

**FACTORS AFFECTING THE SUCCESS OF NEW PRODUCT DEVELOPMENT IN
THE MANUFACTURING SECTOR IN KENYA**

By

SIMON NDIHO

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted for award of a degree. I also declare that it contains no material written or published by other people except where due reference is made and author dully acknowledged.

Student name: **Simon K. Ndiho**

Reg. No. **KCA/15/0894**

Sign: _____ Date:

I do hereby confirm that I have read the master's dissertation of

Simon K. Ndiho

And have confirmed that all revisions that the dissertation panel and examiners recommended
have been adequately addressed.

Sign: _____ Date:

Dr. Edward Owino

Dissertation Supervisor

ABSTRACT

This study sought to establish the success of new product development in manufacturing sector in Kenya. The study was motivated by the continuous challenge affecting the sector in the wake of increased technology, shorter product life cycle and increased consumer demands with statistics indicating that 32% -40% of new product development do not take off. This was particularly true for Kenya whose manufacturing sector significantly affects the country's gross domestic product. New product innovations are critical in increasing firm's competitiveness and market share within the business environment. The objectives of the study was to examine the effects of strategic organizational orientation, marketing orientation as well as new product development process orientation on the success of new product. The study focused on manufacturing firms dealing with first moving consumer goods. Descriptive research design was used to accomplish the research objectives. The target population for the study was 103 manufacturing firms selected from fast moving consumer goods industry within Nairobi County. The study sample consisted of 309 respondents selected purposively from sales, marketing and production departments for all firms in the target population. A semi structured questionnaire was used to collect data from the respondents. Content analysis was used to examine the validity of the research instruments while Cronbach's alpha technique was used to test reliability. A multiple regression model was used to test the relationship between the study variables. Data was presented in tables and charts and interpretations made based on the research objectives. The study findings indicate that, leadership, financing, human capital and technology were strategic organizational orientation aspects shaping success of NPD. Promotions, marketing budgets, and adoption of market leader strategy affected success of NPD. Product Launch timelines, involving all departments and capitalization on first mover advantage NPD process affected success of NPD. A statistically significant and strong positive effect was found between new product development process and success of new products. The study recommended emphasis on organizational leadership, revenue allocation and promotions, setting up of new product development timelines and involvement of all departments, as suitable actions to be taken for successful NPD.

Keywords: New products, NPD process, Strategic organizational orientation, marketing orientation and NPD process orientation.

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DEDICATION

I dedicate this work to my dear wife Rose Wanjiku and my two lovely children, Collins Kiarie and Natasha Nyandia by standing with me through all my struggles with my studies.

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LIST OF ABBREVIATIONS AND ACRONYMS

APA	American Psychological Association
APQC	American productivity and Quality center
BAH Model	Booz, Allen & Hamilton model
BRICS	Brazil, India, china and South Africa

FFE	Fuzzy Front End
FMCG	Fast Moving Consumer Goods
GDP	Gross Domestic Product
KAM	Kenya Association of Manufacturers
KEBS	Kenya Bureau of Standards
MNC'S	Multi-National corporations
NEMA	National Environmental Management Authority
NPD	New product Development
PDMA	Product Development and Management Association
PWC	Price-Waterhouse Coopers
SACCO's	Savings and credit co-operative society
SME'S	Small & Medium enterprises
SPSS	Statistics program for Social sciences

TERMS AND DEFINITIONS

New Product Development: It's a set of activities and processes beginning with the perception of the market which is defined in size and opportunity and ending with the production, sales, distribution and delivery of the product. (Ulrich & Peppier 2004)

New Product Development Process: The complete process of bring a new product in the market for consumer use (Cooper, 2001).

Product: It is anything that an organization or individual offers be it physical, idea or service to customers or consumers for satisfaction of a specific need for a fee. It can be both tangible product like a car or book or intangible like teaching or legal services (Burnet, 2008).

Product Life cycle: The cycle or process through which every product goes through from introduction to withdrawal or eventual demise from the market (Whalley, 2010).

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

In the world today, businesses face numerous challenges ranging from rapid globalization, increased levels of international competition for similar or related products, rapid change in technology, shorter product life cycles and an increasingly demanding consumer whose needs are equally dynamic. These have pushed the companies to develop or adopt new survival tactics. New product Development (NPD) has been viewed by many businesses as a strategic survival strategy (PDMA, 2013) for many companies as they need to respond quickly to the emerging threats and changing business environment. According to Ebrahim, Ahmed and Taha (2010) NPD is seen as the survival option for many of these firms thus its importance to all businesses has increased significantly.

A research conducted by American Productivity and Quality Center (APQC) indicate that new products launched in less than 3 years accounted for 27.3% of total sales (PDMA,2013) signifying the important role that the NPD plays in companies' strategic development. New Product Development according to Grover and Malhotra (2008) improves sales revenues and uplifts the image of a company as a progressive future company. The New Products also grow the reputation of a company as a solution provider creating a trust in its brands through consumers. This helps firms to leverage in brand equity as more products are developed complimenting each other hence improving overall company financial position.

Many globally successful Multi-National Corporations (MNC'S) have adopted and integrated the NPD process as part of their organizational structure in-order to develop products which resonate

1.1.2 History of Manufacturing in Kenya

Kenya attained its independence in the 1960's, during which time, the manufacturing sector was agro- processing based and was at rudimentary level using minimal technology. However in the 1970's many international companies came in to set up manufacturing plants due to introduction of stringent manufacturing conditions in Western countries. In the 1980's there was a drastic decline of manufacturing industries due to economic sanctions, political environment, enhanced interest in Asian market and increased cost of production which made the country to rely mostly on importation. In the late 1990's there was a revival of the manufacturing sector, the government improved business climate to attract foreign manufacturing and it witnessed a steady growth in the sector (Kenya Ministry of Industrialization and Enterprise, 2015).

According to Kenya Ministry of Industrialization and Enterprise (2015), the manufacturing sector accounted for 11% of the total gross domestic product (GDP) in 2010. The manufacturing sector has averaged 7% growth annually in the last 4 years with exports representing 15% of the GDP while imports accounted 40% of the GDP. The sector is mainly dominated by small enterprises representing 95% of the total industries, while large and medium level industries account for 5%, representing 60% of contribution of manufacturing to the GDP (Kenya vision 2030, 2013).

The Kenyan government through a strategic initiative dubbed Vision 2030 has embarked on an ambitious plan to transform the economy to an industrialized one by the year 2030 (Kenya ministry of devolution and planning 2015). The manufacturing sector has been highlighted as one of the key pillars for growth. World Bank (2015) put Kenya's economic growth at 7.5% which is higher than many of African economic power houses like South Africa and Nigeria

which means the growth in the manufacturing sector will be enormous and a lot of interest to big companies due to opportunities arising from this growth.

1.2 Statement of the Problem

Kenya's manufacturing sector has continuously been faced with sustainability problems and competitive challenges in the wake of increased technology, shorter product life cycle and increased consumer demands. Statistics indicate that 32% -40% of new product development fail (Suwannaporn and Speece 2010). Competitiveness and market share. Whereas there have been extensive research in success and failure of NPD across the globe, there seems to be no improvement in success rates. Cooper (1999) states that no lessons seems to have been learnt from all the research in the field of NPD over the years as failure rates continue to increase. The question is what are the critical success factors of NPD? According to Berger (2006), the survival and long term sustainability of many of the manufacturers largely depends on successful new product development. A process responsible for significantly improving firm's financial position by 33% within the first year.

In emerging markets especially Brazil, India, China and South Africa (BRICS) a lot of research has been done especially with the emergence of these countries as economic power houses, some of the studies include; Krishnan and Prabhu (1999), Yahaya and Abu-Baker (2007), Chandra and Neelankavil (2008) have extensively researched on NPD in emerging Markets. However they have looked at factors affecting totality of the manufacturing sector failing to focus on specific sectors like consumer goods sector, electronics or food and beverages sectors. They also fail to elucidate factors determining success in growing markets concentrating only on a few success cases.

In Kenya several scholars have researched on NDP among them, Kipkosgei (2014), Odonyo, Wanza and Mumbua (2014), Awour and Ouya (2014). However despite extensive research the studies conducted focus has been on different fields such as energy, finance and Small and medium enterprises (SME'S). The research also failed to establish the factors which make NPD successful and pitfalls to be avoided in future by local manufacturer. From the aforementioned studies, it is notable that successful product development is a multifaceted aspect affected by various factors. While some researchers place emphasis on organizational structure, leadership of the project and support from top management, others place emphasis on consumers as critical components of product development process. Notably, strategic organizational orientation as probably important factor in influencing the success of new product development has not been conclusively discussed. Thus a gap exist in analyzing the critical success factors necessary to ensure NPD is successful in fast moving consumer goods(FMCG) manufacturing sector in Kenya. This study therefore sought to investigate the factors that influence the success of a new product development among FMCG manufacturers in Kenya.

1.3 Research objectives

The general objective of this study was to examine the factors affecting the success of new product development in the manufacturing sector in Kenya.

1.3.1 Specific Objectives

The study sought to accomplish the following specific objectives

- i. To determine the effect of organizational strategic orientation on the success of New Product Development.
- ii. To find out the influence of marketing practices on the success of New product Development

- iii. To determine the effect of New Product Development process on the success of NPD

1.4 Research Questions

The study sought to answer the following research questions,

- i. What is the effect of organizational strategic orientation affect the success of NPD in FMCG manufacturing in Kenya?
- ii. How does the Marketing orientation of the organization determine the success of NPD in FMCG manufacturing in Kenya?
- iii. Does NPD development process affect the success of new product in FMCG manufacturing in Kenya?

1.5 Significance of the study

The study has great importance to various stakeholders. The development and growth of the country is pegged in manufacturing as one of the key development pillars. Therefore, to business owners, workers, suppliers and stake holders the future or survival of any business depends on the ability to remain competitive and relevant. The business will only be able to gain competitive advantage through successful NPD. Hence this study has significant importance to donors, investors and the public as a whole as the economy is pegged on growth of manufacturing.

The study is very important to the government, due to creation of employment, source of revenue through taxes and improves balance of payment for the nation thus leading to overall economic development hence more funds for service provision.

The study is also important to financial institutions as they are critical sources of funds to firms and they would like to know how risky or sound their investment decisions are. Since most firms depend on credit for expansion and development, understanding the success in NPD,

would go a long way in helping financial institutions evaluate their financing decisions to manufacturing firms.

The study is of significance to business students and managers in firms who will have a better understanding of how to succeed and grow the bottom line of their companies. Finally the study will be of importance to the academia, since much of the research done in this field has concentrated in organizations from western world.

1.6 Scope of the study

Due to the large field of manufacturing sector ranging from chemical industries, textile industries to cement manufacturing, this study will only focus on NPD in fast moving consumer goods sector and specifically the food industry within the Nairobi County.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is concerned with the review of studies on factors that affect successful New Product development in the manufacturing sector in Kenya. The chapter reviews theoretical literature related to the key thematic areas of the study which include three Models of NPD; Evolution model, Traditional model and the Modern model. The empirical review is concerned with the discussion of the variables: strategic organizational orientation, Market orientation and NPD process orientation. The other sections covered here are knowledge gap which shows where there is deficiency or inadequacy in current studies, conceptual framework and the operationalization of variables.

2.2 Theoretical Framework

This section presents a review of three models which are Traditional approach, the Modern approach and the Evolution approach.

2.2.1 Traditional Approach

The traditional approach also widely referred to as linear model of NPD is based on early research work on NPD by various scholars including; Booz, Allen and Hamilton (1965), Kotler and Armstrong (1991), Urban and Hauser (1993) and Milutinovic (2014) who tried to develop a systematic linear progression checklist for a successful NPD that business managers in organizations would use or refer to while developing New products. Several models have been advanced by various scholars though all follow a linear approach. Booz, Allen and Hamilton (1965) developed what came to be known as the Booz, Allen and Hamilton – BAH model of

NPD. The model identified six stages or steps to be followed for a successful NPD. The BAH model started with exploration as stage one, which is gathering of ideas from many diverse sources, consumers, experts, employees, forums and others. The next stage is screening of the ideas by subjecting the ideas to different parameters like technology requirements, costs and benefits.

Once the ideas are screened they are moved to the next phase which is business analysis. In business analysis it includes financial analysis to determine the profits, breakeven points, capital requirements and prices. Marketing analysis is also done for both internal environment – shareholders, culture, human capital and organization and external environment - market size, growth potential and competition. The purpose of the business analysis is to create a business plan for the ideas been developed and determine their suitability and ease of manufacture. The next stage is development, where proto-types are made for testing in the market to determine if suitable for target consumers. These proto-types made during the development stage are moved to testing which is the next stage in BAH model.

