Assessment of the factors that influence the market share of different companies marketing pesticides in the floriculture industry in Kenya.

by

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DECLARATION

This research project is my original work and to the best of my knowledge it has not been presented to any institution of higher learning for academic award.

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Dedication

To almighty God hallowed by thy name.

Special dedication to my late mum-Wambui and grandfather-Benjamin;

the love and support you showed, inspires me always.

To my dearest fiancée, you are a special gem, I treasure you.

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Definition of terms

Agrochemicals-chemicals used in controlling and managing pests and diseases in agriculture.

Floriculture- it is a branch of horticulture dealing with cultivation and selling of flowers.

Generic products-pesticides that share the same active ingredient with the original products but using names other than that of the company that made or discovered it.

Indications-the term is used to describe diseases or pest that attacks a crop or plant such as powdery mildew, caterpillars, thrips, or rust. They cause both economic and physical damage.

Indicators-a sign that shows you what something is like or how a situation is changing.

Market share-the portion of the total market a product brand has relative to its competitors.

Market-particular groups of people who are willing to spend their money for a particular set of competing product brands.

Original products- a pesticide that has been or was produced for the first time from which copies have been made or can be made.

Overall market share- company sales expressed as a percentage of total market sales.

Performance analysis- process of establishing how well or badly a company is doing in the market.

Performance-how well or badly you do something or how well or badly something works.

Pesticides- these are chemicals used in controlling and managing pests and diseases in crops or households.

Portfolio-the range of products offered by a particular organization.

Relative market share- market share in relation to its largest competitor.

Served market- all the buyers who are able and willing to buy its product.

Served market share- company sales expressed as a percentage of the total sales to its served market.

Abstract

This research project assessed the factors influencing market performance and hence market share of companies marketing pesticides in the floriculture industry in Kenya. The major factors that were studied include product quality, after sales service, brand name or image, contractual obligations and their effect on performance hence market share. Market share analysis was used as a tool of analyzing market performance of pesticide companies marketing pesticides in the floriculture industry in Kenya.

The results of this study are expected to contribute towards more insights into factors affecting market share and the relationship of market share to performance. They will also help industry players in determining areas of investment and reasons that would affect their performance in the floriculture sector.

Data was collected using questionnaires. The questionnaires were administered to farm/production managers of the farms selected or those responsible for decision on pesticides use and issues. A total of 108 flower farms growing cut flowers in Kenya formed the population of this study out of which 70 farms were sampled using random sampling after grouping them into regions.

The researcher used SPSS packages to analyze data using descriptive statistics, frequencies and t-test. Results have been presented using graphs, proportions, and tables where appropriate.

The research found that out of fourteen (14) pesticides companies, Bayer has a market share of 31.32% followed by Syngenta with 19.13%. Amiran and Basf are third and fourth with a market share of 11.01% and 10.36% respectively.

These four companies control 71.82% of the total pesticide market in the floriculture market. The other ten companies account for only 28.18% of the market in this industry. The results also showed that product quality is the single most important factor determining which product to use or buy. Technical support, after sales service, price, and new product development are areas that companies must invest in to either grow or defend their market share.

Mites and powdery mildew control segments are clearly the favorite areas for investment in products since 55.08% of the total pesticide expenditure goes to these two indications. The study recommends similar research in other sectors such as cereals, vegetables, sugarcane, cotton, fruits and coffee since these companies market their products there too. Further investigations into the relationship between factors determining use and/or purchase and market share is also recommended.

CHAPTER ONE

1.1 INTRODUCTION

1.2 Background of the Study

The horticulture industry is one of the fastest growing industries in Kenya today. The industry mainly comprises of the flower sector, and the vegetable and fruit sector. The flowers are mainly produced for export with vegetables and fruits targeting both local and export markets. Data from the Central Bank of Kenya Annual Report July 2003-June 2004 reveal that production of horticultural exports increased by 9% in the financial year 2003/2004 to 147,799 tonnes from 135,600 tonnes in the financial year 2002/2003. The remarkable growth was largely in flowers and vegetables whose export volumes grew by 28.3% and 31.8% respectively during the second half of the financial year. Fruits however, declined by 14.2% during the same period.

The industry attracts several service providers selling different products and services from insurance, transport, pesticides, training, fuel, banking services amongst many other products. The pesticide industry mainly supplying agrochemicals, related products and services thrives directly on the industry supporting quality production of flowers, vegetable and fruits.

According to data available from Bayer Cropscience Kenya (a leading agrochemical supplier) the flower industry is about 2200ha with roses covering about 1500ha. The same source indicates that the sector has an agrochemical/pesticide market worth Kshs 1.6 billion. The market can be divided into various segments depending on the pest or disease.

These segments include products that target mites, insects, downy mildew, powdery mildew, botrytis and nematodes. The pesticide industry employ different marketing activities to market their products in these segments.

The main agrochemical companies in this sector include Bayer Cropscience, Syngenta E.A.Ltd, Chemtura Kenya, Basf, Amiran Kenya Ltd, Farmchem, Twiga Chemicals, Arysta Lifesciences Kenya, Juanco SPS, Orion E.A.Ltd, Osho Chemicals Ltd, Organix Ltd, Hygrotech, and Lachlan Ltd. To obtain a market share in each of these segments these companies employ different marketing mixes of product, distribution, price and promotion.

The industry competitiveness in terms of introducing new products, supporting existing ones and increasing market share and profitability is so very stiff. Recently we have seen introduction of generic products to compete with the original molecules and this has increased competition among the existing companies. Though not much has been studied in this sector, industry sources using sales have come up with market positions for the various companies in the pesticide industry. (see attached list-appendix 5).

1.3 Statement of the Problem

The pesticide industry is increasingly becoming very competitive with companies coming up with products and or alternatives either in terms of original or generic products. In order to maximize their profits and expand, companies need to understand their respective market share and thus develop strategies towards this end. There is increasing pressure from both the market and pressure groups such audit bodies for example Kenya Flower Council (KFC), Fairtrade Labeling Organizations International (FLO), and Human Rights group among others to stop use of certain products which are deemed "toxic". This is a big challenge to the industry players because it means they will have to drop products or portfolios that are profitable and already registered and either develop new ones or increase the market share of those that are left to remain competitive and profitable.

This study assessed the factors that influence the market share in the floriculture sector in Kenya for the different companies marketing pesticides. The primary concern was market share by companies, products and segments. The study has revealed the performance of different companies and identified areas of investment for the existing companies or new investors.

According to industry sources not much has been done in this area of study and especially on performance measurement criterion. This has left the various companies to base their decisions on hunch and feedback from either the farmers or their representatives in the sector. This report will provide more information on this sector and offer both academic and business executives vital information for study and decision making.

There has been a tendency by the pesticide companies to concentrate on the technical aspect of the industry and lay little emphasis on the business aspect. This report tries to bridge the gap and blend the technical and business aspect of the industry.

Performance measurement and establishment of factors affecting this performance is an area that has not attracted many studies especially in the pesticide industry in Kenya and will contribute to both the academic and business field in this sector. Generally, there has been a lot of emphasis on measures of performance using accounting methods especially profitability with little emphasis on using non-financial methods such as market share which together with the financial measures would give a more wholly picture of the companies performance. This report provides a fertile source of information for utilization on performance measurement methods for business executives and academicians.

It was envisaged that through this study business executives in the pesticide industry would adopt recommended performance methods in their day to day management and decision making processes and add value to their models.

1.4 Objectives of the Study

The report has established the market performance based on market share of different companies dealing in pesticides in the floriculture industry and their performance. The report also reveals the different segments in this sector and the market share of different companies.

1.4.1 Specific objectives include;

1. To assess the performance of pesticide companies in floriculture in Kenya.
2. To determine and offer recommendations on the importance of market share analysis as a tool of analyzing performance in this sector.
3. To determine the factors that influence performance of pesticide companies in floriculture industry.
4. To determine the correlation between these factors and performance.
5. To examine the floriculture industry and opportunities available for investment for new and existing pesticide companies.

1.4.2 Research Questions

The report answers the following questions;

1. Which factors influence the performance of pesticide companies in the floriculture industry in Kenya?
2. What is the market share of the various pesticide companies in the floriculture industry?
3. Which segments in the floriculture industry are more attractive for investment by the pesticide companies and why are they attractive?

1.5 Scope of the Study

The report has focused on the pesticide industry in the floriculture sector in Kenya. The study assessed and investigated the factors influencing market performance of pesticide companies in the floriculture industry in Kenya. It covers the flower farms in Kenya (see appendix 4). Market share, quality of service, new product development, sales figures, and product quality were considered as key indicators of performance of various companies.

The report has concentrated on the floriculture farms growing cut flowers for the export market in Kenya.

1.6 Significance of the Study

It is envisaged that this report has come up with information and results useful to different users. The users include pesticide companies, investors, scholars, flower farmers, and decision makers in the industry.

Pesticide companies will get information on the factors influencing their performance and their overall market share in the floriculture industry.

They will either thrive to defend their market or win more market share. They will also identify areas of investment available in the sector.

The report will provide scholars with an in depth analysis of the pesticide industry in the floriculture industry and contribute to the academic area of performance assessment and analysis. It will therefore provoke more research in this sector or consolidate the results of this study.

At the end of this report it is envisaged that more information will be available on performance measurement in the pesticide industry for both academic and business benefit. It was expected that companies that are efficient, have quality products, technical capabilities, and exhibit strong after sales service will show better performance.

Decision makers and chief executives will find the results of this study useful in their decision making process as it will provide an analysis of the floriculture industry, its segments and which company is where in terms of market share and market performance. They will seek to either defend their market share or win more market share.

The flowers farmers will establish segments that need a lot of investment in terms of pesticide usage and therefore develop appropriate strategies to either reduce costs or improve efficiency.

Researchers of new pesticides will find this information useful in justifying research into new products.

The study has identified areas or opportunities for investment in the floriculture industry in Kenya by investors dealing in pesticides, related products, and/or services.

1.7 Limitations of the Study

1. The flower farms whose farm/general managers or production managers/agronomists were the respondents are located in diverse locations in the country and hence administering questionnaires was abit tedious.
2. New products which are still in the introduction stage may not be well reflected in the respective segments market share.

CHAPTER TWO

2.1 LITERATURE REVIEW

2.2 Performance

According to Oxford advanced learner's dictionary performance is how well or badly you do something or how well or badly something works. Lebas and Euske (2002) provide a good definition of performance as "doing today what will lead to measured value outcomes tomorrow."

RBH Performance Solutions generally defines the term performance as follows:

"Performance = the things we do + the outputs of value that we produce."

The things we do can be any type of behavior including behavior that can not be seen such as thinking.

Outputs of value are the results of the things we do. Things done in work places should produce results that the organization values. Often the combined results of many small tasks are required to help produce larger organizational results.

Supervisors have conducted performance appraisals for years. Employees have attended training sessions for years. Organization members have worked long, hard hours for centuries. Processes, such as planning, budgeting, sales and billings have been carried out for years in organizations. But all too often, these activities are done mostly for the sake of doing them, not for contributing directly to the preferred results of the organization.

Performance management reminds us that being busy is not the same as producing results. It reminds us that training, strong commitment and lots of hard work alone is not results. The major contribution of performance management is its focus on achieving results; - useful products and services for customers inside and outside the organization. Performance management redirects our efforts away from busyness toward effectiveness (www.managementhelp.org).

According to industry sources performance in the pesticide industry is basically done using the sales by companies in the market and the company with the highest sales is regarded as the market leader. This is the general indicator of performance in the sector.

The Kenyan pesticide industry is composed of both local and international companies with different approaches to gain both sales and market share.

The growing challenges in the industry means that companies need to understand and be able to identify and quantify their market share and other factors influencing performance such as product quality, service quality, and new product development as they come up with different marketing strategies.

2.3 Performance Measures

Organizational control is the process whereby an organisation ensures that it is pursuing strategies and actions which will enable it to achieve its goals. The measurement and evaluation of performance are central to control and mean posing 4 basic questions:-

- What has happened?
- Why has it happened?
- Is it going to continue?
- What are we going to do about it?

The first question can be answered by performance measurement. Management will then have to hand far more useful information than it would otherwise have in order to answer the other three questions. By finding out what has actually been happening, senior management can determine with considerable certainty which direction the company is going in and, if all is going well, continue with the good work.

Or, if the performance measurements indicate that there are difficulties on the horizon, management can then lightly effect a touch on the tiller or even alter course altogether with plenty of time to spare.

As to the selection of a range of performance measures which are appropriate to a particular company, this selection ought to be made in the light of the company's strategic intentions which will have been formed to suit the competitive environment in which it operates and the kind of business that it is.

For example, if technical leadership and product innovation are to be the key source of a manufacturing company's competitive advantage, then it should be measuring its performance in this area relative to its competitors. But if a service company decides to differentiate itself in the marketplace on the basis of quality of service, then, amongst other things, it should be monitoring and controlling the desired level of quality.

Whether the company is in the manufacturing or the service sector, in choosing an appropriate range of performance measures it will be necessary however to balance them, to make sure that one dimension or set of dimensions of performance is not stressed to the detriment of others. The mix chosen will in almost every instance be different.

While most companies will tend to organize their accounting systems using common accounting principles, they will differ widely in the choice, or potential choice, of performance indicators.

Another way of categorizing these sets of indicators is to refer to them either as upstream or as downstream indicators, where, for example, improved quality of service upstream leads to better financial performance downstream.

Table 2.0 Upstream Determinants and Downstream Results

Performance Dimensions	Types of Measures
Competitiveness	Relative market share and position Sales growth, Measures of customer base
Financial Performance	Profitability, Liquidity, Capital Structure, Market Rations, etc.
Quality of Service	Reliability, Responsiveness, Appearance, Cleanliness, Comfort, Friendliness, Communication, Courtesy, Competence, Access, Availability, Security etc.
Flexibility	Volume Flexibility, Specification and Speed of Delivery Flexibility
Resource Utilisation	Productivity, Efficiency, etc.
Innovation	Performance of the innovation process, Performance of individual innovations, etc.

Source: "Performance Measurement in Service Businesses"by Lin Fitzgerald, Robert Johnston, Stan Brignall, Rhian Silvestro and Christopher Voss, page 8.

The three primary criteria used to evaluate performance at both the product and the corporate/business-unit levels are profits, sales volumes and market share. In some cases these criteria do not move in tandem, and a firm may consciously emphasize one at the expense of another.

For example a firm entering a market or defending one might try to "buy" market share at the expense of profits by advertising heavily cutting prices and providing retailers or wholesalers with higher margins since costs increase to achieve market share, profits go down. The firm might incur these additional expenses to establish itself but the goal remains maximization of long-term profits, (Assel Henry 1993).

Runyon (1982) defined a market as consisting of particular groups of people who are willing to spend their money for a particular set of competing product brands.

Market share (or brand share) analysis is one of the most important tools for assessing market performance. It enables a company evaluate the performance of its particular product brand or brands in comparison with the relevant total market and competition.

Company sales do not reveal how well the company is doing relative to its competitors. Sales of a particular brand may be increasing tremendously, yet the industry growth is even greater leading to brand being outstripped by competitors (Runyon 1982).

Market share, therefore refers to the portion of the total market a product brand has relative to its competitors. It can also refer to the company's share of the total industry sales.

2.3.1 Market dominance

Market dominance is a measure of the strength of a brand, product, service, or firm, relative to competitive offerings. There is often a geographic element to the competitive landscape. In defining market dominance, you must see to what extent a product, brand, or firm controls a product category in a given geographic area.

market dominance can be calculated using several ways. The most direct is market share. This is the percentage of the total market serviced by a firm or brand.

A declining scale of market shares is common in most industries: that is, if the industry leader has say 50% share, the next largest might have 25% share, the next 12% share, the next 6% share, and all remaining firms combined might have 6% share.

Although there are no hard and fast rules governing the relationship between market share and market dominance, the following are general criteria:

- A company, brand, product, or service that has a combined market share exceeding 60% most probably has market power and market dominance.
- A market share of over 35% but less than 60%, held by one brand, product or service, is an indicator of market strength but not necessarily dominance.
- A market share of less than 35%, held by one brand, product or service, is not an indicator of strength or dominance and will not raise anti-combines concerns of government regulators.

Market dominance strategies

These calculations of market dominance yield quantitative metrics, but most business strategists categorize market dominance strategies in qualitative terms.

There are four types of market dominance strategies that a marketer will consider: There are market leader, market challenger, market follower, and market nicher.

Market leader

The market leader is dominant in its industry. The market leader has substantial market share and often extensive distribution arrangements with retailers. Market leader typically is the industry leader in developing innovative new business models and new products (although not always). It tends to be on the cutting edge of new technologies and new production processes.

It sometimes has some market power in determining either price or output. Of the four dominance strategies, it has the most flexibility in crafting strategy. There are few options not open to it. However, the market leader is in a very visible position and can be the target of competitive threats and government anti-combines actions.

Research in experience curve effects and the PIMs study during the 1970s concluded that market leadership was the most profitable strategy in most industries.

Market challenger

A market challenger is a firm in a strong, but not dominant position that is following an aggressive strategy of trying to gain market share. It typically targets the industry leader , but it could also target smaller, more vulnerable competitors.

Some of the options open to a market challenger are price discounts or price cutting, line extensions, introducing new products, reducing product quality, increasing product quality, improve service, change distribution, cost reductions, and intensify promotional activity.

Market follower

A market follower is a firm in a strong, but not dominant position that is content to stay at that position. The rationale is that by developing strategies that are parallel to those of the market leader, they will gain much of the market from the leader while being exposed to very little risk.

Market nicher

In this niche strategy the firm concentrates on a select few target markets. It is also called a focus strategy. It is hoped that by focusing ones marketing efforts on one or two narrow market segments and tailoring your marketing mix to these specialized markets, you can better meet the needs of that target market. The niche should be large enough to be profitable, but small enough to be ignored by the major industry players.

Profit margins are emphasized rather than revenue or market share. The firm typically looks to gain a competitive advantage through effectiveness rather than efficiency. It is most suitable for relatively small firms and has much in common with guerrilla marketing warfare strategies. The most successful nichers tend to have the following characteristics:

- They tend to be in high value added industries and are able to obtain high margins.
- They tend to be highly focused on a specific market segment.
- They tend to market high end products or services, and are able to use a premium pricing strategy.
- They tend to keep their operating expenses down by spending less on R&D, advertising, and personal selling.

According to industry sources Bayer Cropscience is the market leader in this sector while Syngenta, Basf, and Amiran could be considered as challengers.

Chemtura, Farmchem, Juanco, Arysta, and Twiga can be considered as followers. The nature of this industry makes it challenging to have nichers though some companies such as Juanco have been trying to specialise on some niches where few or any company has ventured into.

2.3.2 Need for new performance measures;

The following arguments are presented to help provide explanations about the need for new performance measures;

1. The management approach has moved from manager-centered to customer-centered. The emphasis in modern business context is delivering quality rather than producing quantity.
2. Direct physical measures are an effective means to decision making; unlike traditional measures, the new measures such as cost, quality and time can lead to action on the spot

and decisions taken at the right time to make necessary adjustments and bring about any corrections. Hence, what is delivered to the customer can remain of high quality.

3. Measuring through the voice of the process: measuring the capability of the process (i.e. control measures) and the consistency of the process (i.e. feedback measures such as time, quality, and cost) determine the overall capability of the organization and as such, enable senior managers to define parameters of competitiveness.
4. New measures can support strategic direction and make goal setting a more achievable task. The lack of performance measurement with strategy is recognized by most authors. Vollman (1991) for instance argued that one of the fundamental attributes of an effective performance measurement system is that it should encourage actions congruent with the company's business strategy.
5. Performance measurement has to fit the culture of the organization. Measures have to reflect the existing processes, the structure already in place, the management style, the knowledge and skill base, the market, the customer base and other criteria which make each individual organization behave in a unique fashion.
6. Performance measurement in TQ (Total Quality) context is not about controlling people but about managing processes. Total ownership through involvement of all process owners is therefore of prime importance. An organization's success is very much dependent on individual contributions through the continuous measurement and improvement of processes with which it is associated.
7. Modern business productivity is based on people productivity.

