

Strategy and Accuracy of Performance Forecasting in Large Manufacturing Firms, in Kenya

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Abstract: *This article explores the possibility of reducing elements of strategy in large manufacturing firms (LMFs), in Kenya, to a few basic factors for management to adopt in achieving accuracy of performance forecasting (APF). The objective was to reduce the many aspects of strategic planning elements into very few basic strategic factors that management needs to focus on in the development of strategy for manufacturing organizations. APF is an aspect of manufacturing operations that is seldom derived correctly in many LMFs, in Kenya. However, since LMFs tend to recruit skilled and experienced staff, this survey presumes that the presence of skilled manpower ensures APF in preparing their budgets. Therefore, management in LMFs can consolidate strategic plans into fewer groups to minimize the confusion brought about by a long list of strategic plans that are inherent in LMFs in order to manage operations effectively for APF. The study identified the multiple strategic planning elements used in LMFs and by using factor analysis, reduced these into a smaller number of factors. Factor analysis was done after collecting data using a structured questionnaire administered among randomly selected LMFs, in Kenya. Results of the analysis indicated that elements of strategy can be condensed into five basic factors where the most important strategy is that the planning unit in LMFs is customer specific.*

Keywords: *Strategy, Logical Framework Approach, Accuracy of Performance Forecasting, Large Manufacturing Firms.*

1. INTRODUCTION

Strategy is a high level plan to achieve one or several goals under uncertain conditions. It is important because the resources available to achieve these goals are usually limited. Strategy generally involves setting goals, determining actions, and mobilizing resources to execute the actions. A strategy describes how the ends (goals) will be achieved by the means (resources). It involves activities such as strategic planning and strategic thinking.

A strategic plan considers the immediate and longer-term actions which may include product quality and marketability. As opposed to the “art of war” - where one is fighting against a single enemy and/or a few enemies, organizational strategy is designed against a backdrop of both known and unknown environments – current and emerging - and is meant to ensure business success through selling all or near-all of design capacity irrespective of the number of competitors in the market arena. There is no deliberate move to kill a competitor(s), but rather – through covert and overt means - to carve out a market niche or create a need that the competition has not explored or is unable to serve or satisfy.

2. LITERATURE REVIEW

Researchers have defined strategy in different ways. For example, Mintzberg (1987) defined strategy as a “pattern in a stream of decisions” to contrast with a view of strategy as planning. In “The Rise and Fall of Strategic Planning”, Mintzberg (1994) concludes that the term strategy is an oxymoron – that strategy cannot be planned because planning is about analysis and strategy is about synthesis. Further, Mintzberg and Quinn (1996:3) defined strategy as the pattern or plan that integrates an organization’s major goals, policies, and action sequences into a cohesive whole. They posit that a well-formulated strategy helps to marshal and allocate an organization’s resources into a unique and viable posture based on its relative internal competencies and shortcomings, anticipated changes in the environment and contingent moves by intelligent

opponents. Mintzberg et al.'s (1998) five P's (plan, pattern, position, perspective, and ploy) serve as a key aspect of the framework for analyzing different schools of thought about strategy. They explained the 5p's as follows: plan – a direction, a guide, or course of action into the future; pattern --- a set of behaviors over time, for example a company that perpetually markets the most expensive products; position – selling particular products in particular markets; perspective – an organization's fundamental way of doing things, for instance, the McDonald's way; ploy – a specific maneuver intended to outwit a competitor.

On his part, McKeown (2011) argues that “strategy is about shaping the future” and is the human attempt to get to “desirable ends with available means”. Kvint (2009) defines strategy as a “system of finding, formulating, and developing a doctrine that will ensure long-term success if followed faithfully. Thompson and Strickland (1993) defined strategy as “the pattern of organizational moves and managerial approaches used to achieve organizational objectives and to pursue the organization's mission”. On the other hand, Porter (1996) states that, “The essence of strategy is choosing to perform activities differently than rivals do”. And, D'Aveni (1994) takes the view that strategy is not only the creation of advantage but “also the creative destruction of the opponent's advantage.” On their part, Brown and Eisenhardt (1984) define strategy as “the creation of a relentless flow of competitive advantages that, taken together form a semi-coherent strategic direction.”