Once the proto- types are improved as per organizations standard of acceptance, then they move to the next stage which is commercialization. The pro-type is then produced in mass production for consumption and selling in the trade. The BAH model lacked follow up in the market and the assumption was the product will definitely be accepted without any supporting activity in the commercialization stage. However product failure rates continued to rise even with wide use of this model. Many other scholars tried to improve the BAH model to reduce the failure rate. Many other versions of the model were introduced. Urban and Hauser (1993) identified five steps in NPD. This was opportunity identification, design of the product, testing, introduction and product life-cycle management. The introduction of product life cycle management was a move

from the BAH model and tried to correct some of the flaws in the BAH model. This stage was meant to control the longevity of the products within the different market stages for maximum returns to the organizations.

According to Kotler and Armstrong (1991) there are six stages of NPD. These were idea generation, idea screening, concept development and testing, market strategy and development, business analysis and product development. They introduced some new concept of market strategy and development to the BAH model. They were propagating the use of three A's- Availability, Affordability, Accessibility in NPD. They state that these three A's are important marketing tools critical in the success of NPD and their inclusion would greatly enhance the success of the products. However they also followed the linear approach as developed by the BAH model.

Cooper (1975) introduced a different approach to the NPD which was very different from the BAH model. His studies on failures of NPD even to organizations adhering to the BAH model led him to develop what is known as the Stage- Gate model of NPD, According to Cooper (1990) the stage-gate model was developed to ensure that the NPD process was pro-active other than reactive in nature like the BAH model. The stage- gate introduced two concepts which were integrated, stages and gates in the process. The model developed five stages to be followed. These were idea generation, business analysis, development, testing and validation and the product launch. The stages were similar to the BAH model but another dimension of gates was introduced. The gates are decision barriers introduced at each stage. They are meant to be decision barriers where the decision makers will decide whether to move ahead with the project or kill it. Cooper (1990) refers to them as Go/ Kill gates in management. This was meant to ensure the stages were followed and proper research was done to enable the process to go

through each stage. The model has been widely used in the manufacturing sector and updated versions of the models developed depending on the sector, the current version is NextGen stage model which is a computer based system of decision making without need for physical management involvement.

However many organizations still had many NPD failures even with use of these models, leading business managers running into huge losses. Other scholars Fuller (2005), Graf and Saguy (1991), Abbasi, Pouri and Hamidi (2015), in different manufacturing sectors developed models which complemented or combined the broad models BAH or Stage- Gate model but with no fundamental differences. The traditional approach is relevant to this study in providing a basis for understanding the product development process and how various factors can be contributing towards the success or failure of the process.

2.2.2 Modern Approach

This approach is also known as holistic approach or cross-functional approach. According to Yelkur and Herbig (1996) they identify six stages of the NPD process. These were idea generation and screening. In this stage like previous models ideas are sorted according to priorities and identified which are viable. The next stage is concept development and testing. The development of concepts deviates from the traditional approach. Focus groups are identified which are used as the benchmark for developing products. These could be people with an experience in specific field, target groups of the final products and knowledgeable people in future predictions on consumer patterns. A variety of concepts are selected and tested with the focus groups. In the next stage market strategy and business analysis are done. Like in the

traditional approach financial, internal and external environment and technology are tested for suitability.

The next step is Product development and market pre-test. While the previous marketing test was checking on viability and acceptance, these tests involve trying the actual pro-types in order to determine best performing or the most preferred. The next stage is Market strategy. Here the business organization will identify the advertising, promotion campaigns and packing style that they will use for the product to succeed in the market. The final stage is introduction of the product into the market or commercialization. However unlike in the traditional approach in commercialization it involves continuous development and analysis of the product as in the market. These improvements ensure the product remains relevant as it also enhances chances of success.

According to Milward and Lewis (2008) the modern approach improves the speed of the NPD process with product life cycles shortening. This is due to the fact that modern approach uses cross- functional teams in NPD. Work schedule is broken down into workable projects with each team made up of members from different departments within the organization, Marketing, sales, research and development, technical, production and finance. The teams work separately in their area of specialization meeting regularly for updates with the head of the project. Due to this the time taken for product development is reduced significantly. This co-operation also enhances team-work and project ownership (Kam and Wong 2012). Internal competition which could derail the product development is eliminated and hence the approach been referred as a holistic approach.

Cooper and Edgett (2010) concluded that the new approach enables identification of strategic arenas which the organization will compete in. Whereas this model does not fully guarantee success in NPD it improves the chances for success. The approach also shortens the NPD time to launch new products and introduces the element of product management after the commercialization to increase product life cycle and develop other variants of the same product as the external environment changes. The modern approach method is important in understanding various components of product development process from the traditional approach. It puts in the concept of identifying strategic arenas for organizational competitiveness.

2.2.3 Evolutionary Model

A different school of thought has evaluated NPD as an evolution with little or no control by the organizations other than reacting to the forces of nature. According to Dawkins (2006) evolution is a process which involves natural selection driven by survival instincts. For NPD it's the instinct to remain competitive and afloat or be swallowed by completion. Loch and Kavadias (2008) identify four steps / stages of NPD, selection process, transformation process, variation generation process and coordination process. They equate the Darwin evolution theory with the NPD process as it follows similar patterns. Sober and Wilson (1999) argue that generation of ideas and selection is a natural selection process where only the best or the strongest survive and are selected to the next level. Once selection of the ideas has been selected through natural orders for survival they are inherited by the organization. The assumption is that the inherited process is the best and will yield the most successful NPD. The final stage is coordination of the process to ensure that it flows smoothly.

However this model has been criticized by various scholars as academic and not application in actual manufacturing environment. Ulrich and Eppiger (2012) while criticizing this model argue that many factors some man-made may kill or affect the success of the product which varies from the natural selection theory. They highlight culture, regulations and evolving consumer tastes not been driven by nature rather by commerce and technology. According to PDMA (2012) symposium the evolution model is criticized as purely academic with no relevance to the actual business organization and can't be implemented in a manufacturing sector. The evolutionary model is important in this study as it facilitates an understanding of various contingency situations that an organization can be exposed to and how organizational managers can possibly react to these contingencies as they gravitate towards achievement of their organizational goals.

2.3 Empirical Studies

This section concentrates on the studies done in relation to the area of study, factors for successful development of new products in FMCG manufacturing sector in Kenya. In particular it has captured relevant studies done in relation to the three variables, Strategic organizational orientation, marketing orientation and new product development process orientation.

Many of the NPD products have failed despite huge financial resources invested. Suwannaporn and Speece (2010) cite the failure rates of new products as between 70-80%. Different scholars have attributed the critical success factors of NPD to a broad range of factors. Kahn et al. (2013) outline several factors to a successful NPD including: Product quality, product specifications to meet and exceed consumer needs and expectations. The product should be developed with global recognition in mind with unique features. He emphasizes the need for front end loading (FEL) which is market research for the size of the opportunity, trends and future growth. The speed of the process is a crucial element since the environment is highly dynamic thus the first movers

will always have a competitive advantage. The development structure or spiral development is another factor. Finally the execution of the launch plan or how well a firm introduces the product into the market determines how successful it will be.

Cooper (2008) attributes success of NPD process to organizational structure, leadership of the project and support of the top management, product quality and timings of the entry of the product to the market. Further he looks at market research for data good enough to guide the process. The success of the NPD will be determined by how well these factors are linked together. Dahan and Hauser (2001) maintain that customers and consumers are critical for NPD success. Technological adoption and supply chain are important determinants of success. Finally competitors are critical in how successful an NPD will be.

2.3.1 Strategic Organizational Orientation and Successful development of new products

According to Sivadas and Dwyer (2002) nearly half of all the new products introduced by companies fail. The consequences of such failures are catastrophic, due to the fact that NPD process is a capital intensive project and failures could lead companies to bankruptcy. In 1989 R.J Reynolds lost \$ 500 Million while trying to develop a cigarette with no health hazards but retaining same smoking pleasure (Sivadas and Dwyer 2002). This demonstrates the high costs involved in NPD and why organizations put a lot of emphasis on its success.

Strategic organizational orientation factors are the circumstances within the internal environment of a company which affect the successful development of new products. According to Graner and Behr (2013) they identify the top management of the organization as one of the strategic organizational factors affecting the success of NPD. The top management support will affect the resources allocation, both financial resources and human capital (Calantone, Schmidt and Song

1996). The top management could also frustrate the project by designating workers from other departments on very limited time or designating the poor staff not competent. Research studies by Kandemir, Calatone and Garcia (2006) identify top management support as one of the most important factor in enabling successful NPD. They say management may put unrealistic targets and objectives just to scuttle the process.

The organizational culture is another factor which determines the successfulness of NPD. Nakala and Sivakumar (1996) define power distance, masculinity and uncertainty avoidance as some of the cultural aspects within an organization that affect NPD. In organizations where power distance is wide innovation was found to be almost non- existence as compared to where the gap was very narrow of any power distance (Nakala and Sivakumar, 1996). In firms where there was discrimination in gender a higher failure rates in NPD was observed as compared to the organizations where people were selected based on ability. Some organizations never venture into NPD due to fear of the unknown wishing to stick to known, proven and tested products. According to Cooper, Edgett and Kleinschmidt (2004) organizational culture are the values and norms within the organization which guide employees on what to do and how to do it. Some firms have developed systems to encourage employees to venture and work outside the box. This develops creativity within an organization leading to better success in NPD. Hence organizational culture is an important factor determining success of NPD.

Technology adaption within an organization is critical to success of NPD. According to Connel, Edgar, Olex, Scholl and Tietjen (2001), Zirger and Maidique (1990) technology determine what projects an organization can venture into. The use of modern technology in manufacturing not only enhances product quality and efficiency, it also improves consumer loyalty. Barton (1992) emphasizes that technological improvements play an important role in determining how

successful a new product will be. Technology allows for diversification, production of quality product and value addition to a product all leading to increase success in new product.

The human capital within an organization is also a key determinant of how successful NPD will be. Decisions, coordination, guidance and control processes are all driven by human resources. According to Barton (1992) employee knowledge and skills are important for any successful implementation of NPD. Organizations with highly trained employees seemed to have a higher success rate in new product development than where skills were lacking or no training offered. The workers retention within an organization also improved NPD as there was a continuous process and knowledge or skills transfer among the employees within the firm. In a study done by Ittner and Lareker (1997) when comparing USA and Japanese industries they identify skills upgrade and knowledge management within the organization as difference between success and failure in NPD. Hence companies with training and development excelled in new product development.

Financial capability of the firm is another key determinant in success of the NPD process. According to Connel et.al (2001) one of the most influential internal factors within an organization that determines the successfulness of NPD is financial resource allocation. Research and development is very expensive and the commitment of the organization to support these projects will determine the success or failure of the whole process. Companies which gave huge resources for NPD were more successful in developing new products (Connel et. al 2001).

Communication and flow of information within the organization and how this flow is coordinated is another factor affecting the success of NPD. Based on research by Sivadas and Dwyer (2000) communication, trust and co-ordination of activities within the organization

determined the success of NPD. Communication in the organization should be enhanced through formal channels like emails and letters and informally through group discussions as they helped to forge cooperation and remove mistrust which ensured everyone was geared towards same objective. This in return ensures a successful NPD process. The study therefore proposed the following hypothesis;

H₀₁: Strategic organizational orientation has no significant effect on successful NPD.

2.3.2 Marketing Orientation and Successful Development of New Products

The four P's of marketing – Product, promotion, price and placement are very important factors that determine success of NPD. Marketing plays an important part in product development as it is the link between consumers and producer of goods and services. According to Lantos, Brady and McCaskey (2009) the product itself should be able to meet both consumer needs and expectations if it wants to succeed. They emphasize that a lot of effort must be put in determining what consumer needs are in a product. Product features have to be turned into benefits to the consumer for them to demand a product. Calantone, Schmidt and Song (1996) in a research study in USA and China identify product Quality as the single most important factor in determining how successful the new product will be. They further demonstrate the importance of the product quality in both developed and developing countries and its implication in the success of the NPD.

Product promotion has an immense influence on the success of NPD. The commercial launch plan of the product, advertising and trade offers are important in ensuring success. According to Pitta and Pitta (2012) the proficiency of marketing activities and assessment of the marketing environment are key to the success of NPD. The commercial plans of advertising to create

consumer awareness , target group engagements like sampling, competition and trade offers like buy one get one free all improve the success of new product. These promotional activities should be keenly followed as they are important factors on how successful a firm will be in winning in the market.

