INFLUENCE OF NEW PRODUCT DEVELOPMENT STRATEGY ON PERFORMANCE OF BAKERIES IN KISUMU CITY, KENYA

BY

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DEPARTMENT OF BUSINESS ADMINISTRATION

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DECLARATION

I declare that this project is my original work and has not been presented previously for examination in Maseno University or any other University. No part of this work should be published without the prior knowledge of the author or permission from Maseno University.

SIGN:…… **DATE:…….**

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MBA/BE/00047/2015

This project has been submitted for examination with my approval as the University supervisor.

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DEDICATION

I dedicate this proposal to my beloved parents; my late mother Martha Achieng Ambayo, who taught me that diligence and perseverance are the keys to success and my farther Samuel Okoth Agutu, His support, encouragement, and constant love have sustained me throughout my life. My wife Angeline Awuor and all my siblings not forgetting Philip Omondi Buono, Geoffrey Odiyo, Kennedy Otuk and Nyaoros' Family who gave me moral support and encouragement throughout the process of the research

ABSTRACT

There has been a question whether new product development strategy is rewarding or not in terms of firms' performance worldwide. In Kenya, new product development strategy has been considered to be the main challenge for the performance of most firms due to the growing sophisticated and unpredictable customer demand on different products. While a lot of literature has been done on influence of new product development strategy on different sectors, bakery sector lacks such literature despite the observed high potential for business growth in selling bakery products. The purpose of this study therefore was to find out the influence that new product development strategy has on the performance of bakeries in Kisumu city. This is due to high growth of bakeries in Kisumu city despite the fall of others which were already in existence. That is, in 2015, 2016 all through to 2017 the bakery growth has been 15, 22 and 34 respectively despite the closure of 5 of them within the stipulated time period. The specific objectives were: To establish the extent to which lead time affects performance of bakeries, To determine the extent to which new product development affects performance of bakeries and to determine the extent to which improvement of existing products affects performance of bakeries. The study was anchored on the Ansoff theory of product/market directional strategy. Descriptive and correlation research designs were employed. The study population consisted of 34 managers from 34 bakeries within Kisumu city. All the 34 managers constituted the study sample. Questionnaires were used for data collection. Descriptive and inferential statistics were used to analyze data. In particular, tables for frequencies and percentages, means and graphs were used to report descriptive statistics. Pearson correlation analysis was used to determine the strength and direction of relationships between variables. Where correlations were statistically significant at α=.05, linear regression analysis was used to estimate equations for such relationships. The study found that bakery lead time was positive; the number of defective products was low and employee turnover was high. The bakeries also experienced frequent machine failure. The only variable which was significantly correlated with the bakeries' performance was new product development (r=.475, p=.005, 2-tailed). Thus, the two variables shared 22.6% of their variance in common. The study findings may be used by bakery industries to improve performance.

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ABBREVIATIONS AND ACRONYMS

NPD	New Product Development
NP	New Products
SWOT	Strength Weaknesses Opportunities and Threats
R&D	Research and Development
NPDS	New Product Development Strategy
IEP	Improvement of Existing Products
LT	Lead Time

OPERATIONAL DEFINITION OF TERMS USED IN THE STUDY

The following provides the definition of terms as used in the study

New Products: These are goods, services, or ideas, perceived by customers as new. They can also be referred to as original products, an improvement of a product, a modified product, and a new brand that a firm develops through its own research and development efforts.

Bakery: This is an establishment that produces and sells flour-based food baked in an oven such as bread, cookies, cakes, pastries, and pies.

Strategy: In this study strategy means the direction and scope of a firm (where in this case are the bakeries) over the long-term through its configuration of resources within a changing environment to meet the needs of the markets and to fulfill stockholder's expectations.

Product development: This is growth strategy where a business aims to introduce new products into existing markets. This strategy may require the development of new competencies and requires the business to develop modified products which can appeal to existing markets.

Lead time: This the time between the original design or idea for a particular product and its actual production to the time the customer acquires the product.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Studies in wide ranging contexts have found mixed results in different measures of performance. Researchers have connected higher profits with the ability for firms to innovate (Schumpeter, 2004), while performance in development projects has been found to be determined by a firm's product strategy and its capabilities in overall processes and organization (Clark & Fujimoto, 2001). Others have found financial market losses from product losses, failures being larger in magnitude than financial market gains from product development successes (Sharma & Lacey, 2004).

Effective product development strategy rests on a product's design's ability to create a positive product experience (Clarke & Fujimoto, 2001). Product innovations performance has been seen as an important driver for firm growth particularly the combination of product and processes innovations (Goedhuys & Veugelers, 2008). The researchers' further point out that product innovation translates into superior sales growth rates and access to finance. Haeussler, Patzelt and Zahra (2012) concluded that new product development is important for a new firm's successful performance though they also attest that developing new products is costly and time consuming with at times uncertain outcomes.

Ansoff (1987) brought into limelight the concept of product development which he defined as the focus on the needs of the current customers and the wider customer markets. According to Raible (2013), industrial theory is key in the influence on the choice of strategy and decision making of any company. Ramsey (2001) further articulates that industrial organizational theory is reflected in the structure-conduct-performance model, which claims presence of a link between the structure of a market, the organizational conduct and organizational performance. Porter (1981) pointed out that the central analytical aspect of industrial organization theory can be used to identify strategic choices.

New Product development strategy is recognized and realized through a process whereby those with the power to make decisions for the organizations interact among themselves with other organizational members and with external parties. This study therefore considers choice of strategy mainly in terms of product development. Many organizations today are focusing on

becoming more competitive by launching strategies that give them an edge over others. Bakeries are equally facing the same challenge in their choice of strategy given the crisis the subsector is currently experiencing. The challenge of liberalization, increasing competition from the upcoming sole proprietor bakeries which tend to sell their products at a cheaper price, poor industry policies and structures in bakery industry forms the basis of this study. It is worth noting that a major part of the industry's challenges are emerging from the dynamics of macro environment. According to the Institute of Economic affairs (2005), stakeholders have not been involved in the creation of industry policies which brings into focus the role of corporate social responsibility and the resultant outcome of the choice of strategies.

New Products (NP) are goods, services, or ideas, perceived by customers as new (Armstrong & Kotler, 2005). They can also be referred to as original products, an improvement of a product, a modified product, and a new brand that a firm develops through its own research and development efforts. David and Nigel (2001) argue that a NP and service introduction can be classified according to their newness to the market and the extent of customer value created. Marketing of the NP is defining the market as accurately as possible to have a deeper understanding of exactly to whom the products are supposed to be sold. The more specific a target market is, the more accurately it will be able to target sales and marketing efforts. Developing NP is an important activity for firms globally. However, marketing NP is very risky and challenging because new product failures can cost millions of money (Copper, 2009). For instance, Rift Valley Bottlers introduced new products into the market in 2010. These products include cans, Sunfil, Pulpy, 200ml Coke and Fanta, Novida and Coke Zero. The company used the marketing impact team o market the products. They also used displays in marketing the products. Some of them succeeded and others failed. For example Pulpy, Coke, Fants, Novida and Coke Zero managed to penetrate into the market. Others like cans and Sunfil failed to gain entry into the market (Rift Valley Bottlers, 2010)

New product development strategy has been defined as the focus on the needs of the current customers and the wider customer markets (Ansoff, 1987). Kotler (2000) says in product development a firm remains in its present markets but develops new products for these markets. The view that new products are helpful to the financial health of sponsoring firms is well argued by scholars. Schumpeter (2004), for instance, opined that innovative new products when first introduced face limited direct competition and, as a result, allow relatively high profits to sponsoring firms. Over time these high profits are likely to disappear because of

imitation and competition, he argued, but firms that keep on introducing innovative new products may be able to have high profitability for a sustained period. Large and growing literature supports the positive correlation between innovation and firm profitability. In a study of 721 U.K. manufacturing firms during the period 1972–1983, for instance, Geroski (2003) showed that the number of innovations produced by firms had a positive effect on their operating profit margin. According to Clark and Fujimoto (2001) performance in a development project is determined by a firm's product strategy and by its capabilities in overall process and organization. They further claim that firms products help to shape the market environment; the nature of the market environment changes as consumers and competitors learn from new products and services. Goedhuys and Veugelers (2008) found that innovative performance is an important driver for firm growth in particular the combination of product and process innovations that significantly improves firm growth. Financial markets may be attuned sharply to product development outcomes in publicly traded firms (Anurag & Nelson, 2004).

Ansoff (1987) developed four directional strategies model called product /market matrix as a tool for corporate level strategic choice among the directional strategies is product development where there is new product in existing market include introducing new product, modify, or offering complementary products to existing markets eg increase market share be innovative leader or utilize production capacity more efficiently, utilize distribution networks.

Kotler & Armstrong (2008) define companies and competitors offering similar products and services to same customers at similar price and identified company from industry, and market point of view. Companies trying to satisfy same customers' needs have to build closer relationship with the customers. The essence of strategy lies in creating tomorrow's competitive advantages faster than the competitors. Good product development strategy ensures that new product features and modification of existing products is sufficiently examined and before such products reach maturity stage in the product life cycle.

Motinho & Geoff (2006) cite the importance of market segment and the kind of products the company chooses to offer. They also observed that such segmentation determines where business will compete effectively resulting into sustainable differential advantages due to superior products, low prices and better after sale services. They further noted that for a product to have sustainable and differential advantages, it must provide the customers the benefits, be unique, sustainable and profitable. After a firm has created its differential

advantages, it can enhance its competitiveness through positioning itself by diversifying its products, introducing new brands, changing existing brands and change management and customer beliefs.

Firm performance is often compounded by criteria such as profit margin or increased turnover (Elizabeth & Baines, 2008). In several researches, the word performance and success are used interchangeably. The same applies to this study. Sandberg (2002) stressed that performance is the ability to contribute to job and wealth creation through firm start-up, growth, and survival. According to Elizabeth & Baines (2008) and Pasanen (2003), success is often equated with the achievement of defined and measurable goals or objectives in all sectors of human life, which may be of subjective (Non-financial nature) as well as objective (Financial nature). Firm performance is substantially influenced by so many factors (Elizabeth & Baines, 2008). In business, there are two major streams on the determinants of firm performance. One is based primarily upon an economic tradition, emphasizing the importance of external market factors in determining firm success. The other line of thought builds on the sociological and behavioural paradigm or factors and sees organizational factors and their environment as the major determinants of firm success. Within this school of thought, little and direct attention is given to organization competitive position (Buzzell & Gale, 2007).