According to Zahra (1993), a strategy offers a framework within which a company defines possible means for achieving goals. While much literature has emphasized the benefits of planning for the company's performance research conducted by Robinson and Pearce (1984), and supported by Sexton and Van Aucken (1985), concluded that small and medium sized enterprises (SMEs) barely plan their strategies because of their lack of resources, even when their need for strategic decision making increases dramatically after reaching some initial market success (Robinson and Pearce, 1986). Porter's (1998) well known five forces model determines the state of competition in an industry. Kandie (2008) proposes three generic strategies that can be pursued by almost any firm, that is, cost leadership, differentiation and focus, where cost leadership indicates that a firm pursued economies of scale which allows it to be a low cost producer and to sell at a lower price than competitors. Differentiation means that the firm tries to offer a unique product or service to customers by being innovative, which allows the firm to charge a premium price. Kandie asserts that the focus or niche strategy applies either to cost leadership or differentiation but concentrates on a specific market, group of customers, product or service.

Miles and Snow (1978) proposed that firms in general develop relatively stable patterns of strategic behavior in order to accomplish a good alignment with perceived environmental conditions. These authors proposed four strategic types as follows: defenders, prospectors, analyzers, and reactors. They define defenders as organizations which have narrow product-market domains. Top managers in the organization are highly expert in their fields but do not search for new opportunities. As a result of this narrow focus, these organizations seldom do major adjustments in their technology, structure, or methods of operation, instead they devote primary attention to improving efficiency to their operations. On the other hand, prospectors are organizations which are continuously in search for new market opportunities and they regularly experiment with potential responses to emerging environmental trends; they are creators of change and uncertainty to which their competitors must respond. They have strong concern for product and market innovation, and usually these organizations are not efficient. Analyzers are defined as organizations that operate in two types of product-market domains, one in stable, and the other in a changing environment. In stable environments, these organizations operate routinely and efficiently through the use of formalized structures and processes. In turbulent environments, top managers watch their competitors for new ideas and adopt those which appear to be the most promising. Alternatively, reactors are organizations in which top managers frequently perceive change and uncertainty occurring in their organizational environments but are unable to respond effectively. They also lack a consistent strategy-structure relationship, seldom make adjustments of any sort until forced to do so by environmental pressures (Miles and Snow, 1978:pp.29).

Gimenez et al (downloaded 25/1/03) adopted Miles and Snow's (1978) typology in their study and observed that analyzer strategists were mostly employed appearing in 44% of the firms. In second place came prospector strategy with 22.9%, followed by reactors (18.3%) and defenders

(14.7%). These findings gave additional evidence of the four types of generic strategies. Consequently, this model is chosen for this study because it has been used successfully in previous studies to reduce the many strategic aspects in firms to a smaller number that can be easily described and understood.

3. HYPOTHESIS

The hypothesis to be tested in this study was that strategy elements in large manufacturing firms can be reduced to a smaller number and still achieve accuracy of performance forecasting.

4. PROBLEM OF RESEARCH

Forecasting in large manufacturing firms is the establishment of future expectations by the formation of opinions or use of past data. While forecasting has become a challenging concept in the study of enterprises, Vorhies and Morgan (2005) and Ansoff (1987) state that since the environment is constantly changing, it is imperative for organizations to continually adapt their activities in order to succeed. With rapid and often unpredictable changes in economic and market conditions, managers make decisions without knowing what will exactly happen in future. The strategies managers formulate can either enhance or reduce effective organizational performance resulting in either accuracy of performance forecasting or deviations between forecasts and actual outcomes. This study therefore, addressed the question: Can strategy factors in LMFs be reduced to a smaller number and still yield accuracy of performance forecasting (APF)?

5. METHODOLOGY OF RESEARCH

5.1. General Background of Research

The study was a descriptive cross-sectional survey using the positivist research philosophy.

5.2. Sample of Research

The sample frame comprised 487 large manufacturing companies, in Kenya, with at least 100 employees each (Gray et al., 1997). Sample size was calculated using a Table by Krejcie et al. (1970) which resulted in 217 firms to be surveyed having been selected using a proportionate stratified random sampling technique. Each target firm in a sector and geographical location was selected using a simple random sampling process (Sekaran, 1992).

5.3. Instrument and Procedures

The study used both primary and secondary data obtained from the target sample through a structured questionnaire that was hand-delivered to the selected teams of managers within the 217 respondent firms. Responses were received from 176 firms, that is, 81 per cent response rate was achieved. Prior to administering the research instrument, the instrument had been piloted on 10 firms to help in identifying any ambiguous and unclear questions. Respondents were assured of a high degree of confidentiality and anonymity of the responses.

Data collection included respondents either completing the questionnaires on their own or in the presence of the researcher in their respective locations. Primary data included strategy elements and secondary data involved collecting existing performance data from published and unpublished reports over a period of one year. These metrics addressed the objective of the study.

5.4. Data Analysis

Factor analyses was used to reduce a set of strategic components (variables) to a smaller number of factors which could be easily interpreted and used across most LMFs. To achieve this, a linear transformation on the factor solution – orthogonal rotation – was done resulting in fewer uncorrelated components.