Competition is a critical factor to success of NPD. Marketing environment analysis should be conducted to ensure a firm does not venture into a market which is dominated by a single or two dominant competitors who are very strong as chances of success will be minimal. Cooper (1979) state that organizations should look for market gaps or opportunities to avoid a major competitor as direct confrontation will hinder success. Kessler and Chakrabarti (1996) when looking at competition introduce the concept of first mover advantage. The organization should aim to produce a new product as the pioneers. They enjoy a monopoly for a limited period until other manufacturers copy the same concept. However Cooper (1975) and Kline and Duhovnik (2011) criticized first mover advantage concept especially where the product is new to the world as consumers may be slow to adopt and the organization may actually set the stage for the future entrants to dominate. A good example locally is the Telecom industry in Kenya where Kencel Telecom were the first in the industry but the uptake of mobile communication was low due to Kenyans not been sure about mobile technology. When Safaricom entered the market they quickly took leadership as the population was now ready for mobile technology (Njuguna, 2012)

Another Key determinant of the success of NPD in manufacturing sector is price. In many emerging markets the perceived value of the product is a critical factor influencing decision to purchase a product or not. According to Kotler and Keller (2009) price is the key factor on success of a product. They highlight price strategy as a competitive advantage and entry strategy

for new products developed into the market. Therefore there has to be a balance between price and quality of the product to enable the product succeed.

Customer needs and demands is another factor that determines success. According to Weitz and Wensley (2002) customer needs are determined by the process of Fuzzy Front End – FFE analysis. They define FFE as the process in which an organization identifies opportunities, consumer trends and consumption patterns of the consumers before a product is developed. The research leads to concept development which determines the product to be developed. Ulrich and Eppinger (2004) concur that consumer research enhances success chances as needs are identified and product developed to meet these needs. The market orientation can be summarized using the marketing philosophy which includes, production concept, product concept, selling concept, marketing concept and societal concept. On this study we focus of marketing concept whose philosophy holds that achieving organizational goals depends on knowing the needs and wants of target market and delivering the desired satisfactions better than competitors do. The marketing concept takes the consumer demands as the basis for development (Kotler & Keller 2013). Thus Consumer needs and demands are important factors in successful NPD in manufacturing sector. The study therefore proposes the hypothesis below;

H₀₂: Marketing orientation has no significant effect on the success of NPD.

2.3.3 New Product Development Process Orientation and Successful development of new products

According to Datar, Jordan, Kekre, Rajiva and Srinivasan (1997) the speed to the market of the new product determines the success of the new product. The speed is defined as the time taken from conception of an idea to commercialization of the product. The longer the period especially in the FMCG sector the higher the rate of failure. Optimal speed for development is critical for

the success of the product (Souza, Bayas and Wagner 2004). Whereas the product lifecycles have become shorter the process of NPD must increase the speed at which new products are developed to ensure they remain relevant and there is a constant flow of new products. This will ensure a higher success rate of the new product.

Another key determinant of the NPD process is the team involved. Many researchers advocate for cross –functional teams. Cross-functional teams is defined as members of the NPD team drawn from various departments within the organization. According to Ittner and Lareker (1997) cross-functional development teams is the backbone to successful development of new products in manufacturing firms. The teams will comprise of members from sales, marketing, finance, engineering, production and any other relevant department. All individual members work in groups each handling their part of the project yet developing the product concurrently thus reducing the time taken to commercialize the product. In a case study done on Proctor and Gamble – (P& G) a leading multinational in consumer goods by Cooper and Mills (2005) they identify cross-functional team as the key to success of many of the products developed by P&G.

Another factor associated with NPD process is the time of the launch of the product. The timing or season at which a product is launched determines also how successful the product will be (Cooper & Edgett 2002). Timing refers to the time or season that a product is commercialized or introduced to the market. For example if a company has to launch gumboots the timing should be just before the onset of rains. Hence the time that a product is launched will have effect on the success of the product. The hypothesis below was therefore proposed;

Ho3: New Product Development process has no significant effect on NPD.

2.3.3 Environmental factors and success of New product development

Various environmental factors are said to affect the success of new product development. These can be factors within the firm or outside the firm. Among these they include governments' policies, laws and regulations and trade barriers.

Government's role in new product development is critical to product success. Endorsement by the government can lead to easy funding, marketing and public acceptance of a product to the general public. On the other side, when not in line with government policies and regulations, new product development can remain high risk. To make the former, possible product developers have to ensure their objectives and processes are in tandem with government interests. For instance in bringing forth a new product, Saxena(2005), illustrates how the government influences new product development.

Trade barriers and regulations are designed to protect production but in reality have had more negative effects on product development. More specifically, they have tied them down local market with little development opportunities in international markets hampering competition which increases product development. Unfriendly trade barriers are specific to each scenario and limit the opportunities and maintain the status quo. This in return negatively affects the process of new product development (Gruber 2014).

Manufacturing firms have to adhere to regulatory bodies within their areas of operation. For example in Kenya they need to comply with National Environmental Management Authority (NEMA) which governs disposal and what kind of raw materials to use. The affiliation of governments to various economic bodies also influence the success of new product development. According to Haji and Azaze (2005) performance of new products was found to

relate with certification of environmental factors, as well as promotion, distribution and design strategy.

2.4 Knowledge Gap

Research in the field of success factors in NPD has been done extensively by scholars including; Cooper (1990), Cooper and Edgett (2010), Urban and Hauser (2012), PDMA (2012) are some of the studies that have been done in developed countries, Europe, Japan and North America. The assumption has been that this research can be duplicated in emerging markets but due to the market not being homogeneous this has not succeeded. Recently studies have been done in emerging markets especially in India, China, Malaysia and Korea, Yahaya and Abu-Baker (2007), Wong and Tong (2012), Song, Montoya-Weiss and Schmidt (1997), Gang and Tan (2007). The interest has been driven by the need for MNC'S to understand these markets as they expand their operations to these markets. Some have failed in some of their ventures into different countries and understanding local challenges has been the driving force in the studies done.

In Africa studies have been done in NPD. Nyaudi (2011) researched on successful factors in new product development; however his approach was a generalized approach to all manufacturing sector which developed a gap as all industrial sectors are different and cannot be applied in all sectors of manufacturing. In Kenya Odonyo, Wanza and Donatta (2014) researched on the challenges of new products in the Rift valley. They concentrated on the cold drink business with a case study on coca cola – Rift valley Bottlers. Kipkosgei and Njeru (2014) researched on new product development in Saccos within Kenya, while Awour and Ouya (2014) research centered

on the factors for successful NPD in the energy sector within Kenya with emphasis to solar products.

A conceptual gap therefore exists regarding the critical factors for successful NPD in FMCG manufacturing sector in Kenya with special emphasis within Nairobi County. This study sought to determine the factors that affect NPD in manufacturing sector which will be of interest to business owners, government, employees and financial institutions. The study will form a reference for local companies to develop capabilities for NPD to enable them compete effectively with MNCs.

2.5 Conceptual Framework

A conceptual framework is a tool a researcher use to guide their inquiry, it is a set of ideas used to structure the research and it offers a roadmap for the research (Kothari 2004). Thus it is the researcher's own point on the problem and direction of the research. As shown in Figure 1, the independent variables include strategic organizational orientation, marketing orientation and NPD process orientation. The moderating variable is environmental factors.

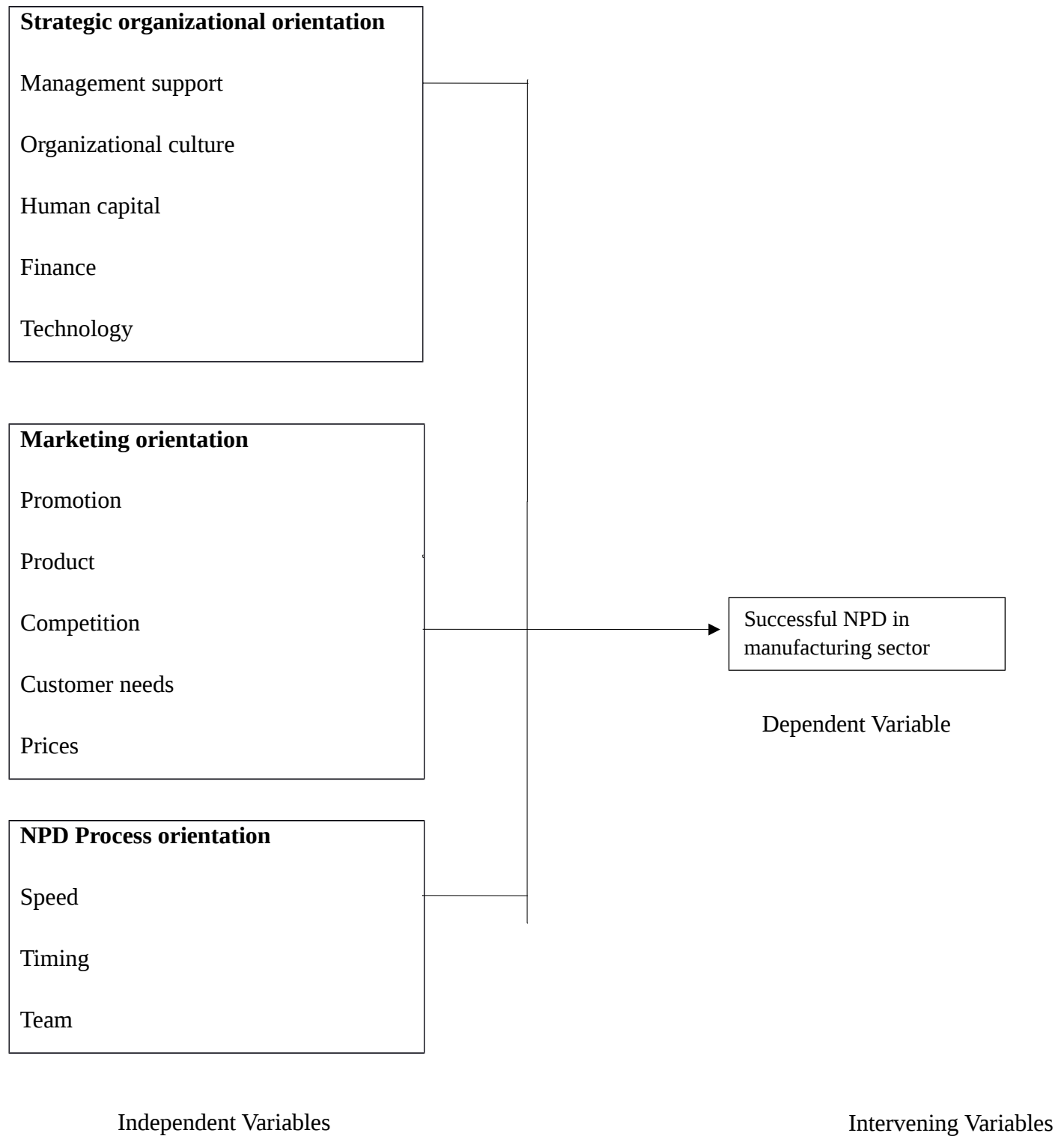


Figure 2. 1 : Conceptual Framework

2.6 Operationalization of Variables

Table 2. 1: Operationalization of Variables

Objective	Variable	Indicator	Measurement
To determine the effect of strategic organizational orientation on successful NPD in manufacturing sector in Kenya	Strategic organizational orientation	Management	Ordinal scale / Interval
		Financial support	
		Organizational culture	
		Human capital	
To establish the effect of marketing orientation on successful NPD in manufacturing sector Kenya	Marketing orientation	Promotion	Ordinal scale / Interval
		Product	
		Competition	
		Customer needs	
To determine the effect of NPD process orientation on successful NPD in manufacturing sector in Kenya	NPD process orientation	Speed	Ordinal scale / Interval
		Timings	
		Cross-functions	

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the researcher describes the method used and how the study was conducted. The Chapter contains research design, the target population, sampling techniques, the research instruments, the data collection methods and data analysis techniques.

3.2 Research Design

Research design is the manner in which data is collected, measured and analyzed to achieve certain research objectives (Cooper & Schindler, 2006). Research design is the outline, plan or scheme that is used to generate answers to the research objectives (Orodho, 2005). This study used descriptive research design to investigate factors that affect successful development of new products in FMCG manufacturing sector in Kenya. This technique of research was suitable for this study as it facilitated addressing of different factors that affect new product development, it facilitated gathering of bulk information which can be analyzed and would describe attitudes towards an issue (Kumar, 2011). The method enabled the researcher to collect data which described the state of affairs as they exist at present. According to Pandey and Pandey (2015) descriptive research is a systematic data gathering using individual contacts or interviews and questionnaires, hence it was preferred because it allowed for quantitative analysis of data.