(Benchmarking for Best Practice; Mohamed Zairi; pg 391-392)

Establishment and assessment of the factors affecting performance by the pesticide companies will help them in developing comprehensive strategies that will enable them improve their, profitability, market share, and deliver quality to their clients. Adoption of wider performance measures will enable these companies establish a more clearer view and assessment of the market.

A typical performance measurement helps businesses in periodically setting business goals and then providing feedback to managers on progress towards those goals.

The time horizon for these goals can typically be about a year or less for short-term goals or span several years for long-term goals (Simmons 2000).

Measurement systems are comprised of multiple measures. A measure is a quantitative value that can be used for purposes of comparison (Simmons 2000). A specific measure can be compared to itself over time, compared with a preset target or evaluated along with other measures.

Since a measure is used for the purpose of comparison, it need not represent an absolute value. For example, in measuring customer profitability, knowing the relative distance in profitability between two customers may be as valuable (and more easily gotten) than knowing the absolute value for a customer's profitability. Moreover, many Business Performance Measurement (BPM) systems normalize a measure into a value that promotes comparison not just with itself, but also with other measures.

Following Simmons (2000), measures can be objective or subjective. Objective measures can be independently measured and verified. Subjective ones cannot. Measures are also typically classified as financial or non-financial. Financial measures are typically derived from or directly related to chart of accounts and found in a company's profit and loss statement or balance sheet, such as inventory levels or cash on hand. Non-financial measures are measures not found in the chart of accounts, such as customer satisfaction scores or product quality measures.

Measures are also leading or lagging. Lagging measures give feedback on past performance, such as last month's profit, and typically do not provide insight into future performance. Leading indicators, in contrast, are designed to measure future performance, and more often than not, future financial performance. Some leading indicators to future performance might include customer defection rate, customer satisfaction scores or changes in consumer confidence Measures are either complete or incomplete.

Complete measures capture all the relevant attributes of achievement, whereas incomplete measures do not. Measures are also responsive or not responsive. Individuals can influence responsive measures, whereas non-responsive measures are outside the influence or control of an individual (such as consumer confidence).

Measures may be related to inputs into a process, feedback on the performance of a process itself or they may be related to the outcomes or outputs from the process. Measures may be related to human performance, process performance or market conditions.

Some, but not all, measures are directly related to the firm's strategy and are critical for its successful execution of its strategy.

These are called critical or key performance indicators. Finally, measures can refer to tangible things, often recorded in the chart of accounts, such as inventory levels, accounts receivable balances, employee headcount, or can refer to intangibles such as level of skill or knowledge, creativity and innovation.

Understanding the business in depth is the goal of self-analysis. A business self-analysis is similar to a competitor analysis but has a greater focus upon performance assessment and is much richer and deeper.

It is more detailed because of its importance to strategy and because much more information is available. The analysis is based on detailed, current information on sales, profits, costs, organization structure, management style, and so on.

A self- analysis begins by examining the performance of the business. Indications of unsatisfactory or deteriorating performance might stimulate strategy change.

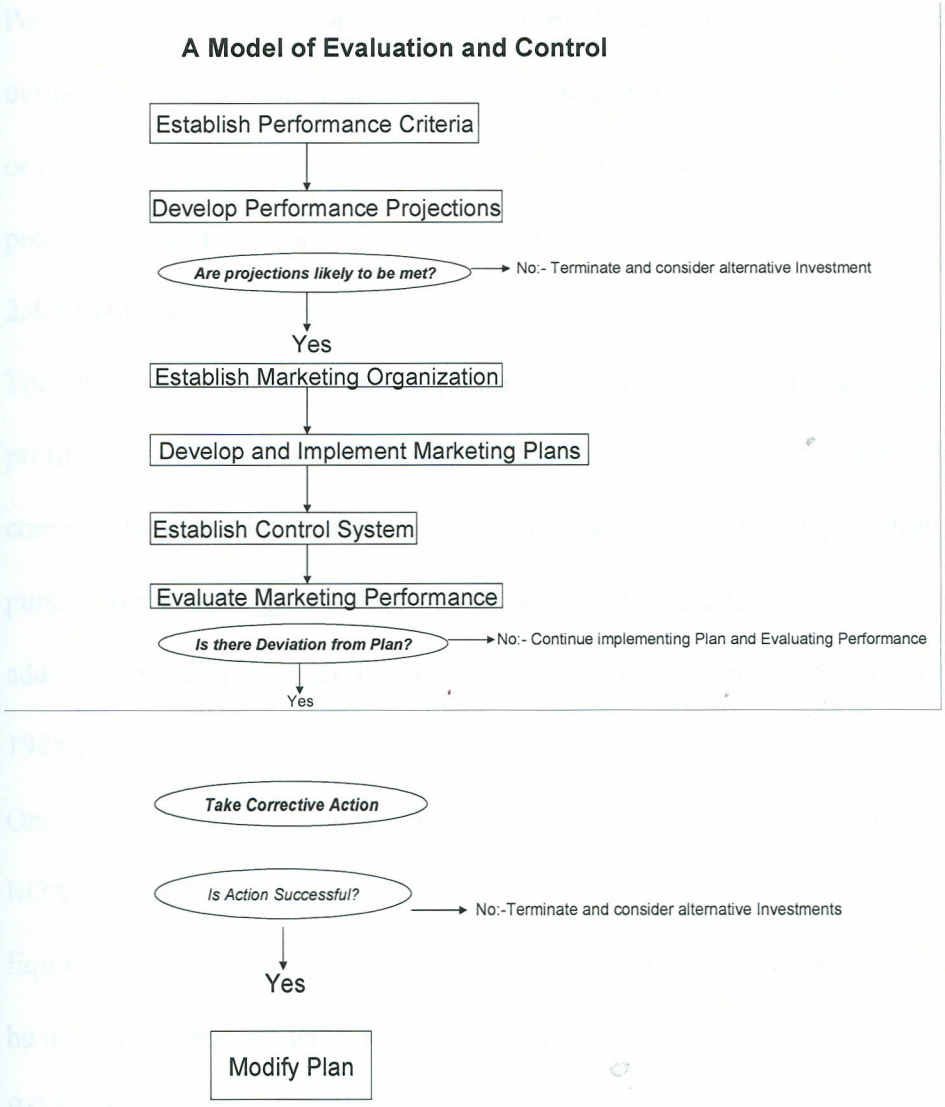
Performance analysis is especially relevant to the strategic investment decision of how much to invest in or disinvest from a business, (Aaker A. David, 1988).

2.3.3 Performance criteria

The three primary criteria used to evaluate performance at both the product and the corporate/business-unit levels are profits, sales volumes and market share. In some cases these criteria do not always move in tandem and a firm may consciously emphasize one at the expense of another (Assael Henry; 1993).

A central notion in considering control is the evaluation of performance. This can be undertaken at several levels, at the societal level, at the level of the enterprise as a whole, at the level of a division or other segment such as activities, or at the level of the group or individual (Richard M.S. Wilson et al; 1997). A firm must have a systematic basis for evaluating and controlling marketing operations at both the corporate and product level.

Figure 2.0: A model of evaluation and control



Source: Marketing Principles and Strategy; 2nd Edition; Henry Assael

2.4 Performance Analysis

Performance analysis involves gathering formal and informal data to help customers and sponsors define and achieve their goals. Performance analysis uncovers several perspectives on a problem or opportunity, determining any and all drivers towards or barriers to successful performance, and proposing a solution system based on what is discovered (www.josseybass.com).

2.4.1 Profitability

The ultimate "bottom-line" test of performance for a business as well as a corporation is profitability, which reflects the market viability of the product line and the ability to produce competitively. Profits provide the basis for internally or externally generated capital needed to pursue growth strategies, to replace obsolete plants and equipment, and to absorb market risk. In addition, profitability objectives at least appear to be specific and easily measured (Aaker A. David, 1988).

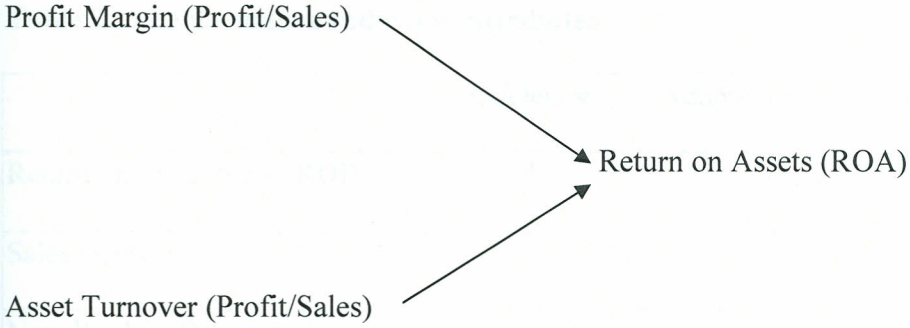
One basic profitability measure is return on assets, the profitability divided by the assets involved:

ROA=Profits/Assets

Equivalently, the following formula, developed by General Motors and DuPont in the 1920s, can be used to decompose ROA to return on sales and asset turnover:

ROA= Profit/Sales × Sale/Assets

Thus, return on assets can thus be considered as having two causal factors. The first is the profit margin, which depends upon the selling price and the cost structure. The second is the asset turnover, which depends upon inventory control and asset utilization.



2.4.2 Performance Measurement Indicators

Performance measurement is an important issue in the field of management science. Although there is a debate as to the reliability and validity of performance indicators, there is no substitute for their role in managerial decision-making process (Hofer 1983). Such indicators provide managers with better insights into planning and control of organizational performance.

The most commonly used performance indicators are: return on investment (ROI), net profit, liquidity, leverage ratio, gross and net contribution margins, market share, sales growth, turnover of personnel, among others.

Multiple measures of performance are frequently used in marketing research. Walker and Ruekert (1987) suggested three specific attributes for the measurement of performance: effectiveness, efficiency, and adaptability. In this study, ROI was used to measure the efficiency of the organization; sales growth and market share were used to assess the firms' effectiveness and ability to achieve market power. Market share has a positive relationship with profitability (Buzzel et al., 1975; Szymanski et al., 1993). New product success (NPS) rate was used to measure adaptability. Two additional performance indicators were used: customer retention to assess the level of satisfaction and global presence to measure the level of export orientation.

Table 2.1: Performance Indicator Attributes

	Efficiency	Adaptability	Effectiveness
Return on Investment (ROI)	*		
Sales Growth			*
New Product Development		*	
Market share			*
Customer Retention		*	
Global Presence		*	

Source: Market Orientation, Corporate Culture and Business Performance Pg 23-Satyendra Singh

Recently, the market share as a proxy for profitability of companies has come under question (Jacobson, 1990) because increasing market share by spending more on advertising and promotion may come at the expense of short-term profit. On the other hand, finance-based measures, such as ROI may assess the efficiency of an organization in the short-term, but may undermine the development of a long-term strategy (Eccles, 1991). It may not be adequate to predict corporate excellence only (Chakravarty, 1986).

Therefore, it is preferable to devise a multiple measure of performance and interpret the results based on one performance indicator in conjunction with others. Multiple measures are consistent with the theoretical viewpoint in that performance should be viewed as being multidimensional as it covers diverse purposes and types of organizations (Levin and Minton, 1986).

2.4.3 Financial vs. Non-Financial

In many companies, the familiar cry "everything here is viewed in terms of the bottom line!" can be heard. In this sort of corporate environment, financial indicators remain the fundamental management tool and could be said to reflect the capital market's obsession with profitability as

almost the sole indicator of corporate performance. Opponents of this approach suggest that it encourages management to take a number of actions which focus on the short term at the expense of investing for the long term. It results in such action as cutting back on research & development (R&D) revenue expenditure in an effort to minimize the impact on the costs side of the current year's Profit & Loss account, or calling for information on profits at too frequent intervals so as to be sure that targets are being met, both of which actions might actually jeopardize the company's overall performance rather than improve it.

In general terms, the opponents of "the bottom line school" state that because of the pre-eminence of money measurement in the commercial world, the information derived from the many stages preceding the preparation of the annual accounts, such as budgets, standard costs, actual costs and variances, are actually just a one dimensional view of corporate activity. Increasingly, over the past decade, they have been emphasising that executives should come to realize the importance of the non-financial type of performance measurement.

Research in support of this approach has come up with new dictums for the workplace: "the less you understand the business, the more you rely on accounting numbers" and "the nearer you get to operations, the more non-financial performance indicators you realise could be valuable aids to better management"; or "graphs and bars carry much more punch than numbers for the non-financial manager".

But there is still a lot of resistance. Executives tend to avoid using multiple indicators because they are difficult to design and sometimes difficult to relate, one to another.

They have a strong preference for single indicators of performance which are well tried and which produce ostensibly unambiguous signals. But the new school lays great emphasis on the fact that multiple indicators are made necessary by the sheer complexity of corporate activity.

Non-financial performance measures are available that often provide better measures of long-term business health such as;

Market share-how are we doing relative to competitors?

Product value and performance-Is our product delivering value to the customer and is it performing as intended?

Relative cost-Are we at a cost disadvantage with respect to materials, assembly, product design, or wages?

New product activity-Have we a stream of new products or product improvements that have made an impact?

Management-Have we created the type, quantity, and depth of management that is needed to support projected strategies?

Employees-Are the employees effective and motivated?

Product portfolio analysis-The product portfolio analysis examines the product mix for an appropriate balance between new products and mature products.

An organization that lacks a flow of new products faces stagnation or decline. A balance also must exist between products generating cash and those using cash (Aaker A. David, 1988).

The Case for Non-Financial Performance Indicators

Professor Kaplan of Harvard Business School in The Evolution of Management Accounting states: "If senior managers place too much emphasis on managing by the financial numbers, the organisation's long term viability becomes threatened."

That is, to provide corporate decision makers with solely financial indicators is to give them an incomplete set of management tools.

The essential case is twofold; that firstly not every aspect of corporate activity can be expressed in terms of money and secondly that if managers aim for excellence in their own aspects of the business, then the company's bottom line will take care of itself.

Non-financial indicators relate to the following functions:-

- manufacturing and production
- sales and marketing
- people
- research and development
- the environment

Looking at some of these areas, the following non-exhaustive list of performance measures is relevant. No one indicator should be over emphasized and no one indicator should reign supreme for long in the corporate consciousness of executives or management gurus.

2.4.5 Sales and Marketing

Some of the non-financial indicators or performance in sales and marketing include measurements based on "staying close to the customer", complaints on re packaging / ease of opening, and quality of packaging materials. Customer satisfaction analysis, checking on unsuccessful visit reports, monitoring repeated lost sales by individual salesmen, and monitoring of enquiries and orders also offer good indicators of performance when well operationalized.

Analysis of sales by product line, sales by geographical area, sales by individual customer, backlog of orders analysis, and matching sales orders against sales shipments (the trend from the mismatch) offer yet another indicator to measure performance.

Measuring share of the market against competitors, new product / service launch analysis and delays in delivering to customers (customer goodwill) will also help managers' measure performance in sales and marketing.

(Alastair Shaw, Mattison Public Relations; "A Guide to Performance Measurement and Non-Financial Indicators Paper (1999)."

The call for non-financial measure of performance is largely based on the limitations of the "short-term" financial measures of performance. Hirsch (1994) argues that financial measures are deficient because they can be abused and also purport that financial health is the only goal of the organization.

Porker (1979), Emmanuel and Otley (1976) and Amey and Egginton (1973) in exposing limitations of conventional divisional performance measures advocates use of multiple performance criteria.

Ezzamel (1992) suggests that the exclusive focus on financial measures has two limitations, namely;

1. It ignores the important role that other quantitative non-financial controls can play in guiding performance of local managers.
2. By implication it completely understates the extent to which qualitative control brings about organizational coherence and reduces the potential for opportunistic behaviour.

In support, Ouchi (1979) observes that control in the context of divisionalised organizations should be conceived fairly broadly including structural and non-financial controls, for these controls are not mutually exclusive but complimentary.

According to Johnson and Kaplan (1987) the contemporary trends in competition, technology, and management demands major changes in the way organizations evaluate short and long-term performance with the challenge of de-emphasize the current focus on simple aggregate short-term financial measures and encourage the use of indicators that are more consistent with long-term competitiveness and profitability of the firm, the non-financial measures. The importance of Kaplan's argument is that performance measure should reflect the circumstances under which each unit of the organization operates. He notes that, "large decentralized organizations require systems to motivate and evaluate the performance of their managers. These systems should provide appropriate functions with diverse products and processes amid globally dispersed operations." Kaplan (1983, 1984), Johnson and Kaplan (1987) and Howell and Soucy (1987) suggests that non-financial indicators should be driven by corporate strategy and should include key measures of manufacturing, marketing, research and development and human resource development success.

2.5 Market Share

Performance analysis will involve analysis of the following parameters; return on investments, market share, product value and performance, relative cost, new product activity, manager development and performance, employee attitude and performance and product portfolio analysis. Size and growth as measured by market share and sales are about equal to profitability as common measures of performance. Market share is a basic indicator of market position. If it is increasing, then at least the current competitive position is healthy.

Further, the largest market share position in a market or submarket often results in scale of economies and experience effects that can lead to sustainable cost advantages (Aaker A. David, 1988).

Day and Wensley argue that a "single market share obscures as much as it reveals." there are two reasons for this, competition and level of definition. First market share must be evaluated relative to competition. Consider a 10% market share. That 10% market share can look quite different depending on whether the largest competitor has a 50% share or a 2% share.

Second, the level of definition matters. 10% of the market may be quite good, 10% of the target end-user segment may be unsatisfactory. 10% of the entire market can translate into 50% or more of the target market segment.

Indeed many low-share companies are quite successful by concentrating their efforts in segments where they have a competitive advantage.

Market share is unique with respect to the different elements of competitive advantage because it is both a measure of performance and a measure of competitive strength. As a source of strength or competitive advantage market share carries a lot of perks. Market share makes it easier to get shelf space. It makes it easier to get a consumer new to the product category to pay attention to the brand (Vithala et al 1998).

2.5.1 What is market share?

Market share is the portion or percentage of sales of a particular product or service in a given region that are controlled by a company. (www.wisegeek.com)

Market share can be defined as the percentage of all sales within a market that is held by one brand / product or company. Market share can be measured in several ways. However, the two most important measures are by:

- Sales revenue
- Sales volume (the number of units sold) (www.tutor2u.net).

Market share, in strategic management and marketing, is the percentage or proportion of the total available market or market segment that is being serviced by a company.

It can be expressed as a company's sales revenue (from that market) divided by the total sales revenue available in that market.

It can also be expressed as a company's unit sales volume (in a market) divided by the total volume of units sold in that market (http://en.wikipedia.org/wiki/Strategic_management).

2.5.2 What is market concentration?

It is the proportion of market value that is owned by the leading brands or products/companies in the market. Where the market leaders own a large part of the overall market, the market is said to be highly concentrated. By contrast, where the market leader has a relatively small market share and there are many other competitors, a market is said to be "fragmented"

Comparing a company's sales results with its goal is a useful evaluation but it does not tell how the company is doing relative to its competitors. We need a market share analysis to compare the company's sales with the industry sales. We should analyze the company's share of the market in total as well as by product line and market segment.

