



RELATIONSHIP BETWEEN STRATEGIC FORECASTING AND PERFORMANCE OF MANUFACTURING FIRMS IN CENTRAL KENYA REGION

MBUGUA Philip, Dr. WAMITU Susan, Mrs KINYAMU Roselyn

¹MBA Student: Kenya Methodist University

^{2,3}Co- Authors: Kenya Methodist University

Abstract: *Globalization and intensive world-wide competition along with the technological advancements create an entirely new business environment for the manufacturing organizations. Initially, manufacturing companies have accomplished massive productivity gains through the implementation of lean production in response to this intensifying competition (Askarany & Yazdifar, 2012). This study thus sought to establish whether strategy forecasting has a relation with the manufacturing firms' performance in Kenya through the case of Central Kenya region. The research adopted a descriptive survey research design. The study used questionnaires as the tools for data collection. In the study, all (110) questionnaires were administered to the sampled respondents with 82% response rate. The study concluded that business trends strongly affect the performance of manufacturing firms in central Kenya. This was because items on business trend like management capacity to analyses trends, company reputation, sales trends and technological development trend had much relationship on firm performance. Seasonal trends affect firm performance. The study recommends that there is need to sensitize the staff in the manufacturing firms on the strategic goals in relation to forecasting. The study also recommends that management of the manufacturing firms should also factor seasonal variations which were found lowly relating on firm performance and that management should invest in capacity building.*

Key Words: Forecasting, Seasonal Variations, Cyclical Variations, Performance

Introduction

In today's competitive market, companies must do forecasting on the strategies that most likely will yield success to their organization. Current changes in business conditions may increase interest in environmental scanning and external analysis within the area of corporate strategy. Thus, strategic forecasting is gaining prominence. Forecasting is a vital part of strategic intelligence, offering policy makers indications about probable future conditions and aiding sound decision making (Turner, Steyvers, Merkle, Budescu & Wallsten, 2014).

Companies everywhere are facing turbulent business conditions that affect both their top and bottom line performance. The overall tendency is that this turbulence is increasing significantly as a function of four increasingly prevalent factors: increased internationalization, increased expansion of business market operations, increased use of financial markets and increased. Leading organizations widely acknowledge that forecasting is at the heart of the performance management process, and is potentially a significant driver of business value and investor confidence (Wheelen & Hunger, 2013). Organizations use strategic forecasting to support decisions about their future business and marketing strategy. Strategic forecasting uses historical data on sales of a product or service, and makes predictions about the trend of future sales to create an estimate of future demand. That demand estimate provides the basis for developing strategies for other resources such as employee levels, manufacturing capacity, product development and marketing budgets. The forecasting helps the

organization to align its business with future demand. It can then make informed decisions on whether to expand or rationalize the business (Ghosh & Wu, 2012).

Forecasting

Forecasting is the process of making predictions of the future based on past and present data and most commonly by analysis of trends. A commonplace example might be estimate of some variable of interest at some specified future date. Forecasting can be defined as the area of business economics that deals with the study and the practical application of methods, theories, models and techniques for long-term analysis of the non-proximate environment of the firm with the purpose of conducting strategic innovation (Duus, 2013).

When companies use forecasting in this way, it lets them make decisions that more accurately reflect their situation. If a particular cost variable goes up unexpectedly, the company can see the effect on the forecasting and targets. It can react by compensating for the cost change or by adjusting targets to reflect it. Strategic forecasting makes the company's operations sensitive to market factors on a continuous basis. Companies can decide whether to assign additional resources for corrective action, or to change their strategies to reflect the new situation.

Forecasting techniques are evolving. Askarany and Yazdifar (2012), investigated the diffusion of six proposed strategic management tools of the past few decades through the lens of organizational change theory, examined the relationship between the adoption of these techniques and organizational performance in both manufacturing and non-manufacturing organizations in New Zealand. Their findings suggested a significant association between the diffusion of these relatively new strategic management tools and organizational performance. Business cycles strongly influence corporate sales and profits, yet strategy research largely ignores the possibility that corporate management practices related to the business cycle influence profitability (Masindet, 2014).

The rapid rate of change in global markets and in technology makes forecasting difficult. According to Microsoft, organizations should take the viability of their existing product range into account, as well as opportunities that might develop from the introduction of new products or technologies. Analysts and research firms issue regular reports on market trends in a range of industries. These reports provide valuable, authoritative input to strategic forecasting, (Fingar, 2011). Telecommunications industry analysts Frost & Sullivan offer a service based on partnership with clients. The service utilizes the firm's market trend reports to highlight growth opportunities for clients and provide guidance on technology, partnership and product decisions. Product life cycle analysis plays an important role in strategic forecasting. Products move through a cycle: introduction, maturity, growth and decline. The forecasting must take into account the product's likely cycle position for the forecast period.

Today, the forecasting model keeps evolving due to environmental and business changes. The development in technology and the global market necessitates strategic forecasting techniques revision and intensive research, especially for manufacturing firms. Substantial questions remain about the most effective means to integrate the environmental scanning/forecasting model with the planning steps of goal setting and implementation in the long-range planning mode.

Statement of the Problem

Companies have tried for years to optimize production and inventory deployment decisions through more effective forecasting of customer (retailer) and consumer (end user) demand. Too often, though, the forecasting they use has contributed too rather than reduce uncertainty. However, global business environment changes have created more unreliable factors to growth of organizations, (Masindet &

Ogollah, 2014). Technological developments have created new market trends that companies have to adapt to. Manufacturing value chains may change over time and firms must strategize on how to remain sustainable currently and in the future.

Forecasting can be used in supply chain management to ensure that the right product is at the right place at the right time. Accurate forecasting will help retailers reduce excess inventory and thus increase profit margin. Studies have shown that extrapolations are the least accurate, while company earnings forecasts are the most reliable. Accurate forecasting will also help them meet consumer demand. Firms therefore need to strive to be at par with the global change, achieving competitive advantage position and enhancing performance relative to their competitors (Muogbo, 2013).