Previous literature has not come to a clear definitive conclusion as to what factors determine firms' performance (Rumelt, 2001). Ramaseshan (2002) opined that new products are important to the survival and growth of any firm. The performance in this new product at this point is the issue. Copper (2009) argues that market knowledge and marketing proficiency play a critical role in the outcome of a new product. Pearce and Robinson (2005) also opined that product quality should be related to customer needs so as to ensure better performance. A lot of research has been conducted on the impact that new product development would cause in different firms such as financial institutions, non-governmental organizations and other manufacturing firms. However, such studies have tended to leave out the bakery sector which is now facing a higher growth rate and even posing a threat to other firms dealing with commodities of the same kind. It is therefore important to conduct similar studies involving bakeries. In addition, there is paucity of research underpinning factors of new product development strategy and how they are related to the performance of bakeries. This formed the focus of the present study.

1.2 Statement of the Problem

Previous literature has not come to a clear definitive conclusion as to what factors determine firms' performance. Most of the literatures indicate that new products are important to the survival and growth of any firm. A firm's performance is a function of combination of factors. The concepts of environment, strategy and performance have been found to have a linkage that derives from the structure-conduct-performance (S-C-P) paradigm of the industrial organization economics. Continued existence of bakery companies necessitates that they continually consider how new product development strategy impacts on their performance. How consistent their strategic behaviours are as environmental changes is expected to have implications in their performance. There is empirical evidence of the relationship between choices of strategy on performance of companies. Some literature relate development of new products with successful firm performance; others associate product innovations with firm growth while some have found evidence in financial losses to have an implication of product development failures. While different studies have been conducted in different contexts and industries, this study seeks to address the influence that new product development strategy has on the performance of bakeries in Kisumu city, Kenya.

1.3 Objectives of the Study

The general objective of the study was to determine the influence of new product development strategy on the performance of bakeries in Kisumu Kenya.

The specific objectives of the study were to:

1. To establish the extent to which lead time affect the performance of bakeries in Kisumu city.
2. To determine the extent to which new product development affects the performance of bakeries in Kisumu city.
3. To determine the extent to which improvement of existing products affect the performance of bakeries in Kisumu city.

1.4. Null Hypotheses

1. $H_{01:}$ There is no statistically significant relationship between lead time and performance of bakeries in Kenya.
2. H_{02}: There is no statistically significant relationship between introduction of new products and performance of bakeries in Kenya.
3. H_{03}: There is no statistically significant relationship between bakery improvement of existing products and performance of bakeries in Kenya.

1.5 Scope of the Study

The study focused on the influence of NPDS on performance of bakeries within Kisumu city. Kisumu City has been chosen as a research site due to the increasing rate of the upcoming bakeries despite the fact that some are closing down. In addition to this, there is lack of empirical studies that has been done on bakeries in the past within the area. The study will involve general management in supermarket bakery section, bakery companies and individual upcoming bakeries within Kisumu city.

1.6 Significance of the Study

The findings of this study will be of great importance to various managers of the bakeries in Kenya. First, the study findings could provide valuable insight to the bakery management on how NPDS can contribute to overall business performance. This would in turn help in the formulation of more relevant ways on how new products can be developed and better implementation procedures as well as help to identify solutions to the challenges encountered in the implementation process.

In addition to the above, the research is likely to provide valuable information on the awareness and effects of the new product development strategy on performance in other state corporations. The findings in general could also be used to improve new product development strategy, implementation and management procedures as a catalyst to better service delivery within the bakery sector and other state corporations.

1.7 Conceptual Framework

The conceptual framework in Figure 1.1 shows the perceived relationships as formulated for testing. According to the model, bakery Performance is the dependent variable. Independent variables are Lead Time, New Product Development and Improvement of Existing Products.

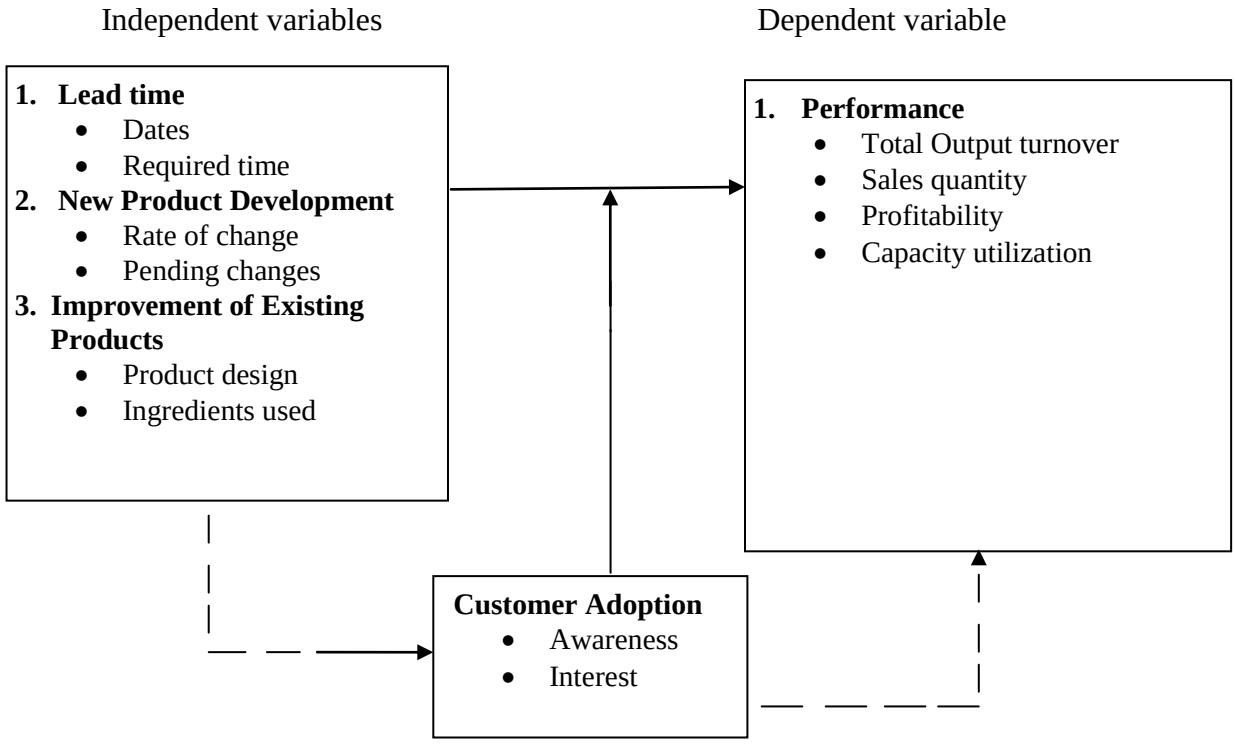


Figure 2.1.1:1: Conceptual framework for relationship among the variables

(Source: Qureshi (2008) and modified by the author)

The conceptual model presents the perceived relationships as formulated for testing. The conceptual model shows the various relationships among the variables in the Product development strategy - Performance. According to the model, Firm Performance is the dependant variable with both quantitative and qualitative as indicators that influenced product development strategy. Independent variable is presented by product development with its corresponding indicators; lead time, new product development and improvement of existing products. Customer Adoption is envisaged as an intervening variable. However, this was not considered in this study, and as such may constitute a limitation of the study.

CHAPTER TWO
LITERATURE REVIEW

This section provides theoretical, empirical and summary of the literature gaps. It provides the theoretical framework for the research and reviews relevant literature for the research. This section also reviews the existing literatures theories and models related to the variables used in the study.

2.1 Theoretical Literature

2.1.1 Ansoff's Theory

Ansoff (1987) developed four directional strategies model called product/market matrix as a tool for corporate level strategic choice. Among the directional strategies is product development where a business aims to introduce new products into existing markets. This strategy may require the development of new competencies and requires the business to develop modified products which can appeal to existing markets. Ansoff (1987) opines that a strategy of product development is particularly suitable for a business where the product needs to be differentiated in order to remain competitive. A successful product development strategy places the marketing emphasis on; Research & development and innovation, detailed insights into customer needs and how they change and lastly being first to market

2.1.2 Business Performance

Business performance can be judged by many different constituencies, resulting in many different interpretations of successful performance. Each of these perspectives of business performance can be argued to be unique. Further, each business has a unique set of circumstances, making performance measurement inherently situational (Cameron & Whetton, 2001). Performance outcomes result from success or market position achieved (Gitman, 2007). Business performance refers to how well a business achieves its market-oriented goals as well as its financial goals. Business performance means attainment of ultimate objectives of the business as set out in the strategic plan. Performance can be determined in various ways. Dorothy (2009) indicated that numerous measures of corporate performance could be used as dependent variables. However, more important than a specific measure chosen is the use of multiple measures, because different criteria of performance are likely to be differentially affected by the various independent variables. Efficiency relates to

how well resources are used to achieve a goal while effectiveness focuses on the appropriateness of the goals chosen. Since performance is a reflection of an organization's goals and strategic objectives, performance measures have to be tailored to the conditions and needs of the firm. Conceptually therefore, business performance has been viewed as the comparison of the value created

by a firm, measured through the three general elements (efficiency, effectiveness & relevance) of business performance, with the value the owners expect to receive from the firm (Chen & Dodd, 2001). Performance in this study will be measured by profitability, total output turn over, sales volume and capacity utilization.

2.1.3 Lead Time and Performance

A number of today's companies have created global strategies to source raw materials, components and labor from low-cost countries (Ballou, 2004; Bowersox, 2010), which are often located far from the countries where they will be used. This means that they can have more options for selecting supplies and negotiate lower piece prices. By that they hope to achieve competitive advantages (Coyle, 2003) and secure supply sources (Waters, 2011). Common business strategies influencing global operations are, for example, aiming for economies of scale by optimization of manufacturing size or cross-border mergers spreading operations over a large number of countries (Waters, 2011). According to the World Trade Organization world trade is growing faster than the gross national product in most countries and most probably will continue to do so for the predictable future (Christopher, 2008) Thereby, the complexity and expansion of companies keeps increasing continuously as well.

The main challenge resulting from performance is longer lead times, (Bowersox, 2010). There are a number of reasons causing these challenges according to Bowersox (2010) such as financial requirements, need for special packaging, ocean freight scheduling and customs clearance. Moreover he states that performance become less consistent and flexible because of longer lead times. Accordingly planning and coordination of the material flow becomes a demanding task.

One of the key business considerations for companies is reaching a balance between supply and demand (Christopher, 2008) and thereby increasing its profitability. Thus, for optimizing

the performance of the firm, product availability has to be met exactly with the customer requirements. As Lysons (2007) suggests, an important concern in the interest of performance is the short lead time. For example, to lower the risk of poor performance, lead time uncertainty must be looked upon in meeting the sudden changes in demand and hedging against foreseen shortages and new product fluctuations (Lysons, 2007). Hereby it could be said that there exist, both, benefits and disadvantages in lead time – from one hand it protects companies against unforeseen fluctuations for better performance, but from the other hand lead time require high capital involvement, which reduces the financial efficiency.