6. RESULTS AND DISCUSSION

The role of strategy was therefore, tested as a factor in the accuracy of forecasting processes among LMFs, in Kenya. Table 1 displayed the study findings where the Kaiser-Meyer-Olkin (KMO) measure of sampling accuracy value was 0.628. The test suggested that the matrix was statistically significant with a p-value of 0.000, where the theoretical p-value is less than 0.05.

Table1. Strategy - Kaiser-Mayer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.628
Bartlett's Test of Sphericity	Approx. Chi-Square	616.604
	Df	120
	Sig.	.000

Table 2 illustrated that the principal components extracted in relation to organizational strategy were in five categories. In category one, the most important strategy variables were that LMFs' planning units were customer specific, demand specific, product specific and product line specific, with a total factor loading of 3.164. The second category of principal components extracted was that LMFs planned for orders, made projections based on orders, prepared forecasts using constrained demand and their planning unit is product specific, with a total factor loading of 2.503. The third category of variables showed that LMFs planned and projected for shipments and forecast other forms of demand, with a total factor loading of 2.099. The fourth component was that LMFs considered competition and made forecasts based on unconstrained demand, with a total factor loading of 1.353. The last component extracted had LMFs forecasting unconstrained demand, planning and projecting for other measures - with a total factor loading of 1.854. It was concluded that, overall, the most important strategy was that the planning unit in LMFs was customer specific and that the cost leadership strategy was almost exclusively negatively related to other strategies as per Figure 1.

Table2. Strategy - Factor Reduction, Rotated Components Matrix

Component	Factor Description	Factor Loadings	Priority
1	(i) LMFs planning unit is customer specific	0.839	1
	(ii) LMFs planning unit is demand specific	0.834	2
	(iii) LMFs planning unit is product specific	0.824	3
	(iv) LMFs planning unit is product line specific	0.667	4
2	(i) LMFs project on orders	0.761	1
	(ii) LMFs forecast constrained demand	0.625	2
	(iii) LMFs plan orders	0.602	3
	(iv) LMFs planning unit is product specific	0.515	4
3	(i) LMFs plan shipments	0.787	1
	(ii) LMFs project on shipments	0.712	2
	(iii) LMFs forecast other forms of demand	0.600	3
4	(i) Consider competitors	0.747	1
	(ii) LMFs forecast unconstrained demand	0.606	2
5	(i) LMFs forecast unconstrained demand	-0.650	1
	(ii) LMFs project other measures	0.650	1
	(iii) LMFs plan other measures	0.554	2
a. Extraction Method: Principal Component Analysis.			
b. Rotation Method: Varimax with Kaiser Normalization.			
c. Rotation converged in 6 iterations.			

Principal components analysis revealed the presence of five components with eigen values exceeding 1, explaining 30 percent, 23 percent, 14 percent, 12 percent and 10 percent of the variance respectively. The inspection of the scree plot revealed a strong loading on component one.

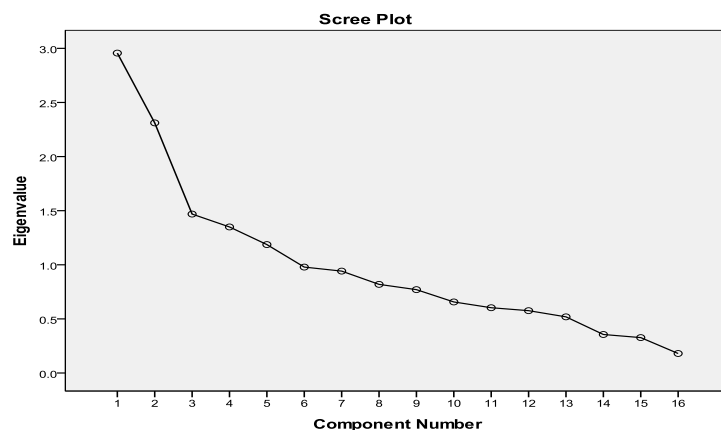


Fig1. Strategy - Principal Components Analysis

In this study, the most important strategy variables were that LMFs' planning units were customer specific, demand specific, product specific and product line specific. In this article this author defines strategy as a covert roadmap designed for the success of an organization using the log frame or logical framework approach (LFA), where thinking links objectives to activities. The LFA documents clearly the change away from activity/output focus and the objective orientation keeps clients at the forefront; while scarcity of resources is prioritized, also based on specific objectives. The roadmap can be intended or may emerge as a pattern of activity as the organization adapts to its environment or competes against current and emerging threats.

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