

**The Resource Based View of Competition: The Case of Large Manufacturing
Firms Quoted in the Nairobi Stock Exchange.**

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**A project submitted in partial fulfilment of the requirements for the degree of
Master of Business Administration (MBA), Faculty of Commerce, University
of Nairobi**

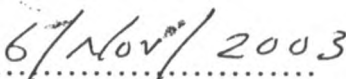
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DECLARATION

This project is my original work and has not been submitted for a degree to any other university


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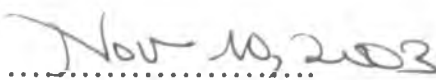
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This project has been submitted for examination with my approval as a university supervisor


.....

Mr John Kenduiwo
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.....
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DEDICATION

To my dear parents.

Cajetan and Helen Kerama

Mum and Dad, thank you so much for all your support over the years. That is what has made this possible.

ACKNOWLEDGEMENTS

I would like to thank the following people for their contribution towards the successful completion of this project. This work would not have been possible without their support.

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ABSTRACT

This study was conducted on a cross section of large manufacturing firms in Kenya that are quoted in the Nairobi Stock Exchange. A sample of 15 firms had been selected and 60% response rate was achieved. Data was collected using a semi-structured questionnaire. The researcher used the drop and pick later method of data collection. The collected data was analysed using descriptive statistics such as frequencies, proportions, tables and charts.

The findings largely achieved the objective of the study. Most respondents indicated that cost, flexibility, delivery speed and quality were very important factors in determining the choice of the manufacturing priorities. The respondents indicated that in comparing their process technology with the industry competition, majority of the respondents were average or above the industry average. That patenting has had a positive effect on the manufacturing cost, wastage level, delivery, throughput time and flexibility and that the plant should maintain close communication with the suppliers about quality considerations and design changes, and the extent to which the customers should be involved in the product design process. Most respondents also agreed that employees receive training to perform multiple tasks and management was keen to implement useful ideas and suggestions.

The objective of this study was to study three types of resources and capabilities that are built within the manufacturing function and whether these capabilities can improve performance for the plant. The study concluded that it was evident that these resources and capabilities are very important. It also indicated that these capabilities and resources can improve performance of the plant, increase production flexibility and quality, reduce wastage, improve delivery to customers

and reduce throughput time. The study failed to reject the null hypothesis that manufacturing resources and capabilities do not have a positive effect on performance at plant level.

CHAPTER ONE: INTRODUCTION

1.1 Background

In the past the market has been characterised by durable products, stable customers needs, well-defined national and regional markets and clearly identified competitors. Competition was a “war of position” in which companies occupied competitive space like squares on a chessboard; building and defending market share in clearly defined product or market segments. The key to competitive advantage was markets the company chose to compete in. However, of secondary importance was the way it chose to compete in these markets (Hooley and Saunders; 1993)

Two main paradigms have come to dominate the competitiveness literature in the last decade. The marketing paradigm stresses the need for external marketing orientation to achieve competitive success while the Resource-Based View (RBV), which posits that strategy (and subsequently performance) is dependent on historically developed capabilities and resource endowments (see Barney 1991, Grant, 1995; Wernerfelt, 1995). Schroeder et al. (2002) propose that there are two distinct manufacturing capabilities (Internal and External learning) and one manufacturing resource (Proprietary process and equipment).

A number of definitions for resources and capabilities have been suggested. Amit and Schoemaker (1993) defined resources as stocks of available factors that are owned or controlled by the firm. Teece et al (1992) used the term organisational capabilities to refer to the abilities of an enterprise to organise, manage and coordinate or undertake specific sets of activities. As such capabilities refer to a firm’s capacity to deploy assets, usually in combination, using organisational processes to effect a desired end. Internal learning refers to learning processes within the organisation while external learning refers to inter-organisational learning that occurs

along the supply chain both upstream and downstream of the plant. Proprietary processes and equipment refer to unique production processes and equipment.

Hooley and Broderick (1998) argue that the market orientation stream is essentially static (Measuring current orientation rather than its deployment). Furthermore, the old approach of getting an idea, conducting traditional market research, developing a product, testing the market and finally going to market – is slow, unresponsive and turf-ridden. Moreover, given the fast-changing marketplace, there is less and less reason to believe that this traditional approach can keep up with the real customer wishes and demands and with the rigors of competition.