The increased distance from suppliers and complexity of logistics in companies tends to create longer order lead times and higher inventory levels. Meanwhile in companies that practice cost efficient philosophies the goal is to move towards reduced lead times and elimination of excess stock levels. Therefore it creates a challenging task for the logistics to accomplish both goals. (Rushton, 2006) It has to be considered carefully whether the benefits gained by long distance sourcing go beyond the challenges caused by it.

2.1.4 New Product Development and Performance

According to Ewah (2008), new products are the life blood of companies, large or small. Proficiency in new product development can contribute to the success of many companies. If companies can improve their efficiency at launching new products, they could double their bottom line. It is necessary that companies developed new products to replace those that have become outdated or introduce completely new products that will be captivating before larger market. According to Bowen, (2004), new product development is a fundamental process for an enterprise and constitutes a basic source for revitalizing and improving firm's competitive advantage NPD is a dynamic process, which requires the combination and exploitation of all the enterprise capabilities, in order for a new product with unique characteristics which will satisfy market needs to be produced (Marsh & Stock, 2003).

Bryson (2009), Stoner (2004) and Viljoen (2005) argue that NPDS assists in providing direction so that the customers have a wide variety of choice. David (2007) argues that NPDS allows an organization to be more proactive than reactive in shaping its own future, initiate and influence rather than just respond to activities, and thus to exert control over its destiny. It assists in highlighting areas requiring attention or innovation.

Kotler (1996) argues that NPDS planning process can be used as a means of repositioning and transforming the organization. Thompson, Strickland & Gamble (2007) postulate that the essence of good PD making is to build a market position strong enough and an organization capable enough to produce successful performance despite unforeseeable events, potent competition, and internal difficulties. Indeed Ohmae (2003) contends that NPDS enables a company to gain, as effectively as possible, a sustainable edge over its competitors. Greenley (2006) points out that a range of potential benefits to intrinsic values accrues to both the company and external stakeholders if new products are developed.

It has been argued that although there is a general perception and belief that NPDS improves organization effectiveness, if wrongly pursued the anticipated value may not be tapped. Steiner (2009) points out that poor planning when developing a new product may not translate into the anticipated value for the organization.

Pearce & Robinson (2005), insist that product quality should be related to customers' needs, product quality is determined by customers views about the product quality which satisfy customers requirement it is important for Sacco's when introducing new product to conducts good environmental scan to ensure introduction of right product at the right time to exploit opportunities in the market and minimize threats.

2.1.5 Product Improvement and Performance

According to Kotler (2011) a product is anything that can be offered to a market for attention, acquisition, use, or consumption that might satisfy a need or a want. Thus a product may be a physical good, service or ideas. With regard to this study, products refer to various products and services that bakeries offer to their customers. Product improvement is the introduction of a good or service that is either new or improved on previous goods or services (Azazeet, 2005). Product improvement has a market focus and is primarily customer driven. Product improvement requires that bakeries assimilate customer need, changes in demographic aspects and supply new ways to enter bakery markets.

Saloner & Shepard (2005) put forward the theory that a more concentrated market means that businesses can better capture the needs of the consumer, thus providing an incentive for an early adoption. Allen & Santomero (2001) suggest that the launch of product improvement process undertaken by bakeries in the United States proves to be a response to the intensification of competition within bakery markets. Product improvement is essential to the

competitive edge of all businesses but particularly important companies that deals with the fast moving goods. Product improvement is a key driver of growth that surprises and delights the customer with new, differentiated and relevant benefits (Sharma, 2009). A successful product improvement provides a variety of products and thus a product mix. A firm's product mix is particularly important in a competitive industry where there are multiple competitors 3 rivaling for different customer segments, such as the bakery industry where different bakeries are aimed at individual and corporate incomes.

To maximize the effectiveness of their products, bakeries usually have to adjust their portfolio through either the development of new products, improvements of existing products or deletion of some products. A good range will have a variety of products that will fit each person's needs. The goal for any bakery should be to have as many products in its product range as the market demands. The effect of a good variety of product should be improved sales because the bakery will be able to capture consumers from across the market and avoid a consumer switching to a competitor.

2.2 Empirical Literature

2.2.1 Effect of Lead Time on Performance

Griffith (2001) investigated the relationship between new product development lead time competition and productivity levels and growth rates in Europe using panel data on UK establishments over the period 1980-1996. The results suggest that the increase in new product development lead time competition brought about by small medium enterprises led to an increase in overall levels of efficiency and growth rates. These results suggest that new product development lead time competition can play an important role in reducing agency costs and may explain some of the poor performance of European economies.

A study was conducted by Kiumarsi (2014) on lead time as a marketing strategy to improve the sales of bakery products of small-medium enterprise (SMEs) in Malaysia. The study made use of questionnaires for data collection. Findings revealed that SMEs had unstructured lead time strategy and needed enhancements in the areas of packaging, value add to the bakery products, focus on promotion and appropriate advertising. Further, the analysis revealed that more coverage of lead time for bakery products may definitely improve the performance of bakeries.

Odoyo (2014) conducted a study on the challenges of lead time for new products developed by Rift Valley Bottlers in Uasin-Gishu County, Kenya. He adopted a case study design. Questionnaires and interview schedules were the primary instruments for data collection. The study concluded that lead time factor determines whether the product will be bought or not in the market. It also recommended that organizations should consider reducing lead time so as to ensure better performance.

Miller & Cardinal (2012) employed a meta-analytic approach using data from 26 previously published studies and concluded that lead time positively influences firm performance. Caeldries & Van Dierdonck (2000) surveyed 82 Belgian Business firms and reported a link between lead time strategy and performance. They noted that lead time enables a firm to strengthen its competitive position, and facilitates integration and coordination of members' behavior. Pealtie (2003) observed that the main reason for the introduction of formalized and fastened lead time is to improve company performance through the satisfaction of timely customer needs. Imoisili (1978), studying indigenous and multinational companies in Nigeria, concluded that the more effective companies are found among organizations which maintain consistency between environmental perception and management practices, do long-term planning, use more flexible control systems and have shorter lead time. Fubara (2006) did a survey in Nigeria and observed that companies that have efficient lead time experienced growth in profits.

Lead time as a new product development strategy has been an area of concern in many firms and especially those dealing with the fast moving goods. Studies involving lead time have been done, but this has taken place mainly in Europe. Most of the studies focused on quick packaging and intensified marketing as methods of reducing lead time. In addition to this, most studies used primary data collected through questionnaires and direct interviews. Further, research done in this area focused mainly on how time competition, reduced time and lead time as a marketing strategy may affect performance. There is therefore need to conduct such a study in an African country, especially in the bakery industry.

2.2.2 Effect of New Product Development on Performance

While examining empirically the effects of new product development outcomes on overall firm performance, Anurag & Nelson (2004) chose the pharmaceutical industry as the

empirical context. This was appropriate for the study's analysis due to the gate-keeping role played by the Food and Drug Administration (FDA) provides a specific event date on which to focus the event study methodology. The study estimated market model parameters using a 300-day period. Daily return data were obtained on individual securities from DataStream International and abnormal return for firm. The expected returns were estimated using the market model where returns on security, the daily returns of each firm in days were regressed against the return on market portfolio during the corresponding time period to obtain estimates. This study's results showed that market valuations are responsive strongly and cleanly to the success or failure of new product development efforts. Further conclusions were that financial markets may be attuned sharply to product development outcomes in publicly traded firms (Anurag & Nelson, 2004). However, the study did not consider the intersection of marketing and finance literature.

A research seeking to understand which of three different strategic orientations of the firm (customer, competitive, and technological orientations) is more appropriate, when, and why, in the context of developing product innovations was done by Gatignon and Xuereb (2007). By using questionnaires to collect data from market executives, of the 239 marketing executives, 87.5% (209 managers) agreed to participate in the study. Multiple item scales were developed based on items previously proposed and used successfully in survey research studies. The results suggested that the appropriateness of a given strategic orientation, even a customer orientation, is not unconditional. It was, however, difficult to infer from the study what contributed to the unexplained variance.

Wei & Morgan (2004) conducted a study in china which provided three implications of theoretical knowledge concerning firms' new product performance. Firstly, the important role played by supportiveness of organizational climate in determining a firm's market orientation is identified and supported empirically, which in turn explains significant variance in the success of new product in the Chinese firms. Secondly, the study's fieldwork interviews and its empirical result indicated the importance of the cultural contexts of the firm in explaining how firms' engagement in processing market information enables them to achieve superior performance for new product. Thirdly, their findings indicate that organizational climate is important in determining new product performance through its effect on a firm's market orientation behaviors.

Haeussler (2008) conducted a study on strategic alliances and product development in high technology new firms, with the moderating effect of technological capabilities. Using a database of biotechnology firms, the study sought to establish how new firms maximize the benefits of these alliances while reducing their risks. Testing the study hypotheses required measuring the alliance portfolio, technological capabilities and product development by HTNFs. The study surveyed biotechnology firms in the UK and Germany, the largest and most developed biotech industries in Europe. Face to face Interviews were conducted with 118 British and 162 German firms which agreed to participate in the study. There was a response rate of 47 percent for Germany and 34 percent for the UK. Descriptive statistics was used to determine correlations among the study's variables. The study found that the specialization of new firms' technological capabilities can help managers use alliances more productively when it comes to NPDS. The results were stable over a variety of different model specifications (Haeussler, 2008). However, the results drew attention to the importance of the breadth versus depth of the degree of a firm's technological specialization, an issue not explored in this study.

From the literature review conducted, most of the previous research focused on financial market in relation to product development. In addition, most of them used face to face interviews except one which used questionnaires. Previous research mainly focused on customer, competitiveness and technological orientation in the process of product development. It is also clear that most of the research done in this area were mainly in European countries.

Previous studies on improvement of existing products on performance focused mostly on customer, competitiveness and technological orientation leaving out rate of change and pending changes in the process of new product development which is key in this study. Most of such research has been done in European countries. Thus, there is need to conduct such a study in African countries in general and Kenya in particular.