Market share is used by businesses to determine their competitive strength in a sector as compared to other companies in the same sector. It also allows you to accurately assess your performance from year to year. If you only use sales to measure your performance, then you don't take into account the market conditions that may have improved or decreased your sales.

Your sales may have gone up because of increased popularity of your type of product, or they may have gone down because of a drought or recession. Since those factors are beyond your control, they don't give you meaningful information about how you are actually doing as a company in terms of improving your business.

By measuring market share, you can see if you are doing better or worse compared to other companies that are facing the same challenges and opportunities that you are.

There are four basic ways you can improve your market share. You can improve your product so that it is better than your competitors or you can change the price or offer special incentives for buyers, such as discounts or sales. Alternatively, you can find new methods to distribute your product so people can buy it in more places. Finally, you can advertise and promote your product. Using these techniques in any combination may improve market share.

Increased market share is not always the best solution for businesses. It might not be profitable if it is associated with expensive advertising or a big price decrease. A company may not be able to meet the demand of an increased market share without huge investments in new equipment and employees. In some cases it can be to a company's advantage to decrease market share, if the lower costs of lower market share can improve profitability. Managing market share, therefore, is a very important aspect of managing a business.

2.5.3 Why is Market Share important?

An important piece of research in the 1960's provided the basis for understanding the importance of market share –and emphasized the implications for marketing and business strategy.

The Profit Impact of Market Strategy ("PIMS") analysis was developed at General Electric in the 1960's and is now maintained by the Strategic Planning Institute. The PIMS database provides evidence of the impact of various marketing strategies on business success.

The most important factor to emerge from the PIMS data is the link between profitability and relative market share. PIMS found (and continues to find) a link between market share and the return a business makes on its investment.

The higher the market share, the higher the return on investment. This is probably as a result of economies of scale. Economies of scale due to increasing market share are particularly evident in purchasing and the utilization of fixed assets.

Marketers today are showing a growing interest in developing better marketing metrics for measuring marketing performance. Managers use five tools to check on the plan performance; sales analysis, market-share analysis, market expense-to-sales analysis, financial analysis, and market-based scorecard analysis (Kotler 2004).

2.5.4 Sales Analysis

Sales analysis consists of measuring and evaluating actual sales in relation to goals. Two specific tools are used in sales analysis;

1. Sales-variance analysis measures the relative contribution of different factors to a gap in sales performance.

Suppose the annual plan called for selling 4000 units of pesticide X in the first quarter at Kshs 10 per unit, for total revenue of Kshs 40,000. At quarter's end, only 3000 units were sold at Kshs 8 per unit, for total revenue of Kshs 24,000. How much of the sales performance is due to the price decline and how much to the volume decline? The following calculation answers this question;

Variance due to price decline	= (Kshs10-8) (3000)	=Kshs 6,000	37.5%
Variance due to volume decline	= (Kshs10) (4000-3000)	=Kshs 10,000	62.5%
	Total	Kshs 16,000	100%

Almost two-thirds of the variance is due to failure to achieve the volume target. The company should look closely at why it failed to achieve expected sales volume.

2. Microsales analysis looks at specific products, territories, and so forth that failed to produce expected sales. Suppose the company sells in three territories and expected sales

were 1,500 units, 500 units, and 2000 units, respectively. The actual sales volume was 1,400 units, 525 units, and 1,075 units, respectively. Thus territory 1 showed a 7 percent shortfall in terms of expected sales; territory 2, a 5 percent improvement over expectations; and territory 3, a 46 percent shortfall. Territory 3 is causing most of the trouble. Territory 3 needs to be checked, maybe sales rep is loafing or has a personal problem; a major competitor has entered this territory, or business is in a recession in this territory.

2.5.5 Market-Share Analysis

Company sales do not reveal how well the company is performing relative to competitors. Therefore, management needs to track its market share. Market share can be measured in three ways;

Overall market share is the company's sales expressed as a percentage of total market sales.

Served market share is its sales expressed as a percentage of the total sales to its served market. Its served market is all the buyers who are able and willing to buy its product. Served market share is always larger than overall market share.

Relative market share can be expressed as market share in relation to its largest competitor. A relative market share of over 100 percent indicates a market leader. A relative market share of exactly 100 percent means that the company is tied for the lead. A rise in relative market share means a company is gaining on its leading competitor.

Performance in this scenario is a factor of sales revenue and market share. Overall market share is in turn a factor of customer penetration, loyalty, selectivity and price selectivity.

2.6 Product quality

Most products are established at one of four performance levels: low, average, high, or superior. Performance quality is the level at which the product's primary characteristics operate.

Does offering higher product performance produce high profitability? The Strategic Planning Institute studied the impact of higher relative product quality and found a significantly positive correlation between relative product quality and return on investment. High quality business units earned more because premium quality allowed them to charge a premium price; they benefited from more repeat purchasing, consumer loyalty, and positive word of mouth; and their costs of delivering more quality were not much higher than for business units producing low quality.

Quality link to profitability does not mean that the firm should design the highest performance level possible. The manufacturer must design a performance level appropriate to the target market and competitors' performance levels.

A company must also manage performance quality through time. Continuously improving the product often produces the highest return and market share. The second is to maintain product quality at a given level. Many companies leave quality unaltered after its initial formulation unless glaring faults or opportunities occur. The third strategy is to reduce product quality through time. Some companies cut quality to offset rising costs; others reduce quality deliberately in order to increase current profits, although this course of action often hurts long-run profitability (Kotler 2004).

Among all the strategic principles distilled from the Profit Impact of Market Strategy (PIMS) studies, one linkage between strategy and performance stood out above all the rest: quality. In the long run, the most important factor affecting a business unit's performance is the quality of its products and services, relative to those of competitors.

A quality edge boosts performance in the short run by allowing the firm to charge premium prices and in the long run by enabling growth of the firm through both market expansion and gains in market share.

"The 1960s and 1970s brought a dawning realization that market share is key to a company's growth and profitability. The 1980s have shown just as clearly that one factor above all others-quality-drives market share."(Buzzel and Gale, The PIMS Principles).

PIMS found out that businesses offering superior product/service quality are more profitable than those with inferior quality, based on the measures return on sales and return on investment. In addition to these profitability and growth advantages, PIMS revealed other benefits of superior perceived quality: stronger customer loyalty, more repeat purchases, less vulnerability to price wars, and lower marketing costs.

What makes quality the touchstone of competitive strategy is that it creates choices and opportunities not available to an organisation's competitors. Quality provides a different perspective and the potential to put an organization on a different competitive plane than its competitors. From a strategic perspective, the company determines whether and in what manner the quality advantage it has created will be used. Thus, the link between quality and corporate strategy is simply that quality creates the ability for an organization to take actions that are literally impossible for its competitors (James A. Belohlav). (An American Society for Quality (ASQ) White Paper; Making the Economic Case for Quality by John Ryan).

Increasing global competition and rising customer expectations make product quality and customer value important strategic priorities for marketers. On a global scale, many international companies insist that suppliers, as a prerequisite for negotiations, meet quality standards set out by the Geneva-based International Standards Organization (ISO). These quality requirements, referred to as ISO-9000 standards, were developed for European Community, but have gained a global following. Certification requires a supplier to thoroughly document its quality-assurance program. The certification program is becoming a seal of approval to compete for business.

2.7 Service efficiency

The Oxford advanced learner's dictionary defines efficiency as "the quality of doing something well with no waste of time or money." Customers form service expectations from past experiences, word of mouth, and advertising. Customers compare the perceived service with the expected service. If the perceived service meets or exceeds their expectations, they are apt to use the service provider again. A highly satisfied customer stays loyal longer, buys more as the company introduces new products and upgrades existing ones, talks favorably about the company and its products, pays less attention to competing brands and is less sensitive to price. He offers product or service ideas to the company, and costs less to serve than new customers because transactions are routine.

Parasuraman, Zeithaml, and Berry found five determinants of service quality. In order of importance these are;

1. Reliability: the ability to perform the promised service dependably and accurately.

2. Responsiveness: the willingness to help customers and to provide prompt service.

3. Assurance: the knowledge and courtesy of employees and their ability to convey trust and confidence.

4. Empathy: the provision of caring, individualized attention to customers.

5.Tangibles: the appearance of physical facilities, equipment, personnel, and communication materials (Kotler 2004).

2.7.1 Service Quality

According to Lewis & Booms (1983), 'service quality is a measure of how well the service level delivered matches customer expectations. Delivering quality service means conforming to customer expectations on a consistent basis.'

The notion that service quality is a function of the expectations-performance gap was reinforced by an extensive multi-sector research study conducted by Parasuraman, Zeithaml, and Berry (1985). Based on common insights from the focus groups, Parasuraman et al defined service quality, as perceived by customers, as the degree and direction of discrepancy between customers' service perceptions and expectations. Sasser et al. (1978) proposed three different dimensions of service performance, all dealing with the process of service performance, all dealing with the process of service delivery; levels of material, facilities, and personnel.

Gronroos (1982) proposed two types of service quality; technical quality, which involves what customers actually receive from the service provider (i.e. the outcome of the service), and functional quality, which involves the manner in which customers receive the service (i.e. the process of service delivery). Lehtinen & Lehtinen (1982) discussed three kinds of quality: physical quality, involving physical aspects associated with the service such as equipment or building; corporate quality, involving a service firms' image or reputation; and interactive quality, involving interactions between service personnel and customers, as well as among customers.

Customers use more than just the service outcome or "core" in assessing service quality. Customer assessments are also influenced by the service process and peripherals associated with the service. The customer focus-group research conducted by Parasuraman et al (1985) confirmed that, both outcome and process dimensions influence customer' evaluation of service quality.

Published research offers evidence that positive service-quality perceptions affect customer intentions to behave in positive ways such as praising the firm, preferring the company over others, increasing the volume of purchases, or agreeing to pay a price premium. Boulding and colleagues (1993) found a positive correlation between service quality and a two-item measure of repurchase intentions and willingness to recommend.

Service quality improvement has been linked to stock price shifts (Aaker& Jacobson, 1994), the market value of the firm (Hendricks & Singhal, 1997), and overall corporate performance (Easton & Jarell, 1998). Fitzerald & Erdman (1992) estimated the impact of continuous improvement on profits in 280 automotive suppliers, and found a 17% increase in profits over a two-to three-year period.

2.8 After Sales Service

The marketing function must ensure that every part of the organization focuses on delivering superior value to customers.

Business marketing programs involve a number of critical components that are carefully evaluated by customers: tangible products, service support, and ongoing information services both before and after the sale. Post-purchase service is especially important to buyers in many industrial products categories.

Responsibility for service support, however, is often diffused throughout various departments, such as applications engineering, customer relations, or service administration. Significant benefits accrue to the business marketer who carefully manages and coordinates product, sales, and service connections to maximize customer value.

The business marketing manager must recognize that service activities augment the physical product and can be create a differential advantage for the firm in the eyes of organizational buyers. Roland Rust, Antony Zahorik, and Timothy Keiningham have developed a technique for calculating the "return on investing in quality." Under this approach service quality benefits are successively linked to customer satisfaction, customer retention, market share, and finally, to profitability. (Michael D. Hutt & Thomas W, Speh, Business Marketing Management).

Pesticide products are very technical in nature and thus need support after purchase. This could be through technical guidance on usage, training, addressing technical hitches, complaints, and other related issues. Companies that offer effective after sales service to their customers gain more trust, loyalty and ultimately this may translate to improved market share. A sale does not stop at the point of purchase; a product needs more support after that so that customers can get optimum benefit from it.

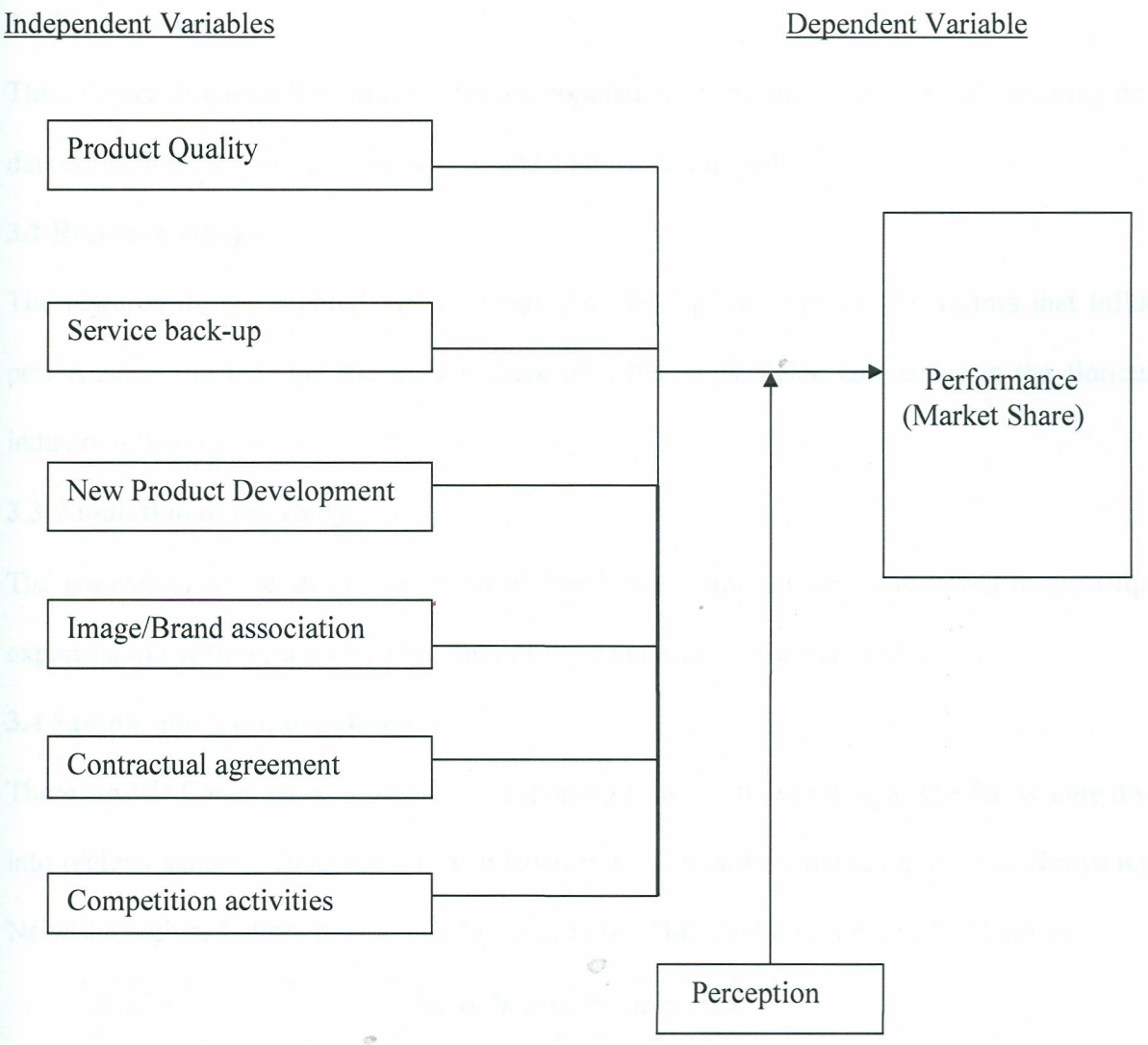
2.9 New Product Development

Companies that fail to develop new products are putting themselves at great risk. Their existing products are vulnerable to changing customer needs and tastes, new technologies, shortened product life cycles, and increased domestic and foreign competition (Kotler 2004). A recent report into Best New Product Practice in the UK showed that, across a broad range of industry sectors, the average number of new products launched in the previous 5 years was 22, accounting for an average 36 percent of sales and 37 per cent of profits (Tzokas, 2000). The most recent PDMA Best Practice Survey noted an average number of 38.5 new products in the previous 5 years, contributing to 32.4 per cent of sales and 30.6 per cent of profits (Griffin, 1997).

In the pesticide new products are important due to changing trends in the market, new challenges, and pressure from generic products and substitutes among other factors.

New products will either be from completely new innovations or improvement of current products. Companies with more innovations and introduction of new products generally show a competitive advantage over their competitors.

Figure 2.10 Conceptual Framework



CHAPTER THREE

3.1 METHODOLOGY

3.2 Introduction

This chapter discusses the research design, population of the study, sample and sampling design, data collection methods and instruments and analysis techniques.

3.2 Research Design

The research design adopted for this study was descriptive to assess the factors that influence performance and measure the market share of different pesticide companies in the floriculture industry in Kenya.

3.3 Population of the study

The population of the study comprised of 108 flower farms in Kenya involved in growing and exporting of cut flowers with a minimum of five (5) hectare. (See attached list).

3.4 Sample and Sampling design

There are 108 flower farms growing and exporting flowers all over Kenya. The farms were divided into regions namely; Thika region, Athi River region, Nairobi/Kiambu region, Mt. Kenya region, Naivasha region, Nakuru region, and Eldoret region. This can be summarized as follows;

Region	No of farms	Sample Size
Thika Region	20	13
Athi River Region	10	7
Nairobi/Kiambu Region	14	9
Mt. Kenya Region	11	7
Naivasha Region	35	23
Nakuru Region	11	7
Eldoret Region	7	4
Total	108	70

Using simple random sampling technique farms were selected from each region such that 65% of the farms were sampled in each region. This is was meant to give a good representation of the population, allow a comprehensive execution of questionnaires, and capture a wide variety of responses and therefore increase accuracy of the data collected in drawing conclusions for this study. This sampling gave a sample size of seventy (70) farms out of the total population of 108 farms.

3.5 Data collection

The study used both primary and secondary data. Primary data was be collected by use of questionnaire and personal interviews.

Questionnaires were administered to Farm Managers, Production Managers or General Managers of the selected farms whichever was applicable. This is because in most farms these position holders are directly involved in the decision on which products to use at their farms and therefore were a position to respond adequately to the questionnaire and personal interviews. Where none of these positions existed, the person responsible was selected as the respondent.

Questionnaires were dropped and picked later. Personal interviews were also used to collect and/or clarify information.

Immediate response to the questionnaires was encouraged though most respondents requested time to respond adequately. Where applicable, probing was used to gather the desired information and data clarification.

Secondary data was obtained from agrochemical companies marketing in this sector, farms and/or government organisations especially Pest Control Products Board (PCPB).

3.6 Data Analysis Techniques

Data obtained was sorted, edited for accuracy, coded and analyzed using descriptive techniques, frequencies, and inferential statistical methods.

Microsoft Excel spreadsheet and SPSS packages was used for data analysis.

Proportions, graphs, pie-charts, frequency tables and T-test has been be used to present the results.

3.7 Expected Results

At the end of this study was expected that a positive correlation between performance and factors influencing it will be established. These factors are product quality, service efficiency, after sales service, and new product development. Perception about quality of service and product, and new product development is expected to link these factors and performance.

CHAPTER FOUR

4.1 DATA ANALYSIS AND PRESENTATION OF RESULTS

4.2 Introduction

The research assessed the factors that influence the market share of different companies marketing pesticides in the floriculture industry in Kenya. It also investigated different segments in pest and disease management where they spend their money, the respective share of those segments among other areas of study. The questionnaire was circulated to the selected sample of seventy (70) farms of which 51 responded. However, five (5) questionnaires were incomplete and could not be used for analysis. The data was then analyzed on the basis of the response rate (n=46) and presented in both quantitative and qualitative format.