3.3 The Target Population

Target population is the collection of elements that contain the information sought by the researcher (Orodho, 2005). The population of interest in this study was all duly registered FMCG manufacturing industries in Nairobi County. According to Kenya Association of Manufacturers (KAM) register, there are 601 registered manufacturers in Nairobi County. However in this study only 103 manufacturers in FMCG sector were considered. The target population was narrowed to FMCG manufacturers due to nature of their products. FMCG products have a shorter product life-cycle thus high rate of new product development. According to PriceWaterhouseCoopers-PWC (2013), FMCG products are rapidly changing due to consumer evolving preferences, competition, demand for new functionality in products and homogeneity of products, hence the need to change. This has led this sector of manufacturers to get involved in NPD more than the other sectors and hence the decision by the researcher to select the sector.

3.4 Sample and Sampling Procedures

A sampling technique shows the classification of the different ways of choosing a sample. The study used census technique to cover all FMCG manufacturing industries in Nairobi from the list provided by KAM. The census method refers to a complete study of the total population. This method was used due to the few number of firms examined in the study. The study sampled 3 respondents; a representative from sales department, marketing department and production department from all the 103 listed FMCG industries by KAM. The respondents were purposely selected due to their direct involvement in new product development process in their respective industries. According to Mugenda and Mugenda (2003) a sample size of between 10 and 30% present a good representation of the target population. Out of the 103 manufacturers in FMCG

sector within the Nairobi County a final sample size of 309 was drawn. A list provided by KAM is attached Appendix III.

3.5 Instrumentation

The study used a semi structured questionnaire as the instrument of data collection. A cover letter (Appendix I) was attached to the questionnaire to introduce the researcher and provide the respondents with information on the study. The questionnaire (Appendix II) comprised of both closed ended and open ended questions constructed to cover the three research objectives. The instrument was divided into four sections; section one enquired about general information about the respondents and the background, Section two collected data on strategic organizational orientation, while section three collected data on marketing orientation and section four collected data on NPD process. A five point Likert scales was adopted on the questionnaire and coded as follows; Strongly Disagree-1; Disagree-2; Neutral-3; Agree-4 and Strongly Agree-5. The output of each respondent's questionnaire was keyed into SPSS version 22, in preparation for data analysis and cleaning. In the questionnaire space was provided for the respondent to give explanation where relevant hence freedom of expression of their feelings.

Data collection methods refer to the approach that the researcher takes while collecting data in relation to the study. According to Mugenda and Mugenda (2003) there two types of data to be collected, primary data and secondary data. Secondary data was collected through reviewing credible sources within the related information on the study. The researcher reviewed books, journals, case studies and electronic sources of information like internet that have information related to factors affecting successful development of NPD in manufacturing sector in Kenya. The researcher ensured that the sources used were from reputable and credible authors to ensure that the findings presented in the study were reliable.

The researcher used primary data collection method in the study. The primary data was collected using questionnaires. The questionnaire was self-administered to the three respondents representing production, sales and marketing departments in all the FMCG manufacturers in Nairobi County. The respondents were requested to take ten minutes to answer the questions after which the questionnaires were collected and tallied to ensure all questionnaires are returned. This method of data collection was meant to increase response rate, provide confidentiality, allow for quantitative analysis, enable large data collection and enhance the control of data collection process by the researcher.

3.6 Reliability and Validity

The reliability and validity of the research instruments was carried out to ensure authenticity of information gathered. While reliability tested the consistency of the results provided, validity was used to measure whether the instrument measured what it purported to measure. The questionnaire was pilot tested to check for its validity. The validity test shows the extent to which a measure or a set of measures correctly represents the concept of the study. According to Fairchild (2002), face validity is a non-statistical assessment of whether or not a test appears to be valid. The face validity test was undertaken by administering the questionnaire to 4 experts (Product development experts, university scholars, sales practioners and Marketing practioners).

The feedback received was used to remove vague questions, double barreled questions and to improve the questionnaire. The data collected using the questionnaire was subjected to a reliability test. Reliability is the measure of degree to which research instruments yields consistent results or data after repeated trials (Fairchild, 2002).According to Mugenda and Mugenda (2003) data with reliability coefficient of 0.80 or more implies a high degree of

reliability. Field (2005) observes that a Cronbach's $\alpha > 0.7$ implies the instrument provides a relatively good measurement tool hence reliable. The instrument in Appendix II was subjected to Cronbach's alpha test and the 35 items resulted in an alpha value 0.946 which was considered reliable.

3.7 Data Analysis Technique

Data collected through questionnaires was first cleaned and edited. Statistical Package for Social sciences (SPSS) version 22 was used to analyze the data for this survey. The data was coded and keyed into SPSS program for analysis. Both qualitative and quantitative techniques were used to analyze data. Under qualitative analysis, responses from open ended questions were summarized into common themes based on the study objectives and inferences drawn from these themes. Under quantitative analysis the data, was summarized into numerical values to form both descriptive and inferential statistics. These included; frequencies, percentages and means, standard deviation as well as correlations, F statistics, and R Squared values from the regression analysis. In order to examine the strength and relationship between the study variables, a multiple regression model of the form below was used.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mathcal{E}$$

Where Y = successful NPD

X_1 = Strategic organizational orientation

X_2 = Marketing orientation

X_3 = NPD process orientation

$\mathcal{E}$ = Error term

(β_0 , β_1 , β_2 , β_3) are regression coefficients of strategic organizational orientation, marketing orientation, and new product development respectively.

3.8 Ethical Considerations

In the process of conducting the study, there are various ethical considerations that were factored in by the researcher. These are elements that may undermine the reliability and credibility of the research. The first element considered was originality of the data collected. For secondary data, the researcher ensured that the findings and conclusions of different authors were correctly cited and referenced accordingly using APA referencing system. This eliminated any plagiarism which is a major academic offence. These helped the researcher with originality of study and ensure views of other scholars are separated from those of the researcher in the study. It also allowed for effective understanding of the independent and critical view that the researcher has on the issues generated. While conducting the primary data collection, the researcher ensured that research ethics are observed. During data collection the researcher ensured that participants were conversant with the study intention. Informed consent was sought from each individual who agreed to take part in the study. Participation was voluntary where participant's rights were observed and respected. Names of the participants were not used and information given by the respondent was treated with confidentiality and only used for accomplishing academic goals intended for the study.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter provides a discussion on the factors affecting the success of new product development in the manufacturing sector in Kenya. The chapter is sectioned into background information of the study findings that includes the reliability test results, study response rate and background information about the respondents.

4.2 Background Information

The background information captures reliability test results, the study response rate and as well as individual and organizational profile of the study participants.

4.2.1 Reliability Test

Before actual data collection, the reliability of the data collection tools was tested using Cronbach's alpha technique. A threshold of reliability coefficient of 0.7 was used to decide whether or not the questionnaire was reliable. The findings on reliability test are indicate on table 4.1 below

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.946	.937	35

Table 4. 1: Overall Reliability for Data Collection Tool

Based on the reliability results on table 4.1. The Cronbach's alpha value for the 35 items in the questionnaire was 0.946. This was judged as high above the required threshold and thus, the questionnaire items considered reliable and adequate enough for data collection.

4.2.2 Response Rate

The study had picked 309 participants to respond to questionnaire items. Out of these participants, 270 responded to the questionnaire items while 39 did not respond. This provided a response rate of 87.37% as shown in figure 4.1.

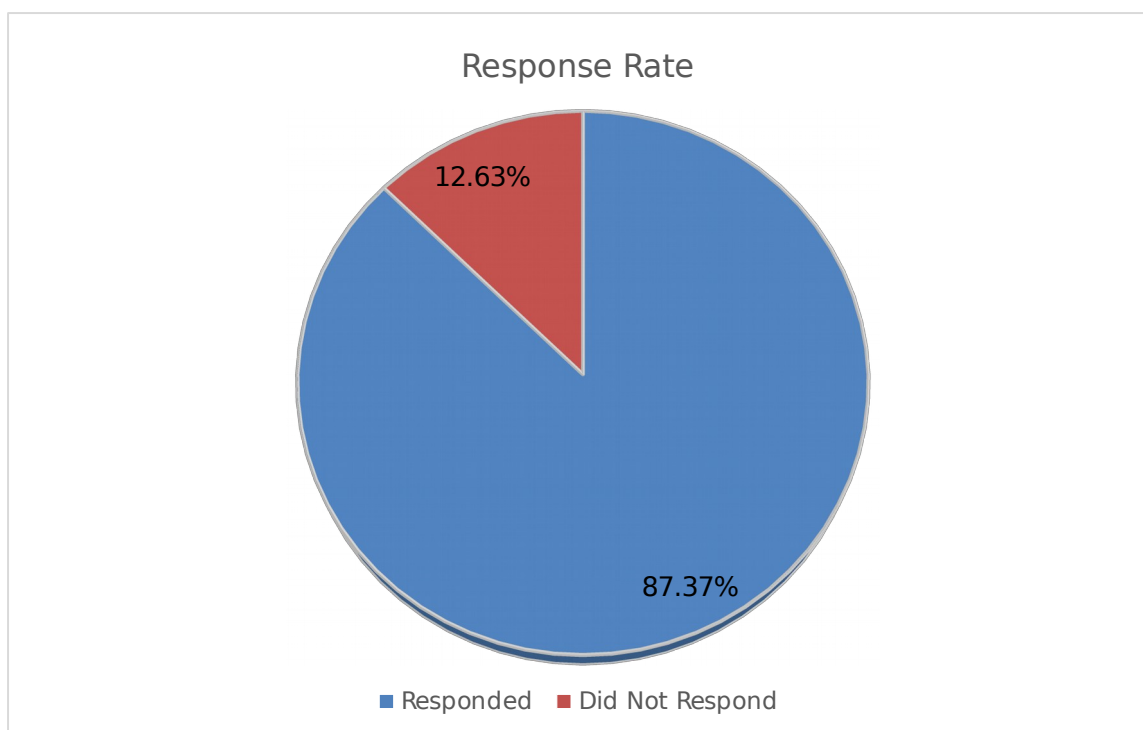


Figure 4. 1: Response Rate

The response rate for the study was 87.37%. Based on Mugenda (2009), a response rate beyond 50% is considered adequate for data analysis and reporting in social sciences report. This response was therefore considered as very good for analysis in the current study.

4.2.3 Profile of Organizations Studied

The profile of organizations studied provided information on nature of products manufactured, ownership and firm's years of operation. The findings are provided on table 4.2.

Table 4. 2: Organizational Profiles of Firms Studied

Profile category		Frequency	Percentage%
Nature of products manufactured	Foods and drinks	123	45.6%
	Confectionary	64	23.7%
	Personal care	78	28.9%
	Others	5	1.9%
	Total	270	100.0%
Ownership	Local	62	23.0%
	International	150	55.5%
	Private	28	10.4%
	Public	30	11.1%
	Total	270	100.0%
Years in operation	0-5yrs	8	3.0%
	6-10 Yrs.	81	30.0%
	11-20 Yrs.	120	44.4%
	Over 20 Yrs.	61	22.6%
	Total	270	100.0%

Within the category of the nature of manufactured goods, the study findings indicated that majority (45.6%) of the companies in the study were for food and drinks, while 28.9% and 23.7% respectively dealt with personal care and confectionary. Other companies that participated in the study representing (1.9%) of the study participants dealt with goods such as packaging materials, branding and writing materials.

Majority of companies represented in the study were international companies whose proportion was 55.5%, local 23% while 10.4% were private companies and 11.1% of the companies represented in the study were public listed companies. On average, companies represented in the study would either be local or internationally owned. This meant that there are likely implications on the success of new products depending on whether it is a local or an

internationally owned company. An examination of years of years of operation for various companies indicated in the study showed that majority of the companies (44.4%) had been in operation for a period between 11-20 years, while 30% had operated for a period between 6-10 years. 3% and 22.6% of the companies examined in the study had operated for a period between 0-5 years and over 20 years respectively. A mean of 3 indicated that on average, most companies had operated between 6-10 years and 11-20 years by the time the study was carried out.

4.2.4 Profile of the Study Participants

The profile of the respondents sought to establish the gender, age bracket, academic qualifications, department and period of work at respective organizations. The findings of the study are presented on table 4.3. According to the findings, the study participants were 49.3% male against 50.7% female. This would be an indicator that there was equal gender distribution in firms examined. It also showed that there was consideration in gender equality even in the formation of employee components by the firms examined.

The age bracket for the study participants ranged from 18 to over 45 years. Respondents between 25- 34 years formed a major component of the study by 50% while other age brackets included; 18-24 years 20%, 35-45 years 19.3% and over 45 years 10.7%. From these findings, it can be noted that most of the companies have a young population of employees at their most productive stage. This based on the study objectives can be a point of consideration for organizational management in choosing new product development strategies.