2.2.3 Effect of Improved Existing Product on Performance

Using World Bank ICS data from Brazilian manufacturing firms, a study by Goedhuys & Veugelers (2008) identified innovation strategies of firms in particular internal technology creation and external technology acquisition and their effect on successful process and product innovations and improvement. The study used the World Bank's Investment Climate Survey (ICS) data collected in Brazil in 2003. The survey collected data for the period 2000, 2001 and

2005, through intensive interviews of firms while analysis was done through Chi-square test and bivariate probit for significance of correlations. The results indicated that innovative performance is an important driver for firm growth in particular the combination of product and process innovations that significantly improves firm growth. Both innovation and growth performance are supported by access to finance. The researchers noted that international openness is important for stimulating firm growth performance. However, this openness works particularly through competition as an incentive device for cost improvements, stimulating firm growth, but not necessarily as a mechanism for technology absorption for improving innovative performance (Goedhuys & Veugelers, 2008).

Cusumano & Nobeoka (2013) examined recent empirical research conducted or published on product improvement in the automobile industry. Their objective was to identify what has been learned, and what is yet to be learned about the effective management of this activity. The study focused 22 organizations from Japanese manufacturers in general, while the basic framework used to compare the studies examined variables related to product strategy, project structure or organization, and project as well as product performance. Evidence from the study indicated that Japanese automobile producers have demonstrated the highest levels of improvement in development as well as of overall sales growth, and have used particular structures and processes to achieve this (Cusumano & Nobeoka, 2013). The evidence does not however clearly indicate what the precise relationships are between improvement productivity and quality or economic returns.

Mbindo (2013) conducted a study on retail bakery design and operational product improvement performance in Nairobi, Kenya. The study employed a cross-sectional descriptive research design. Findings indicated that most bakeries had a batch type of processes improved product designs. The study also established that retail bakery product improvement design resulted in an improved operational performance in bakeries. The study recommended retail bakery product improvement design as opposed to mass and continuous production of new product since it offers flexibility, quality and speed all which increases customer satisfaction and firm's competitiveness.

From the reviewed literature, it is clear that innovation and diversification strategy are crucial for improving new products. Product interrelation factors, market interrelation factors, capital interrelation factors and technology positively influence market performance of different products. Despite the fact that previous research conducted in this area advocates for

innovation and diversification for new products, the focus was mainly on technology and project structure. They tended to leave out product design and ingredients used in the process of product improvement which were incorporated in this study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This section present Geographical description of the study area, research Design and Methodology that will be used in the study. It will describe in detail how the study will be conducted by describing the sampling frame, sample selection techniques, and the sample size. The instruments for data collection, the procedures for data collection, validity, and reliability of the research instruments and analysis of data techniques will also be looked at.

3.2 Research Designs

Cross-sectional survey and correlation research designs were used in carrying out the study. A cross-sectional survey offered the opportunity to collect data across different bakeries within Kisumu city. Correlation design was used to infer the nature of relationships among the variables under study.

3.3 Study Area

Kisumu city is the third largest city in Kenya and is the Headquarter of Kisumu County government. Kisumu County covers a total land of 2085.9 km^2 and another 567 km^2 covered by water. It lies within longitudes 33^o 20'E and 35^o 20'SE and latitudes 0^o 20'south and 0^o 50'south. It has developed progressively from a railway, industrial, communication and administrative center in Lake Victoria basin. It serves as a communication and trading confluence for the great lake region of Tanzania, Uganda, Rwanda and Burundi. It is the Headquarter of East Africa Community (County development plan, 2014). The population of Kisumu City is estimated to be one million with a good number of employable work force engaged in bakery activity programme in order to survive. This means that there is need to develop a structural policy framework in order to empower bakeries so as to contribute towards development of economy.

In Kisumu City, bakeries conduct their economic activities virtually in all sectors of the economy given the fact that there is a rapid upcoming of supermarkets and self-started bakeries. Yogambal (2009) defines a bakery as an establishment that produces and sells flour-based food baked in an oven such as bread, cookies, cakes, pastries, and pies.

For the purpose of this study, a bakery encompasses both formal and informal establishment that produces and sells flour-based food baked in an oven such as bread, cookies, cakes, pastries, and pies and including not more than one hundred employees and have less than ten million turnover sales per annum. Kisumu City was chosen as a research site due to lack of empirical studies in the area.

3.4 Target Population

The study in its choice of respondents targeted members of senior management who bore the greatest responsibility in decision making. The target population of the research entailed 34 respondents within the thirty four bakery firms in Kisumu city, Kenya. The selected firms were companies, supermarkets and sole bakery shops within Kisumu city. The diversity of these companies was appropriate in terms of size in production and capacity, age in terms of years of operation and location.

3.5 Sample Size and Sampling Procedure

Purposive sampling method was used in this study. According to Leedy and Ormrod (2005), purposive sampling is meant for a particular purpose, where people are chosen who are relevant to the research topic and who the researcher believes can provide the best information to achieve the objectives of the study. Table 3.1 shows the distribution of bakeries across type of firm.

Table 3.5.1: Distribution of bakeries across type of firm

Type of Firm	Number available in Kisumu City
Bakery companies	6
Supermarket bakeries	14
Sole proprietor bakeries	10
TOTAL	34

Source: (Fieldwork by Author, 2017)

3.6 Instrument for Data Collection

A structured questionnaire was used for data collection. The instrument had five sections measuring background information, lead time, new product development, improvement of

existing products and performance. The statements in the questionnaire were aligned to the objectives of the study in order to elicit relevant information.

3.7 Procedure for Data Collection

The researcher used a questionnaire to collect data from the respondents. The questionnaire was administered to bakery managers in Kisumu city by the researcher.

3.8 Pilot Testing

The four sub-scales of the questionnaire were pilot tested in 4 bakeries in Ahero town within the outskirts of Kisumu city. The items were subsequently revised before use.

3.9 Reliability of the Questionnaire

The reliability of the instrument was estimated after the pilot study using the split-half method. The reliability coefficient for the questionnaire was 0.54.

3.10 Validity of the Questionnaire

Face validity was used in this study. The questionnaire for data collection was reviewed by an expert in the Department of Marketing Management at Maseno University.

3.11 Methods of Data Analysis

The data will be analyzed using both descriptive and inferential statistics. Frequency, mean, mode and percentages will be used for descriptive statistics. Mugenda & Mugenda (1999) define regression analysis as a type of analysis used when a researcher is interested in finding out whether an independent variable predicts a given dependent variable and in this study, regression analysis will be carried out to determine the relationship between new product development strategy and bakery performance. Correlation analysis will be used to establish the extent of new product development within the bakery sector. The researcher will use Statistical Package for Social Science (SPSS) version 20.0 to analyze data.

The simple regression models that were used for data analysis are as follows:

$Y = f(x_1)$, $Y = f(x_2)$ and $Y = f(x_3)$

Where

Y: Bakery Performance,

$X_{1:}$ Lead Time,

$X_{2:}$ New Product Development,

X_3: Improvement of Existing Products.

Running any of the above linear models was contingent upon establishing a statistically significant correlation between each of the independent variables and the dependent variables. In other words, linear regression analysis was not conducted for non-significant relationships.

3.12 Ethical Considerations

The following ethical issues was considered in this study; full consent was soughed from the participants prior to the study, the despondence participated in the study voluntarily and was fully informed about the aims and objectives of the study, the protection of the privacy of the research participants was also assured. Any text belonging to other authors that was used in any part of this study was fully referenced. In addition to this, the questionnaire did not contain any degrading, discriminating or any other unacceptable language that could be offensive to respondents. The tools were designed to collect information directly related to this research, therefore, no private or personal was asked from the respondents. The ethical values that was considered and adhered to include; obtaining proposal approval letter from the university, maintaining privacy and confidentiality of the research information; avoiding fraud and plagiarism and finally obtaining voluntary and informed consent from the research respondents.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter contains findings on background information of bakery managers in Kisumu city, their perception of lead time, new product development strategy, improvement of existing products as well as their performance beliefs. Further, it has findings on the relationship between each of the independent variables (perception of lead time, new product development strategy and improvement of existing products) and performance beliefs as the dependent variable.

4.2 Background Information

4.2.1 Gender Distribution of Respondents

Table 4.2.1 shows the respondents' gender. It indicates that the study involved 17 males (50.0%) and 17 females (50.0%), suggesting an equitable distribution of male and female managers in the bakery industry in Kisumu city.

Table 4.2.1: Gender distribution of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	17	50.0	50.0	50.0
Female	17	50.0	50.0	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

4.2.2 Age of Respondents

The age groups of respondents in the study are presented in Figure 4.2.2.1. The majority of them who numbered 19 (55.9%) fell in the 30-40 years bracket. This was followed by 14 (41.2%) in the over 40 years range. Only 1 manager (2.9%) fell in the below 30 years bracket. These findings suggest that bakery business in Kisumu city is predominantly managed by those who are not too young.

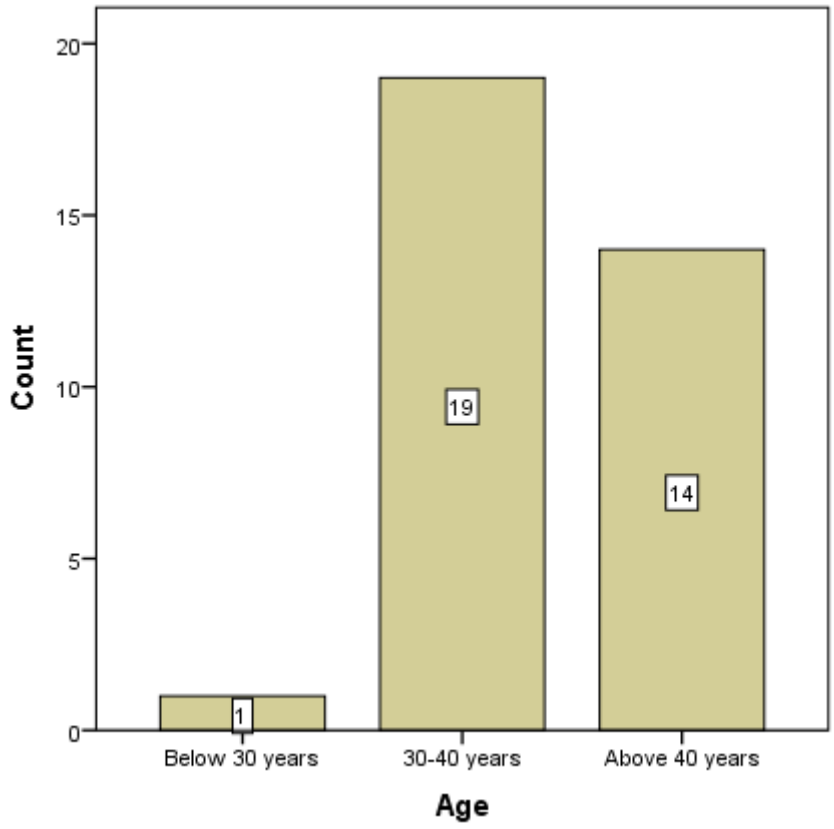


Figure 4.2.2:1: Age brackets of respondents

Source: Survey data 2017

4.2.3 Level of Education of Respondents

The level of education of respondents is presented in Figure 2. There were 18 managers (52.9%) with Diplomas and 16 (47.1%) with University Degrees. None of them had a level of education below Diploma. The findings suggest that bakery managers in Kisumu city are sufficiently educated to cope with the demands of the job.