4.3 Market share of various pesticide companies in the floriculture industry in Kenya

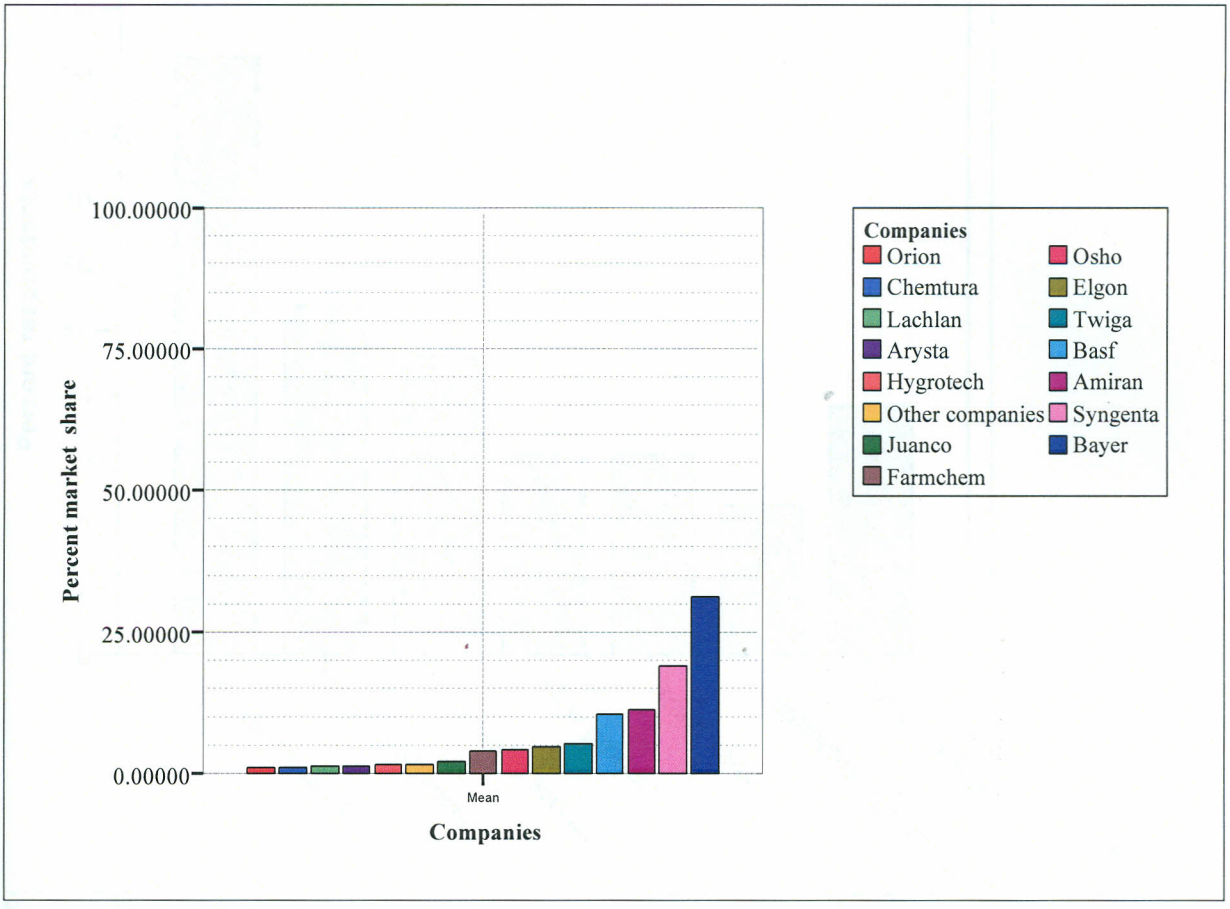
Table 4.1 and Figure 4.1 show the mean market shares of different pesticide companies marketing their products in the floriculture industry in Kenya. It shows that the market leader in terms of market share is Bayer with 31% of the total floriculture pesticide market followed by Syngenta at 19%. Both of these companies are big multinationals. The results further reveal that Bayer, Syngenta, Amiran and Basf control 71.8% of the total floriculture industry pesticide market, making them the big players in this industry.

Table 4.1: Market share of various pesticide companies in the floriculture industry

Company	N	Minimum	Maximum	Mean %	Std. Deviation
Bayer	46	5.00	70.00	31.3152	12.81551
Syngenta	46	5.00	49.00	19.1304	8.66566
Amiran	46	.00	50.00	11.0109	9.39414
Basf	46	.00	25.00	10.3587	7.07630
Twiga	46	.00	20.00	5.3109	4.75124
Elgon	46	.00	20.00	4.6413	4.93363
Osho	46	.00	15.00	3.9348	4.03541
Farmchem	46	.00	15.00	3.8630	3.53562
Juanco	46	.00	14.00	2.1109	2.56491
Hygrotech	46	.00	5.00	1.4565	1.90562
Other companies	46	.00	10.00	1.4348	2.44860
Arysta	46	.00	10.00	1.3522	2.36613
Lachlan	46	.00	6.00	1.3478	1.79155
Chemtura	46	.00	10.00	1.1196	2.03083
Orion	46	.00	10.00	.9283	2.04751
Valid N (listwise)	46				

Source: Research data

Figure 4.1 Market shares of pesticide companies in the floriculture industry in Kenya



Source: Research data

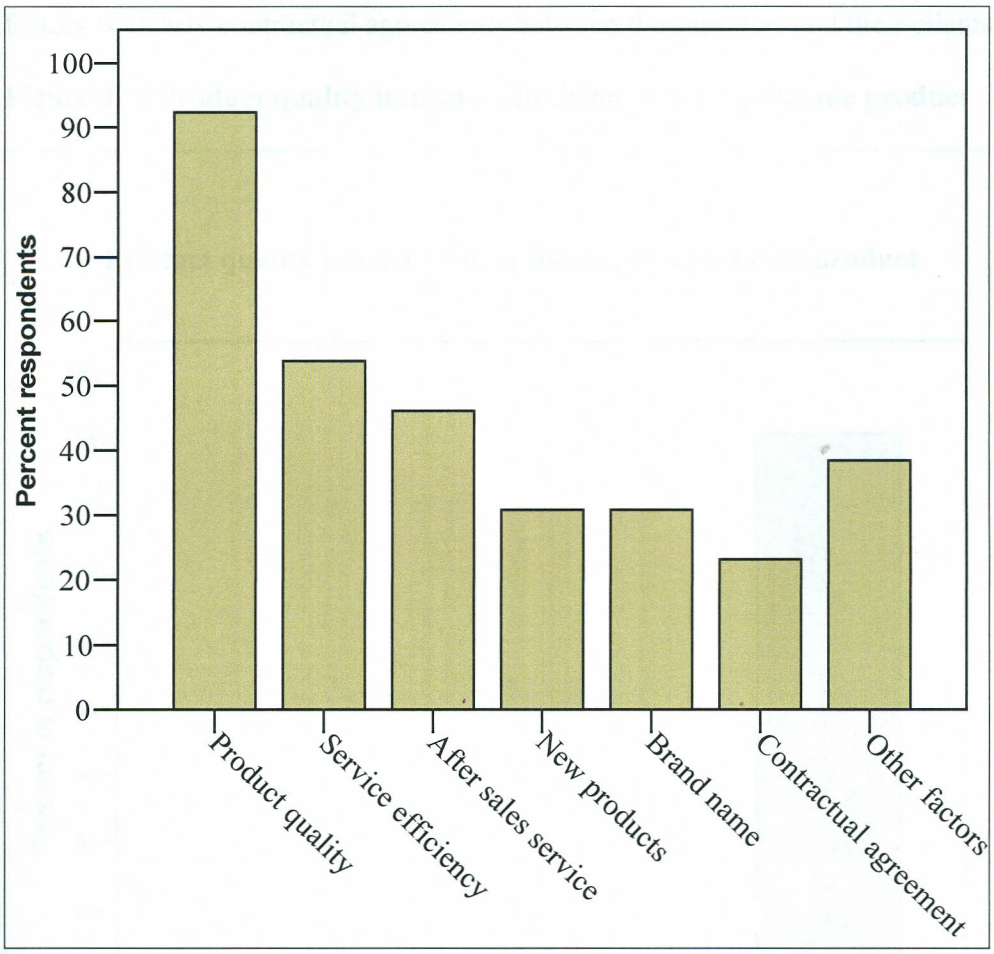
4.4 Factors impacting on the decision to use a pesticide product

Table 4.2: Mean scores of factors impacting on the decision to use a pesticide product

Factors	N	Minimum	Maximum	Mean	Std. Deviation
Product quality	46	1	5	4.83	.677
Service efficiency	46	1	5	3.96	1.053
After sales service	46	1	5	3.33	1.034
New products	45	1	5	2.78	1.204
Other factors	14	1	5	2.50	1.698
Brand name	46	1	5	2.46	1.425
Contractual agreement	44	1	5	1.86	1.173
Valid N (listwise)	13				

Source: Research data

Figure 4.2: Factors impacting on the decision to use a pesticide product

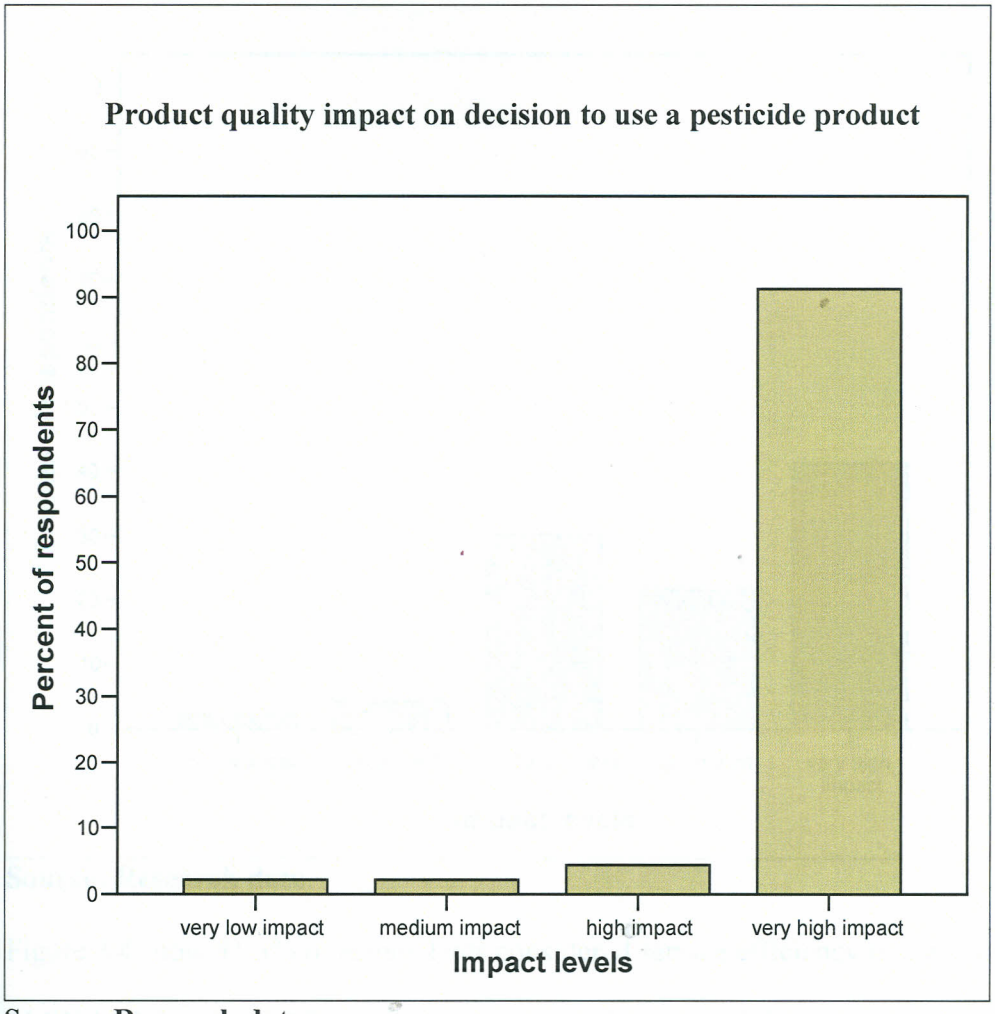


Source: Research data

Table 4.2 and Figure 4.2 clearly show that most of the respondents considered product quality as the main factor they consider when deciding which pesticide product to use. The results show that 92.31% of respondents consider it as a determining factor in their decision to use a product. Service efficiency and after sales service at 53.85% and 46.15% respectively were considered second and third important factors. It is important to note that other factors some of which were pointed out as weather pattern; toxicity class of the product, environmental issues, availability and requirements by auditors/flowers labels plays a major role on decision to use a pesticide product.

38.46% of the respondents of were influenced by this factor. However, the least important of the factors is clearly contractual agreements between the suppliers and their clients.

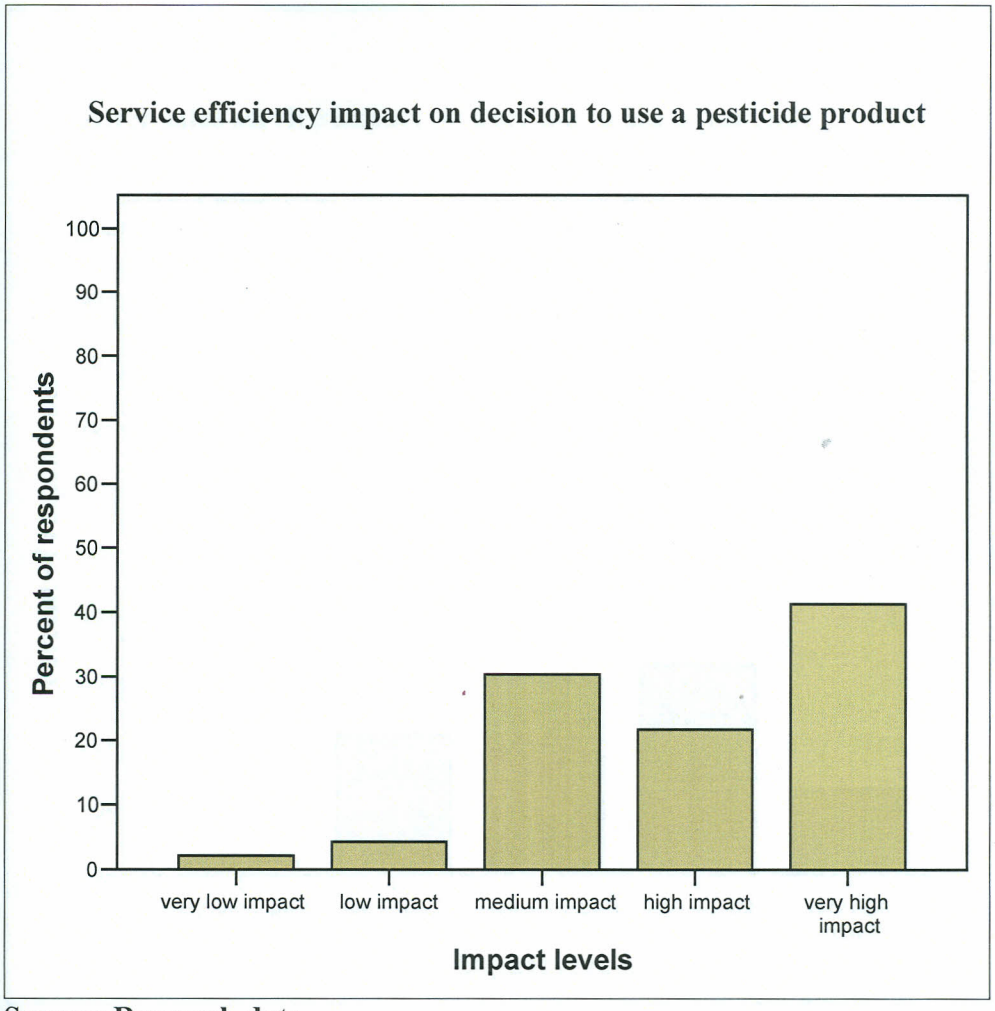
Figure 4.3: Product quality impact on decision to use a pesticide product



Source: Research data

Figure 4.3 show that most of the respondents (91.3%) considered product quality to have very high impact on their decision to use a certain pesticide product in their farms. Respondents who considered product quality to have both high and very high impact on their decision to use product were 95.6% leaving only 4.4% who considered it to be of either medium impact or very low impact in their decision.

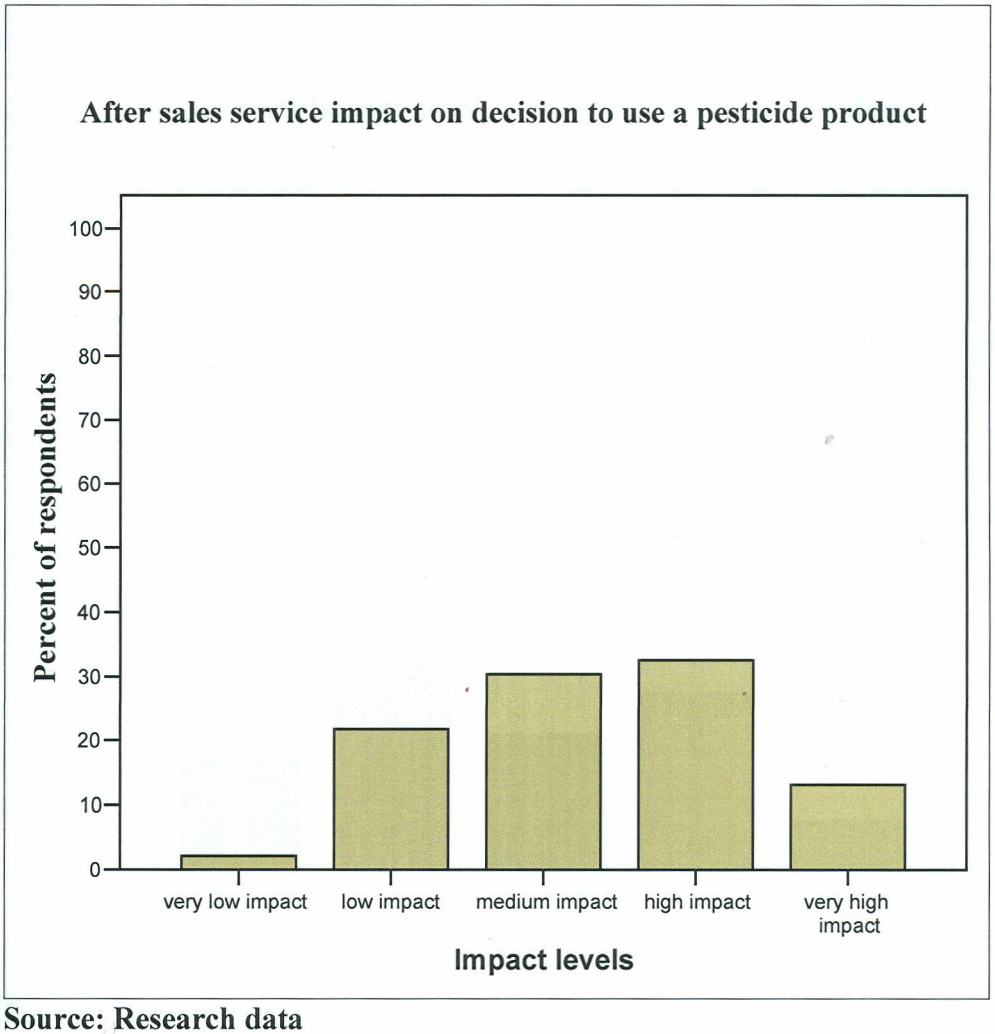
Figure 4.4: Service efficiency impact on decision to use a pesticide product.



Source: Research data

Figure 4.4 show 41.3% of respondents considered service efficiency to have very high impact, 21.7% high impact and 30.4% medium impact. These levels in total impact 93.4% on decision to use a product. This means that companies that want to improve their market share must consider strategies that will lead to improved service efficiency to the flower farms.