Table 4. 3: Individual Profile of Study Participants

Respondents profile category		Frequency	Percentage %
Gender	Male	133	49.3%
	Female	137	50.7%
	Total	270	100.0%
Age bracket	18-24 yrs.	54	20.0%
	25-34 yrs.	135	50.0%
	35-45 yrs.	52	19.3%
	Over 45 yrs.	29	10.7%
	Total	270	100.0%
Academic qualification	Certificate/ Diploma	92	34.1%
	Bachelor's	116	43.0%
	Masters	62	23.0%
	PHD	0	0.0%
	Total	270	100.0%
Years worked in organization	Marketing	60	22.2%
	Sales	86	31.9%
	Production	65	24.1%
	Research and development	59	21.9%
	Total	270	100.0%
	0-5 Yrs.	25	9.3%
	6-10 Yrs.	136	50.4%
	11-20 Yrs.	71	26.3%
	Over 20 Yrs.	38	14.1%
Total		270	100.0%

From Table 4.3 on academic qualification, majority of the study participants (43%) had bachelor's degree, while 34.1% had certificates and diplomas, while 23% had masters' degree level of education. None of the respondents interviewed had a PhD. as the highest level of academic qualifications. Respondents interviewed represented various departments for their organizations. Majority (31.9%) were from sales department, while 22.2% from marketing department, 24.1% from production department and 21.9% were from research and development departments.

On the years worked in the organization, respondents had experience spanning from 0-5 years up to over 20 years. Majority of respondent had worked for their respective organizations for a period between 6-10 years. This indicated that they were well versed with the experience about new product development in their companies and how it affected their success.

4.3 Factors Affecting the Success of New Product Development

The study examined various factors affecting the success of new product development through questionnaire items on strategic organizational orientation, marketing orientation and new product development process. In order to rank the factors principle component analysis was carried out using factor analysis method. Various coefficients were obtained from the factor analysis as shown in table 4.4

Table 4.4; factor analysis of NPD success factors

Component Matrix^a	
	Component 1
Strategic organizational orientation	.653
Marketing orientation	.938
NPD process	.904
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Based on the factor coefficient on table 4.4 marketing orientation has the highest coefficient of 0.938 followed by NPD process with a coefficient of 0.904 and strategic organizational orientation with a coefficient of 0.653. All coefficients from factors examined are positively strong indicating the importance of the variables in determining success of new product development.

On the questionnaire items, respondents were asked to indicate their extent of agreement with various statements on the factors examined, using questions of Linkert scale form : 1- Strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree and 5- Strongly Agree. The findings were as provided in the following subsections.

4.3.1 Strategic Organizational Orientation

Table 4. 4: Strategic Organizational Orientation and Success of New Product Development

Statement on organizational strategic orientation	1 -SD		2-D		3-N		4-A		5-SA		Total		Mean	STD
	F	%	F	%	F	%	F	%	F	%	F	%		
There is unlimited financing in new product development	29	10.7	167	61.9	10	3.7	64	23.7	0.0	0.0	270	100	2.4	0.97
We have a budget of more than 20% annual gross revenue	11	4.1	165	61.1	23	8.5	61	22.6	10	3.7	270	100	2.6	0.99
Top Management decide the product to launch	27	10	56	20.7	63	23.3	115	42.6	9	3.3	270	100	3.09	1.07
There is a person in charge of new product development	28	10	53	19.8	12	4.5	134	50	41	15.3	268	100	3.4	1.25
New product development team has authority to launch what is important	28	10.4	74	27.4	25	9.3	112	50.4	39	14.4	270	100	3.4	1.2
Most of the equipment's are less than 2years	20	7.4	74	27.4	25	9.3	112	41.5	39	14.4	270	100	2.3	1.2
Emails are used to communicate during new product development	50	18.5	35	13.3	17	6.3	141	52.2	27	10	270	100	3.2	1.32
New product development team member has left in the last 2 years	12	4.4	83	30.7	8	3.0	132	48.9	35	13	270	100	3.4	1.17

Based on the study findings on table 4.4 financing of new product development seem to be a challenge as indicated by respondents. Asked if their firms has unlimited financing during new product development, majority (61.9%) disagreed, with only 23.7% indicating that there is sufficient financing for their new product. A mean of 2.4 with a STD deviation of 0.97 shows that majority of the respondents would disagree on the statement.

Budget allocation is considered critical in enhancing the success of new product development. Based on the study findings, most of the firms do not allocate budget of more than 20% of gross revenue on new product development. On the assertion that we have more than 20% annual gross revenue, 61.1%, majority of the respondents disagreed with the assertion while 22.6% agreed. 8.5% of the respondents were neutral on the assertion, with a few (4.1%) and (3.7%), indicating strong disagreement and strong agreement. A mean of 2.6 with a STD deviation of 0.99 was obtained; indicating that respondent's majority of respondents would disagree with the assertion. This could be an indicator that most firms do not have sufficient budget allocation for new product development. Situation that could derail the success process.

Top management involvement is critical in enhancing the success of new products. In the assertion that "top management decide on the product to launch" It was agreeable by 42.6% of the respondents while disagreeable by 20.7% of the respondents. A mean of 3.09 with a standard deviation of 1.07, indicated that the average distribution of responses would be between disagreement and agreement, with a few respondents expressing strong disagreement or strong agreement.

Asked their agreements with the assertion that there was a person in charge of new product development, 50% of the respondents agreed while 19.8% disagreed, A mean of 3.4 , with a standard deviation of 1.25 would indicate that most of the opinions expressed by respondents would range from disagreement to strong agreement, with a few (10%) expressing strong disagreement. Notable from the findings is the observation that most firms examined in the study

have persons in charge of new product development. This is an indicator of successfulness of new product development.

New product development team is seen to have authority in launching of new products. Based on the observation from the study findings 50.4% majority of the respondents are in agreement with the assertion that new product development team has authority to launch what is important , 27.4% of the respondents however disagree with the assertion. A mean of 3.4, with a standard deviation of 1.2 would indicate that responses between disagreement and strongly agree lie within the mean of the sample while those who strongly disagree are on the extreme end. Giving the team working on the product an authority to launch could significantly contribute to the success of the product in the market.

The age of production equipment's is an indicator of the level of efficiency in the production process of new products. According to the study findings, 27.4% of the respondents disagreed with the assertion that most of the equipment's used are less than 2 years old while 41.5% agreed. A mean of 2.3, with a standard deviation of 1.2 indicate the normal response for the questionnaire item was between strongly disagree and agree, with strong agreements being on the extreme. The findings on the trend in the purchase of production equipment's may be an aid in understanding the extent to which firms link successful product development with use of efficient machines.

Use of technology for communication was considered important in the success of new product in the study. On the assertion that emails are used to communicate during new product development, 52.2% agreed with the assertion while 13.3% disagreed. A mean of 3.2 with a standard deviation of 1.32 showed that normally respondents would disagree and agree with the

assertion with strong disagreement and strong agreement being on the extreme. The study indicated that many firms considered adoption of communication technologies important in successful new product development.

There is an indication of turnover of members of product development team members as per the study findings. On the assertion that “new product development team member has left the organization in the last two years, 48.9% majority agreed with the assertion, while 30.7% did not agree. The normal distribution for the responses ranged between disagree and strongly agree as shown by a mean of 3.4 with STD deviation of 1.17. Employee turnover during new product development could interfere with successful new product development.

4.3.1.1. Extend to which Strategic Orientation Affects New Product Development

Respondents were asked to indicate the extent to which strategic orientation affected new product developments. The findings on their observations are indicated on figure 4.2.

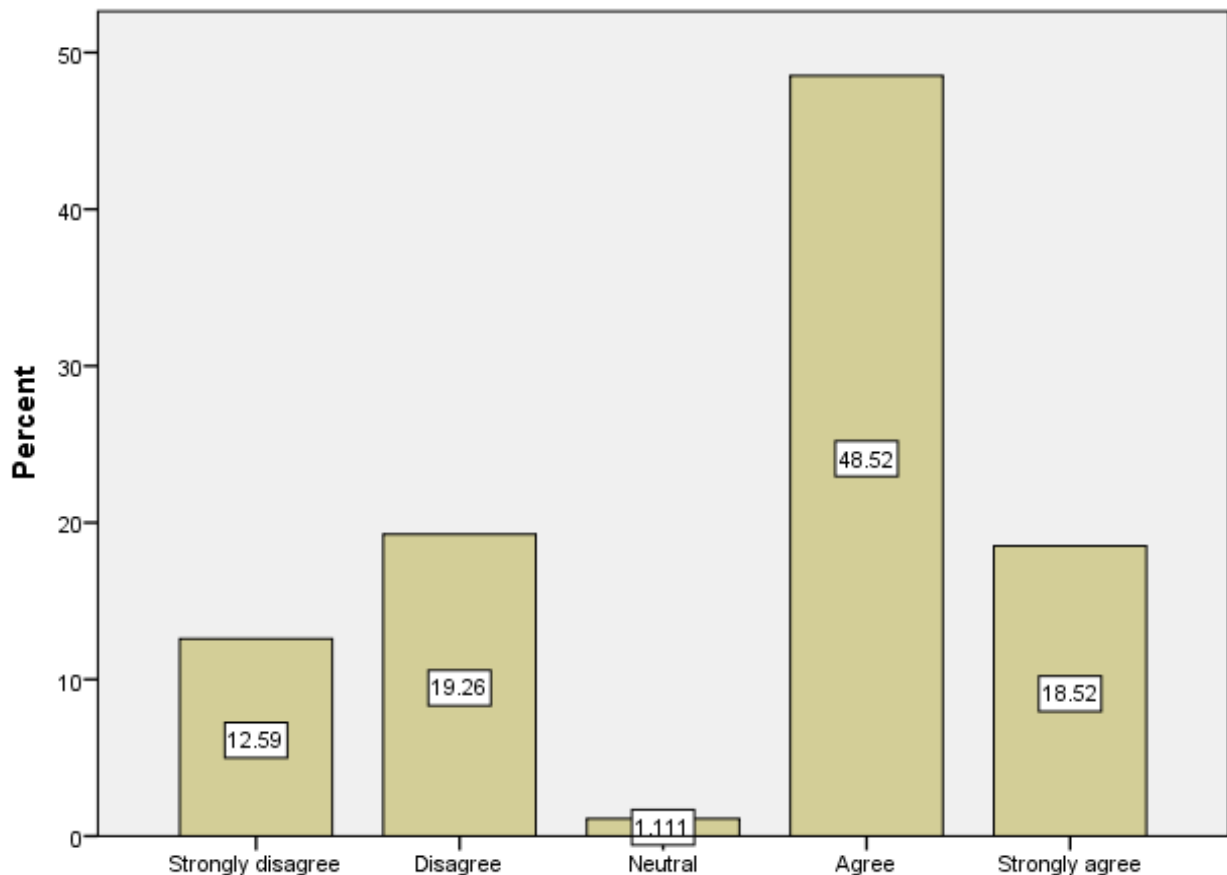


Figure 4. 2: Extend of Agreement on the Effect of Strategic Orientation and NPD

Based on the findings in Fig 4.2, it is notable that majority of the respondents (48.5%) agree that strategic orientation of a firm affected the success of new product development. 18.2%, too strongly agreed with this observation. On the other hand, 12.6% of the respondents and 19.3% strongly disagree and disagree that strategic Orientation affects successful product development process. From this observation, it was deduced that as per majority opinion, strategic orientation

of a firm is critical in shaping the success of new product development in manufacturing firms in Kenya.

4.3.2 Marketing Orientation and New Product Development

Table 4. 5: Effect of Market Orientation on New Product Development

Statement on marketing orientation	1 -SD		2-D		3-N		4-A		5-SA		Total		Mean	STD
	F	%	F	%	F	%	F	%	F	%	F	%		
Organization does a lot of promotion for new products	54	20.0	83	30.7	32	11.9	98	36.3	3	1.1	270	100	2.7	1.2
All products are certified by Kenya Bureau of Standards	34	12.7	40	15.0	31	11.6	154	57.7	8	3.0	267	100	2.6	1
Our prices are lower compared to competition	51	19.0	65	24.2	34	12.6	95	35.3	24	8.9	269	100	2.9	1.3
We are the market leaders of all products launched in last two years	58	21.5	41	15.2	16	5.9	126	46.7	29	10.7	270	100	3.1	1.4
We have a launch plan before commercialization of new products	50	18.5	53	19.6	5	1.9	131	48.5	31	11.5	270	100	3.15	1.4
All new products is driven by consumer demand	62	23.0	40	14.8	5	1.9	105	38.9	58	21.5	270	100	3.2	1.5
Market research is done before developing new products	57	21.6	40	15.2	2	0.8	115	43.6	50	18.9	264	100	3.2	1.5

Promotion was considered important in enhancing new product awareness in the market. On the assertion that “organization did a lot of marketing for new products, 36.3% of the respondents agreed that the organisation did a lot of promotion for new products, while 30.7% disagreed. A mean of 2.7 with Standard deviation of 1.2 indicated that normal distribution for the responses would range from strong agree to agree. The finding indicates that majority firms practice marketing activities and has significant effect on new product development.