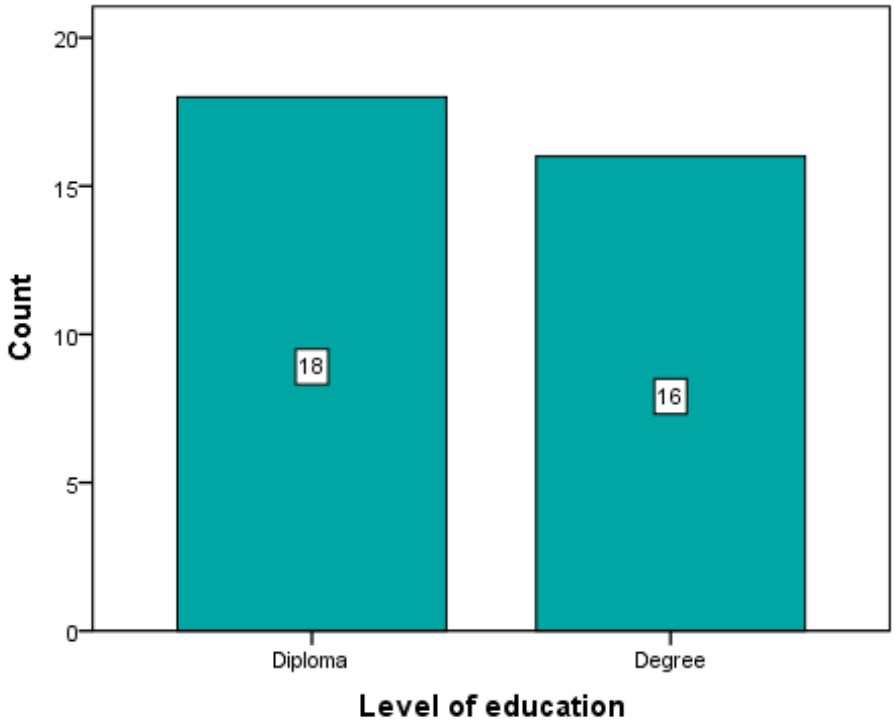


Figure 4.2.3:1: Level of education of respondents

Source: Survey data 2017

Experience of Respondents in Baking Industry

Respondents' experience in the bakery industry is provided in Figure 3. The majority of managers totaling 23 (67.6%) had over 4 years' experience. This was followed by 11 respondents (32.4%) who had 1-3 years' experience in the industry. No manager in the sample had experience less than 1 year. These outcomes suggest that bakery managers in Kisumu city have sufficient experience in the industry.

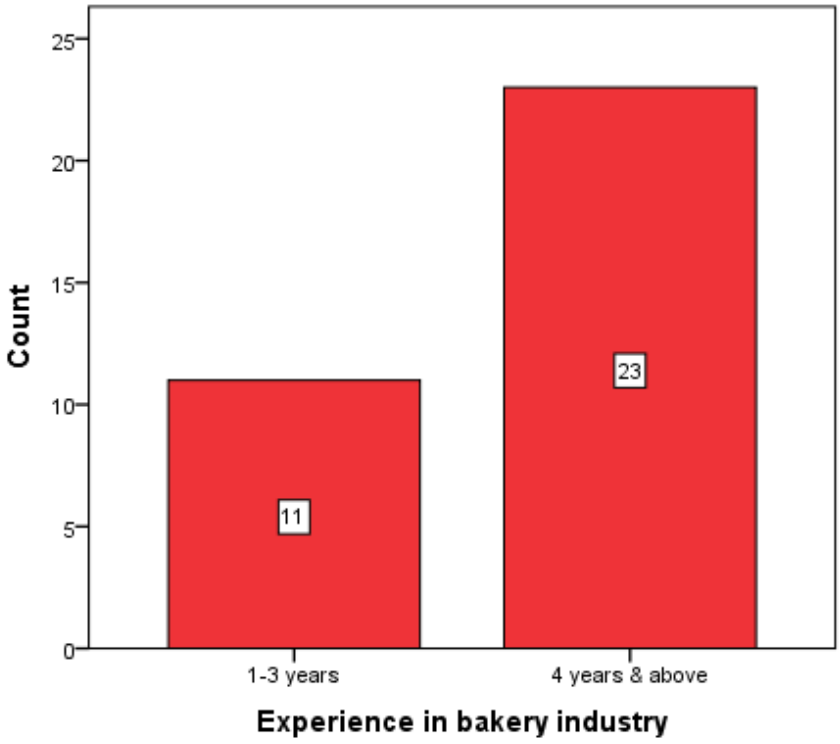


Figure 4.2.3:2: Managers' experience in bakery industry

Source: Survey data 2017

4.3 Lead Time

The time it takes to deliver a product to customers once an order is made is a crucial element in the success of any industry. Tables 4.3.(1)- 4.3.(5) contain responses from bakery managers in Kisumu city on 5 items regarding their perceptions of their industry's lead time.

Table 4.3.1 specifically targeted the time the bakeries took to deliver their products to their customers. A total of 18 managers (52.9%) strongly agreed that their customers got the products they ordered in time. On the other hand, the remaining 16 (47.1%) agreed with the statement. None of them disagreed or strongly disagreed with the statement that their customers got the products they ordered in time. This is a positive outcome in the sense that it is apparent that there is hardly any delay in providing bakery products to customers in good time by bakeries in Kisumu city.

Table 4.3.1: Timely acquisition of products

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	16	47.1	47.1	47.1
Strongly agree	18	52.9	52.9	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.3.2 specifically targeted the time taken by bakeries to develop a new product. A total of 13 managers (38.2%) strongly agreed that they do take a short time to develop a new product. On the other hand, the remaining 20 (58.8%) agreed with the statement. None of them disagreed or strongly disagreed with the statement that the time taken by their bakeries to develop a new product was long. This is a positive outcome in the sense that it is apparent that there is hardly any delay in the development of new products good time by bakeries in Kisumu city.

Table 4.3.2: Shortness of time taken to develop new products

	Frequency	Percent	Valid Percent	Cumulative Percent
Neutral	1	2.9	2.9	2.9
Agree	20	58.8	58.8	61.8
Strongly agree	13	38.2	38.2	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.3.3 specifically targeted the time taken between idea generation and its launch by the bakeries. A total of 3 managers (8.8%) strongly agreed that they do take a long time to launch a new product prior to the idea generation. On the other hand, the remaining 25 (73.5%)

agreed with the statement with 6 (17.6%) of them being on the neutral side. None of them disagreed or strongly disagreed with the statement that the time taken by their bakeries between idea generation and its launch was long. This is a negative outcome in the sense that it is apparent that there is delay in the time between which the idea is generated and its launch by bakeries in Kisumu city.

Table 4.3.3: Higher length of time between idea generation of a new product and its launch

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	3	8.8	8.8	8.8
Agree	25	73.5	73.5	82.4
Neutral	6	17.6	17.6	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.3.5 specifically targeted the time taken by bakeries in their product finalization in relation to their commencement point. A total of 18 managers (52.9%) strongly disagreed that there was a delay in product finalization in relation to the commencement point. On the other hand, the remaining 16 (47.1%) disagreed with the statement. None of them agreed or strongly agreed with the statement that there was delay in product finalization in relation to the commencement point. This is a positive outcome in the sense that it is apparent that there is hardly any delay in product finalization in relation to its commencement point by bakeries in Kisumu city.

Table 4.3.4 specifically targeted the response in terms of time takes to deliver the products ordered. A total of 18 managers (52.9%) strongly disagreed that there was a complaint by the customers on the time taken to deliver their products to them. On the other hand, the remaining 15 (44.1%) disagreed with the statement with only 1 (2.9%) being neutral. None of them agreed or strongly agreed with the statement that their customers do complain of the time it took to deliver their products. This is a positive outcome in the sense that it is apparent

that there is hardly any delay the process of delivering the products to the customers by bakeries in Kisumu city.

Table 4.3.5: Delays in product finalization in relation to the commencement point

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	18	52.9	52.9	52.9
Disagree	16	47.1	47.1	100.0
Total	34	100.0	100.0	

Table 4.3.4: Customers complain about the long time taken to deliver products

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	18	52.9	52.9	52.9
disagree	15	44.1	44.1	97.1
Neutral	1	2.9	2.9	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

In summary Table 4.3.2 indicates that 20 managers (58.8%) agreed with the statement "The time taken by our bakery to develop a new product is always short". On the other hand, 13 managers (38.2%) strongly agreed with the statement, an indication that the bakery industry in Kisumu city tends to take a short time to develop a new product. This is a positive outcome for the industry. In addition to this, information in Table 4.2.3 indicates that 25 managers (73.5%) disagreed with the statement "The time taken between idea generation of a new product and its launch by our bakery is normally long", with 3 (8.8%) strongly disagreeing with the statement. This is also a positive outcome which suggests that the bakery industry in Kisumu city tends to take a short time between idea generation of a new product and its launch.

4.3.6: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.462	11.016		1.131	.267
	Lead time	.070	.373	.030	.188	.852
	New product development	.538	.184	.478	2.927	.006
	Improvement of existing products	-.023	.308	-.012	-.074	.942

a. Dependent Variable: Performance

Source: Survey data 2017

A total of 18 managers (52.9%) strongly disagreed that customers did complain about the long time taken to deliver their products to customers, with 15 (44.1%) indicating that they disagreed with the statement (See Table 4.2.4). This is a positive outcome suggesting that the majority of customers tended not to complain about the length of time it takes bakery industries to deliver their products to customers. The same applies to the time taken for product finalization in relation to the commencement point as evidenced in Table 4.2.5. Table 4.3.6 shows the level of relation of lead time in relation to performance of bakeries. It suggests that for every one unit of X there is a corresponding change of .070 in Y.In summary, apart from the fact that there is evidence that bakery customers in Kisumu city do get products they order in time, and that the time bakeries take to develop a new product is always short, their lead time seems to be optimal.

This is in line with the findings of Kiumarsi (2014) who conducted a research on lead time as a marketing strategy to improve the sales of bakery products of small-medium enterprise (SMEs) in Malaysia.the study revealed that more coverage of lead time for bakery products may definitely improve the performance of bakeries.