Few managers need reminding of the changes that have made the traditional approach obsolete. As markets fragment and proliferate, “owning” any particular market segment becomes simultaneously more difficult and less valuable. As product life cycles accelerate, dominating existing product segments become less important than being able to create new products and exploit them quickly.

Resource-based theorists on the other hand argue that for competitiveness strategy to be sustainable it needs to be embedded in the firm’s resources and capabilities. Indeed Grant (1995) states that the greater the rate of change in a company’s external environment, the more it must seek to base long term strategy upon its internal resources and capabilities rather than upon external market focus.

Meanwhile as globalisation breaks down barriers between national and regional markets, competitors are multiplying and reducing the value of national market share. As such foreign-

based competitors continue their assault on the Kenyan market exploiting their low wages or superior technological sophistication or both. Consumers are requiring ever-higher levels of quality and diversity. In addition, today most products are global composites of materials and services from manufacturers throughout the world. Therefore Kenyan manufacturing firms have to consider customers and competitors in global terms in order to succeed. In the recent times more and more nations have speeded up their pace of industrialisation and have become strong players in the world economy.

There is a need for Kenya to join in this drive in order to attain the goal of Industrialisation by the year 2020, which is one of the targets that the Government of Kenya has set. In order to achieve this goal, Kenyan firms must realise that competition has become a ‘ war of movement’ in which success depends on anticipation of market trends. Successful competitors move in and out of products, markets and sometimes even entire businesses – a process more akin to an interactive video game than to chess.

This means that companies must have the capability to switch gears rapidly. For example in a high-tech industry, the ability to quickly develop state-of-the-art products with features and performance that deliver value to customers creates an enduring advantage. In a commodity industry, by contrast it may be the ability to constantly reduce costs that could determine how efficiently and effectively a company performs its functional activities. Following this logic a company will be positioned to succeed if it has the best and most appropriate stocks of resources for its business and strategy.

That is why Kenyan firms need to move from the market based view which sees operations as a perfectly adjustable system focussed to successfully follow the rules dictated by markets to the

RBV which suggests that it is more profitable to focus on developing, protecting and leveraging a firm's unique operational resources and capabilities in order to change the rules of competition. The RBV acknowledges the importance of company-specific resources and competencies and yet it does so in the context of the competitive environment.

Previous research in the West within the resource-based approach has focussed on the characteristics of resources with respect to competitors rather than their development within the firm. Other studies have centred on why resources may be difficult to acquire in the short term, if they can be acquired at all (Barney, 1986; Dieckerix & Cool 1989; Teece; 1976,1980; Teece et al., 1997). However the RBV is a relatively new area and the researcher is not aware of any studies that have been done in this area in Kenya.

However, a number of related researches in manufacturing strategy have been done These researches are related to what Voss (1995) has termed the three "paradigms" of manufacturing strategy. In his findings Nyamwange (2001) indicated that the majority of large Kenyan manufacturing firms acknowledge that operations based strategies enhance the competitive capabilities of firms by contributing to long term business performance and success. Nyamwange (2001) recommends that there is need for more detailed studies in to the specific practices of each of the operations strategies. Makori (2001) recommends that specific measures of the various performance priority areas need to be documented.

Nyamwange (2001) and Makori (2002) use the paradigm of "competing through manufacturing". Their studies are centred around the "competitive priorities" (Skinner; 1969). Decision making

in manufacturing strategy-planning frameworks typically centres on “ competitive priorities” (Skinner 1969), including cost, quality, dependability, flexibility and service. These priorities have frequently been used to characterise the content of manufacturing strategy. (Fine and Hax, 1985; Schroeder et al 1986; Swamidass & Hewell; 1987).

One problem with competitive priorities is that they are too conceptually aggregated to clearly direct the proper uses of manufacturing resources. Each of these resources is multi-faceted and complex making its interpretation very much dependent on the biases of the researcher, strategy-maker etc. For example product pricing is almost certainly influenced by manufacturing costs but other issues such as promotion and competition may exert even greater influences.