The Manufacturing subsector has been experiencing sustained competition in the recent years necessitating employment of various strategies to gain competitive edge. However, strategies in themselves just as firm resources, do not confer competing firms the much desired competitive edge but a combination of strategies and resources in what (Onyango, 2011) calls resource capability configurations that accords the necessary competitiveness. Manufacturing firms in the central region of Kenya have been observed to have slowed growth, (Masindet & Ogollah, 2014) some still remaining small scale processors. The demand for processed products however rises every year as population increases and rural-urban migration. Forecasting is known to be a non-financial technique of enhancing organizational performance. This study thus sought to establish whether strategic forecasting has a relation with the manufacturing firms' performance in Kenya through the case of Central Kenya region.

The following alternative hypothesis was adopted in this study:

- H1: There is significant positive relationship between business trends and performance of manufacturing firms in Central Kenya Region
- H2: There is significant positive relationship between seasonal variations and performance of manufacturing firms in Central Kenya Region
- H3: There is significant positive relationship between environmental changes and performance of manufacturing firms in Central Kenya Region
- H4: There is significant positive relationship between cyclical variations and performance of manufacturing firms in Central Kenya Region

Literature Review

Relationship between Business Trend and Performance of Manufacturing Firms

Trend analysis is the practice of collecting information and attempting to spot a pattern, or trend, in the information. Although trend analysis is often used to predict future events, it could be used to estimate uncertain events in the past, such as how many ancient kings probably ruled between two dates, based on data such as the average years which other known kings reigned, (Fauzul, 2010). Trend analysis is helpful because moving with trends, and not against them, will lead to profit for an investor. Market trend analysis helps establish consumption patterns that guide in research and development that enables beneficial decision making on future production for manufacturing firms.

Further, revenue and cost information from a company's income statements can be arranged on a trend line for multiple reporting periods and examined for trends and inconsistencies. Thus, trend analysis is quite useful for examining preliminary financial statements for inaccuracies, to see if adjustments

should be made before the statements are released for general use (Wheelen & Hunger, 2010). When trend analysis is being used to predict the future, it is important to note that the factors formerly impacting a data point may no longer be doing so to the same extent. This means that an extrapolation of a historical time series will not necessarily yield a valid prediction of the future. Thus, a considerable amount of additional research should accompany trend analysis when using it to make predictions. The importance, multidimensional nature and complexity of mutual influences and existing relationships between various trends and tendencies call for applying the systems perspective (Wheelen & Hunger, 2010).

Relationship between Seasonal Variations and Performance of Manufacturing Firms

Seasonality may be caused by various factors, such as weather, vacation, and holidays and usually consists of periodic, repetitive, and generally regular and predictable patterns in the levels of a time series, (Gao, Demirag & Chen, 2012). Seasonality can repeat on a weekly, monthly or quarterly basis, (Proietti, 2012) these periods of time are structured and occur in a length of time less than a year. Organizations facing seasonal variations, such as ice-cream vendors, are often interested in knowing their performance relative to the normal seasonal variation. Seasonal variations in the labour market can be attributed to the entrance of school leavers into the job market; as they aim to contribute to the workforce during their vacations, or upon the completion of their schooling, (Proietti, 2012). These regular changes are of less interest to those who study employment data than the variations that occur due to the underlying state of the economy. Where their focus is on how unemployment in the workforce has changed, despite the impact of the regular seasonal variations.

Gao, Demirag, and Chen (2012) posit that it is necessary for organizations to identify and measure seasonal variations within their market to help them plan for the future. This can prepare them for the temporary increases or decreases in labour requirements and inventory as demand for their product or service fluctuates over certain periods. This may require training, periodic maintenance, and so forth that can be organized in advance. Zhang and Prajapati (2011) further suggest that apart from these considerations, the organizations need to know if variations they have experienced have been more or less than the expected amount, beyond what the usual seasonal variations account for. The description of the seasonal effect provides a better understanding of the impact this component has upon a particular series. Using the past patterns of the seasonal variations, a processing firm is able to forecast and then predict the future trends. According to Zhang and Prajapati (2011), some forecasting methods try to identify the underlying factors that might influence the variable that is being forecast. For example, including information about climate patterns might improve the ability of a model to predict umbrella sales. Forecasting models often take account of regular seasonal variations. In addition to climate, such variations can also be due to holidays and customs: for example, one might predict that sales of college football apparel will be higher during the football season than during the off season. Seasonal variation is measured in terms of an index, called a seasonal index. It is an average that can be used to compare an actual observation relative to what it would be if there was no seasonal variation (Tharyan & Christidis, 2013). An index value is attached to each period of the time series within a year. This implies that if monthly data are considered there are 12 separate seasonal indices, one for each month.

Relationship between Environment change and performance of manufacturing firms

Relevance between theory and practice that occurs has prompted experts and researchers to indent research related to general business management and strategic management in particular. A number of researchers have proposed various models of strategic management. Strategic management model

proposed by Wheelen and Hunger (2013) contains five basic framework, namely: Opportunities and external threats that include macro environment and industry; The internal environment that includes the company's resources, the organization's mission and goals; Formula strategies include business unit level and functional level; Implementation of the strategy which includes organizational structure, leadership, authority, and organizational culture; and that includes the strategic control process and performance. Fundamental understanding into key points in this model is the formulation of a strategy that is divided into phases of corporate, business unit and functional levels. Furthermore, Wheelen and Hunger (2010) outline the strategy formulation directly in the elaboration of a more operational level, namely the mission, goals, strategies, and policies.