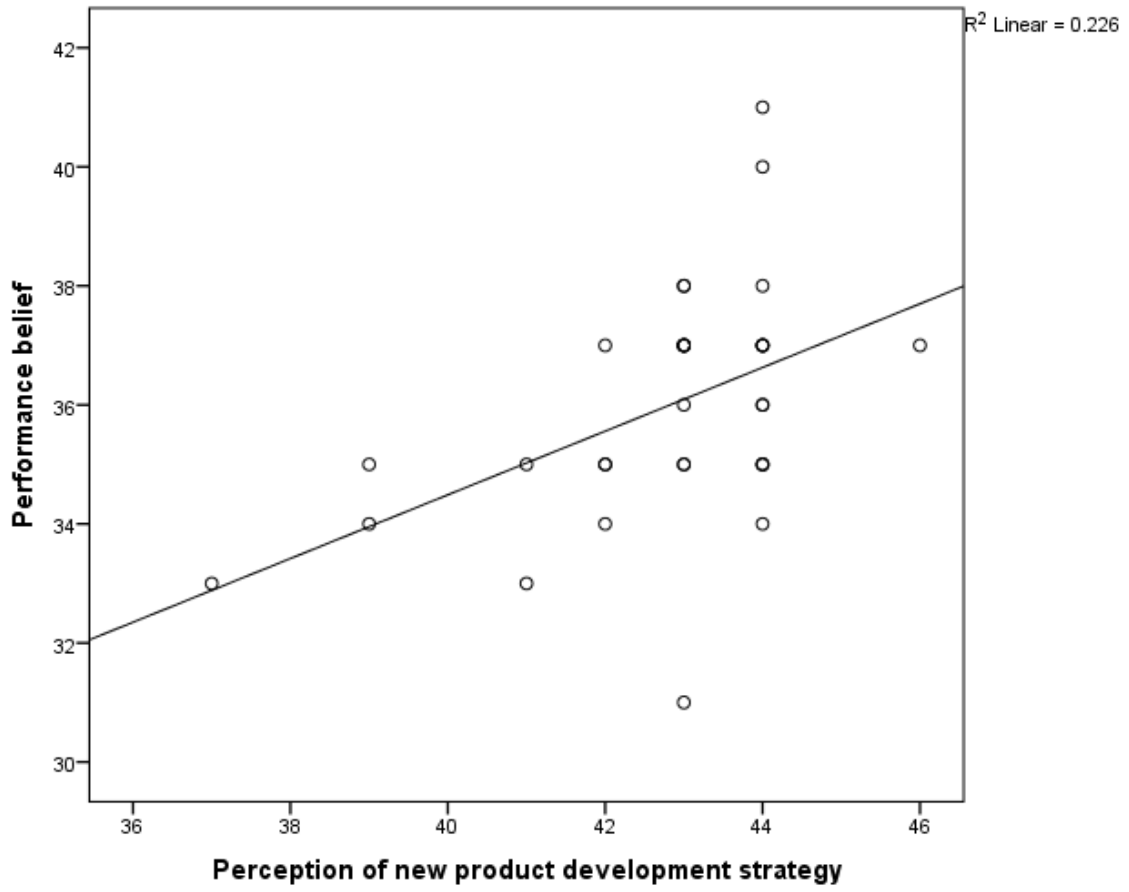
4.4 New Product Development

Figure 4.2.3.1 is a bar chart showing bakeries' rate of new product development. All the items for new product development strategies recorded above average responses as presented. Thus, the bakery managers seem to have had appropriate strategies for new product development. Indeed, the bakery managers had ideas on new products to be developed (Mean=4.53), were committed to growth through products developed internally (Mean=4.44) and marketed new products whenever they were developed (Mean=4.45). However, the pace at which new products were introduced into the market was much slower than expected (Mean=4).

Figure 4.2.3:1: New product development

Figure 4.2.3:2: Scatter plot for performance against new product development strategy.

The plot has a superimposed regression line showing that as new product development strategy improves so does the performance of bakeries.



A linear regression model was subsequently derived from the bivariate distribution which can be used to predict performance of bakeries using new product development as the predictor. The findings are presented in Table 4.7.2 (ANOVA Summary Table) and Table 4.7.3 (Regression coefficients). Table 4.7.2 indicates that for the regression model, F_{obs}=9.327 ($df_{reg.}$=1, df_{res}=32, p=.005). The model is therefore appropriate. Table 4.7.3 on the other hand indicates that the linear equation which may be used to predict bakery performance (Y) from new product development (X) is as follows:

$Y = 13.091 + .535X$.

The difference between the regression coefficient and zero is statistically significant and cannot be attributed to chance or sampling error (t_{obs}=3.504, p=.005). The equation suggests that a change of 1 unit in X is associated with a corresponding change of .535 units in Y.

Table 4.4.1: ANOVAa summary table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.888	1	28.888	9.327	.005[b]
	Residual	99.112	32	3.097		
	Total	128.000	33			

a. Dependent Variable: Performance
b. Predictors: (Constant), new product development
Source: Survey data 2017

Table 4.4.2: Regression coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.091	7.507		1.744	.091
	New product development	.535	.175	.475	3.054	.005

a. Dependent Variable: Performance

Source: Survey data 2017

The result showed that new product development was significantly related to the performance of bakery firms and thus is the major contributing factor for the better performance of bakeries within Kisumu city. This is in line with the study findings of Haeussler (2008) who conducted a study on strategic alliances and product development in high technology new firms and found that new product development was essential in any developing firm and that appropriate technology for the same was important.

4.5 Improvement of Existing Products

Information on bakery managers' perceptions on improvement of existing products is presented in Tables 4.5. (1) to 4.5. (6). The managers generally agreed or agreed strongly with the 6 statements. Thus, they use diversified ingredients during baking, improve baking procedures from time to time, improve the design of existing products, promptly introduce new ideas into the existing products and ensure that the demand for existing products is high. This outcome notwithstanding, it was further found that the best practice was in the improvement of baking procedures (Mean=4.53) and the worst practice was in the use of diversified ingredients during baking with a mean of 4.09 (See Fig. 4.3.1).

Table 4.5.1: Incorporation of diversified ingredients from time to time

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	1	2.9	2.9	2.9
Agree	28	82.4	82.4	85.3
Strongly agree	5	14.7	14.7	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.5.1 specifically targeted the use of diversified ingredients time to time during baking. A total of 5 managers (14.7%) strongly agreed that there was incorporation of diversified ingredients time to time during baking. On the other hand, the remaining 28 (82.4%) agreed with the statement with only 1 (2.9%) disagreeing. None of them was neutral strongly disagreed with the statement that the use of diversified ingredients is incorporated time to time during baking in their bakeries. This is a positive outcome in the sense that it is apparent that there is a versed use of ingredients incorporated during baking time to time by bakeries in Kisumu city.

Table 4.5.2: Improvement of the baking procedures from time to time

	Frequency	Percent	Valid Percent	Cumulative Percent
Neutral	1	2.9	2.9	2.9
Agree	14	41.2	41.2	44.1
Strongly agree	19	55.9	55.9	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.5.2 specifically targeted the response in terms of the baking procedures of the products undergoing improvements from time to time. A total of 19 managers (55.9%) strongly agreed that there was improvement from time to time in the baking procedures. On the other hand, the remaining 14 (41.2%) agreed with the statement with only 1 (2.9%) being neutral. None of them disagreed or strongly disagreed with the statement that the bakeries baking procedures of the products undergo improvement from time to time within the bakeries in Kisumu city.

Table 4.5.3: Improvement in the design of the existing products

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	21	61.8	61.8	61.8
Strongly agree	13	38.2	38.2	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.5.4 specifically targeted the response in terms of the improvement of the design of the existing producst. A total of 13 managers (38.2%) strongly agreed that there was an improvement in the design of the existing products. On the other hand, the remaining 21 (61.8%) agreed with the statement. None of them disagreed or strongly disagreed with the statement that there was an improvement of the design of existing product. This is a positive outcome in the sense that it is apparent that there is always an improvement in the design of the existing products by bakeries in Kisumu city.

Table 4.5.4: Prompt introduction of new ideas into the existing products

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	22	64.7	64.7	64.7
Strongly agree	12	35.3	35.3	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.5.4 specifically targeted the response in terms of the promptness of introduction of new ideas into the existing products.. A total of 12 managers (35.3%) strongly agreed that there was promptness in the introduction of new ideas into the existing products. On the other hand, the remaining 22 (64.7%) agreed with the statement with only. None of them disagreed or strongly disagreed with the statement that there was promptness in the introduction of new ideas into the existing products. This is a positive outcome in the sense that it is apparent that new ideas are promptly introduced into the existing products by bakeries in Kisumu city.

The same applies to table 4.5.5 as indicated below with regard to equal percentages of fifty each towards the response of the demand of the products being high.

Table 4.5.5: Higher demand of the existing products

	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	17	50.0	50.0	50.0
Strongly agree	17	50.0	50.0	100.0
Total	34	100.0	100.0	