Another limitation of current conceptualisations is that they do not discriminate between manufacturing capabilities and manufacturing outcomes (Corbett & Wassenhove; 1993). The ubiquitous list of manufacturing priorities contains both attributes. Cost is a manufacturing outcome; flexibility is a manufacturing capability. The former construct refers to an end while the latter refers to means to an end. Recent studies continue to mix means with ends (Vickery et al 1994; White 1996). An external customer-oriented perspective suggests the need to make clear distinctions between customer desires, manufacturing outcomes and manufacturing capabilities. As Penrose (1959) and McGrath (1996) point out, customers do not desire or purchase a firm’s capabilities per se (e.g. flexibility). Customer’s desire and purchase product and service attributes (e.g. delivery speed) a firm creates by deploying its capabilities. Maina (2001) on the other hand, uses the Hayes-Wheelright framework, which points at the active role of manufacturing within strategy, which still remains highly ambiguous due to the dominance of marketing in strategy (Porter, 1996).

The second paradigm “strategic choices in manufacturing”, which concentrates on making trade-off between operating priorities, is being challenged in a time where hyper-competition makes order winners short-lived and where qualifiers are becoming tougher.

Omufira (2001) and Atebe (2001) use the third paradigm of “best practices” which is related directly to a core fundamental issue, the implementation of new operations management approaches that are expected to yield world-class performance. These topical manufacturing management approaches have been proclaimed as best practice and have been assumed by manufacturing managers to generate competitive advantage in firms, irrespective of their individual corporate strategies (Skinner, 1996). However all reports of best practice whether (TQM, JIT, FMS, BPR, MRP II etc.,) show that there is a substantial failure rate in their implementation.

This proposed study will place research on manufacturing capabilities in the context of the Resource-Based View of competition by studying how large Kenyan manufacturing plants develop capabilities and resources in pursuit of better performance and competitive advantage. The study also aims at finding out what effect these capabilities and resources have on performance at the plant level; and whether there is evidence that the firms have focussed on developing them.

1.2 Statement of the problem

At any given point in time, the products and competitive position of a firm are important. In the dynamic competitive environment facing most manufacturers today, however, products are

quickly obsolete and static competitive positions are rapidly overtaken. In such an environment, the only real source of competitive advantage is the ability to respond to consistently changing markets with new products and ever improving competitiveness. A firm can achieve this ongoing renewal by identifying, developing and maintaining its critical “capabilities”.

One way of doing this is through the Resource Based View of competition. The Resource Based View of the firm seeks to explain sustainable competitive advantage using the rent earning capability of internal scarce resources. The Resource-Based View of competition, which has emerged, deals with “management fundamentals” at the heart of manufacturing excellence. The RBV is geared towards ensuring that investments in “organisational infrastructure” are both supportive and generative of manufacturing excellence. This approach contrasts with previous manufacturing strategy approaches where such decisions were considered secondary (Hill, 1989). Therefore the three paradigms of manufacturing strategy, namely, “competing through manufacturing”, “strategic choices in manufacturing” and the paradigm of “best practices” will have to be updated in order to take in to account the Resource Based View.

This study was in response to this challenge and aimed at studying how large Kenyan manufacturers firms develop unique resources and capabilities that are difficult to duplicate so as to remain relevant in this era of hyper-competition. Teece et al. (1997) state that strategic assets cannot be represented on balance sheets, and thus cannot be easily acquired through markets.

Consequently, other firms are not able to duplicate the resulting capability (Barney, 1991; Wernerfelt, 1984).

1.3 Objectives of the Study

- a. The study sought to examine three types of resources and capabilities that are built within the manufacturing function and are difficult to imitate and transfer. These are
 - i. Unique process and equipment improvement
 - ii. Internal learning
 - iii. External learning
- b. The study sought to examine the effect of these capabilities and resources on performance at the plant level and whether there is any evidence that large Kenyan manufacturing firms have focussed on developing the same.

1.4 Hypothesis

The following was the hypothesis of the study which was tested:

- i **H₀**: Manufacturing resources and capabilities do not have a positive effect on performance at the plant level.
- ii **H₁**: Manufacturing resources and capabilities have a positive effect on performance at the plant level

1.5 Importance of the study

- i. Large manufacturing plants will benefit from findings of how to develop capabilities and resources in pursuit of better performance and competitive advantage; and also, knowledge about the significance of the role of internal and external learning in developing resources that are difficult to duplicate.