On marketing, the study further sought to establish whether new products for the firms studied were certified by the Kenya Bureau of Standards (KEBS), 57.7% of the respondents agreed that KEBS certifies new products, while 15% disagreed. Normal distribution for the responses was between strongly disagree and agree as indicated by a mean of 2.6 with a standard deviation of 1, most of the new products in the firms examined have Kenya Bureau of standards certification. This is an indicator of successful product development in readiness to launch or already launched the product in the market. There is however evidence of unsuccessful product development as indicated over 25% of respondents who indicated that their products are not yet certified.

The study sought to find out on the extent to which price was a consideration during new product development. On the assertion that prices were lower compared to competition, 35.3% of the respondents agreed while 24.2% disagreed. A mean of 2.9 with standard deviation of 1.3 was established showing that respondent's opinions would range between strong agreement and agree. From the findings, there are notable mixed observations among respondents as far as the place of price for new products is concerned. This should be considered in relation to the quality of the product, cost of product development or competitive strategy to be adopted by firms. Depending on the competitive strategy adopted by firms, the study sought to establish among respondents, the extent to which their firms were market leaders in the products produced.

Respondents were asked to indicate their opinion on the assertion that their firms were market leaders of all products launched in the last two years. From the study findings, 46.7% of the respondents agreed while 15.2% disagreed. An observable 21.5% strongly disagreed with the opinion. A mean of 3.1 with a standard deviation of 1.4 showed that responses would normally be distributed between disagree and strongly disagree. This meant that for most firms, new

product development strategy focuses on market leadership as a competitive strategy. This show that firms would continue to enjoy benefits of innovation as they successfully develops new products.

A product launch plan is considered a suitable process in enhancing the success of new product development. In the assertion “We have a launch plan before commercialization of new products, 48.5% majority of the respondents agreed with the assertion. 19.6% disagreed; with a mean of 3.15 and standard deviation of 1.4 showing that responses would normally range from disagree to strongly agree. It was thus observed that product launch plans is an important consideration observed by firms in the launch of new products.

The study sought to establish the driving factor behind the development of new products for the firms examined. In the assertion “all new products are driven by consumer demand, 38.9% and 21.5% of the respondents respectively agreed with the assertion. 23.0% and 14.8% strongly disagreed and disagreed respectively, while 1.9% was neutral on the assertion. Outstanding was the observation that for majority of firms examined (60.4%), market demand was an important consideration before in development of new products. A mean of 3.2 with a standard deviation of 1.5, showed that most of the responses would normally be distributed between disagree and strongly agree.

Undertaking market research before new product development was considered important in understanding the market dynamics and probably predicting success of the new products. In the assertion market demand is done before developing new products, 43.6% of the respondents agreed with the statement while 15.2% disagreed. A mean of 3.2, with a standard deviation of 1.5

indicated that normal distribution for responses would lie between disagree and strongly agree. The finding indicates that market research is a popular practice among firms launching new products in the market.

4.3.2.1. Extend To which Marketing Orientation Affects New Product Development

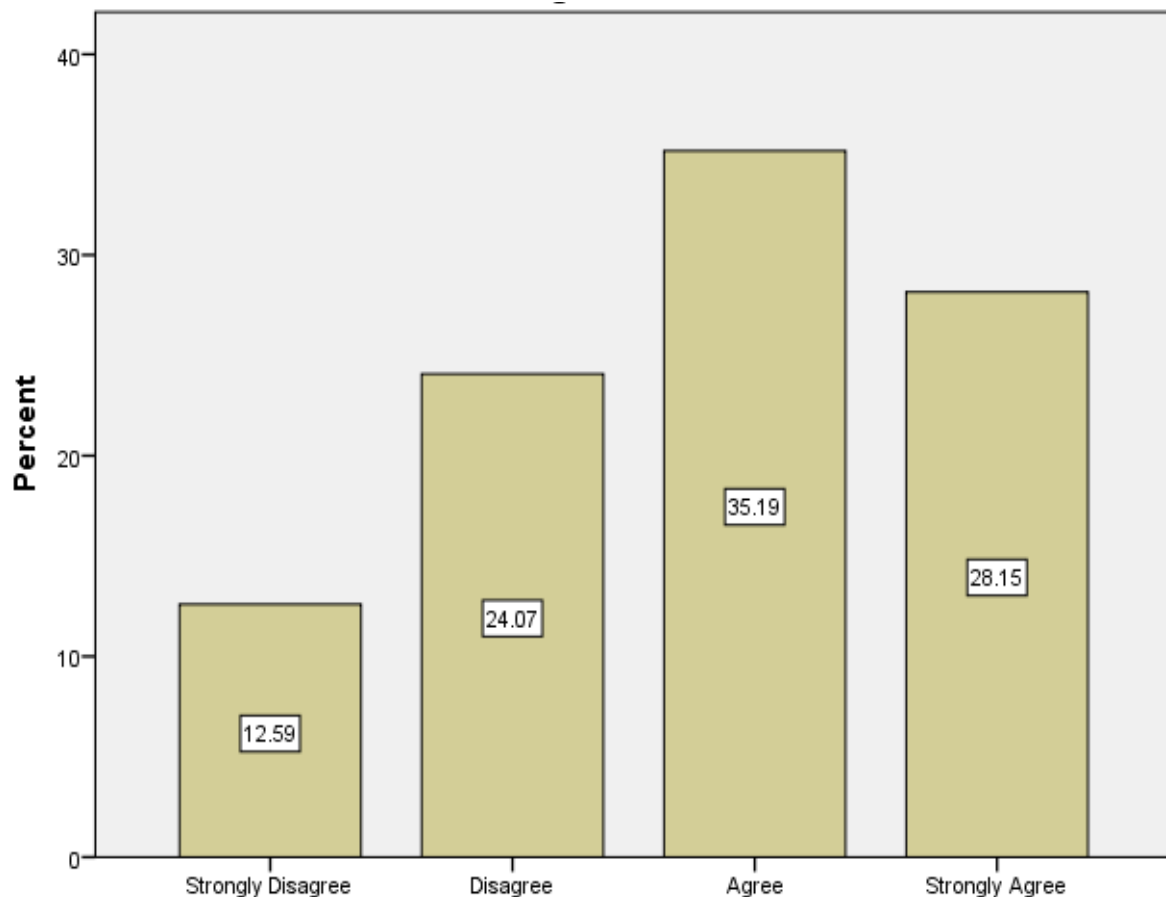


Figure 4. 3: Extend To which Marketing Orientation Affects New Product Development

Respondents were asked to indicate their extent of agreement with the opinion that marketing orientation had affected the success of new product development. The findings were presented on figure 4.3. From the results, it can be noted that 63.3% of the respondents believe that firms marketing orientation has affected the success of new product development. This indicated that

there is a relationship between marketing orientation that a firm adopts and successful development of new products.

4.3.3 New Product Development Process Orientation

Table 4. 6: New product development Process Orientation

Statement on marketing orientation	1 -SD		2-D		3-N		4-A		5-SA		Total		Mean	STD
	F	%	F	%	F	%	F	%	F	%	F	%		
Organization does commercialization of products within given timelines	14	5.2	111	41.1	53	19.6	87	32.2	5	1.95	270	100	2.8	1.0
NPD team comprises of staff from different departments	16	5.9	58	21.5	36	13.3	139	51.5	21	7.8	270	100	3.3	1.08
There is schedule for launching new products	25	9.3	63	23.3	6	2.2	140	51.9	36	13.3	270	100	3.4	1.3
We enjoy first mover advantage in product development	29	11.6	66	26.3	3	1.2	96	38.2	57	22.7	270	100	3.3	1.4

New product development process orientation was evaluated as a key parameter considered determining the success of new products. Respondents were asked to indicate their extent of understanding on various assertions related to new product development and how they affected new product development process. On the statement that the organization did commercialization of products within given timelines, 41.1% of the respondents disagreed while 32.2% agreed. A mean of 2.8 with a standard deviation of 1 indicated that responses would normally be distributed between disagree and agree. It is notable that product launch timelines could be a challenge to majority of respondents. This would probably derail the success of new product and deny firms opportunities to benefit from newly launched products.

Team involvement in new product development was presumed to be important in enhancing product acceptance and support from the other departments. In the assertion “new product development team comprised of staff from different departments, responses on agreement with the statement showed that 51.5% agreed with the assertion, 21.5% disagreed, while 13.3% were neutral. A mean of 3.3 with a standard deviation of 1.08 indicated that on a normal distribution responses would range from disagree to agreement. The findings show that involving other departments during launch of new products is a common practice manufacturing firms examined. There could however be setbacks experienced in some firms as a result of lack of involvement of all departments in new product development.

Schedule for launching new products was considered critical in understanding readiness of market to the new products as well as availability as well as preparedness of firms towards launching of the product. In the statement there is schedule for launching new products, 51.9% of the respondents agreed with the statement, while 23.3% disagreed. A mean of 3.4, with a standard deviation of 1.3 showed that normal distribution for the responses would range between disagree and strongly agree. These finding indicate that most firms place emphasis on scheduling in launching of new product, a process that contribute towards the success of new product development.

Respondents were asked to indicate whether their firms enjoyed first mover advantage in product development. In the assertion “we enjoy first mover advantage in product development, 38.2% of the respondents agreed with the assertion, while 26.3% disagreed.

4.3.3.1 Extent to which NPD process affect success of NPD

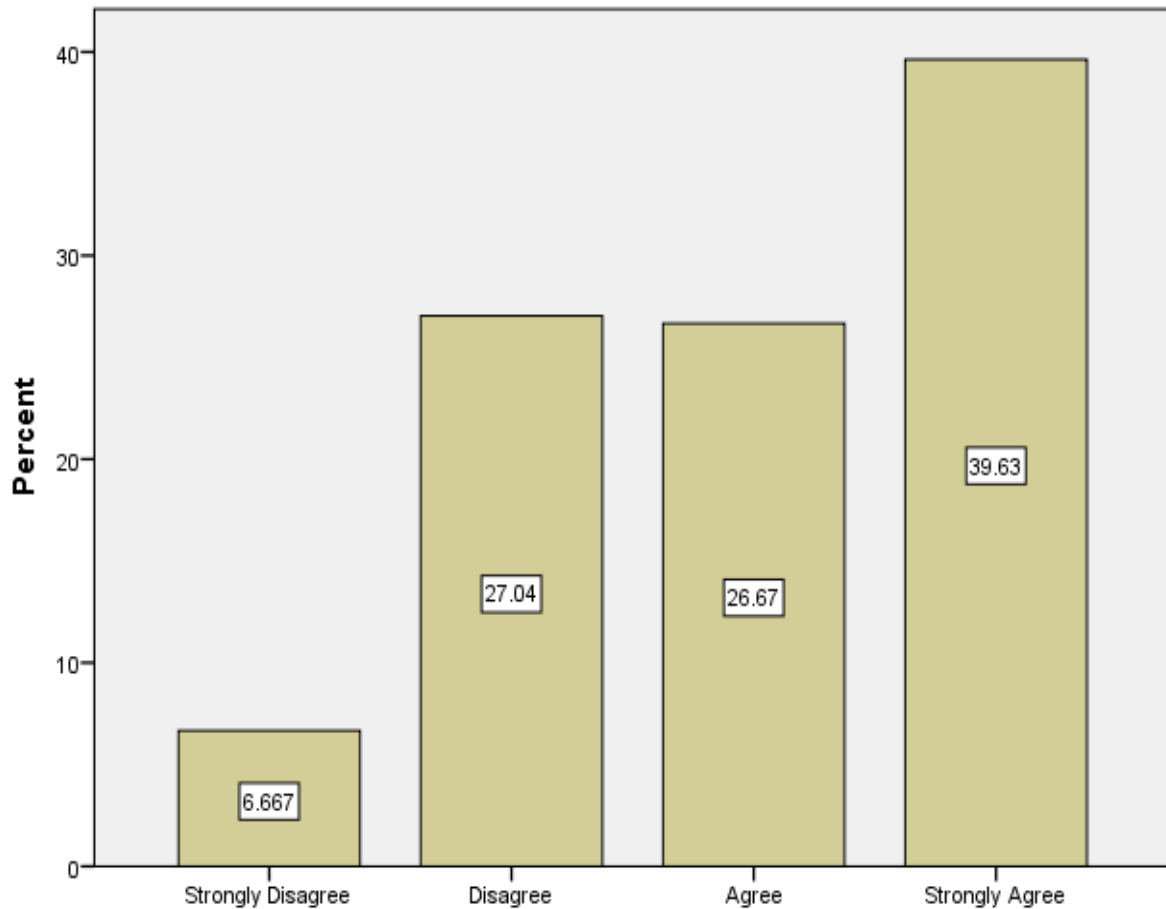


Figure 4. 4: Extend of Agreement That New Product Development Process Affect NPD

The study findings in Fig. 4.4 on the extent to which new product development shows that it is agreeable among respondents that the process of new product development was largely affected success of new product development. 66.3% of the respondents showed agreement with the statement while 34% disagree. There is a popular understanding among respondents that the process of new product development was important in shaping the success of NPD. This implied that a relationship exists between the process of creating and new product and successfully developing the product.