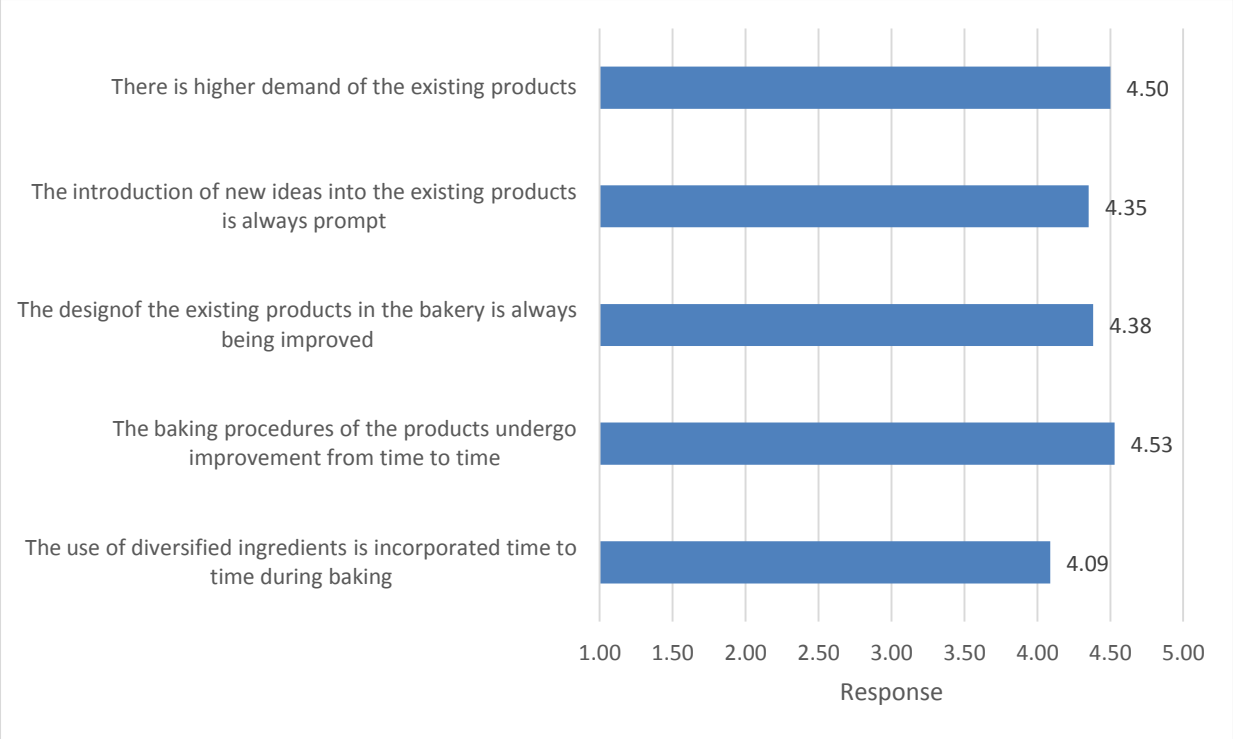


Figure 4.2.3:1: Mean responses of improvement of existing products

Source: Survey data 2017

4.5.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.476[a]	.227	.149	1.816

a. Predictors: (Constant), Improvement of existing products, Iead time, New product development strategy

Source: Survey data 2017

Table 4.5.7 indicates ANOVA summary for all the three predictors as was used in the model with a significant level of (p=0.049>0.005) showing that there were some predictors which were not significantly correlated with the dependent variable, performance in the model.

4.5.7 ANOVA[a] summary table for all the variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.031	3	9.677	2.933	.049[b]
	Residual	98.969	30	3.299		
	Total	128.000	33			

a. Dependent Variable: Performance

b. Predictors: (Constant), Improvement of existing products, Lead time, New product development

Source: Survey data 2017

Table 4.5.8 shows that correlation between improvement of new products and performance was not statistically significant (.942). This is against the study conducted by Mbindo (2013) in Nairobi on retail bakery design and operational product development performance which concluded that retail bakery product improvement design resulted in an improved operational performance in bakeries within Nairobi.

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4.5.8: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.462	11.016		1.131	.267
	Lead time	.070	.373	.030	.188	.852
	New product development	.538	.184	.478	2.927	.006
	Improvement of existing products	-.023	.308	-.012	-.074	.942

b. Dependent Variable: Performance

Source: Survey data 2017

4.6 Bakery Performance

Tables 4.6.(1) to (10) are bakery managers' responses on 10 performance items. It is evident that that their profit margins have been impressive. In addition, their marketing campaigns have been cost-effective and their customer base adequate. The bakeries have also kept the cost of production low and their customers were satisfied with their products as the number of defective products was also low. However, employee turnover was high. The failure rate of manufacturing equipment in the bakeries was high. Finally, the managers reported that their manufacturing equipment often failed. Worth mentioning is the fact that they met deadlines for their customers.

Table 4.6.1: Profit margin

	Frequency	Percent	Valid Percent	Cumulative Percent
High	17	50.0	50.0	50.0
Very high	17	50.0	50.0	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.1 targeted the response in terms of profit margin. A total of 17 managers (50%) agreed that their profit margin has been impressive. On the other hand, the remaining 17 (50%) testified of a very high profit margin. None of them had low or very low profit margin. This is a positive outcome in the sense that it is apparent that there is an impressive profit margin across the bakeries in Kisumu city.

Table 4.6.2: Marketing compaign

	Frequency	Percent	Valid Percent	Cumulative Percent
Medium	4	11.8	11.8	11.8
High	20	58.8	58.8	70.6
Very high	10	29.4	29.4	100.0
Total	34	100.0	100.0	

Table 4.6.2 targeted the response in terms of the extent to which the bakeries market their products. A total of 10 managers (29.4%) consented of a very high extent of marketing campaign within their bakeries. On the other hand, the remaining 20 (58.8%) consented of a high extent of marketing campaign with only 4 (11.8%) being medium. None of them had a low or very low extent of marketing campaign. This is a positive outcome in the sense that it is apparent that there is an extensive marketing campaign across bakeries in Kisumu city.

Table 4.6.3: Customer base

	Frequency	Percent	Valid Percent	Cumulative Percent
Low	1	2.9	2.9	2.9
High	23	67.6	67.6	70.6
Very high	10	29.4	29.4	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.3 targeted the response in terms of the adequacy of the customer base within the bakeries. A total of 10 managers (29.4%) consented of a very high customer base within their bakeries. On the other hand, the remaining 23 (.8%) consented of a high customer base with only 1 (2.9%) being low. None of them had a low or medium customer base. This is a

positive outcome in the sense that it is apparent that there is adequate customer base within the bakeries in Kisumu city.

Table 4.6.4: Cost of production

	Frequency	Percent	Valid Percent	Cumulative Percent
Neutral	1	2.9	2.9	2.9
Low	18	52.9	52.9	55.9
Very low	15	44.1	44.1	100.0
Total	34	100.0	100.0	

Table 4.6.4 specifically targeted the response in terms of the cost of production. A total of 15 managers (44.1%) consented of their bakeries keeping the cost of production very low. On the other hand, the remaining 18 (52.9%) had a low cost of production with only 1 (2.9%) being medium. None of them consented of having a very high or high cost of production. This is a positive outcome in the sense that it is apparent that the cost of production is always kept low within the bakeries across Kisumu city.

Table 4.6.5: Customer satisfaction

	Frequency	Percent	Valid Percent	Cumulative Percent
low	1	2.9	2.9	2.9
High	19	55.9	55.9	58.8
Very high	14	41.2	41.2	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.5 specifically targeted the response in terms of the bakeries' customer satisfaction. A total of 14 managers (41.2%) consented of a very high rate of customer satisfaction. On the other hand, the remaining 19 (55.9%) had a high rate in relation with the statement with only

1 (2.9%) being n medium. None of them had low or very low rate of customer satisfaction. This is a positive outcome in the sense that it is apparent that there is a proper satisfaction of customers demand by bakeries in Kisumu city.

Table 4.6.6: Defective products

	Frequency	Percent	Valid Percent	Cumulative Percent
Very low	16	47.1	47.1	47.1
low	17	50.0	50.0	97.1
Medium	1	2.9	2.9	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.6 specifically targeted the response in terms of the quantity of defective products. A total of 16 managers (47.1%) had a very low number of defective products with 17 managers (50%) having low number of defective products. On the other hand, the remaining 1 (2.9%) had a medium number of defective products. None of them had a higher or very high number of defective products. This is a positive outcome in the sense that the bakeries in Kisumu city reduced as much as possible the number of defective products.

Table 4.6.7: Customer satisfaction

	Frequency	Percent	Valid Percent	Cumulative Percent
Medium	3	8.8	8.8	8.8
High	18	52.9	52.9	61.8
Very high	13	38.2	38.2	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.7 specifically targeted the response in terms of employee job satisfaction. A total of 13 managers (38.2%) consented of the very high rate of their employee job satisfaction. On the other hand, the remaining 18 (52.9%) consented of the high rate of their employee job satisfaction with only 3 (8.8%) being neutral. This is a positive outcome in the sense that it is apparent that there is a contenting rate of employee job satisfaction within the bakeries in Kisumu city.

Table 4.6.8: Employment rate

	Frequency	Percent	Valid Percent	Cumulative Percent
Very high	3	8.8	8.8	8.8
High	19	55.9	55.9	64.7
Medium	8	23.5	23.5	88.2
Low	4	11.8	11.8	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.8 specifically targeted the response in terms of the rate of employment. A total of 3 managers (8.8%) consented of a very high rate of employment as 19(55.9) consenting of a high rate. On the other hand, the remaining 4 (11.8%) had a low rate of the same as 8

bakeries (23.5) having a medium rate. This is a negative outcome in the sense that it is apparent that there is a higher employee turnover in the bakeries within Kisumu city.

Table 4.6.9: Rate of failure of manufacturing equipment

	Frequency	Percent	Valid Percent	Cumulative Percent
Very high	19	55.9	55.9	55.9
High	13	38.2	38.2	94.1
Low	2	5.9	5.9	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

Table 4.6.9 specifically targeted the response in terms of the rate of failure of the manufacturing equipments within the bakeries. A total of 19 managers (55.9%) consented that there was a very high rate of failure in their manufacturing equipments as13 bakeries (38.2%) having a high failure rate. On the other hand, the remaining 2 (5.9%) had a low rate. This is a negative outcome in the sense that it is apparent that there is a frequent rate of machine failure within the bakeries in Kisumu city.

Table 4.6.10: Rate of Meeting deadlines

	Frequency	Percent	Valid Percent	Cumulative Percent
High	16	47.1	47.1	47.1
Very high	18	52.9	52.9	100.0
Total	34	100.0	100.0	

Source: Survey data 2017

4.7 Relationship between Lead Time, New Product Development, Improvement of Existing Products, and their Performance

In order to determine the relationship between bakery lead time, new product development and improvement of existing products, and their performance, Pearson Product Moment Correlation Coefficients were calculated and presented in Table 4.7.1 as a correlation matrix. The only statistically significant correlation coefficient was between new product development and performance (r=.475, p=.005, 2-tailed). Thus, the two variables share 22.6% of their variance in common. The correlation between lead time and performance was not statistically significant (r=.018, p=.919, 2-tailed). Similarly, the correlation between improvement of existing products and performance was not statistically significant (p=.073, p=.680, 2-tailed). Thus, new product development strategy was the only viable predictor of performance.

Table 4.7.1: Correlation matrix between variables under study

		Lead time	New product development strategy	Improvement of existing products	Performance
Lead time	Pearson Correlation	1	-.028	-.078	.018
	Sig. (2-tailed)		.877	.661	.919
	N	34	34	34	34
New product development	Pearson Correlation	-.028	1	.184	.475**
	Sig. (2-tailed)	.877		.298	.005
	N	34	34	34	34
Improvement of existing products	Pearson Correlation	-.078	.184	1	.073
	Sig. (2-tailed)	.661	.298		.680
	N	34	34	34	34
Performance	Pearson Correlation	.018	.475**	.073	1
	Sig. (2-tailed)	.919	.005	.680	
	N	34	34	34	34

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Survey data 2017

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

Study findings indicate that gender distribution of bakery managers in Kisumu city was equitable. They also had the right level of education and experience in the bakery industry.