- ii. To manufacturing strategy literature by placing it in the context of existing RBV theories by studying how large Kenyan manufacturing firms develop capabilities in pursuit of better performance and competitive advantage.
- iii. As a basis for further manufacturing strategy research in the context of Kenyan firms. This would determine what manufacturing strategies Kenyan manufacturers have placed their current and should place their future emphasis.

CHAPTER TWO: LITERATURE REVIEW

2.1 Capabilities and Competencies

Teece et al. (1997) define strategic resources as strategic assets, such as trade secrets or specialised production facilities, whereas capability is defined as the “ability to integrate, build and reconfigure internal and external competencies...” Amit and Schoemaker (1993) make a clear distinction as well by defining resources as stocks of available factors that are owned or controlled by the firm, and capability as the “firm’s capacity to deploy resources.” However both capabilities and resources that are valuable, difficult to trade and imitate, scarce, and appropriable are considered strategic assets although capabilities are more likely to result in a sustained competitive advantage.

Manufacturing capabilities are defined here in accordance with Amit and Schoemaker (1993) as “ the ability to integrate, build and reconfigure internal and external competencies.” Schroeder et al. (2002) propose that there are two distinct manufacturing capabilities (Internal and External learning) and one manufacturing resource (Proprietary process and equipment).

The concept of "core competence," popularised by Prahalad and Hamel,(1990) is based on a series of tests that identify organizational resources offering the greatest strategic value. Prahalad and Hamel argue that to be considered a core competence, a stock of assets should

- i) Offer real benefits to customers,
- ii) Be difficult for competitors to imitate, and

- iii) Provide access to a variety of markets. Those bundles of assets or resources that pass these three tests are strategic, or most relevant to the future product and market decisions of the firm.

Recent discussions have shifted the focus from competencies to organizational capabilities (Barney, 1995). Competencies, as they have been discussed, have a technology or knowledge-based component. In particular, competencies often result from a blending of technology and production skills. Capabilities, on the other hand, are rooted more in processes and business routines. Capabilities are complex phenomena that involve the interactions of individuals and structures and, therefore, are difficult to imitate. (Barney, 1991; Wernerfelt, 1984)

The distinction between competencies and capabilities should not distract us; both represent strategically relevant resources. Moreover, the tests proposed by Prahalad and Hamel are appropriate for the assessment of either.

2.1.1 Internal Learning

Refers to the learning processes within the organisation. Such processes include the training of multifunctional employees (Gerwin and Kolodny, 1992) and incorporating employee suggestions (Hall, 1987) into process and product development, among others. Internal learning leads to an adaptable work organisation, which can provide a competitive edge for the manufacturing organisation (Gerwin & Kolodny, 1992). The importance of internal learning in manufacturing is further discussed (Hewell, 1987).

2.1.2 External Learning

Refers to inter-organisational learning that occurs along the supply chain, both upstream downstream from the plant. Plants that listen closely to their suppliers and customers will

achieve an edge in development of new products and processes. A close customer relationship provides a source of tacit knowledge, which is not easy to duplicate or copy by competitors (Madhok & Tallman, 1998; Ward et al., 1995). External learning also occurs when a plant works closely with its suppliers to develop better linkages with them. Long-term relationships with suppliers can provide unique capability for the plant (Gerwin, 1993), which establishes a source of competitive advantage.

2.1.3 Proprietary Manufacturing Processes and Equipment

Unique production processes and equipment, including proprietary or patented technology, can be a valuable resource to a manufacturing organisation. Amit and Schoemaker (1993) recognise this as a potentially strategic asset. St John & Harrison (1999) argue that custom-designed process equipment can create a manufacturing capability that is difficult to observe and imitate.

Schroeder et al. (2002) consider this construct a resource rather than a capability – equipment is a stock since allocating it to a specific task deploys it. In contrast, learning is not a stock construct as it is not an asset that is allocated to a specific task; rather, learning is the ability to make use of resources.

2.2 Manufacturing Strategy

Manufacturing strategy is an area of growing concern in most manufacturing industries. It is the management principles dictating how a product is manufactured, how resources are deployed in production and how infrastructure necessary to support manufacturing should be organised. It creates and adds value by helping a firm establish and sustain a defensible competitive advantage that is the unique position an organisation develops against competitors. Manufacturing strategy

is viewed as the effective use of manufacturing capability for the achievement of business and corporate goals. Manufacturing strategy reflects the goal and strategies of business, and enables the manufacturing function to contribute to the long-term competitiveness and performance of business. The aim of manufacturing strategy is to use the production system as a strong source of competitiveness.