4.4 Successful New Product Development

Under successful new product development, various parameters measuring success of NPD were examined. Respondents were asked to indicate the extent to which they agreed on parameters measuring different aspects, on Linkert scale questions using 1- Strongly disagree, 2- Disagree 3 Neutral, 4 – Agree and 5 - Strongly agree. The findings have established in the follows subsections.

4.4.1 Organizational Revenues

Table 4. 7: New Product Have Significantly Increased Organizational Revenues

Level of agreement	Frequency	Percent	Mean	STD deviation
Strongly Disagree	19	7.0	2.9	1.1
Disagree	112	41.5		
Neutral	31	11.5		
Agree	103	38.1		
Strongly Agree	5	1.9		
Total	270	100.0		

The table 4.7 shows there are mixed opinions among respondents as to extend to which new product development has increased organizational revenues. Majority of respondents (41.5%) disagree with the assertion on increment of revenues after new product development while 38.1% agreed with the assertion. An observable 11.5% were neutral on the statement indicating that they had no clear understanding on how new product development had affected organisational revenues.

4.4.2 Organizational Competitiveness

Table 4. 8: Our organization has become more competitive due to new product

Level of agreement	Frequency	Percent	Mean	STD deviation
Strongly Disagree	10	3.7	3.21	1.05
Disagree	86	31.9		
Neutral	21	7.8		
Agree	144	53.3		
Strongly Agree	9	3.3		
Total	270	100.0		

The competitiveness of firms as result of new product development yielded mixed opinion from respondents. While over half (53.3%) of the respondents indicated that their organizations has become more competitive as a result of new product development, 31.9% disagreed with 7.8% remaining neutral. The findings are a good indicator of success and failures associated with new product development. It could also be an indication of challenges facing new product development such as lack of innovation, imitation and importation of cheaper versions of the same products.

4.4.3 Increased Market Share

Table 4. 9: Market Share has increased in the Places We Have Introduced New Products

Level of agreement	Frequency	Percent	Mean	STD deviation
Strongly Disagree	11	4.1	3.5	1.1
Disagree	57	21.1		
Neutral	31	11.5		

Agree	123	45.6
Strongly Agree	48	17.8
Total	270	100.0

From the Table 4.9 an assertion that market share had increased as a result of introduction of new products was deduced, 64.4% of the respondents agreed with the assertion, while 25.2% disagreed. 11.5% were neutral in the statement. The finding show a popular indication that new products in the market are likely to increase the market share for firms.

4.4.4 Contribution of New Product Towards 40% Revenue Increase In Last 2 Years

Table 4. 10: New products have contributed to over 40% revenue in the last 2 years

Level of Agreement	Frequency	Percent	Mean	STD deviation
Strongly Disagree	2	.7	3.7	1.2
Disagree	71	26.3		
Neutral	26	9.6		
Agree	90	33.3		
Strongly Agree	81	30.0		
Total	270	100.0		

On the statement that new product development had contributed to more than 40% of total revenues for the last two years, respondents provided mixed observations. Table 4.10 shows that over half (63.3%) agreed or strongly agreed with the statement while 27% disagreed with 9.6% being neutral. A mean of 3.7 and a standard deviation of 1.2 indicate that normal distribution for most of the responses would be between disagree and strong agree. It is popular opinion among respondents that new product development had contributed to over 40% revenue increase for the last two years. This meant that there is great importance of new product development on firm's growth.

4.4.5 Changing of Consumer Patterns

Table 4. 11: New products have significantly changed consumer patterns

Level of agreement	Frequency	Percent	Mean	STD deviation
Strongly Disagree	36	13.3	3.5	1.5
Disagree	54	20.0		
Neutral	5	1.9		
Agree	82	30.4		
Strongly Agree	93	34.4		
Total	270	100.0	100.0	

New products have changed consumer patterns as per 64.8% of the respondents strongly agreed or agreed with the statement as shown on Table 4.11. 33.3% however disagree with the assertion, while 1.9% was neutral. From this observation, it is notable that consumption patterns of customers are likely to be changed by introduction of new products in the market.

4.5 Relationship between the factors and success of NPD

Regression analysis in this study was used to establish the contribution of strategic organizational orientation, marketing orientation and NPD process orientation (independent variables) on successful NPD (dependent variable). Data for the variables was obtained from the questionnaire, where an average was computed based on each variable. The computed variable average data was then used to run the regression analysis. The results of the analysis have been presented in the model summary, analysis of variance test and summary of coefficients. Prior to the regression analysis the data was subjected to the assumptions of regression analysis. Five assumptions were tested; linear relationship, multivariate normality, no or little multicollinearity, no auto-correlation and homoscedasticity. No major violation was observed; hence the data was sufficient for regression analysis.

4.5.1 Summary of Model

Table 4. 12: Model Summary of factors and success of NPD

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.928 ^a	.861	.859	.467348
a. Predictors: (Constant), NPD process, Strategic organizational orientation , Marketing orientation				

Adjusted R squared is coefficient of determination which indicates the variation in the dependent variable due to changes in the independent variable. From table 4.12 the value of adjusted R squared was 0.859, an indication that there was variation of 85.9% on dependent variable. This means the model provided a very good fit in relating the 3 factors to success of NPD.

4.5.2 Analysis of Variance (ANOVA) Test of the factors and success of NPD

Table 4. 13: ANOVA Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	359.884	3	119.961	549.237	.000 ^b
	Residual	58.098	266	.218		
	Total	417.982	269			

a. *Dependent Variable: Success of NPD*

b. *Predictors: (Constant), NPD Process Orientation, Strategic organizational orientation , Marketing orientation*

From the ANOVA analysis results on table 4.13, the overall *p value* was equal to 0.000 which was less than 0.05. The regression analysis results in the ANOVA output table indicates that the overall regression model was significant in predicting the Success of NPD at 95% confidence level based on NPD process orientation, strategic organizational orientation , marketing orientation.

4.5.3 Coefficients of the Factors

Table 4. 14: Coefficients of the factors that predict success of NPD

Coefficients							
		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound Upper Bound
1	(Constant)	.187	.134		1.396	.164	-.077 .451

Strategic organizational orientation	-.226	.047	-.124	-4.843	.000	-.318	-.134
Marketing orientation	.457	.050	.408	9.161	.000	.359	.556
NPD process	.711	.050	.602	14.211	.000	.613	.810

a. Dependent Variable: Success of NPD

The coefficient of regression in this study indicates that the model had a constant value 0.187. Strategic organizational orientation had a coefficient of -0.226 and a p value of $0.000 < 0.05$ denoting a significant contribution to NPD success. The study therefore rejects H_{01} at 95% confidence level.

Marketing orientation had a statistically significant effect on NPD Success as indicated by p value $0.000 < 0.05$. As presented in table 4.14 the variable had a coefficient of 0.457. Thus, holding other factors constant, a change in marketing orientation contributes to 45.7% positive change on NPD success. The study therefore rejects H_{02} at 95% confidence level.

A further review of p value indicated that NPD Process Orientation has a coefficient of 0.711 statistically significant at 95% confidence level. This implies that successful implementation of NPD Process Orientation holding other factors constant has a positive effect of 71.1% on NPD success. The study therefore rejects H_{03} at 95% confidence level.

Thus, based on significant variables, the fitted model becomes;

$$Y = 0.187 - 0.226x_1 + 0.457x_2 + 0.711x_3 + \mathcal{E}$$

Where Y = successful NPD, X_1 = Strategic organizational orientation, X_2 = Marketing orientation, X_3 = NPD process orientation and $\mathcal{E}$ = Error term

From the overall regression results, it is observed that new product development process had the highest effect on success of NPD, closely followed by marketing orientation and then strategic organizational orientation. All independent variables have significant contribution towards success of new product development for manufacturing firms in Kenya.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter provides summary of findings, conclusion and recommendations on the study, factors affecting the success of new product development in Kenya manufacturing sector. The objectives of the study was to determine the effect of organizational strategic orientation on the success of new product development, to find out the influence of Marketing orientation on the success of new product development and to determine the effect of new product development process in the success of new product development. The subsections are as follows;

5.2 Summary of Findings

The summary of finding capture key observations in the study background, effect of organizational orientation, Marketing orientation, new product development process and successful new product development as established in the study findings.

5.2.1 Findings on effect of Strategic Organizational Orientation and Success of NPD

Strategic organizational orientation according to the study findings has to do more with financing, budget allocation, decision making by top management, as well as human capital. The study indicates that strategically oriented firms focus more on how the mentioned areas that is financing, budget allocation, decision making and human capital affect the success of new product development. Leadership, financing, human capital and technology were the aspects assessed as far strategic organizational orientation and success of new product development was concerned. On financing, 72.6% of the respondents indicated that their firms did not have unlimited financing in new product development while 65.2% indicated that they did not have a budget above 20% annual gross revenue. On leadership, it was noted by 45.9%, 65.3%, 64.5%, and 62.5% respectively that top management was in charge of products to be launched, there was a person in charge of NPD, new product development team had to launch what they deemed important, and communication was via emails. 55.9% of the firms examined indicated that most of their equipment's was less than 2 years old. There was a statistically significant weak negative relationship between organizational strategic orientation and success of new product development with a regression coefficient correlation of -0.226.

These findings agree with literature observations that top management is one of the strategic organizational factors affecting success of new product development. According to Behr (2013),

top management is critical in resource allocation, financial resources, and allocation and motivation of human capital. Behr (2013) notes that top management can frustrate or enhance the development of new product. It also plays a critical role in enhancing organizational culture as Cooper, Edgett and Kleinschmidt (2004) indicate.

5.2.2 Findings on effect of Marketing orientation and the Success of New Product Development

Marketing orientation and success of new product development on the primary study findings focuses on promotion for new products, price competition, competitive strategy adopted by firms, mode of commercialization of new products as well as market research. Marketing orientation indicated that promotions were fairly practiced among the manufacturing firms studied as shown by 37.4% response. At least 60.7% of the firms had their new products certified by KEBS. Less than half (44.2%) had the prices of new products lower than the market value. Over half of the respondents (57.4%) adopted market leaders strategy in launch of new products, with 60% of the firms having a launch plan before commercialization of their products. 64.4% of the new products as per the study was driven by consumer demand while 62.5% of the firms examined practiced market research in the development of new products. There was a statistically significant positive relationship between Marketing orientation and success of NPD at a regression correlation coefficient of 0.457.

These observations are reflected in the literature reviewed. For instance, in McCaskey (2009), it is noted that products should meet consumer needs and expectations if they are to succeed. Pita and Pita (2012) indicates that proficiency of marketing activities and assessment of marketing environment are key to success of new product development process. Market leadership is strategically considered to yield considerable benefits during marketing orientation. Kessler and Chakrabarti (1996), indicate that when looking at the competition, introduce the concept of first

mover advantage, so as to enjoy, monopoly for some time until other manufactures copy the same concept. This however may be counterproductive particularly in cases where first mover product is new to consumers. From the study findings, most firms try to orient themselves towards maximum benefit through promotion and ensuring certification of their products by Kenya Bureau of Standards, and articulating launch of new products based on the market needs.

5.2.4 Findings on effect of New Product development Process on success of NPD

The process of new product development in the primary findings focussed on time lines taken to launch new products, team composition for new product development process, schedule, seasons for launching new product and focus on first mover products. On new product development process the study observed that only 34.15% of the firms examined launched their new products within required timelines. 59.3% of the respondents indicated that new product development teams was comprised of staff from all departments while 62.2% showed that there was a schedule before launching of new products. 60.9% of the respondents indicated that firms enjoyed first mover advantage in the launch of new products. A statistically significant and strong positive correlation was found between new product development process and success of new products at a regression correlation coefficient of 0.711.