Lead time in the bakery industry in Kisumu city was found to be generally appropriate. Similarly, the rate of new product development was encouraging. The same outcome prevailed in improvement of existing products as well as their performance. More specifically, the bakeries performance on keeping of deadlines, employee job satisfaction, profit margin and cost-effectiveness of marketing was positive. In addition, their customer base was adequate. However, bakery in Kisumu city tended to have a negative response of the time it took them between idea generation of a new product and its launch. They also held negative response regarding the rate of failure of their manufacturing equipment which they thought was rather high. The managers appeared to be convinced that their employee turnover was rather high.

In terms of relationships among variables under study, new product development was found to be the only variable significantly related to their performance. Lead time and improvement of existing products were not significantly related to their performance.

5.2 Conclusion

It is concluded that bakery new product development strategy in terms of lead time, new product development and improvement of existing products was appropriate. They also exhibited positive performance of their organizations.

5.3 Recommendations

Subsequent to the findings in the present study, it is recommended that bakery managers in Kisumu city should:

Reduce employee turnover by offering competitive remuneration to employees and improving their work environment.

Purchase and install modern and efficient manufacturing equipment to avoid frequent machine failure.

Strengthen new product development to enhance performance.

5.4 Limitation of the Study

The study was only conducted in Kisumu city bakeries while there are many other bakeries in the outcast of Kisumu city and Kenya as whole which were not covered in this study and therefore the responses obtained from managers of these bakeries may not reflect the overall opinion of all the managers employed within the bakeries Countrywide.

The intervening variable was also not considered in this study.

5.5 Suggestion for Further Research

Based on the foregoing conclusions on the findings of this study, the researcher suggests the following future research directions.

First, the study found higher rate of machine failure and employee turnover thus there is need to conduct further research to provide more conclusive evidence why there was higher rate of machine failure and employee turnover within the bakeries.

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR MANAGERS

S/N:……

RESEARCH ON "INFLUENCE OF NEW PRODUCT DEVELOPMENT STRATEGY ON PERFORMANCE OF BAKERIES IN KISUMU COUNTY, KENYA"

The bearer of this letter is a student pursuing Masters in Business Administration at Maseno University. He intends to carry out a study on influence of new product development strategy on performance of bakeries in Kisumu County.

Attached please find a questionnaire in relation to the above study which seeks to add value to the policy makers on coordinating performance of bakeries to ensure success. You are requested to take a few minutes of your busy schedule to complete this questionnaire. It is estimated to take 15-20 minutes. The researcher promises strict confidentiality concerning your responses and undertake to ensure that any information provided in this questionnaire is solely for the purpose of his MBA project in Maseno University. You are free to withdraw from the study at any time.

If you are willing to participate in the study, please sign below:

SIGNATURE	DATE

Yours Faithfully.

Department of Business Administration

Instructions: Please tick or fill in the appropriate space.

SECTION A: BACKGROUND INFORMATION

1. Gender of the respondent

a) Male [ ] (b) Female [ ]

2. Age bracket of respondent in years

a) Below 30 years [ ]

b) 30 – 40 years [ ]

c) Above 40 [ ]

3. Highest level of education attained by respondent

a) Certificate [ ]

b) Diploma [ ]

c) Degree [ ]

f) OTHERS (specify) _____

4. How long have you been in the bakery industry?

[ ] less than 1 year [ ] 1-3 years [ ] 4 and above

a) OTHERS (specify) _____

SECTION B: LEAD TIME

Below are statements referring to your bakery. Please place a tick [√] in the relevant column to indicate the extent to which you agree or disagree with each of these statements about your bakery by using a scale of 1 to 5 where 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree and 5=Strongly Agree.

Statements	Strongly disagree	disagree	neutral	agree	Strongly agree
	1	2	3	4	5
Our customers do get our products they order in time					
The time taken by our bakery to develop a new product is always short					
The time taken between idea generation of a new product and its launch by our bakery is normally long					
Customers do complain about the long time it takes us to deliver our products to them					
There are delays in product finalization in relation to the commencement point					

Any other comment:**.....**.....……

……

……

….

SECTION C: NEW PRODUCT DEVELOPMENT

Below are statements referring to your bakery. Please place a tick [√] in the relevant column to indicate the extent to which you agree or disagree with each of these statements about your bakery by using a scale of 1 to 5 where 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree and 5=Strongly Agree.

Statements	Strongly disagree	disagree	neutral	agree	Strongly agree
	1	2	3	4	5
1) New products are regularly introduced in our bakery					
2) We have ideas on new products to be developed					
3) We market new products that we develop					
4) We conduct continuous, systematic search for new product opportunities.					
5) We are committed to growth through new products developed internally.					
6) Our new products are normally of high quality.					
7) We dedicate adequate resources to our new products.					
8) We have a clear and well-communicated New Product Strategy for our bakery.					

9) After identifying potential new products, we weed out poor, unsuitable or unattractive ideas.					
10) We usually ask potential consumers to react to our new products before launching them into the market.					

SECTION D: IMPROVEMENT OF EXISTING PRODUCTS

Below are statements referring to your bakery. Please place a tick [√] in the relevant column to indicate the extent to which you agree or disagree with each of these statements about your bakery by using a scale of 1 to 5 where 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree and 5=Strongly Agree.

Statement	Strongly disagree	disagree	neutral	agree	Strongly agree
	1	2	3	4	5
The use of diversified ingredients is incorporated time to time during baking					
The baking procedures of the products undergo improvement from time to time					
The design of the existing products in the bakery is always being improved					
The introduction of new ideas into the existing products is always prompt					
There is higher demand of the existing products					

Any other comment on improvement of existing products:……**.....**

……

……

……

SECTION E: PERFORMANCE

Below are statements referring to your bakery. Please place a tick [√] in the relevant column to indicate the extent to which you agree or disagree with each of these statements about your bakery by using a scale of 1 to 5 where 1=Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree and 5=Strongly Agree.

Statement	Very low	low	medium	high	Very high
	1	2	3	4	5
Our profit margin has been?					
The extent of our marketing campaigns has been?					
Our customer base has been					
The cost of production is always kept?					
The satisfaction of our customers with our product has been?					
The number of defective products in our bakery is?					
The satisfaction of our employees with their jobs has been?					
Our rate of employment has been?					
The rate of failure of our manufacturing equipment has been?					
The extent to which we meet our deadline has been?					

Any other comment on new products that are being developed: ……

……

……

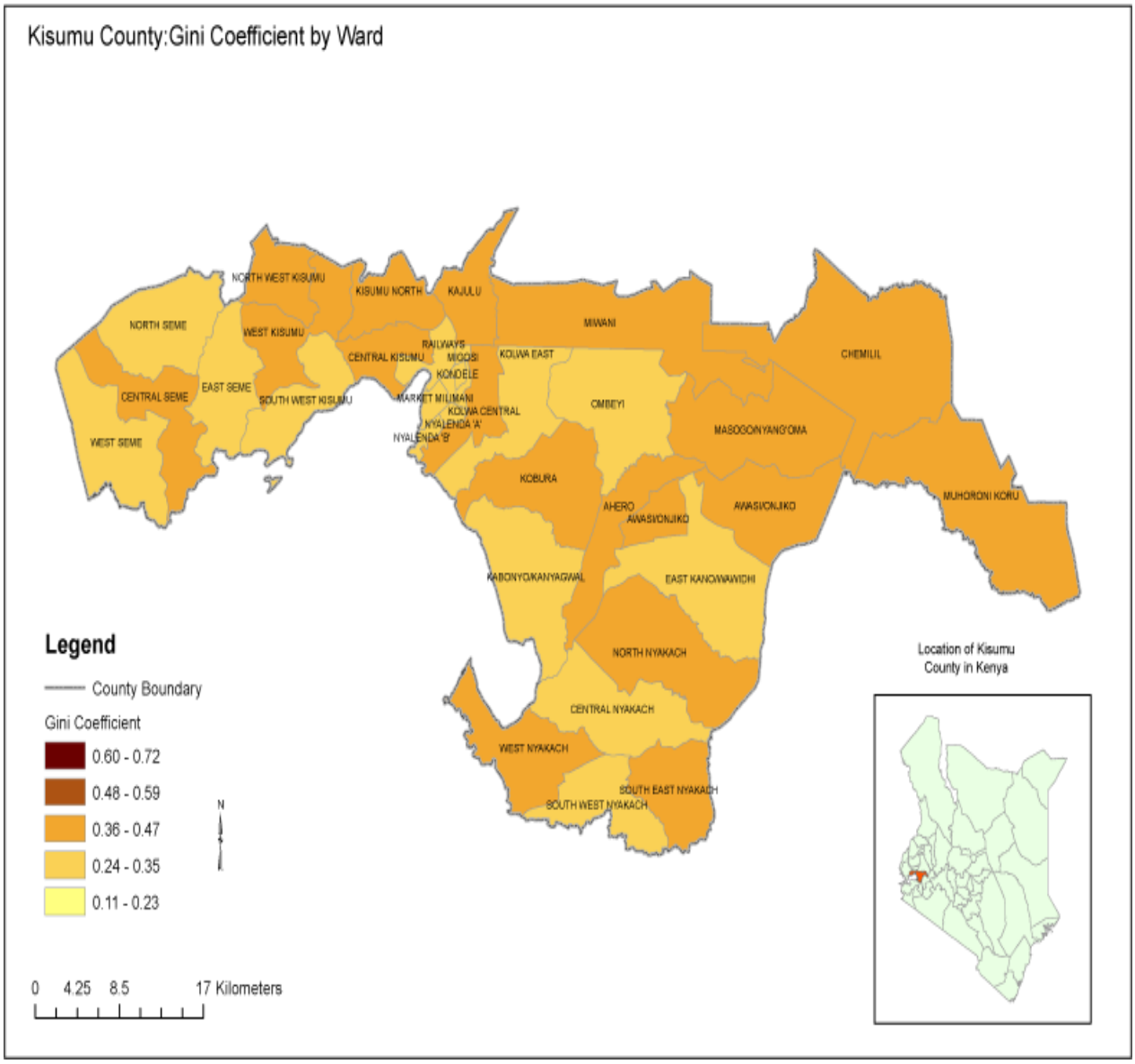
…

APPENDIX II: RESEARCH PLAN

Phased activity	February	May	August
Development of proposal			
Development and piloting instruments			
Data collection analysis and presentation			
Typing/editing/report writing and submission			

Source: Research data (2017)

APPENDIX III: MAP OF KISUMU COUNTY



Source: Kisumu county website; http://softkenya.com/county/kisumu/