketing skills and resources (e.g. sales force, distribution, advertising, promotion, market research and customer service/delivery), innovation-technology synergy suggests whether the new service can make use of the current technological skills and resources (e.g. production and engineering).

Finally, the last dimension to be considered includes the evaluation of the marketing factors. Marketing factors involve the marketing strategy employed, people's knowledge, distribution channel support and the operations management system.

The Balanced Scorecard and the Goal-driven Measurement Methodology: Using the Balanced Scorecard framework, an organization can systematically set enterprise strategic goals for each perspective and develop a set of indicators and measurements for the desired outcomes and performance drivers that will enable the achievement of the enterprise outcomes. The result is a set of interconnected goals and measurements with defined cause-and-effect

relationships. Apart from the Balanced Scorecard, Goal-driven measurement methodology is often employed to develop enterprise-wide measures (Goethert et al, 2003). The authors suggest an approach for combining the techniques, taking advantage of the best of each. The synergistic application of the balanced scorecard and goal-driven measurement methodologies help in developing measures and associated indicators for measuring an organization's health and performance. The Balanced Scorecard encourages an organization to take an introspective look at its practices. Through this iterative approach, an organization's strategic goals and sub-goals are mapped to the balanced scorecard and refined. The goal-question-(indicator)-measurement methodology is then applied to identify indicators and measures for each scorecard dimension. The process is typically iterative and contains the following four steps: Clarifying the mission and vision statements, Deriving strategic goals and sub-goals using goal-question-(indicator)-measurement, Mapping of sub-goals to Balanced Scorecard, and Applying Goal-question-(indicator)-measurement to defining success criteria for each sub-goal, posing relevant questions and postulate indicators that address each sub-goal in each quadrant of the Balanced Scorecard, determining requisite measures or data elements that allow indicators to be crafted.

From this, the organization can set enterprise-strategic goals and develop a set of indicators and measurements for the desired outcomes and performance drivers. The goal-question-(indicator)-measurement approach follows as a disciplined way for deriving the required measures and indicators. The approach is intended to help an organization determine the best measures and associated indicators for its unique environment. Using this approach, an organization can systematically set goals for each of the perspectives of the Balanced Scorecard and develop a set of strategic measures and indicators to determine and track the quality of outcomes and organizational performance.

3. Methodology and Research Design

The Balanced Scorecard is derived based on the strategy of the firm, with the major factors affecting the firm / market segment / product being part of it. Since each of these factors have a defined performance indicator, their continuous evaluation brings out whether the firm is in line with its vision. The strategy of a company is designed based on internal factors (which are mostly controllable) and external factors (on which the company does not have any direct control, and hence is based on experience and judgment of the analyst).

In order to make the scorecard more useful and practical, it is necessary to assign weights to different measures (both financial and non-financial) on the basis of their importance to the organization for specifying trade-off between financial and non-financial measures. To make the scorecard more efficient, a large number of both financial and non-financial measures should be included in

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it, which should be continually modified on the basis of measurement feedback (Ghosh and Mukherjee, 2006).

The research aimed to modify and extend the Balanced Scorecard into a decision-making tool by adopting the following process with three major steps.

The first step in design of the model involves identification of the critical factors which affect business. A holistic view should be adopted and all possible factors to be considered, which may be internal to the company (alignment with the vision and strategy of the company, capability, capacity, capital and other resources, future prospects, technology, etc) or guided by external environment (political, legal, social, economic, locational, competition, etc). Additional factors, which affect business risk, are also to be considered. The process of identification of the critical success factors should be based on earlier literary work on various aspects of business as well as feedback from personal interviews and focus group sessions involving people working in jobbing industries.

The next step in the process involves assigning a weight to each of the above-identified critical success factors, which would reflect its relative importance from business point of view, with respect to the other factors affecting the attractiveness of a product / market segment. This process is essentially based on the feedback of a questionnaire wherein the respondents are required to rank each of the factors, based on which the weights of these factors are arrived at. Since the weights pertaining to each of these factors are valid under certain conditions of business environment, both external as well as internal to a firm, they should be reviewed frequently, which should be at the discretion of the analyst.