The study findings agree with various observations in the literature review. According to Datar, Jordan, Rajira and Srinivasan (1997), the speed of market for a new product determined the success of new product. Souza, Baya and Wagna (2004) indicate that optimal speed for development is critical for success of new product. Intner and Laireker (1997) indicate that cross functional development of teams is back bone of successful development of new products in

manufacturing firms. Cooper and Mills (2005) identify cross functional team as the key to success of many products developed by Procter and Gamble a leading multinational consumer's good company.

5.3 Conclusion

This study concludes that there are three factors that affect the success of NPD. The factors are strategic organizational orientation, marketing orientation and new product development process.

On strategic organisational orientation, leadership played a critical role in product development as it was the major factor behind financing, human capital management, task allocation and major factor in decision making on which product to be launched in the market and which technology to be used by the firm. A negative correlation for strategic organizational orientation and success of new product development could be an implication of the place of leadership in shaping the direction of financing, human capital management, task allocation and major firm's decisions. For instance, failure of top leadership to give priority in budget allocation for new product development projects may lead to a failure in new product development.

Marketing orientation played a significant role in the success of new product development, based on the study findings. Extensive promotion and budget allocation for new product developments were a major challenge among manufacturing firms in Kenya. Most firms focused more on marketing the products already in the market rather than new products. Though market leader strategy was acceptable by many firms launching new products, not all firms considered it critical in success of new product development. This could explain why a moderately weak positive relationship exists between Marketing orientation and new product development.

The new product development process according to the study had the strongest impact on the success of new product development. According to the findings a significant and strong positive regression coefficient was obtained between new product development process and success of new products. This indicated the essence of launch timelines, involvement of all departments in developing new products and use of first mover advantage as critical to the success of new product development.

5.4 Recommendations

Based on the study findings and the conclusion the following recommendations were made; manufacturing firms should strengthen leadership through training on financial management as well as strategic managerial skills in order to facilitate optimal decision making in finances, human capital management, product launching as well as technology to be adopted.

It is important for managers of manufacturing firms to consider revenue allocation for promotion and development of new products. Marketing concept should be adopted in launching new products by research and advertising, pricing strategy and hiring the right skills. This would create more customer awareness as well as create room for more innovativeness based on the market needs.

There is need to place more emphasis on the process of new product development by setting up development timelines, reinforcing involvement of all departments, as well as capitalization of first mover advantage. This will ensure that firms will reap benefits of innovation as a result of new product development.

5.5 Recommendations for Further Study

The study focussed on factors affecting success of new product development in manufacturing firms dealing with fast moving consumer goods. It is therefore important that a similar study is carried out on other manufacturing sectors such as non fast moving consumer goods like in equipment's and machinery. The place of technology in new product development also needs to be examined.

5.6 Limitations of the Study

Although the research has achieved its aim in accessing factors for success in NPD, there were some unavoidable limitations which affected the researcher. First was the limitation of time. Due to this the research was only conducted within the Nairobi county hence to for the study results to be generalised across the country it should have involved a wider area or the whole country in general.

Secondly there was limitation of resources especially financial. The study was only able to cover fast moving consumer goods thus the results cannot be comprehensive in all manufacturing sectors. The results of the research can be however be generalised on fast moving consumer goods.

Third limitation was lack access to people and information that was required for the research. Due to intense competition among organisations and fear for information sharing many people who had information were reluctant to share it. Many of the organisations have secrecy policies which also hindered free information flow. However the respondents were open and gave credible information for the research.

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APPENDENCES

APPENDIX I

Introduction Letter

Simon Ndiho

KCA University

P.O.BOX 56808-00200

NAIROBI.

Dear Sir/ Madam,

RE: INTRODUCTION LETTER

My name is Simon Ndiho, currently completing my Masters degree in Business Administration – Corporate Management at KCA University. My research work is entitled “FACTORS AFFECTING SUCCESS IN NEW PRODUCT DEVELOPMENT IN THE MANUFACTURING SECTOR IN KENYA”.

I hereby request you to participate in the research survey to enable me to fulfill the academic requirements of the university. I consider your busy schedule but I have made the exercise simple and will only take 10-15 minutes of your time. You are therefore requested to complete a

short demographic survey and four (4) sections that relate to the strategic organizational orientation, Marketing orientation and NPD process orientation in new product development.

Kindly note that the information you give will be treated with utmost confidentiality and the data is solely for academic analysis during the research. However you can withdraw for whatever reason because your participation is voluntarily and no penalty will be preferred against you.

To award you for your participation, I promise to deliver my findings upon request. If you have any queries please feel free to contact me at simondiho@gmail.com. I appreciate your cooperation and look forward for your positive response.

Sincerely,

SIMON K. NDIHO.

Appendix II

Questionnaire

Instructions: Please read and answer the questions as appropriately as possible. It is advisable that you answer or fill in each section as provided. Tick [] where appropriate.

Section A: Organization Profile

1. Organization

- Name (Optional).....
- Nature of products Manufactured;
 - a) Food & Drinks [] b) Confectionary [] c) Personal care []
 - d) Others specify.....
- Ownership:
 - a) Local [] b) International []
 - c) Private [] d) Public []
- Years in Operation in Kenya:
 - a) 0-5 years [] b) 6-10 years []
 - c) 11- 20 years [] d) over 20years []

Section A: Respondents Profile

2. Indicate your gender

Male [] Female []

3. Indicate your appropriate age bracket

a) 18 yrs – 24 yrs [] b) 25yrs- 34yrs []

c) 35yrs-45 yrs [] d) over 45 yrs []

4. Kindly indicate your highest level of academic qualification

a) Certificate / Diploma []

b) Bachelor's []

c) Masters []

d) PHD []

5. Which department do you work

a) Marketing department []

b) Sales department []

c) Production []

d) Research and Development []

6. How many years you have worked in this organization?

a) 0-5 years [] b) 6-10 years []

c) 11- 20 years [] d) over 20years []

Section B: Strategic Organizational orientation in successful New Product Development in the FMCG manufacturing sector in Kenya

To what extent do you agree with the following statements on strategic organizational orientation in successful NPD in the FMCG manufacturing sector in Kenya? Use a scale of 1 to 5 where: 1

is strongly disagree(SD), 2 is Disagree(D), 3 is Neutral (N), 4 is Agree (A) and 5 is strongly Agree (SA).

	Statement on Strategic organizational orientation	1	2	3	4	5
7	In new product development do you have unlimited financing until you succeed					
8	Do you have a budget of more than 20% of your yearly gross revenue					
9	Do Top management decide the New products to launch					
10	Do you have a person in charge of New product development					
11	Does the New product development team has authority to launch what they deem important					
12	Are most of your equipment less than 2 years old					
13	Do you use emails to communicate during New product development					
14	Has any of the New product development team left the organization in the last two years					
15	In general to what extent do you think strategic organizational orientation affect the success of NPD in your organization					

Section C: Marketing orientation in successful New Product Development in the FMCG manufacturing sector in Kenya

To what extent do you agree with the following statements on strategic organizational orientation in successful NPD in the FMCG manufacturing sector in Kenya? Use a scale of 1 to 5 where: 1 is strongly disagree(SD), 2 is Disagree(D), 3 is Neutral (N), 4 is Agree (A) and 5 is strongly Agree (SA).

	Statement on Marketing orientation	1	2	3	4	5
16	The organization does a lot of promotion for the new product					
17	All new products are certified by Kenya bureau of standards					
18	Compared to competition our prices of new products are lower					
19	We are the market leaders in all new products launched in last two years					
20	We have a launch plan before commercialization of new products					
21	All new product development is driven by consumer demand					
22	Market research is done before developing New products					
23	In general to what extent does marketing orientation affect successful NPD in your organization					

Section D: New Product Development process orientation in successful New Product Development in the FMCG manufacturing sector in Kenya

To what extent do you agree with the following statements on strategic organizational orientation in successful NPD in the FMCG manufacturing sector in Kenya? Use a scale of 1 to 5 where: 1 is strongly disagree(SD), 2 is Disagree(D), 3 is Neutral (N), 4 is Agree (A) and 5 is strongly Agree (SA)

	Statement on New Product Development process orientation	1	2	3	4	5
24						
25	The organization does commercialization of new products always within given timelines					
26	The team of New product development comprise of staff from					

	different departments					
27	We have a schedule of launching new products in particular seasons					
28	We enjoy a first mover advantage in new product developed					
29	In general to what extent does new product development process orientation affect the success of NPD in your organization					

Section E: Successful New Product Development in the FMCG manufacturing sector in Kenya

To what extent do you agree with the following statements on the successful New Product Development in the FMCG manufacturing sector in Kenya? Use a scale of 1 to 5 where: 1 is strongly disagree(SD), 2 is Disagree(D), 3 is Neutral (N), 4 is Agree (A) and 5 is strongly Agree (SA).

	Statement Successful New product Development in the FMCG manufacturing sector in Kenya	1	2	3	4	5
30	Do you agree that new products have significantly increased you organization revenues					
31	Have you become more competitive in the market due to new products					
32	Has your market share increased in areas you have introduced new products					
33	Have new products contributed more than 40% of your total revenues in last 2 years					
34	Many of the new products have significantly changed the consumer patterns of your customers					

35. Which other challenges affect successful new product Development in the FMCG manufacturing sector in Kenya?

.....

.....

.....

.....

THANK YOU FOR YOUR PARTICIPATION.

APPENDIX III

LIST OF COMPANIES PROVIDED BY KENYA ASSOCIATION OF MANUFACTURERS

Company		Company	
1	Alpha fine foods	51	New KCC daily
2	Anffi Kenya ltd	52	Patco industries ltd
3	Aquamist ltd	53	Pearl industries ltd
4	Bakers corner	54	Pembe flour mills ltd
5	Bayer East Africa	55	Premier flour mills ltd
6	Beiersdorf East Africa ltd	56	Premier food industries ltd
7	Belfast millers ltd	57	Premier industries ltd
8	Beta healthcare ltd	58	Proctor&Gamble e.a. ltd
9	Beverage services (k) ltd	59	Promosidor Kenya ltd
10	Bio food products ltd	60	Pz cussons EA ltd
11	Biodeal laboratories ltd	61	Reckitt benkiser E.A ltd
12	Breakfast cereal company(k)ltd	62	Razco ltd
13	Buy lines industries ltd	63	Sadolin paints E.A ltd
14	C & P shoes industries ltd	64	Sameer Africa ltd
15	C.Dormans ltd	65	Sc Johnson and son
16	Cadbury Kenya ltd	66	Spice world ltd
17	Canon chemicals ltd	67	Sumaria industries ltd
18	Chandaria industries ltd	68	Tri-clovers industries ltd
19	Coca-cola east Africa	69	Tropical brand Africa ltd
20	Corn products Kenya ltd	70	Trufoods ltd
21	Danone baby nutrition	71	Unga ltd
22	Dawa ltd	72	Unilever east Africa ltd
23	East Africa breweries	73	United distillers & vinters

24	Edible oils products	74	Value pack foods
25	Excel chemicals ltd	75	Victoria juice company
26	Farmers choice ltd	76	W.E Tilley ltd
27	Giloil company ltd	77	Wanji food ltd
28	Glaxosmithkline Kenya ltd	78	Winnie's pure health
29	Gonas best	79	Wine products
30	Haco tiger brands east Africa ltd	80	Wrigley's company E.A
31	Henkel Kenya ltd	81	Uni- plastics
32	Interconsumer products ltd	82	Steelwool (Africa) ltd
33	Jambo biscuits ltd	83	Associated paper & stationary ltd
34	JohnsonDiversey east Africa ltd	84	Biopharma ltd
35	Kapa oil refineries ltd	85	British American Tobacco Kenya ltd
36	Karirana estate ltd	86	Complast industries ltd
37	Kenafic industries ltd	87	Cosmos ltd
38	Kenya breweries ltd	88	Crown paints
39	Kenya sweets ltd	89	Galaxy paints
40	Kenya wine agencies ltd	90	General plastics ltd
41	Kim-Fay east Africa ltd	91	Kartasi industries ltd
42	Kuguru food complex ltd	92	L'Oreal East Africa ltd
43	Vaja manufacturers ltd	93	Mastermind Tobacco(k) ltd
44	Vita foam products ltd	94	Ngecha industries ltd
45	Kwality candies & sweets ltd	95	Osho chemicals ltd
46	Laboratory & allied ltd	96	Supa Brite industries ltd
47	London distillers(k) ltd	97	Stat pack industries ltd
48	Manji food industries ltd	98	Kentainers ltd
49	Mini bakeries ltd	99	Pepsi bottling company
50	Nairobi bottlers	100	Delmonte Kenya ltd.

51	Nairobi flour mills ltd	101	Bata shoe company
52	Nestle foods Kenya ltd	103	Brookside Daily
53	Tetra pak ltd	104	Kenya Nut company.

Source: Kenya Association of Manufacturers (2011)