In general, the analysis of the external environment included the macro environment and the environmental aspects of the industry, (Wheelen & Hunger, 2010). Macro environment includes aspects related to the political, legal, economic, social and technology that may affect the business of the organization. The industry environment is an environment that is closer to the business activities of the organization. Internal environment (Pearce & Robinson, 2013) is an environment that describes a resource strengths and weaknesses of an organization that should be a concern and should be analysed to determine the extent to which companies can accommodate the opportunities and threats originating from the external environment. Analysis of the internal environment of the company, according to Pearce and Robinson (2013), include the resources, capabilities and competencies possessed by the company. This approach is known as the Resource Base View (RBV). In the RBV approach the resources owned by the company is much more important than the structure of the organization to obtain and maintain a competitive advantage.

Relationship between cyclical variations and the performance of manufacturing firms

Cyclical variations can be defined as changes of economy activity as a result of recurring causes. Cyclic variations may be seasonal in nature, or follow the business cycle. Cyclical variations are recurrent variations in a time series lasting longer than a year, (Navarro, Bromiley & Sottile, 2010). Most of the time series in business and economics show such cyclical variation. A business cycle has four wheel defined periods: prosperity, decline, depression and improvement. Cyclical variations are wavelike movements that are longer than a year and influenced by macroeconomic and political factors. They are up and down with repeated time frames in annual time span, an example being the business cycle (recession or expansion).

Several scholars contend that firms can take advantage of business cycles. For example, Tharyan, and Christidis, (2013) argue that expanding advertising in a recession could take advantage of lower advertising costs and less congestion in media markets. Mai et al., (2012) similarly argues that hiring during a recession allows firms to hire better workers at lower cost. Smith (2010) avers that cyclical variations are dated according to when the direction of economic activity changes. The peak of the cycle refers to the last month before several key economic indicators— such as employment, output, and retail sales— begin to fall. The trough of the cycle refers to the last month before the same economic indicators begin to rise. Because key economic indicators often change direction at slightly different times, the dating of peaks and troughs is necessarily somewhat subjective. Ndicu (2015) contends that in Kenya, the economic trends have influenced business performance. Further, effects from global financial crunches have impacted on business trends and thus firms must formulate adaptive strategies on business cycles effects, in order to remain competitive. Intensive research and knowledge development for managers is crucial in strategic forecasting as the right model must be identified for application as the main forecasting technique.

Theoretical Framework

Resource-Based Theory

Resource based theory at business level is used in explorations of the relationships between resources, competition, and profitability including the analysis of competitive imitation, the appropriability of returns to innovations, the role of imperfect information in creating profitability difference between competing firms, and the means by which the process of resource accumulation can sustain competitive advantage. Together, these contributions amount to what has been termed “the resource-based view of the firm.” However the implications of this “resource-based theory” for strategic management are unclear for two reasons. First the various contributions lack a single integrating framework. Second, little effort has been made to develop the practical implications of the theory. This theory proposes a framework for resource-based approach to strategy formulation which integrates a number of key themes arising from strategic planning literature. The framework involves five-stage procedure for strategy formulation; analyzing the firm’s resource-base; appraising the firm’s capabilities; analyzing the profit-earning potential of firm; selecting a strategy, and extending and upgrading the firm’s pool of resources and capabilities for results in performance (Rumelt, 1984). The elevation of Manufacturing firms for optimal output was sought in the study and this theory gave a strategic focus perspective that guides the study.

Rational expectations theory

Rational expectations theory defines expectations as being the best guess of the future (the optimal forecast) that uses all available information (Lodhia, 2005). Thus, it is assumed that outcomes that are being forecast do not differ systematically from the market equilibrium results. As a result, rational expectations do not differ systematically or predictably from equilibrium results. That is, it assumes that people do not make systematic errors when predicting the future, and deviations from perfect foresight are only random. Many earlier economists, including A. C. Pigou, John Maynard Keynes, and John R. Hicks, assigned a central role in the determination of the business cycle to people’s expectations about the future (Janssen, 1993). Keynes referred to this as “waves of optimism and pessimism” that helped determine the level of economic activity. But proponents of the rational expectations theory are more thorough in their analysis of expectations.

The influences between expectations and outcomes flow both ways. In forming their expectations, people try to forecast what will actually occur (Sargent, 1987). They have strong incentives to use forecasting rules that work well because higher “profits” accrue to someone who acts on the basis of better forecasts. And when people have to forecast a particular price over and over again, they tend to adjust their forecasting rules to eliminate avoidable errors. Thus, there is continual feedback from past outcomes to current expectations. In recurrent situations the way the future unfolds from the past tends to be stable, and people adjust their forecasts to conform to this stable pattern. Economists who believe in rational expectations base their belief on the standard economic assumption that people behave in ways that maximize their utility (their enjoyment of life) or profits (Savin, 1987). Economists have used the concept of rational expectations to understand a variety of situations in which speculation about the future is a crucial factor in determining current action. The theory informed this study since it was dealing with forecasting which is based on expectations about the future of a firm whereby right forecasting may promote firm performance.

Behavioral Theory of the Firm (BTOF)