2.3 Paradigms and Strategic Approaches to Manufacturing Strategy

Since the early work of Skinner manufacturing strategy has developed on several different fronts.

- The first of these can be characterised as competing through capability. This is achieved through aligning the capabilities of manufacturing with the competitive requirements of the marketplace.
- The second approach is based on internal and external consistency between the business and product context and the choices in the content of the manufacturing strategy. This is effectively a contingency-based approach.
- Finally, there are approaches based on the need to adopt “ Best Practice”, characterised by, for example, World Class manufacturing”.

However on the one hand paradigmatic approaches have been seen in contrast with established theories about strategic choices in manufacturing, manufacturing trade-offs and manufacturing as a source of competitive advantage. The advocates of the strategic approach to manufacturing maintain that the servile imitation of successful managerial; and organisational innovations even when possible drive companies to become similar to each other thus narrowing their strategic space –e.g. Hayes & Pisano (1994), A strategic approach starting from the seminal work by

Skinner (1969) which the Harvard school epitomised the strategic approach to manufacturing and supported a contingent framework on both context and competitive strategy at firm level.

The strategic approach suggests that every company must design its manufacturing strategy in terms of equipment, process technologies, production planning and control, labour and staffing, product design and engineering, and organisation and management. With good reason it has been considered one of the most powerful conceptualisations, because it provides insights on how manufacturing choices should be made, depending on the intended competitive strategy and various contingencies at the firm, industry and country level. Following the strategic approach there is no new one best way to put in place, unless this prevents a manufacturer from building competitive advantage,

Recent work in the literature including Voss (1995) who in analysing alternative approaches to manufacturing strategy already suggested that the strategic approaches and those based on the need to adopt best practice should be merged because none by itself is sufficient for effective development of manufacturing strategy over the long term.

2.4 The Resource-Based View of Competition

The pace of global competition and technological change has left managers struggling to keep up. As markets move faster and faster, managers complain that strategic planning is too static and too slow. Strategy has also become deeply problematic at the corporate level. Not surprisingly, waves of new approaches were proposed to address these multiple assaults on the premises of strategic planning. Many focussed inward. The lessons from Tom Peters and Bob Waterman's "excellent" companies led the way, closely followed by TQM as strategy,

reengineering, core competence, competing on capabilities and the learning organisation. Each made its contribution in turn, yet how any of them built on or refuted the previously accepted wisdom was unclear. The result: each compounded the confusion about strategy that now besets managers.

A framework that has the potential to cut through much of the confusion is now emerging from the strategy field. The Resource Based View of the firm is an umbrella term that is grounded in economics that explains how a company's resources drive its performance in a dynamic competitive environment. (Collis and Montgomery; 1995). The RBV combines the internal analysis phenomena within companies with the external analysis of the industry and the competitive environment. It builds on but does not replace the two previous broad approaches to strategy by combining internal and external perspectives (Collis and Montgomery; 1995). It derives its strength from its ability to explain in clear managerial terms why some competitors are more profitable than others, how to put the idea of core competence in practice and how to develop diversification strategies that make sense.

The core question for strategy researchers is, "why do some firms perform better than others?" (Rumelt et al. 1991). The Resource Based View offers one important explanation: if firms are viewed as resources, a given firm may gain an advantage based on its unique access to rare resources (Barney 1991, Wernesfelt, 1984). The RBV sees companies as very different collections of physical and intangible assets. No two companies are alike because no two companies have the same set of experiences, acquired the same assets and skills and built the same organisational cultures. These assets and capabilities determine how efficiently and effectively a company performs its functional activities. Following this logic, a company will be

positioned to succeed if it has the most appropriate stocks of resources for its business and strategy.

Two main approaches to resources have been developed. First, the resource-based approach, which focuses on explaining rent earning capability of resources (Amit and Schoemaker, 1993). Second, the dynamic capabilities approach which examines how resources and capabilities are developed in a firm context. (Mahoney, 1995).