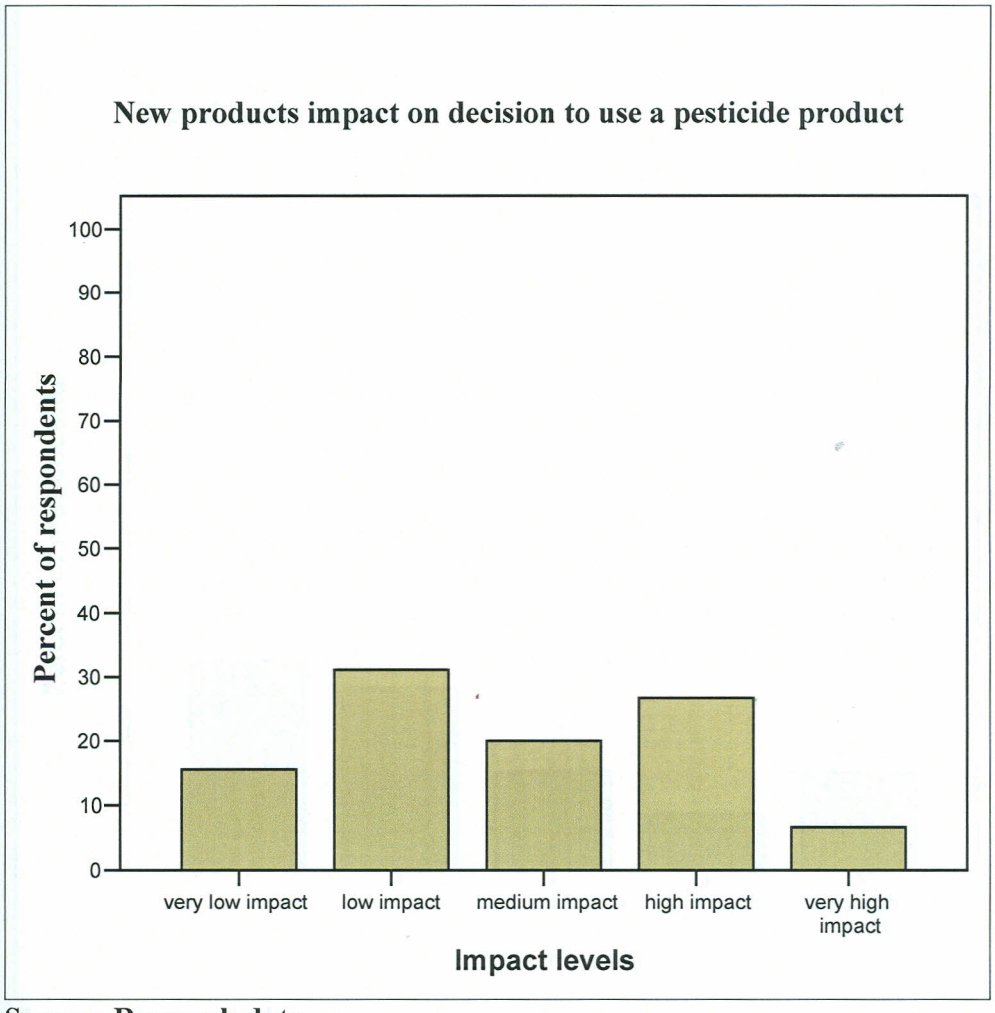
Figure 4.5: After sales service impact on decision to use a pesticide product



Source: Research data

Figure 4.5 show that majority of the respondents feel that after sales service has low to high impact on their decision to use a certain pesticide product (84.7%). Only 13% of the respondents feel it has very high impact.

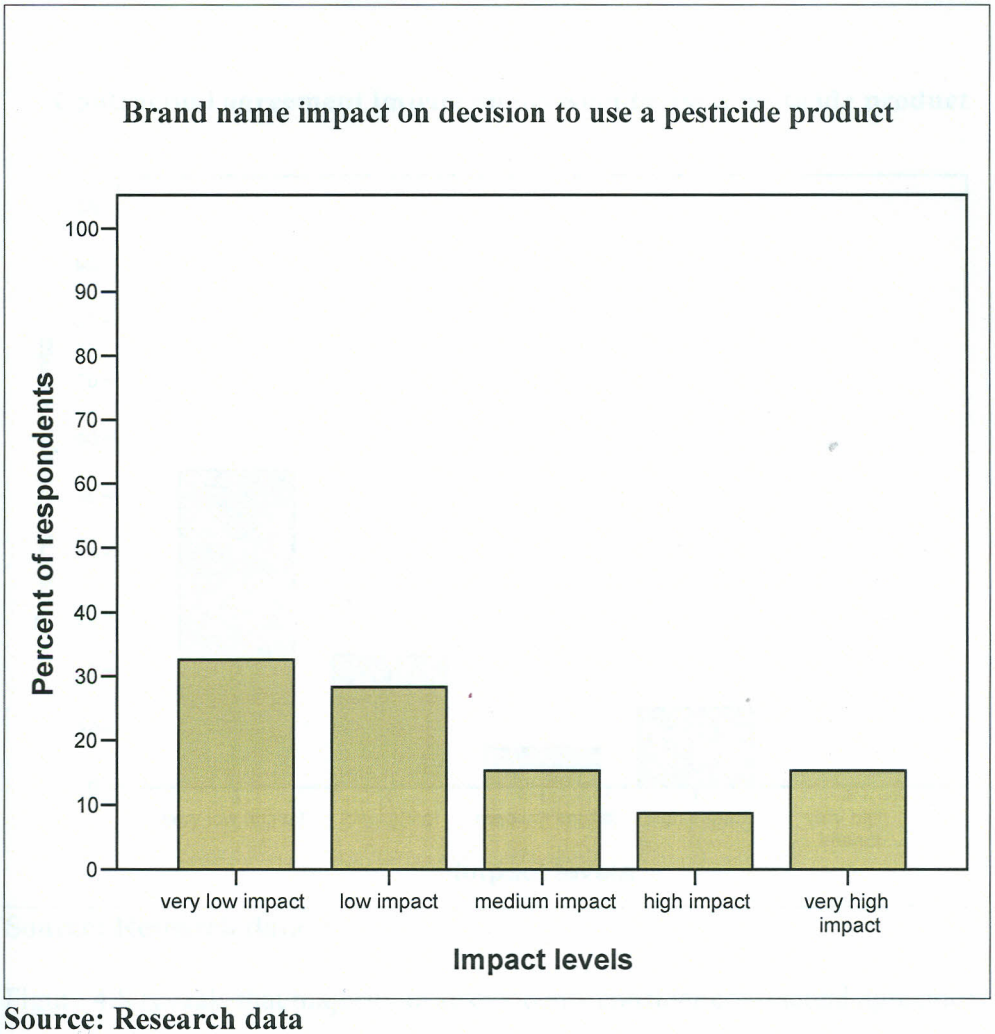
Figure 4.6: New products/innovations impact on decision to use a pesticide product



Source: Research data

Figure 4.6 show that respondents had mixed feelings about new products/innovations impact on their decision to use a pesticide product. Majority of them felt it had low impact (30.4%) and few felt it had very high impact (6.5%) on their decision. Those who felt it had medium to high impact were 45.7%.

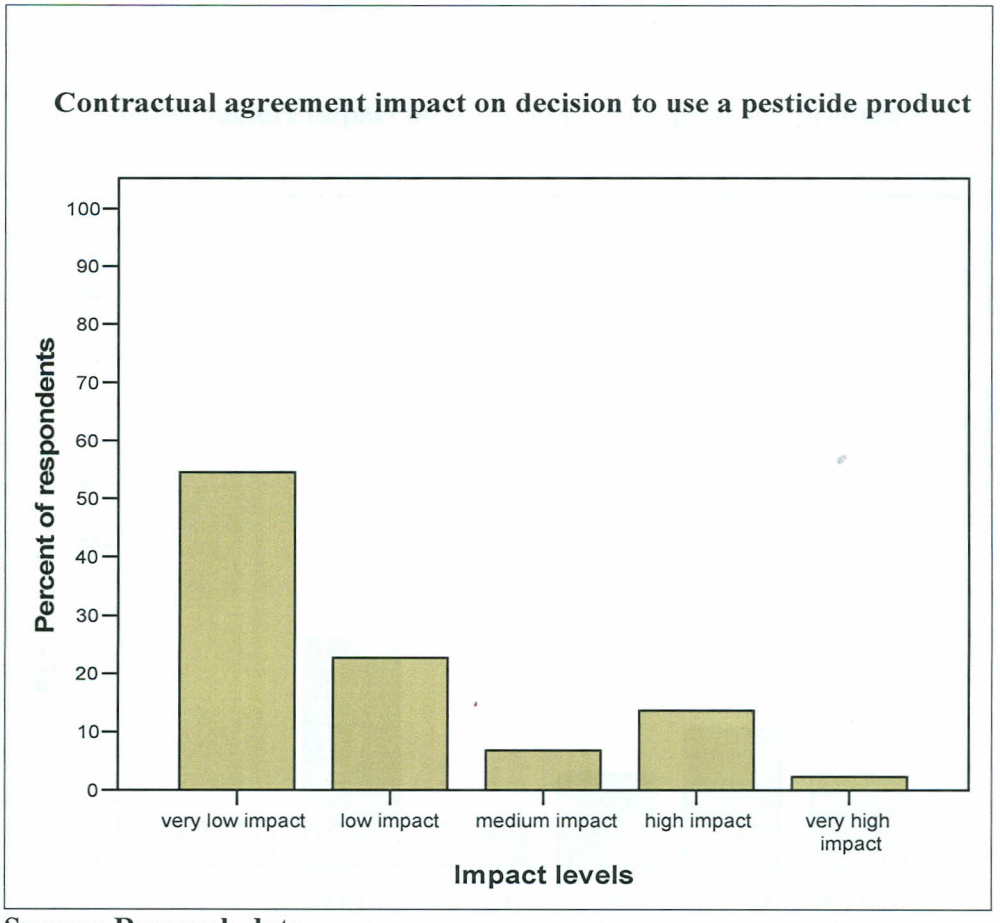
Figure 4.7: Brand name impact on decision to use a pesticide product



Source: Research data

Figure 4.7 clearly shows that majority of respondents rated brand name to either have very low impact (32.6%) or low impact (28.3%) on their decision to use a pesticide product. A few respondents (15.2%) think brand name has very high impact on their decision to use certain pesticide product. This would mean either there is very little differentiation in the products offered by pesticide companies or maybe not much has been done by these companies to emphasize brand names as basis of choosing a product to use.

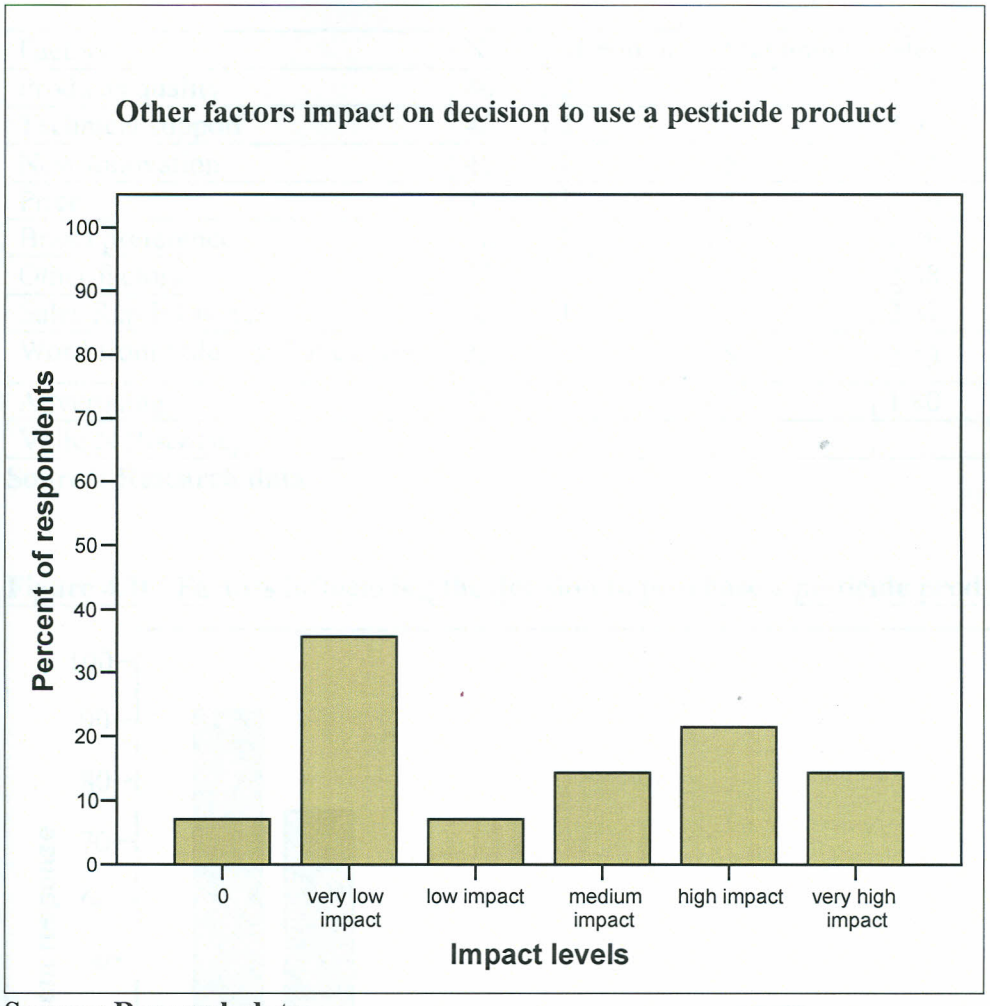
Figure 4.8: Contractual agreement impact on decision to use a pesticide product



Source: Research data

Figure 4.8 reveals that majority of respondents consider contractual agreement to have a very low impact (52.2 %) on their decision to use a pesticide product. Out of the total respondents 73.9% of them rate contractual agreement to have very low to low impact on their decision to use a pesticide product. Only 15.2 % of the respondents rate this factor to have high to very high impact on their decision.

Figure 4.9: Other factors impact on decision to use a pesticide product



Source: Research data

It should be noted that out of 46 respondents only 14 respondents had other factors that had an impact on their decision to use a certain pesticide product. Meanwhile of those respondents most of them felt it had very low impact (35.7% of valid percent or 10.9% of the total respondents). Medium impact to very high impact levels had 50% of valid percent or 15.1% of total respondents. This shows though it had few respondents reacting to it those who did have factors worth consideration by pesticide companies in future marketing strategies. Some of these factors included weather issues, environmental auditors' requirements, and toxicity of pesticides.

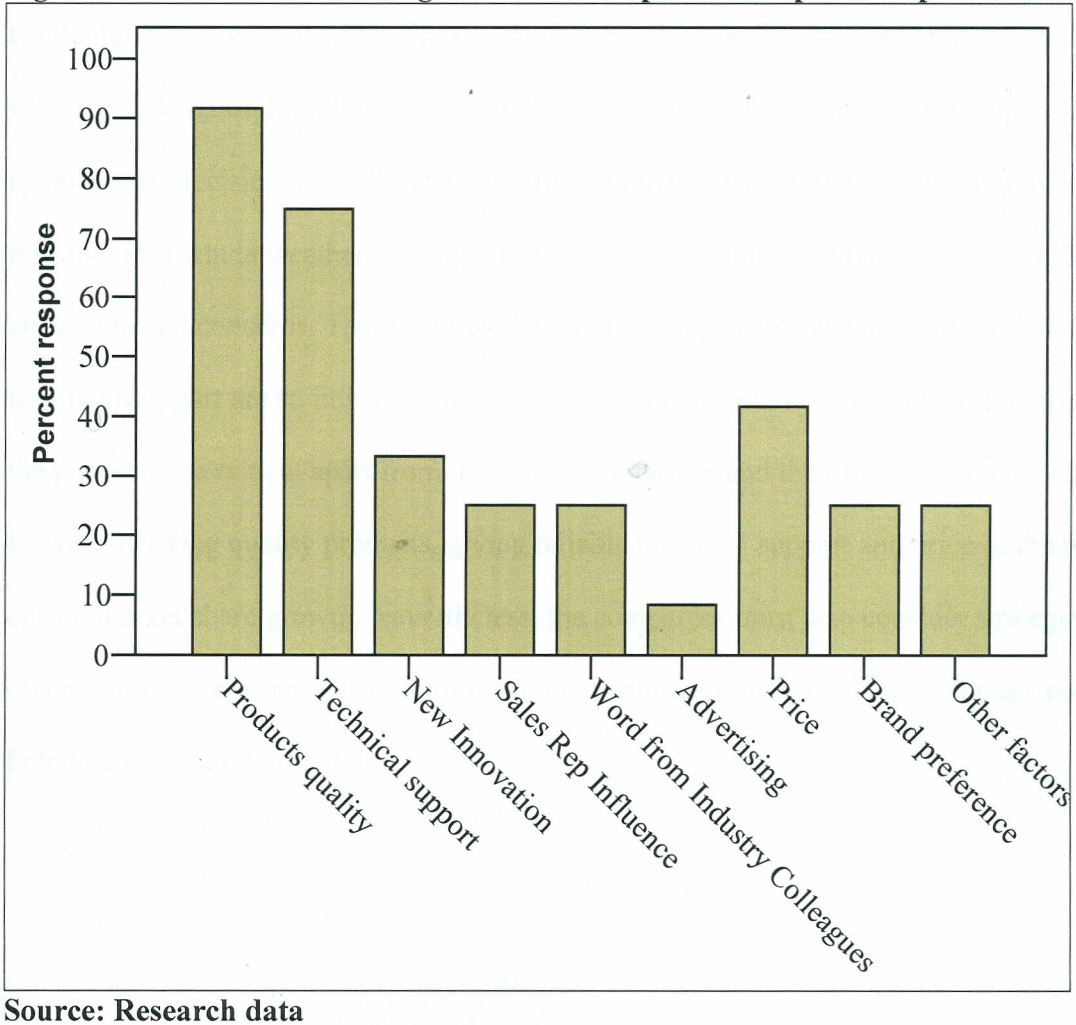
4.5 Factors influencing the decision to purchase a pesticide product

Table 4.4: Mean scores of factors influencing the decision to purchase a pesticide product

Factors	N	Minimum	Maximum	Mean	Std. Deviation
Products quality	46	2	5	4.91	.463
Technical support	46	2	5	3.96	.942
New Innovation	45	1	5	3.51	1.036
Price	46	1	5	3.20	1.167
Brand preference	46	1	5	2.80	1.485
Other factors	12	1	5	2.58	1.564
Sales Rep Influence	45	1	5	2.47	1.140
Word from Industry Colleagues	46	1	5	2.43	1.109
Advertising	45	1	4	1.80	.842
Valid N (listwise)	12				