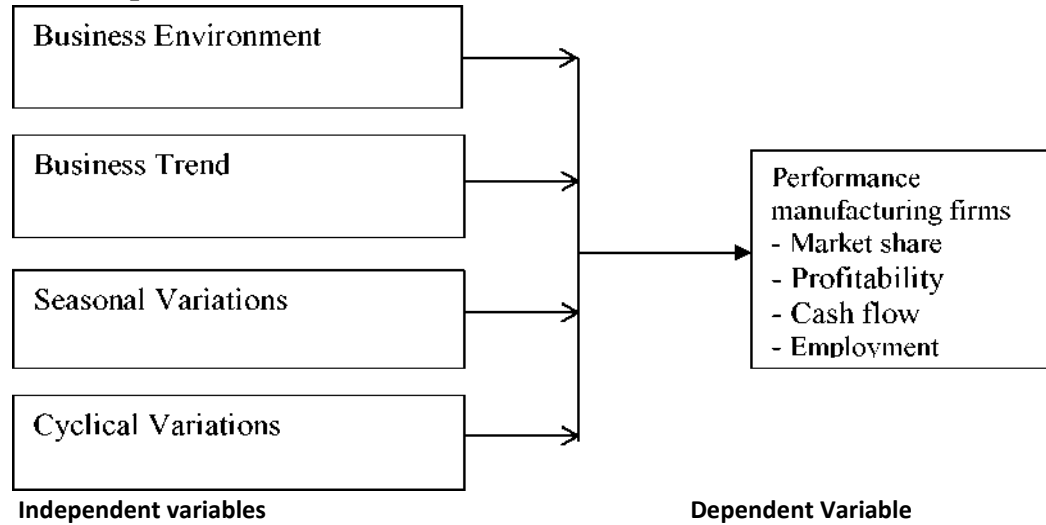
The behavioral approach takes the firm as the basic unit of analysis. It attempts to predict behavior with respect to price, output and resource allocation decisions (Gavetti, Greve, Levinthal & Ocasio,

2012). It emphasizes the decision making process. The theory argues that while small firms may operate under the guidance of the entrepreneur, such a simple model does not describe larger corporations. These larger firms are coalitions of individuals or groups, which may include managers, stockholders, workers, suppliers and so on. According to Cyert and March (1992); these groups participate in setting goals and making decisions. Priorities and information may vary by group, potentially creating conflicts. Cyert and March (1992) mentioned five goals which real world firms generally possess: production; inventory; market share; sales and profits. According to the behavioural theory, all the goals must be satisfied, following an implicit order of priority among them. Cyert and March (1992) proposed that real firms aim at satisficing rather than maximizing their results. I.e., some groups may settle for "good enough" achievements rather than striving for the best possible outcome. This came from a concept known as bounded rationality, which was developed by Herbert Simon. Bounded rationality means prudent behaviour under a given set of circumstances. In this model goals are not set to maximize relevant magnitudes such as profits, sales and market share. Instead, goals are compromises negotiated by the groups.

In the model, top management sets the goals of the organization. But these goals are implemented through decision making at two levels, one at the top and the second at lower management levels. During approval of proposals of various departments, two criteria are generally employed. A financial measure assesses the availability of the required funds given resources. An improvement measure assesses whether the proposal improves the health of the organization. According to Cyert and March (1992), information is required to take the most appropriate decisions. However, information gathering itself is not costless and requires resources.

Conceptual Framework

Figure 2.1 shows the conceptual framework. The main role of the conceptual framework was to give relationship between the independent and the dependent variables. Establishing the performance of processing firms was the onus of this study and this formed the dependent variable. The influencing factor was strategic forecasting whose constructs included business environment change, business trend analysis, seasonal and cyclical variations. The latter four factors were thus considered to be the independent variables of the study. Establishing the performance of processing firms was the onus of this study and this formed the dependent variable. The influencing factor was strategic forecasting whose constructs included business trend analysis, seasonal variations and business environment change and cyclical variations. The latter four factors were thus considered to be the independent variables of the study.

Figure1: Conceptual Framework

Source: Author (2016)

Research Methodology

The research adopted a descriptive survey research design. According to the Kenya Association of Manufacturers, there were 73 registered processing firms in central Kenya region (KAM, 2015). These firms had 146 directors/CEO and 219 management level staff. The directors/CEO and management level staffs were considered to be key informants on issues relating to strategic forecasting, planning and decision making. Stratified random sampling method was applied at 30% to get the sample size of 110 respondents.

Table 1: Sample Size

Cadre	Target population	Sample Size (30%)
Directors/CEO	146	44
Managers	219	66
Total	365	110

Source: Author 2016

The study used questionnaires as the tools for data collection. The questionnaires were self-administered hence the researcher dropped them to the respondent, gave them time to complete, and then picked the questionnaire at a later date. The researcher also used closed and open ended questions which allowed collection of qualitative data. A pilot study was conducted in Chandaria Industries in Nairobi County, which was not part of the study sample to avoid biased results of the study.

Quantitative data was analyzed using descriptive statistics such as mean, standard deviation, covariance and inferential statistics such as correlation coefficient and correlation regression analysis. The Karl Pearson's correlation coefficient was used to measure the relationship of the variables in the study's two tailed hypothesis.

The following regression model was also used to establish the relationship between the variables. The regression equation

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \pi$$

Whereby:

Y = Organizational Performance of manufacturing firms in Central Region

β_0 = Constant

X_1 = Business environment change

X_2 = Business trend analysis

X_3 = seasonal variations

X_4 = Cyclical variations

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficient of Variables

π = Error Term

The results for quantitative data were presented using tables and charts and the results of the study compared with literature review. Results for qualitative data were presented using themes.

Research Findings and Discussions

In the study, all (110) questionnaires were administered to the sampled respondents and 90 (82%) were returned fully answered and after data cleaning 80 (73%) were suitable and were used for data analysis. The response rate was thus commendable and was sufficient for inference, conclusion and recommendations for this study.

Presence of goals, strategies and policies enabling strategic forecasting

The presence of clearly outlined goals, strategies and policies for strategic forecasting was cited to be in the firms by 65% of the respondents and not by 35%. This showed that a significant number of the manufacturing firms had fundamental instruments for strategic forecasting and these enabled guidance to organizations on strategic interventions including forecasting. However, though, others did not and this was an impediment to implementation of strategic techniques by the leadership as well as the staff.