In the final step of this process, different products / market segments are to be rated against each of the factors identified above on a pre-defined scale. Multiplying the score of each factor with the weight assigned to it in the earlier step gives the weighted score for that factor. Sum of all such weighted scores gives the total score for that product / market segment. Comparison of the scores of different products / market segments objectively defines their relative attractiveness.

Let the number of critical success factors pertaining to Financial, Internal Business Process, Innovation and Learning, and Customer perspectives be m , n , o , and p , respectively and the weighted factors be designated as W_{Fi} , W_{Bj} , W_{Ia} , and W_{Cb} , respectively, where i , j , a , and b are all natural numbers within the range from 1 to m , n , o , and p , respectively. If each of the above critical success factor for a particular product / market segment is rated over a 5–point scale (from 1 to 5, with 5 being the most favourable from business point of view), then the score for the q^{th} product / market segment can be depicted as follows:

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$$P_q = \sum_{i=1}^m W_{Fi} \times R_i + \sum_{j=1}^n W_{Bj} \times R_j + \sum_{a=1}^o W_{Ia} \times R_a + \sum_{b=1}^p W_{Cb} \times R_b + \dots \dots \dots (1)$$

Where, $1 \leq R_i, j, a, b \leq 5$,

$\{R : R \in N\}$, $\{m : m \in N\}$, $\{n : n \in N\}$, $\{o : o \in N\}$, $\{p : p \in N\}$, and $\{q : q \in N\}$

Higher the score, more attractive is the product / market segment for the firm. Comparison of the scores of different products / market segments holistically and objectively brings out the difference in their attractiveness.

4. Discussions and Conclusion

After experiencing the effect of the global recession which started in the year 2008 when most companies were already part of the meltdown by the time they had realized, the importance of risk management in business and the speed of change to suit to the prevailing economic scenario came into the fore. This reinforces the school of thought which propagates the view in business that even though the critical factors would be the same from strategy point of view, yet their importance would continuously change depending upon the prevailing business environment, i.e., the external factors. However, the Balanced Scorecard, which even though identifies the critical factors, does not prioritize the same based on their importance and every factor of the Balanced Scorecard is considered to be equally important, whatever may be the changes to the external business environment. Moreover, the factors considered in the Balanced Scorecard are only a few important ones, rather than being an exhaustive list which would holistically define the attractiveness of a product or market segment based on all the major aspects of business.

The market segments/products get identified keeping in view the long-term strategy of the firm. However, their priorities would get fine-tuned depending upon the external factors. Considering an example of a product where there is a huge demand–supply gap, and the market of which is spread all over the globe. Then in such a case, even if the product is the same, its attractiveness will be different for different markets depending on a lot of other factors such as the quality of the customer (which encompasses the reliability of the customer, expected price and other terms, etc), locational factors (geography, social, legal and political conditions prevailing in the market, etc), economic scenario (like availability of cheap credit, Government rules and regulations, etc) and many other factors. Each of these factors will have a certain importance under a particular set of external conditions. For example, credit terms will have a greater importance over margins during economic recession than when there is no liquidity problem, while margins would play a greater role under strong economic conditions.

The process adopted has certain advantages such as, it encompasses a degree of objectivity into the process of decision-making; makes it possible to holistically

compare two different products while designing the product portfolio of a jobbing firm; and is flexible so that the effect of any significant change in the external environmental conditions can be suitably adapted into the system.

The Balanced Scorecard approach does not prioritize the critical success factors, even under different conditions of external business environments, and considers all factors to be equally important. As an extension of the original idea, and to make it more representative of the actual business environment, the Balanced Scorecard can thus be suitably modified into a decision-making tool by attaching weights to each of the critical success factors and simulating different scenarios. This helps in finding out the net effect of all the factors together so as to take the best-informed strategic decision. Its importance in design of the product portfolio in a jobbing industry is immense since it helps in objectively and holistically comparing different products.

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