Source: Research data

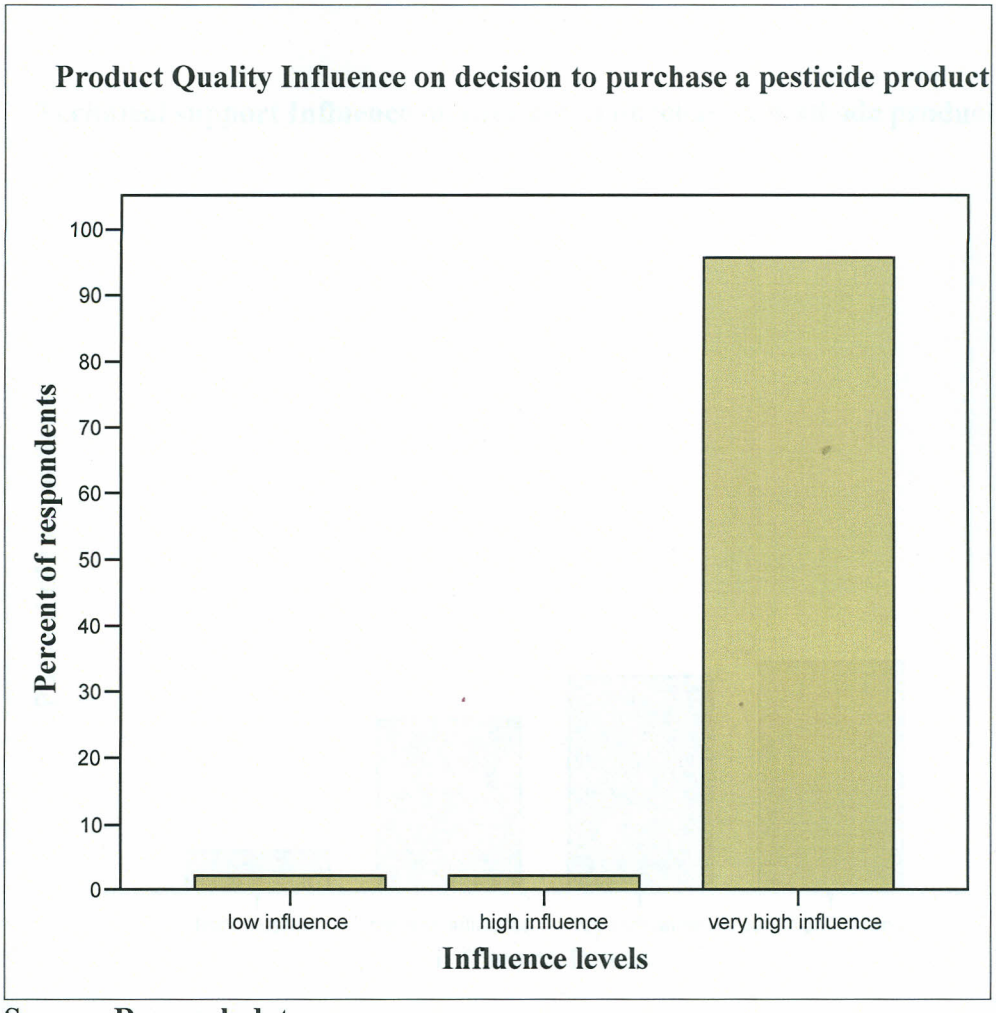
Figure 4.10: Factors influencing the decision to purchase a pesticide product



Source: Research data

Table 4.4 and Figure 4.10 show the factors that influence the decision to purchase a pesticide product in the farm and their influence levels. The results show that 91.67% of the respondents are influenced by product quality in their decision to purchase a pesticide product making it the single highest factor. The result further reveals that technical support and price influence 75% and 41.67% respondents decision on which pesticide to buy. This makes product quality, technical support, and price as the main factors influencing respondents' decision to purchase pesticide products. The least influencing factor on respondents' decision on which pesticide to purchase is advertising with only 8.33% of respondents revealing it influences them. Meanwhile, 33.33% of the respondents' are influenced by new innovation on their decision to purchase a product. The results further show that 25% of respondents are influenced by sales representatives, word from industry colleagues, brand preference, and other factors; thus means these factors influence respondents' decision to purchase a pesticide product equally. Other factors highlighted by respondents include weather, toxicity class of products, audit requirements, availability, and environmental concerns. These figures show that strategies that ensure high product quality and technical support are so important in ensuring continuous market share growth. However, the price the products are critical apart from the above two factors and therefore a balance must be sort between offering quality products, giving reliable technical support and price of the products to ensure market share growth. Nevertheless, the companies must also consider strategies on the other factors such as new innovations, sales rep influence, and word from industry colleagues, brand name, and other factors.

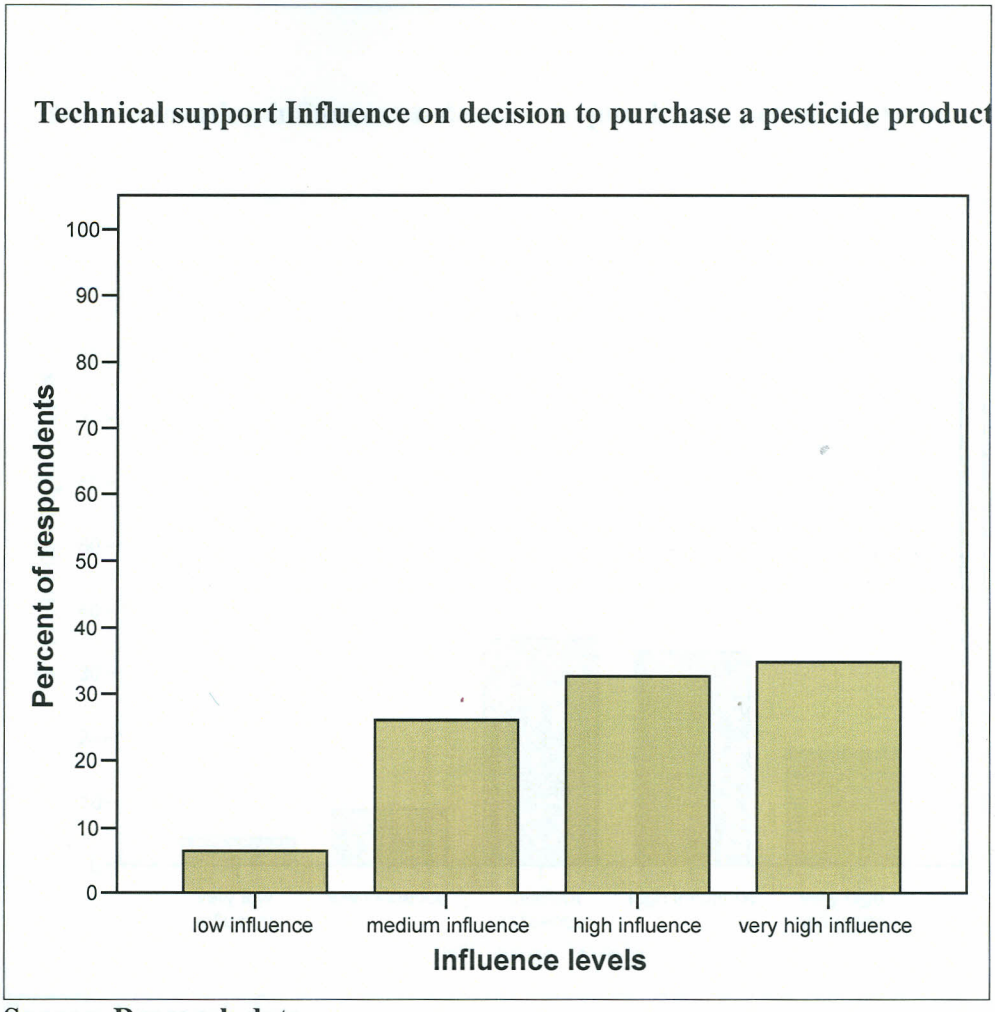
Figure 4.11: product quality influence on decision to purchase a pesticide product



Source: Research data

Figure 4.11 reveals that product quality had very high influence (95.7% of respondents) on their decision to purchase a pesticide product. Combining respondents who think it has high and very high influence on their decision to purchase a pesticide we get 97.9% of respondents in these two categories only. This means product quality is rated high in choice of product to buy and many managers will consider it before buying any product. Emphasis should therefore will put on churning out high quality products and since perception is important in quality explain these quality features to the clients.

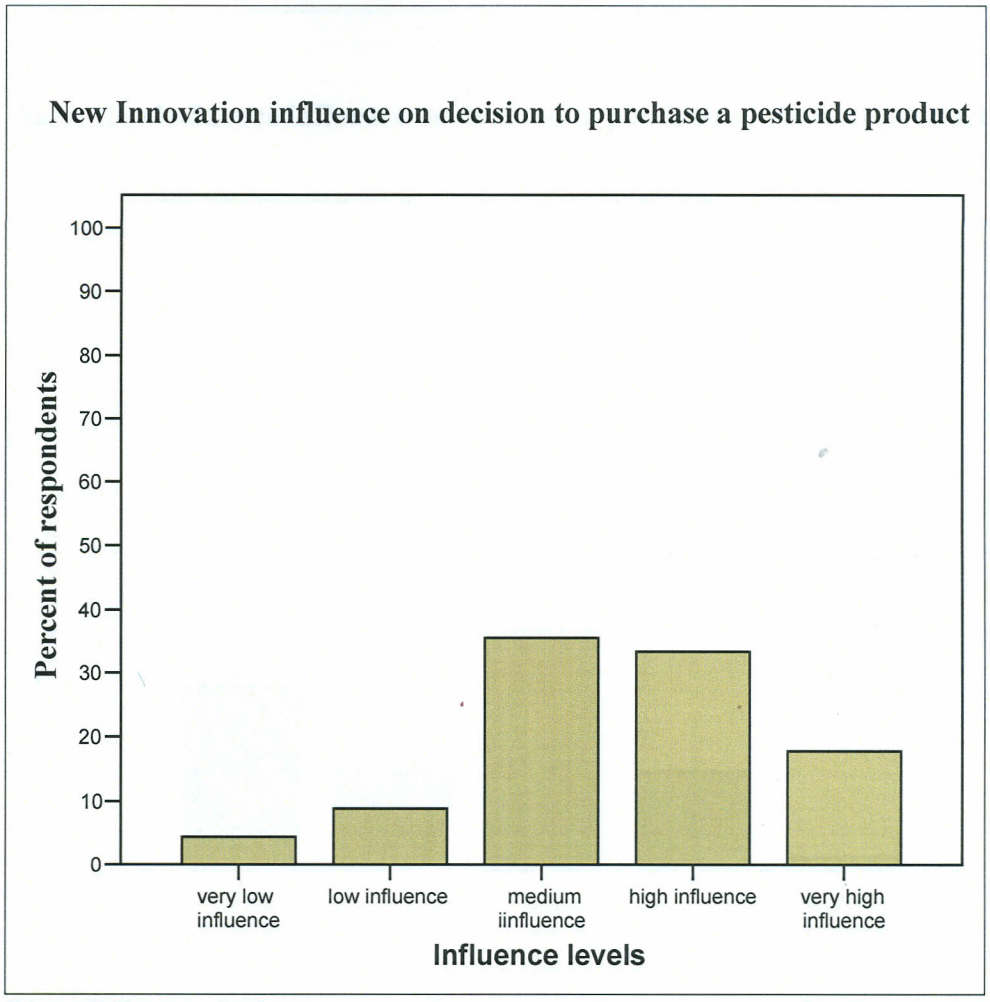
Figure 4.12: Technical support influence on decision to purchase a pesticide product



Source: Research data

Figure 4.12 shows that only 34.8% of respondents are influenced very highly by technical support on which product buy. In the influence levels of medium, high and very high influence we had 93.5% of respondents falling in these categories. Only 6.5% of the respondents felt technical support had low influence on their decision to purchase and none in the very low influence.

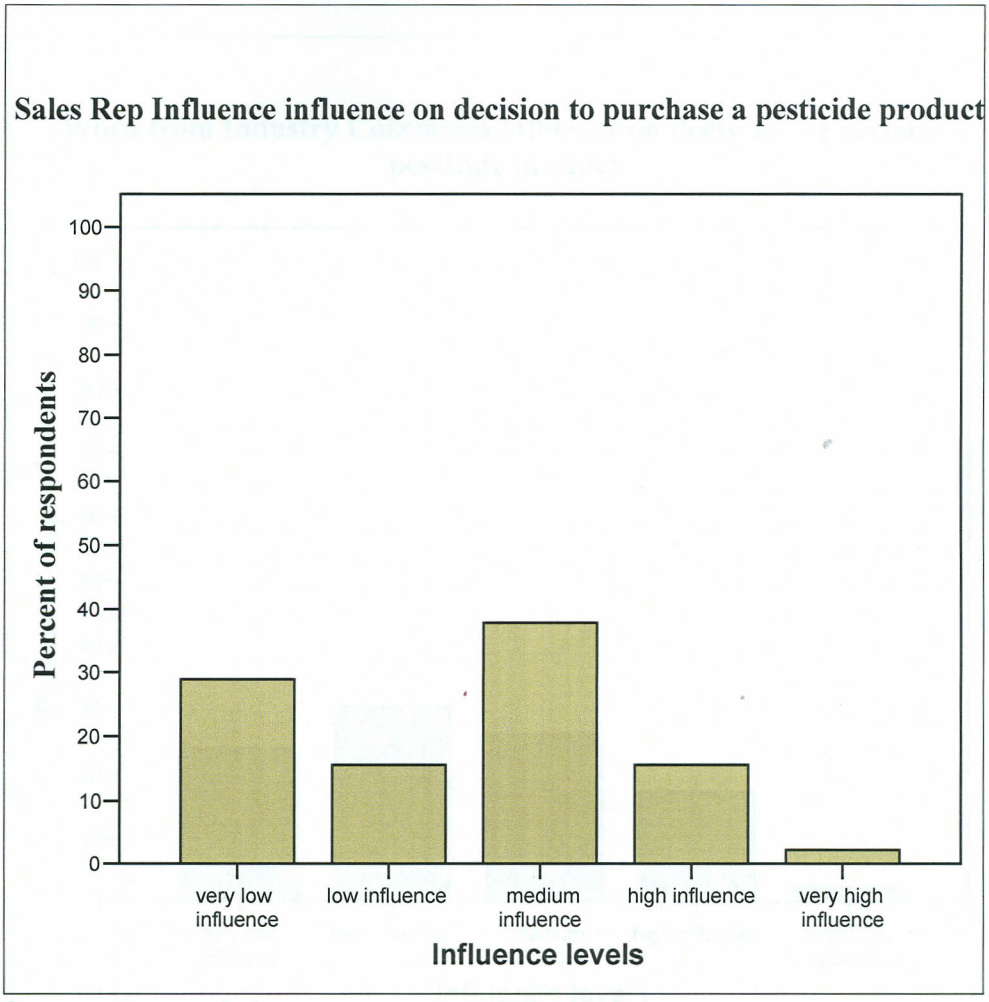
Figure 4.13: New innovation influence on decision to purchase a pesticide product



Source: Research data

Figure 4.13 shows that majority of the respondents will take on new products (84.8% between medium to very high influence) offered in the market. This means that companies that continue to introduce new products stand a greater chance of improving or maintaining their market share. The figure also shows that there is good adoption of new products by farms meaning there could still be unsatisfied needs or niches with the current products available or the industry is very dynamic and requires continuous introduction of new innovations.

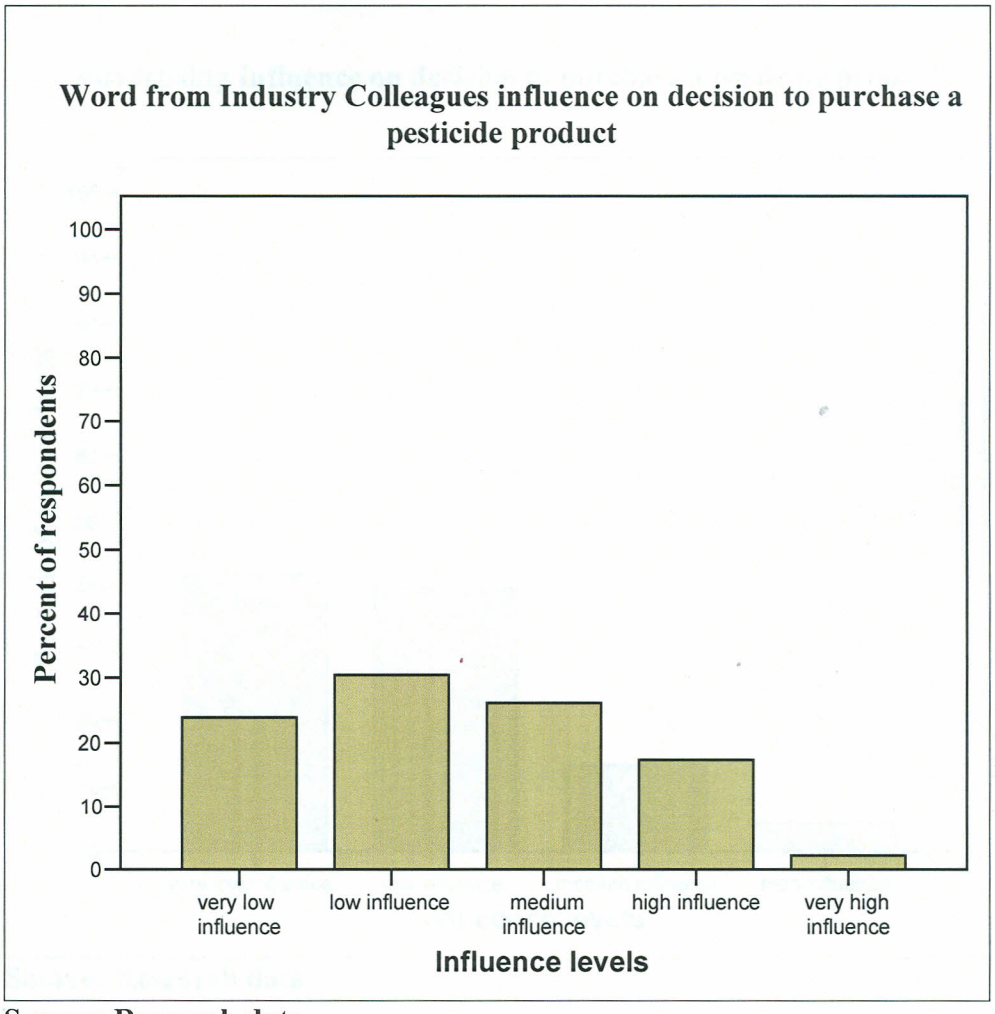
Figure 4.14: Sales rep influence on decision to purchase a pesticide product



Source: Research data

Figure 4.14 shows mixed reactions as far as sales representative influence on which product to purchase is concerned but majority of the respondents (37%) felt this factor had medium influence. Only 2.2% felt they had very high influence and 15.2% felt they had high influence. This would therefore mean that since technical support is rated second to product quality, a technical oriented representative stands a higher chance of increasing his/her company's market share rather than a mere sales representative. Majority of the respondents would like more technical support compared to lots of sales talk which can be done by technical biased representative.