Business trends and performance of manufacturing firms

The first objective was to determine the relationship between business trends and performance of manufacturing firms in Central Kenya region. The relationship of management's capacity to analyze trends was found to be much to very much by majority of the respondents (83.75%). Further, the relationship of company reputation was cited very much by 70%, and the relationship of sales trends much by 61.25% and moderate by 33.75%. Lastly, the relationship of technology development trend analysis was cited very much by 100% of the respondents. The study found that the respondents agreed with the following statements on business trend; management capacity to analyses trends; Company reputation; Sales trends; technological development trend. No respondents disagreed with any item on business trend. These findings were in line with Khavul et al, (2010) who concluded that the new realities of the 21st century have triggered new thinking about nature of strategy, the responsibilities of the corporation, and the role of management, if a company is to stay competitive, it must continually adapt its products and services meet the ever-changing evolving needs of the customer. The findings also concurred with Kemoli (2010) findings that listed commercial banks had deviated from the existing industry rules and engaged in creation of new and significant customer value and that strategic innovation was embedded in their corporate strategy as a way of improving performance.

Table 2: Relation on Business Trend factors on performance of manufacturing firm

Factors	Very little	Little	Moderate	Much	Very much
Management's capacity to analyze trends	0	0	16.25%	61.25%	22.50%
Company reputation	0	30.0%	0	0	70.0%
Sales trends	0	5.0%	33.75%	61.25%	0
Technology development trend analysis	0	0	0	0	100.0%

Table 3 shows the descriptive statistics on business trends. The study shows that the respondents agreed with the following statements on business trend; management capacity to analyse trends (mean score, 4.196); Company reputation (mean score; 4.292; Sales trends (mean score, 4.422); technological development trend (mean score, 4.396). No respondents disagreed with any item on business trend. These findings concurred with the findings of Dauda and Mustapha (2013) previously reviewed. As such, high significant relationship of trend analysis factors was on technology development analysis, sales trend analysis and the capacity of management to analyse trends. The findings also agreed with Karanja (2009) findings that companies with strong technology-enabled innovation strategies are more likely to secure competitive advantage and create superior shareholder value.

Table 3: Descriptive statistics: Business trends

	N	Minimum	Maximum	Mean	Std. Deviation
Management capacity to analyze trends	80	3.00	5.00	4.1961	.41452
Company reputation	80	2.00	5.00	4.2922	.63581
Sales trends	80	3.00	5.00	4.4221	.52122
Technological development trend analysis	80	3.00	5.00	4.3961	.50383

Seasonal variations and performance of manufacturing firms

The second objective was to establish the relationship between seasonal trends and performance of manufacturing firms in Central Kenya region. The relationship of changes in seasons on manufacturing performance was cited by 77.5% while 22.5% said that it very much. Raw materials availability relationship was cited very much by 77.5% of the respondents. Demand levels changes relationship was said to be very much by 90%, the relationship of competitors price-cutting manoeuvres very little by 20%, little by 35%, moderate by 25%, and much by 20% and large swings in the economy very much by all (100 %) of the respondents. This meant that the large swings in the economy, demand level changes, and changes in seasons had significant relationship on the performance of manufacturing firms in Central Kenya region. These findings concurred with Gao, Demirag, and Chen (2012) who posited that it is necessary for organizations to identify and measure seasonal variations within an organization.

Table 4: Seasonal variations relation on firm performance

Factors	Very little	Little	Moderate	Much	Very much
Changes in Seasons	0	0	0	77.5%	22.5%
Materials availability	0	6.25%	16.25%	0	77.50%
Demand level changes	0	0	0	10.0%	90.0%
Price-cutting maneuvers of the competition	20.0%	35.0%	25.0%	20.0%	0
Large swings of the economy	0	0	0	0	100.0%

Table 5 shows the descriptive statistics on seasonal variations. The study shows that the respondents agreed with the following statements on seasonal variations; changes in seasons (mean score, 4.208); Materials availability (mean score; 4.072); demand level changes (mean score, 4.159); price cutting manoeuvres (mean score, 2.638). Large swing in the economy (mean score, 4.379). No respondents disagreed with any item on seasonal variations. These meant that seasonal variations affected firm performance. These findings were in harmony with (Proietti, 2012) findings that some organizations face seasonal variations and such are often interested in knowing their performance relative to the normal seasonal variation. Zhang and Prajapati (2011) further highlights the importance of understanding seasonal variations by suggesting that organizations need to know if variations they have experienced have been more or less than the expected amount, beyond what the usual seasonal variations account for. The description of the seasonal effect provides a better understanding of the impact this component has upon a particular series. Using the past patterns of the seasonal variations, a processing firm is able to forecast and then predict the future trends.

Table 5: Descriptive Statistics: Seasonal Variations

	N	Minimum	Maximum	Mean	Std. Deviation
Changes in seasons	80	3.00	5.00	4.2078	.42280
Materials availability	80	1.00	5.00	4.0719	1.15340
Demand level changes	80	2.00	5.00	4.1589	.63343
Price cutting maneuvers	80	1.00	5.00	2.6382	1.34484
Large swing in the economy	80	1.00	5.00	4.3791	.56203

Environmental changes and performance of manufacturing firms

The third objective was to establish the relationship between environmental changes and performance of manufacturing firms in Central Kenya region. The relationship of customer changes was cited as moderate by 40% much by 30% and very much by 30.0% while changes in trade customs relationship was cited much by 82.5% of the respondents. Macro and micro economic changes relationship was cited very much by all (100%) respondents. According to the findings of this study no respondents disagreed with any item on environmental change. This is in line with the finding of multivariate analyses of 54 firms in the high-growth electronics industry in Korea that showed perceived multiple environments within the industry.

Table 6: Environmental changes factors' relation on firm performance

Factors	Very little	Little	Moderate	Much	Very much
Customer changes	0	0	40.0%	30.0%	30.0%
Trade customs change	0	0	17.5%	82.5%	0
Macro-economy changes	0	0	0	0	100.0%
Micro- economy changes	0	0	0	0	100.0%

Table 7 shows the descriptive statistics of environmental change as a predictor variable. According to the findings of this study the respondents agreed with the following statements on environmental change; Customer changes (mean score, 4.216); Trade customs Change (mean score; 4.451); Micro - economic change (mean score, 4.407); Macro-economic change (mean score, 4.386). No respondents disagreed with any item on environmental change. These findings were in line with Kitchell (1995) who observed that many companies perceived their business environment to be competitive and felt the need to make strategic choices for their marketing strategies. This therefore agrees that business environment change strongly has a relationship on performance of manufacturing firms in central Kenya region.

Table 7: Descriptive Statistics: Environmental Changes

	N	Minimum	Maximum	Mean	Std. Deviation
Customer changes	80	4.00	5.00	4.2157	.41265
Trend customs change	80	4.00	5.00	4.4510	.49923
Micro-economic changes	80	4.00	5.00	4.4067	.49286
Macro-economic changes	80	2.00	5.00	4.3856	.56340

Cyclical variations and performance of manufacturing firms

The fourth objective was to establish the relationship between cyclical variations and performance of manufacturing firms in Central Kenya region. The cyclical variations on high revenues in boom and low revenues in recession period relationship on the performance of manufacturing firms were cited by 82.5% of the respondents. Price stability was also cited to have a relationship on performance of manufacturing firms much by 57.5%, moderately by 30.0% and little by 12.5% of the respondents. Political alignments relationship was cited moderate by 70% and much by 30%, while rate of employment relationship was cited very much by 30% much by 25%, moderate by 27.5% and little by 17.5% of the respondents. This meant that boom and recession fluctuations as well as trading blocs had a significant relationship on the performance of manufacturing firms in central Kenya region.

Table 8: Cyclical variations factor relations on firm performance

Factors	Very little	Little	Moderate	Much	Very much
High revenues in boom period	0	0	12.50%	12.50%	75.00%
Low revenues in recession period	0	0	0	17.50%	82.50%
Price stability	0	12.50%	30.00%	57.50%	0
Political alignments	0	0	70.00%	30.00%	0
Employment rates	0	17.50%	27.50%	25.00%	30.00%

Table 9 shows the descriptive statistics on cyclical variations. The study shows that the respondents

agreed with the following statements on cyclical variations; high revenues in boom period (mean score, 4.000); political alignments (mean score 4.111) However, the respondents disagreed with the following statements on cyclical variations; low revenue in recession periods (mean score; 2.625); price stability (mean score, 2.833); employment rates (mean score, 3.319). These findings were in line with Tharyan, and Christidis, (2013) who argued that expanding advertising in a recession could take advantage of lower advertising costs and less congestion in media markets and Mai *et al.*, (2012) who argued that hiring during a recession allows firms to hire better workers at lower cost.

Table 9: Descriptive Statistics: Cyclical Variations

	N	Minimum	Maximum	Mean	Std. Deviation
High revenues in boom period	80	4.00	5.00	4.0000	.34107
Low revenue in recession periods	80	1.00	5.00	2.6250	1.14372
Price stability	80	1.00	5.00	2.8333	1.11330
Political alignments	80	1.00	5.00	4.1111	.95763
Employment rates	80	1.00	5.00	3.3194	1.13617

Performance of Manufacturing Firms

Table 10 shows the descriptive statistics of the dependent variable in this study (manufacturing Firm's Performance). According to the findings of this study the respondents agreed with the following statements on firms performance; Market share has been increasing for the past five years (mean score, 4.084); Profitability has been increasing for the past five years (mean score; 4.448); No cash flow problems for the past five years (mean score, 4.266); Employment has been on rise for the past five years (mean score, 4.418). No respondents disagreed with any measure of performance given in this study.

Table 10 Descriptive Statistics: Processing Firms' Performance

	N	Min	Max	Mean	Std. Dev
Market share has been increasing for the past five years	80	2.00	5.00	4.0844	.34207
Profitability has been increasing for the past five years	80	2.00	5.00	4.4481	.57214
No cash flow problems for the past five years	80	1.00	5.00	4.2662	.70518
Employment has been on rise for the past five years	80	2.00	5.00	4.4183	.60278

Bivariate Linear Correlation among all Variable

The findings of the bivariate correlation indicate that business environment is positively and significantly related to performance ($r=.427^{**}$, $p<0.001$). In the same tune, business trend is positively and significantly related to manufacturing firm's performance ($r=.467^{**}$, $p<0.001$). Seasonal variations are also positively and significantly related to firm's performance ($r=.269^{**}$, $p=0.001$).

Lastly, cyclical variations are positively and significantly related to manufacturing firm's performance ($r=.336^{**}$, $p<0.001$). The positive and significant relationships among all variables indicate that a positive change in one variable leads to a positive change in the dependent variable and in the same direction.

Table 11: Strategic Forecasting and Firm's Performance: Bivariate Correlations

		Y	X1	X2	X3	X4
Performance (Y)	Pearson	1				
	Correlation					
	Sig. (2-tailed)					
Environment (X1)	Pearson	.427**	1			
	Correlation					
	Sig. (2-tailed)	.000				
Business Trends (X2)	Pearson	.467**	.540**	1		
	Correlation					
	Sig. (2-tailed)	.000	.000			
Seasonal Variations (X3)	Pearson	.269**	.362**	.499**	1	
	Correlation					
	Sig. (2-tailed)	.001	.000	.000		
Cyclical Variations (X4)	Pearson	.336**	.287**	.224**	.136	1
	Correlation					
	Sig. (2-tailed)	.000	.000	.005	.093	

Test of Hypotheses

The hypothesis H1 stated that there is significant positive relationship between environmental changes and performance of manufacturing firms in Central Kenya Region i.e. $H01: P1 = 0$ versus $H1: P1 \neq 0$ was tested. The results from the bivariate correlation showed a significant and positive relationship between environmental changes and the firms performance ($r = .427^{**}$, $p < 0.001$). This led to the rejection of the null hypothesis ($H01$) and the conclusion that there is a positive and significant relationship between environmental changes and performance of manufacturing firms in Central Kenya Region.