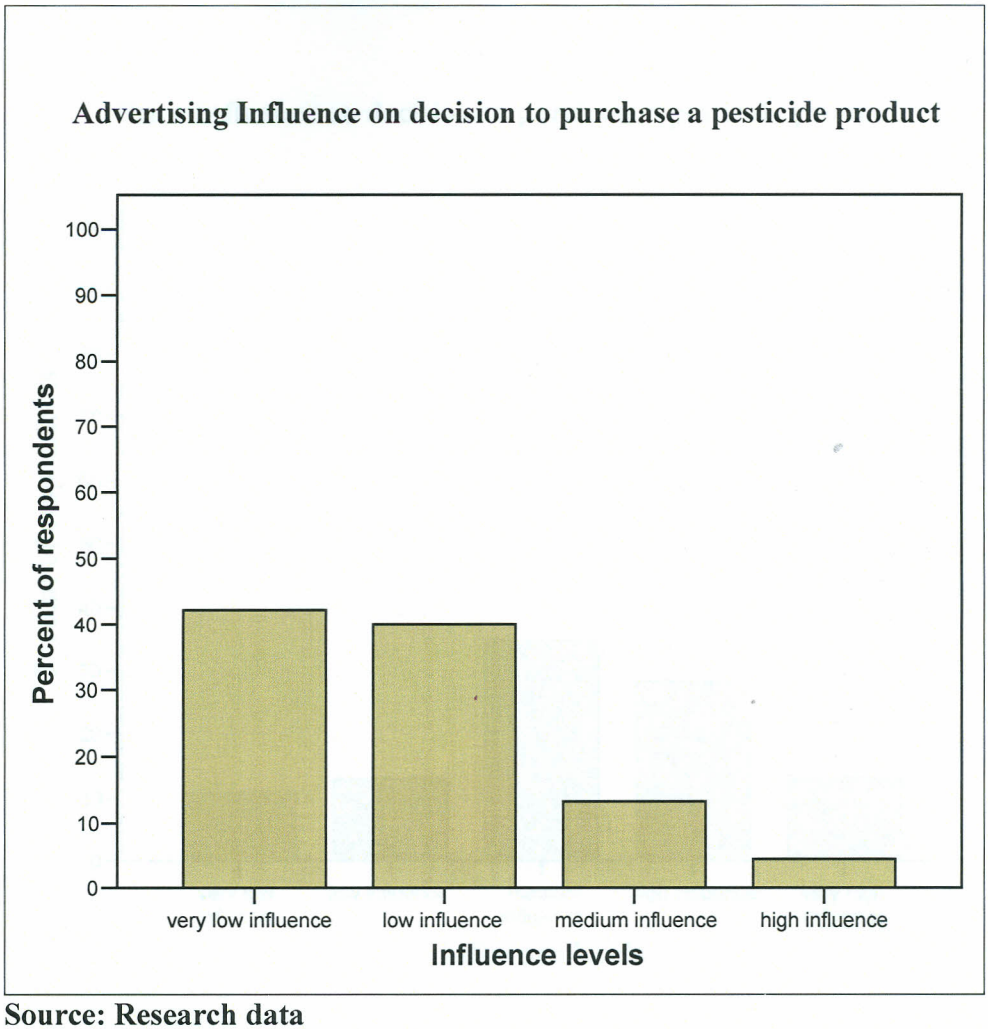
Figure 4.15: Word from industry colleagues' influence on decision to purchase a pesticide product



Source: Research data

Figure 4.15 shows how word from industry colleagues influence decisions on which product to purchase. The results show majority of the respondents (54.3%) fall in the very low to low influence levels, with most of them in the low influence. Only 2.2% fall in the very high influence level. However, 43.5% fall in the medium to high influence levels. It means that colleagues' word has influence on some respondents but majority don't consider it important maybe due to low interactions between industry colleagues or lack of motivation to exchange information.

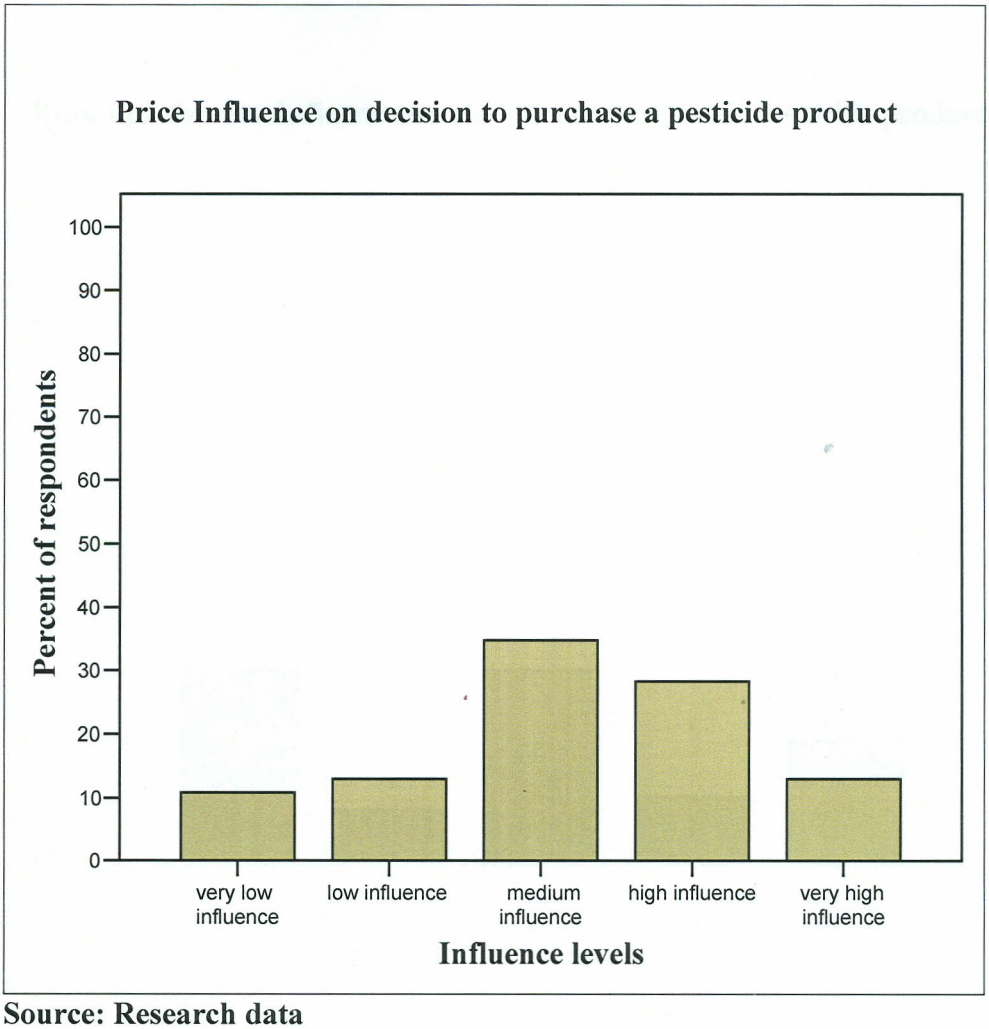
Figure 4.16: Advertising influencing on decision to purchase a pesticide product



Source: Research data

Figure 4.16 shows that 80.4% of the respondents were either in the very low to low influence categories. This means that either there is little advertising by pesticide companies or the respondents don't consider advertising as a decision tool in decision making process. This could also be due to the technical nature of the industry. Whether this trend might change depends on the dynamics of this industry.

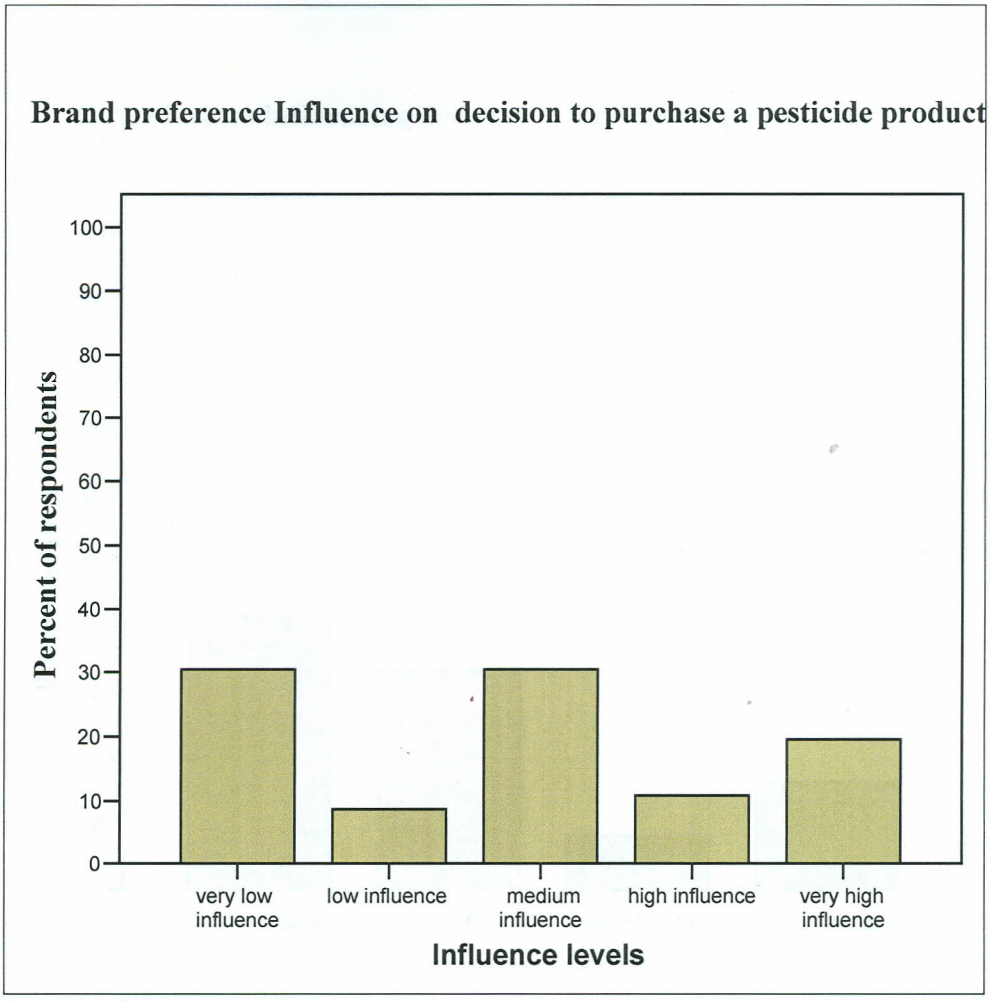
Figure 4.17: Price influence on decision to purchase a pesticide product



Source: Research data

Figure 4.17 shows results of majority of respondents are in the medium to high influence levels (63.1%) meaning that price is a major factor influencing their decisions to purchase a pesticide product but it is considered with other factors too explaining the reason why there were fewer respondents (13%) in the very high influence category. The results also make this factor a highly sensitive in terms of competition among companies especially where differentiation of products is difficult.

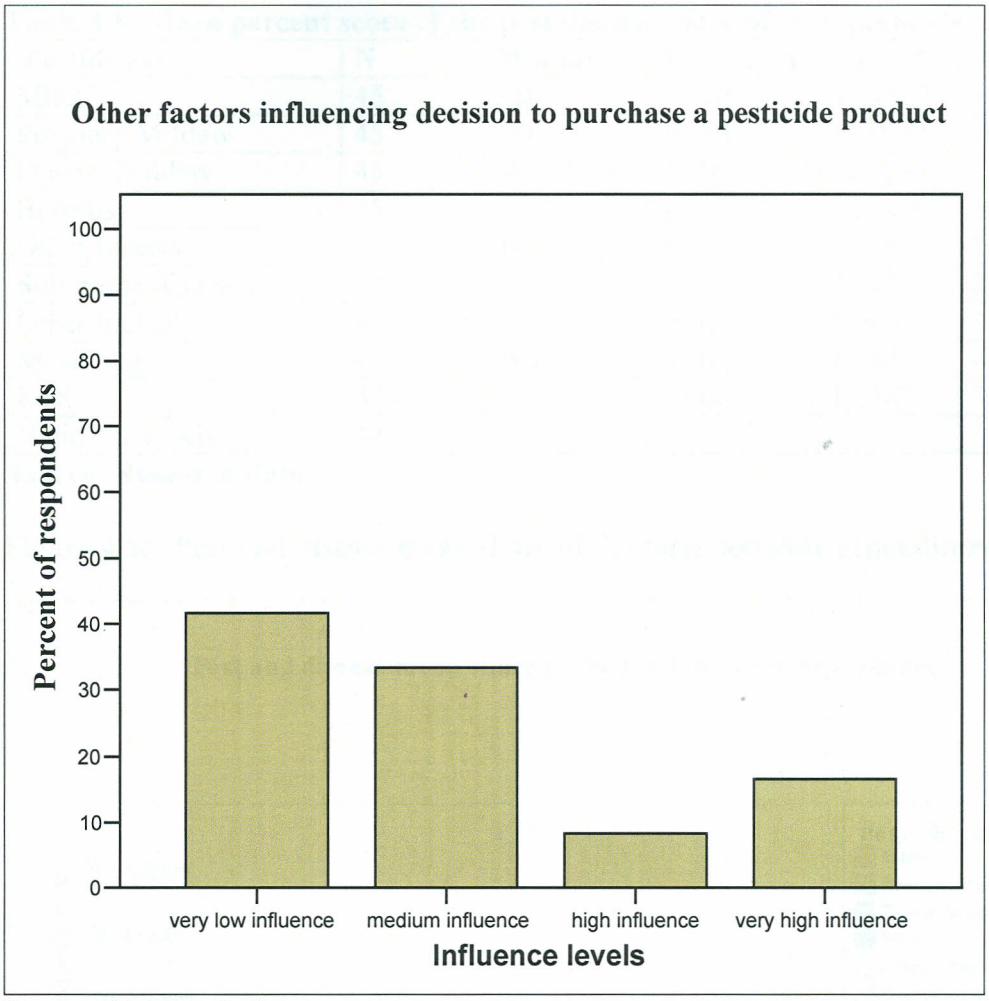
Figure 4.18: Brand preference influence on decision to purchase a pesticide product



Source: Research data

Figure 4.18 show that there were mixed feelings by respondents on brand and its influence on their decision to purchase certain pesticide product. There were 30.4% respondents in the very low category and the same in the medium level influence. The results would mean that there are mixed reactions towards brand name due to maybe different levels of differentiation in the pesticide products where some products are highly differentiated then brand becomes an important aspect or with highly substitutable products hence little consideration to brand names. It is also likely that companies have not emphasized on brand awareness as a strategy.

Figure 4.19: Other factors influencing decision to purchase a pesticide product



Source: Research data

Only 12 out of 46 respondents reacted to this factor. Majority of those who responded showed that other factors which include weather patterns, environmental audit requirements, toxicity class of pesticides, and availability among others had very low influence on their decisions. This is also indicated by the low response to this factor. However, it is a factor to be watched keenly in the future.

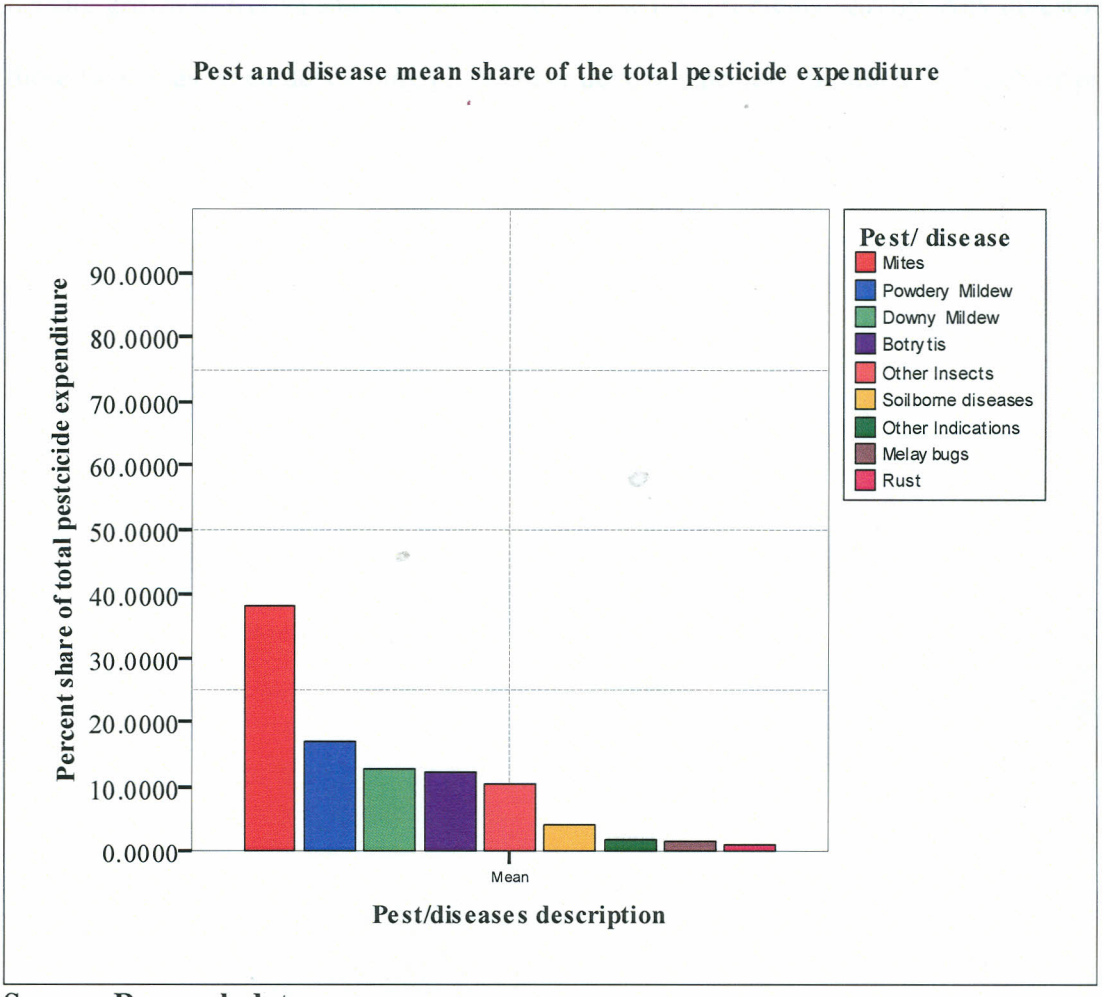
4.6 Pests/diseases share of total pesticide expenditure

Table 4.5: Mean percent score of the pest/disease share of total pesticide expenditure

Pest/disease	N	Minimum	Maximum	Mean %	Std. Deviation
Mites	45	.00	78.00	38.1442	17.22483
Powdery Mildew	45	.00	50.00	16.9431	10.21259
Downy Mildew	45	.00	30.00	12.8084	7.56279
Botrytis	45	.00	40.00	12.3420	10.15647
Other Insects	44	.00	60.00	10.3811	11.14616
Soil borne diseases	45	.00	50.00	4.1269	8.10996
Other Indications	45	.00	20.00	1.9682	3.99316
Mealybugs	45	.00	30.00	1.7244	4.93375
Rust	45	.00	33.60	1.2167	5.48243
Valid N (listwise)	44				

Source: Research data

Figure 4.20: Pest and disease mean share of the total pesticide expenditure



Source: Research data

Table 4.5 and Figure 4.20 shows the pesticide expenditure is shared among different pest and diseases affecting flowers. Majority of the respondents spend more money in controlling and managing mites (38.14%) followed by powdery mildew (16.94%). This means that in terms of investments these two categories are the most lucrative controlling 55.08% of the total pesticide expenditure. Any company that is not participating significantly in these two areas may find itself coming up with extra strategies to win some significant market share. The reason for these areas having more expenditure could either be due to the fact that they are the major problems; or products in this range are relatively more expensive, highly differentiated or are few or all of these reasons. The other reason could be due to the fact that roses are the biggest cut flowers in terms of hectare grown in Kenya and they suffer from these two problems heavily. Any investor would eye these two areas when developing products or develop specialty products in the other problem areas.

CHAPTER FIVE
5.1 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.2 Introduction

This chapter deals with summary of the study, conclusions and recommendations for further studies in this area. The study assessed the factors that influence the market share of companies marketing pesticides in the floriculture industry in Kenya.

5.3 Summary

5.3.1 Market share of various pesticide companies in the floriculture industry in Kenya

The results have shown that Bayer is the market leader commanding a market share of 31.32% followed by Syngenta at 19.13%. These two companies are big multinationals operating in this region. Statistical evidence shows that there is a significant difference between Bayer's market share proportion and Syngenta proportion at 95% confidence level (see appendix 6). Amiran and Basf are third and fourth with a market share of 11.01% and 10.36% respectively. These four companies control 71.82% of the total pesticide market in the floriculture market.