The hypothesis H2 stated that there is significant positive relationship between business trends and performance of manufacturing firms in Central Kenya Region i.e. $H02: P2 = 0$ versus $H2: P2 \neq 0$ was tested. The results from the bivariate correlation showed a significant and positive relationship between environmental changes and the firms performance ($r = .467^{**}$, $p < 0.001$). This led to the rejection of the null hypothesis ($H02$) and the conclusion that there is a positive and significant relationship between business trends and performance of manufacturing firms in Central Kenya Region.

The hypothesis H3 stated that there is significant positive relationship between seasonal trends and

performance of manufacturing firms in Central Kenya Region i.e. H03: $P_3 = 0$ versus H3: $P_3 \neq 0$ was tested. The results from the bivariate correlation showed a significant and positive relationship between seasonal trends and the firms performance ($r = .269^{**}$, $p = 0.001$). This led to the rejection of the null hypothesis (H03) and the conclusion that there is a positive and significant relationship between seasonal trends and performance of manufacturing firms in Central Kenya Region.

The hypothesis H4 stated that there is significant positive relationship between cyclical variations and performance of manufacturing firms in Central Kenya Region i.e. H04: $P_4 = 0$ versus H4: $P_4 \neq 0$ was tested. The results from the bivariate correlation showed a significant and positive relationship between seasonal trends and the firms performance ($r = .336^{**}$, $p < 0.001$). This led to the rejection of the null hypothesis (H04) and the conclusion that there is a positive and significant relationship between cyclical variations and performance of manufacturing firms in Central Kenya Region.

Regression Analysis

The results of the bivariate linear regression were subjected to a further analysis through multiple linear regression. The relationship between strategic forecasting and manufacturing firms performance was found to be valid $F(4, 79) = 28.664$, $p < 0.001$. This implies that the model is fit for further analysis and that the four predictor variables of manufacturing firm's performance are good in explaining variations in overall firm's performance.

Table 12: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.053	4	4.013	28.664	.000 ^b
Residual	10.483	75	.140		
Total	26.537	79			

Table 13 shows the summary of the multiple regression analysis on the relationship between strategic forecasting and performance of manufacturing firms in central Kenya region. The table show that all the four predictor variables explain 60.5% of the total variations of the performance of the manufacturing firm as shown by the value of R^2 . Without the value of the constant, the variables explain 58.7 % of the total variations with a standard error of 0.399 as shown by the value of adjusted R^2 . In this case, since the constant is not statistically significant ($P_0 = 0.089$, $p = 0.868$), then the findings of the study show that the value of the adjusted R^2 (58.7%) will be useful in this study.

Table 4.12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778 ^a	.605	.587	.39855

Table 4.13 shows the regression weights of the variables under investigation in this study. The findings show that the constant is not statistically significant ($P_0 = 0.089$, $p = 0.868$). The findings show that environmental change is positively and significantly related to manufacturing firms performance ($P_1 = 0.210$, $p = 0.021$). This implies that as the environment changes take place this will affect manufacturing firm's performance positively. Business trends, in combined relationships are also positively and significantly related to manufacturing firm's performance ($P_2 = 0.518$, $p = 0.001$). This means that performance of firms to a large extent has a relationship with trends in the business environment. Seasonal variations are positively related to firm's performance but this relationship is not significant

($P_3 = 0.022$, $p=0.830$). This implies that seasonal variations do not necessarily affect the firms in the industry the same way. Lastly, cyclical variations are positively and significantly related to manufacturing firms performance ($P_4 = 0.022$, $p=0.830$). This implies that cyclical variations affect the firms positively.

Table 13: Strategic Forecasting and Firm's Performance: Regression Weights

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.089	.537		.167	.868
Environ	.210	.090	.195	2.327	.021
B Trend	.518	.150	.306	3.459	.001
S Variat	.022	.102	.017	.215	.830
C Variat	.164	.057	.209	2.909	.004

Conclusions

Business trends strongly affect the performance of manufacturing firms in central Kenya. This was because items on business trend like management capacity to analyses trends, company reputation, sales trends and technological development trend had much relationship on firm performance. Seasonal trends affect firm performance. This was because large swings in the economy, demand level changes, and changes in seasons had significant relationship on the performance of manufacturing firms in Central Kenya region.

Environmental changes have a strong relationship on performance of manufacturing firms. These were in form of customer changes, changes in trade customs influence and macro and micro economic changes influence. Cyclical variations strongly relate to the performance level of manufacturing firms in central Kenya region. This was shown by high relationship of high revenues in boom and low revenues in recession time and price stability.

Recommendations

From the findings and conclusions, the study recommends that there is need to sensitize the staff in the manufacturing firms on the strategic goals in relation to forecasting. Once a strategy is adopted by a company, certain factors regarding its selection and implementation should be considered, such as the following activities: a company's ability to focus on a particular component of the external environment, the costs and benefits associated with the implementation, and environmental contingencies. This would ensure effective implementation of strategies and ensure that the firm remains competitive in the manufacturing industry. Further, the manufacturing firms should invest in research and development so as to access timely and requisite information on emerging trends and business environment developments. This will enable the management to focus on the future likely trends that require adjustments in operations and markets. Importantly, the management should focus on global market trends that can help formulate strategies on future supply/demand forecasting and

investments of the firm.

The management of the manufacturing firms should also factor seasonal variations which were found lowly relating on firm performance. The variations might enlighten the firm on forecasting on future market demands at particular periods and as such guide on production quantities as well as products. The study findings denote a low capacity by management to analyze business trends. It is therefore crucial for the firms to invest in capacity building of the management and staff in this area. This will enable accurate analysis of business trends, accuracy of forecasts and formulation of effective strategies.