5.3.2 Factors impacting on the decision to use a pesticide product

These factors influence the decision to use certain product which does not necessary mean that in all cases the product will be bought. These factors include product quality, service efficiency, after sales service, new products, other factors, brand name, and contractual agreement. Product quality, service efficiency, and after sales has the highest impact on respondents' decision on which product to use with 92.31%, 53.85%, and 46.15% of respondents respectively saying they had an impact on their decision. Other factors are also critical in respondents' decision to use certain product. New products and brand name have medium impact with contractual agreements having the least impact on respondents' decision.

5.3.3 Factors influencing the decision to purchase a pesticide product

Sometimes a decision to use a product does not always translate to a purchase of that product. In an attempt to find out which factors influence purchase decision, respondents were presented with the following factors and asked to rate them (see appendix 1). These factors were products quality, technical support, new innovation, price, brand preference, other factors, sales rep influence, word from industry colleagues, and advertising.

The results revealed that product quality was the most important factor that influenced their decision to purchase a pesticide product with 91.67% the respondents saying it indeed influenced their decision. Of the 91.67% respondents; most of them (95.7%) said it had very high influence on their decision to purchase. other important factors that influence respondents on which product to purchase are technical support (75%), price (41.67%), and new innovation (33.33%). The other factors namely; sales representative influence, word from colleagues, brand name and "other factors" had each 25% of respondents revealing that they influenced them on which product to buy. The factor with the least influence on decision to purchase a pesticide product was advertising with only 8.33% of the respondents.

Summarising both factors that impact on the decision to use a pesticide product and those that influence the decision to purchase the same, the results reveal that product quality, technical support, service efficiency, after sales service, and price had major influence on respondents

5.3.4 Investment in the floriculture industry by pesticide companies

The study reveals that segmenting the floriculture pesticide market into various pests and diseases, mites control account for the largest share of total pesticide expenditure by flowers farms. On average, mites control account for 38.14% followed by powdery mildew at 16.94% of the total pesticide expenditure.

Downy mildew and Botrytis account for 12.80% and 12.34% respectively. Other insects share account for 10.38%. The results reveal therefore that companies marketing pesticides must participate actively in the mites and powdery sectors of this market which account for 55.08% of the total pesticide expenditure by flower farms in order to improve their market share. The reason in this trend of expenditure vis a vis pest and disease indication could be due to the dominance of the flower sector by roses which are attacked by these two main indications. This could also be due to the cost of products used against these two indications being higher than for other indications.

5.4 Conclusions

The results have demonstrated that using market share to gauge performance in the market can give a picture of which company is the market leader or hold which position in a particular industry. The results have shown that Bayer has the highest market share in this market. The mean market share scores difference between Bayer and its closest competitor Syngenta are significant at 0.05 t-test value making it a clear leader in this market (see Appendix 6). We can therefore conclude that Bayer has the highest market share at 31.32% followed by Syngenta and Amiran with 19.13% and 11.01% respectively. Basf is fourth with 10.36 %,(see Table 4.1).however, this conclusion is subject to certain qualifications such as the assumption that outside forces affect all companies in the same way is often not true. The assumption that a company's performance should be judged against the average performance of all companies is not always valid. A company's performance should be judged against the performance of its closest competitors. Sometimes a market share decline is deliberately engineered to improve profits. For example management might drop unprofitable customers or products (Kotler 2003). Companies should continuously carry out studies to determine their market share position and factors responsible for that position and either consolidate their position or take remedial actions where appropriate.

The analysis of factors influencing product use and purchase clearly indicate that product quality is the single most important factor determining these decisions and therefore by extension market share hence performance. The other main factors include technical support, service efficiency, after sales service, price and new innovations. Since Bayer has the highest market share, we can draw inferences that it has very competitive quality wise or further it has many products in its portfolio that are considered to be of high quality compared to the other companies. We can also infer that it has coupled with good technical support, after sales service and probably the price is competitive. We can also infer that its closest competitor Syngenta could be following on the same lines and maybe it has fewer products in its portfolio. It is important to note that for any company to earn and grow significant market share it must invest in product quality, technical support, after sales service and be price competitive. Release of new products is also critical to gaining or defending market share.

The pesticide companies in this sector will have to seriously consider investing in products for mites and powdery mildew control or improve on existing ones if they have to continue being serious contenders for significant market share in the floriculture industry. They can also target to dominate the other areas such as botrytis and downy mildew segments. This will be true if the current trend where roses are the most preferred flower types stays as it is. However, companies could develop products that are broad and can be used in as many types of flowers as possible where applicable. Other insects which respondents included thrips, caterpillars, and whiteflies mainly are important areas of consideration for investment.

5.5 Recommendations

Market share analysis is one major aspect of performance analysis and the results should be compared to financial analysis to get a clear picture of the company's position in respect to its competitors. It is recommended that more study should also be carried out to determine the products responsible for a particular market share for a company as another aspect of analysis.

I recommend further studies to determine the correlation between the factors affecting market share and the company's actual market share. This would help in providing more detailed information as to why and how a company emerges as the market leader.

The factor impacting and influencing product use and purchase respectively clearly showed that other factors which include audit requirements, environmental issues, weather patterns, and pesticide toxicity levels are important in determining market share and I therefore recommend they be studied independently in future studies.

I strongly suggest that a similar study be carried out in other sectors where pesticide companies are involved in marketing of their products. These could include cereals, vegetables, coffee, fruits, cotton, and sugarcane sectors among others. Further studies on the effect and impact of alternatives to pesticide use such use of beneficial organisms and organic farming should be carried out to determine how they affect market shares of pesticide companies.

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www.tutor2u.net

www.wisegeek.com

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Appendix 1

Questionnaire

Name of the farm:.....

Designation of respondent:.....

1. What size of your farm in Ha is under flowers cultivation?.....
2. Which of the following flowers do you grow for export? (Please tick where appropriate) and what are their respective hectarage?

Crop	Ha
Roses----------	
Carnations----------	
Astromeria----------	
Lilies----------	
Lisianthus----------	

Others (Please specify)

.....

.....

.....

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.....

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.....

3. In the following table indicate whether you have the problems shown in the respective flowers (Please tick✔ where appropriate)

	Roses	Carnations	Astromeria	Lilies	Lisianthus	Others
Powdery Mildew						
Downy Mildew						
Botrytis						
Rust						
Soil borne diseases						
Mites						
Mealy bugs						
Other Insects						
Other indications						

4. What is your annual total pesticide/chemical consumption per year in money terms per hectare (USD/ha)----------(If in other currencies please indicate)

5. What is the actual or approximate allocation of the value above to the diseases and pests listed below? (Please use values or percentages or both)

Indication	Value(USD or Kshs)	Percentage (%)
Powdery Mildew		
Downy Mildew		
Botrytis		
Rust		
Soil borne diseases		
Mites		
Mealy bugs		
Other Insects		
Other indications		

6. Who are your main suppliers of chemicals/pesticides?(Please indicate those who invoice you directly)

   i. ----------

   ii. ----------

   iii. ----------

   iv. ----------

7. What is the approximate share of chemical business for the companies named in (6) above in your farm?

Company	Value of chemicals	Percentage (%)

8. Do you use products manufactured or owned by the following companies?

(Please tick✔ appropriately)

Company	Yes	No
Syngenta		
Basf		
Amiran		
Bayer		
Farmchem		
Twiga		
Chemtura (formerly Crompton)		
Lachlan		
Juanco SPS		
Elgon Chemicals		
Osho Chemicals		
Hygrotech		
Arysta Lifesciences		
Orion East Africa Ltd		
Others		

9. What proportion of the total value of chemicals is represented by each of the companies ticked above? (Please use percentages or values)

Company	%	Value(USD or Kshs)
Syngenta		
Basf		
Amiran		
Bayer		
Farmchem		
Twiga		
Chemtura (formerly Crompton)		
Lachlan		
Juanco SPS		
Elgon Chemicals		
Osho Chemicals		
Hygrotech		
Arysta Lifesciences		
Orion East Africa ltd		
Others		

10. On a scale of 1-5, 5 being the highest and 1 being the least, how do the following factors affect your choice of pesticide product to **use**?

Issues	Score(1 to 5)
Product quality	
Service efficiency	
After sales service/support	
New products	
Brand name	
Contractual agreement	
Others(please specify)	

11. In a rating of 1-5, 5 being highest score, and 1 the lowest score; how do the following factors influence your decision on which pesticide product to **purchase**?

Factor	Rating(1-5)
Product quality	
Technical support	
New Innovation	
Sales Rep Presence/Influence	
Word from industry colleagues	
Advertising	
Price	
Brand preference	
Other factors(please specify)	

12. a) Do you use beneficial insects or biological agents/organisms in pest and disease management in your farm? (Please tick✔ appropriately)

Yes ☐

No ☐

b) If yes above, please specify and give the value of each.

Method/Agent	Value(USD or Kshs)	Percentage

13. What is your total production cost per ha per year in your farm?

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14. What proportion of the total production cost per ha per year is chemicals/pesticides in your farm?

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15. Please give any other comment or additional information regarding pest and disease management in your farm that would be helpful in this study.

Appendix 2

Plan and Schedule of Activity

Activity	Time
Pilot Study	2 weeks
Questionnaire dispatch	2 weeks
Data collection	4 weeks
Data Analysis	3 weeks
Compilation and Editing	3 weeks

Appendix 3

Budget

Item	Cost
Proposal preparation and development	Kshs. 4,000
Traveling	Kshs 18,000
Typing, printing and binding	Kshs. 4,000
Data Collection and analyses	Kshs. 2,000
Data processing	Kshs. 7,000
Stationery	Kshs 2,500
Production of final document	Kshs 2,000
Typing, printing, and binding	Kshs. 6,000
Total Budget:	**Kshs: 45,500**

Appendix 4

List of flower farms in Kenya

	Name of Farm	Type of Flowers
1	Primarosa Ltd	Roses
		Chrysanthemum
2	Locland Ltd	Roses
3	Harvest Ltd	Roses
4	Sunrose Ltd	Roses
5	Waridi	Roses
6	Carnations Ltd	Carnations
7	Charm Flowers	Lisianthus
8	Isinya Roses	Roses
9	PJ Dave Flowers	Roses
10	Maua Agritech Ltd	Roses
11	Sian Winchester	Roses
12	Kordes Ltd	Roses
13	Karen Roses	Roses
14	410 Investment Ltd	Roses
15	Redlands Roses	Roses
16	Cordia Ltd	Roses
17	Mosi Ltd	Roses
18	KPP Plant Production	Cuttings
19	Bawan Roses	Roses

20	Zena Roses	Roses
21	Enkasiti Flowers	Roses
22	Gatoka Roses	Roses
23	Kabuku Ltd	Roses
24	Riverdale Blooms Ltd	Roses
25	Tambuzi Ltd	Roses
		Lilies
26	Countrywide Connections	Hypericums
		Eryngiums
27	Homegrown-Siraj	Carnations
		Lilies
28	Kisima Farm Ltd	Roses
		Lilies
29	Sher Agencies	Roses
30	Wild fire Ltd	Hypericums
31	Oserian Development Co ltd	Roses
		Statice
		Carnations
32	Shalimar Ltd	Roses
33	Ravine Roses	Roses
34	Shantara Flowers	Summer Flowers
35	Njoro Gardens	Roses

36	Sian Agriflora	Roses
37	Kenya Highlands	Roses
38	Elbur Flora	
39	Sarkish Flowers	Roses
40	Buds & Blooms	Roses
41	Subati Flowers	Roses
42	Suera Flowers	Roses
43	Color Crop	Summer Flowers
44	Lauren Investment	Roses
45	Highland Plants	Cuttings
46	Linssen Roses	Roses
47	Longonot Farm Ltd.	Seedlings
48	Longonot Horticulture	Liasianthus
		Seedlings
49	Mayflower	Chrysanthemums
50	Ol Njorowa	Roses
51	Stokman Rozen (K) Ltd.	Roses
52	Arts Flowers Ltd.	Roses
53	Star Flowers	Roses
		Hypericums
54	Wildfire	Hypericums

55	Zena Roses Plateau	Roses
56	Ngong Roses	Roses
		Summers flowers
57	Magana Flowers	Roses
58	Bekya Floriculture	Roses
59	Tropiflora Ltd	Astromeria
		Carnattions
60	Sande (K) Ltd	Zentadacia
61	Valentine-Kibubuti	Roses
		Summer flowers
62	Valentine-Karura	Roses
63	Beverly Flowers	Roses
64	Hatabor Ltd	Summer Flowers
65	Celinico Ltd	Roses
		Summer Flowers
66	Sophia Roses	Roses
67	Penta Flowers	Roses
68	Everflora Ltd	Roses
69	Kariki Ltd	Hypericums
70	Windsor Flowers	Roses
71	Lauren International	Roses

72	Simbi Roses	Roses
73	Transebel Ltd	Roses
74	Kenya Cuttings	Cuttings
75	Mweiga Blooms Ltd	Roses
76	Liki Riverfarm	Roses
77	Kongoni Ltd	Roses
78	Homegrown-Sirimon	Lilies
		Blueperiums
79	Timaflor Ltd	Roses
80	Batian Flowers	Roses
81	Lobelia Ltd	Roses
82	Terrafleur Ltd	Hypericums
83	Bigot Flowers	Roses
84	Kreative Roses	Roses
85	Homegrown-Hamerkop farm	Roses
86	Nini Flowers	Roses
87	Pollen Ltd	Seeds/Cuttings
88	James Finlay (K) Ltd.	Roses
		Carnations
		Gypsophila
89	Homegrown-Flamingo	Roses
90	Goldsmith Seeds (K) Ltd.	Seeds/Cuttings

91	Hamer	Summer Flowers
92	Beautyline	Gypsophila
93	Bila Shaka	Roses
		Hypericums
94	Double Dutch	Roses
95	Homegrown-Kari farm	Roses
		Carnations
		Limonium
		Gypsophila
96	Kijabe Ltd	Roses
97	Lake Flowers	Roses
98	Panda Flowers	Roses
99	Plant First Ltd.	Cuttings
100	Plantation Plants	Cuttings
101	Plant Factory	Cuttings
102	Shalimar	Roses
		Hypericums
		Chrysanthemums
103	Shantara	Summer Flowers
104	Mahee Flowers Ltd	Roses
		Lilies
		Carnations
105	Kipipiri	Outdoor

106	Homegrown-Kingfisher farm	
107	Primarosa 2	Roses
108	Livewire	Carnations
		Lillies

Source: Researcher compilation/Bayer

The total number of farms forming the population of the study is 108.

Appendix 5
Market positions of pesticide companies in Kenya based on sales

	Total Sales 2004		Total sales 2005	
Company	Sales(Mio Kshs)	Share %	Sales(Mio Kshs)	Share %
Bayer CropScience	15.49	28.6%	18.77	30.8%
Syngenta	11.17	20.6%	12.3	20.2%
Amiran	5.6	10.3%	6.25	10.2%
Osho	5.4	10.0%	6	9.8%
Farmchem	2.7	5.0%	2.95	4.8%
Lachlan	2.7	5.0%	2.9	4.8%
Twiga	2.55	4.7%	2.6	4.3%
BASF	2.2	4.1%	2.6	4.3%
Juanco	1.8	3.3%	1.9	3.1%
Murphy	1.33	2.5%	1.34	2.2%
Others	3.28	6.0%	3.38	5.5%
Total	54.22		60.99	

Source; Pest control products board (PCPB) of Kenya.

Appendix 6
T-test on market shares

Paired Samples Test

Company Proportions Comparisons		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Bayer proportion - Syngenta proportion	12.18478	14.70954	2.16880	7.81659	16.55298	5.618	45	.000
Pair 2	Syngenta proportion - Amiran proportion	8.11957	15.04925	2.21889	3.65049	12.58864	3.659	45	.001
Pair 3	Amiran proportion - Basf proportion	.65217	12.97856	1.91358	-3.20198	4.50633	.341	45	.735
Pair 4	Basf proportion - Twiga proportion	5.04783	9.57222	1.41135	2.20523	7.89043	3.577	45	.001
Pair 5	Twiga proportion - Elgon proportion	.66957	7.43702	1.09653	-1.53896	2.87809	.611	45	.545
Pair 6	Elgon proportion - Osho proportion	.70652	6.01348	.88664	-1.07926	2.49231	.797	45	.430
Pair 7	Osho proportion - Farmchem proportion	.07174	4.49136	.66221	-1.26203	1.40551	.108	45	.914
Pair 8	Twiga proportion - Osho proportion	1.37609	5.10160	.75219	-.13890	2.89107	1.829	45	.074
Pair 9	Twiga proportion - Farmchem proportion	1.44783	4.19692	.61880	.20150	2.69416	2.340	45	.024

Source: Research data

Appendix 7

Proportionate comparisons of responses on very high impact scores on which product to use

Group $very high
(Value tabulated = 5)

Dichotomy label	Name	Count	Pct of Responses	Pct of Cases
Product quality	prdqty10	42	33.3	91.3
Service efficiency	serveff1	19	15.1	41.3
After sales service	aftsales	6	4.8	13.0
New products	nprdtcs1	3	2.4	6.5
Brand name	brandnm1	7	5.6	15.2
Contractual agreement	contragr	1	.8	2.2
Other factors	otheriss	2	1.6	4.3
Control	ctr5	46	36.5	100.0
		---	---	---
	Total responses	126	100.0	273.9

0 missing cases; 46 valid cases

Abbreviated Name	Extended Name
aftsales	aftsales10
brandnm1	brandnm10
contragr	contragre10
nprdtcs1	nprdtcs10
otheriss	otheriss10
serveff1	serveff10

Source: Research data

Appendix 8

Proportionate comparisons of responses on high impact scores on which product to use

Group -high
(Value tabulated = 4)

Dichotomy label	Name	Count	Pct of Responses	Pct of Cases
Product quality	prdqty10	2	2.0	4.3
Service efficiency	serveff1	10	10.2	21.7
After sales service	aftsales	15	15.3	32.6
New products	nprdtcs1	12	12.2	26.1
Brand name	brandnm1	4	4.1	8.7
Contractual agreement	contragr	6	6.1	13.0
Other factors	otheriss	3	3.1	6.5
Control	ctr4	46	46.9	100.0
		---	---	---
Total responses		98	100.0	213.0

0 missing cases; 46 valid cases

Abbreviated Name	Extended Name
aftsales	aftsales10
brandnm1	brandnm10
contragr	contragre10
nprdtcs1	nprdtcs10
otheriss	otheriss10
serveff1	serveff10

Source: Research data

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19/10/ **2006**

TO WHOM IT MAY CONCERN:

Dear Sir/Madam,

RE: RESEARCH PROJECT: DATA COLLECTION

KARANJA FRANCIS MWANGI

This is to confirm that the above named is an M.BA student in the School of Business, Kenyatta University, and he is embarking on his project this semester before he completes his degree programme.

Any assistance you may accord him will be highly appreciated.

KENYATTA UNIVERSITY
DEPARTMENT
19 JUL 2006
BUSINESS
P. O. Box 43844, NAIROBI

Mrs. E. Gitonga
MBA COORDINATOR

Appendix 10
Specimen cover letter to respondents

Date:.....

Dear Sir/Madam,

Ref: Master of Business Administration Academic Research

I am a Master of Business Administration (MBA) student at Kenyatta University, School of Business.

As part of my academic work, I am carrying out a research titled; "**Assessment of the factors that influence the market share of different companies marketing pesticides in the floriculture industry in Kenya".**

You have been selected as one of the respondent in this study and I herein attach a questionnaire that will help in collecting and collating data useful in this study.

The information you will provide will be treated in confidence and will be used for academic purposes only.

Your assistance and cooperation will be highly appreciated.

Yours truly,

Karanja Francis Mwangi
Reg: D53/0528/2003
MBA Student-Researcher
Kenyatta University