Areas for Further Research

The study is not exhaustive and the research proposes the following studies to be carried out in the same area of research: a comparative analysis of business trend analysis on strategic planning in manufacturing industry; competitive strategies employed by manufacturing firms to remain competitive in the industry and an investigation into the relationship of seasonality on supply chain management in the manufacturing industry.

References

- Askarany, D. & Yazdifar, H. (2012). Strategic Management Tools and Organizational Performance. *Paper presented at the American Accounting Association Annual Meeting and Conference on Teaching and Learning Accounting*, August 6.
- Cyert, R. & March, J. (1992). *A Behavioural Theory of the Firm* (2nd Ed). New Jersey: Wiley and sons
- Dauda, A. & Mustapha, Y. (2013) Influence of Technological Environmental Factors on the Strategic Choice of Quoted Manufacturing Firms in Nigeria's Food and Beverage Industry. *International Journal of Business, Humanities and Technology*, 3(8), 248-279.
- Duus, H. (2013) Strategic forecasting: theoretical development and strategic practice. *International Journal of Business Innovation and Research*, 7(3), 362-378.
- Fauzul, F.M. Hirobumi T, & Tanaka Y. (2010). Entrepreneurial orientation and business performance of Small and Medium Enterprises of Hambantota District of Sri Lanka. *Asian Social Sciences*, 6(3), 34-46.
- Fingar, T. (2011). *Intelligence Analysis: Behavioural and Social Scientific Foundations*. Washington, DC: Natlacad Press.
- Gao, F., Demirag, O. C., & Chen, F. Y. (2012). Early sales of seasonal products with weather conditional rebates. *Production and Operations Management*, 21, 778-794.
- Gavetti, G., Greve, H., Levinthal, D. & Ocasio, W. (2012). The Behavioral Theory of the Firm: Assessment and Prospects. *Academy of Management Annals*, 6, 1-40.
- Ghosh, D. & Wu, A. (2012). The Effect of Positive and Negative Financial and Nonfinancial Performance Measures on Analysts' Recommendations. *Behavioural Research in Accounting*, 24(2), 47-64.
- Hofer, C.W. & Schendel, D. (1978). *Strategy Formulation: Analytical Concepts*. Minnesota: West Publishing.
- Janssen, M. (1993). *Micro-foundations: A Critical Inquiry*. London: Routledge.

- KAM (2014) *Annual Report 2013*. Nairobi: KAM
- KAM (2016) *Annual report 2015*. Nairobi: KAM
- Khavul, S. Peterson, M. Mullens, D. & Rasheed, A. (2010) Going Global with Innovations from Emerging Economies: Investment in Customer Support Capabilities Pays Off. *Journal of International Marketing*, 18(4), 22-42.
- KIPPRA. (2013). *Economic Survey Report*. Nairobi: KIPPRA
- Kitchell, S. (1995). Corporate culture, environmental adaptation, and innovation adoption: A qualitative/quantitative approach. *Journal of the Academy of Marketing Science*, 23(3), 195-205.
- Lodhia, H. (2005). *The Irrationality of Rational Expectations - An Exploration into Economic Fallacy*. UK: Warwick University Press.
- Masindet, E. & Ogollah, K. (2014). Influence of Total Quality Management Practices on Supply Chain Performance of Cement Manufacturing Firms in Kenya. *European Journal of Business Management*, 1(11), 181-197
- Muogbo, U. S. (2013). The Impact of Strategic Management on Organizational Growth and Development: A Study of Selected Manufacturing Firms in Anambra State. *IOSR Journal of Business and Management*, 7(1), 24-32.
- Navarro, P., Bromiley, P. & Sottile, P. (2010). Business cycle management and firm performance. *Journal of Strategy and Management*, 3(1), 50 - 71
- Ndicu, S. (2015). *Efficiency analysis of the agro-processing industry in Kenya*. Thesis, Kenyatta University
- Onyango, A.M. (2011). *Determinants of competitive performance of Kenyan small and medium enterprises in food processing: a study of selected firms from Nairobi*. Unpublished PhD thesis, Kenyatta University.
- Pearce, J. A., & Robinson, R. B. (2013). *Strategic Management: Planning for Domestic and Global Competition*. (13th edition.). Boston, MA: McGraw-Hill/Irwin.
- Proietti, T. (2012). Seasonality, forecast extensions and business cycle uncertainty. *Journal of Economic Surveys*, 26(1), 555-569.
- Sargent, T. (1987). Rational expectations. The New Palgrave. *Dictionary of Economics*, 4, 76-79.
- Savin, N. (1987). Rational expectations: econometric implications. *The New Palgrave: A Dictionary of Economics*, 4, 79-85.
- Schumpeter, J. A. (1983). *The Theory of Economic Development - An Inquiry into Entrepreneurial Profit, Capital, Credit, Interest and the Business Cycle*. New Brunswick: The Transaction Press
- Tharyan, R. & Christidis, A. (2013). Constructing and Testing Alternative Versions of the French and Carhart Models in the UK. *Journal of Business Finance & Accounting Fama* 40(1&2), 172-214.
- Toyne, B. & Walters, P. (1993). *Global Marketing Management. A Strategic Perspective* (2nd Edition). Boston: Allyn and Bacon.
- Turner, B.M., Steyvers, M., Merkle, E.C., Budescu, D.V. & Wallsten, T.S., (2014). Forecast aggregation via recalibration. *Mach Learn*, 95(3): 261-289

- Wheelen, L.T. & Hunger, J. D., (2013). *Strategic Management and Business Policy: Toward Global Sustainability* (13th Edition). USA: Pearson.
- Zhang, X., Prajapati, M., & Peden, E. (2011). A stochastic production planning model under uncertain seasonal demand and market growth. *International Journal of Production Research*, 14, 1957-1975.