2.5 The Need To Identify Core Manufacturing Capabilities

Numerous researchers have lamented the ambiguity in manufacturing strategy constructs. (Gerwin, 1993; Skinner, 1992; Swink and Way, 1995). The foregoing discussion suggests that a more specific and distinct terminology is required to resolve these ambiguities. Explicitly defining manufacturing capabilities will provide a step in this direction. In addition, a clear understanding of capabilities could improve the implementation of manufacturing strategy models. Three key roles emerge that manufacturing capabilities play in the formulation of manufacturing strategy.

- i Identifying important capabilities clarifies differences between manufacturing outcomes and manufacturing means. Discussing capabilities completes strategy formulation by leading from addressing what is needed to addressing how it is delivered
- ii An understanding of needed capabilities clarifies the manufacturing objectives that underlie strategic manufacturing initiatives. A vision of needed capabilities provides a dynamic basis for improvement, which goes beyond simple strategic alignment and beyond static improvement goals. Existing manufacturing strategy planning frameworks

do not address capabilities directly. They are therefore static in nature, offering a little incentive for manufacturing improvement once immediate manufacturing goals have been reached. A clear view of needed manufacturing “capabilities is important for maintaining strategic directions over time (Garvin, 1993; Hayes and Pisano, 1994).

iii Understanding manufacturing capabilities provides deeper insights for translating manufacturing policies and hardware into product attributes that produce competitive advantages. Strategic manufacturing initiatives should seek to gain leverage from existing manufacturing capabilities or to develop needed capabilities that are currently lacking.

2.6 Competitiveness through manufacturing capabilities

Capabilities in functional areas of the firm such as manufacturing contribute to the development of deployable resources for the firm. Their positive contribution to performance may also confer advantages compared to competitors alone or in combination with resources in other functional areas.

A central question in the resource-based literature has been what resources and capabilities will generate rent for the firm? (Amit and Schoemaker, 1993).

Specifically, resources must be valuable, rare and hard to imitate and the firm must be organised to take advantage of them (Barney 1991). Knowledge-based assets, which hold special complexity makes them hard to imitate. Thus, recent work focuses on the means by which complementary knowledge – based assets can be woven together to form strategic capabilities. (Teece et al. 1997).

From the foregoing emerges some characteristics of these critical capabilities.

- i. Complexity – developing capabilities involves patient “organisational learning” over a period of time. Thus, a company with a head start in this learning process will be difficult to overtake.
- ii. Organisational diffuseness – critical capabilities involve processes, which nearly always cut horizontally across the functional groups in the company and frequently involve external groups. As a consequence, they cannot be developed by hiring away a few key individuals.
- iii. Well-developed interfaces – they depend as much on the way individuals/organisations have learned to work with each other as they do on the particular expertise of the individual/organisations themselves. As a result, a competitor could staff each of the functions involved in a critical process with the most talented individuals available and still not develop a capability.

Capabilities arising from manufacturing processes and infrastructure may become a valuable resource for the firm.

- i. First, manufacturing resources and capabilities such as custom designed equipment, worker experience and incremental process improvement can create a manufacturing capability that is difficult to imitate and subject to causal ambiguity. (St. John & Harrison,1999; Abernathy and Utterback,1975; Hayes and Wheelwright, 1984)
- ii. Second, at any point in time, superior capabilities in manufacturing processes have been demonstrated to confer performance advantages, and consistent improvement of manufacturing processes can lead to a series of competitive advantages.

2.7 Relationship between manufacturing capabilities and performance

Over the past decade, academics and practitioners alike have concluded that manufacturing matters. It matters to the economy as a whole and it matters to the business to which it belongs. Therefore to what extent can a common set of success factors in manufacturing be found that are linked to overall business performance.

Manufacturing can be related to three different types of performance measures:

- i. Relative manufacturing capabilities developed because a particular manufacturing strategy is implemented: measures of the business unit's manufacturing strength relative to its primary competitors in quality, delivery dependability, flexibility and the ability to compete with low prices.
- ii. Relative managerial success, in terms of meeting goals, is influenced by both manufacturing capabilities and those of other functional areas. The broader the range of capabilities managers can bring to bear on the competition, the more the chances they have to succeed. A glimpse into the new world of manufacturing capabilities cannot explain everything however. The ability of executive management to exploit these capabilities effectively is clearly important to winning in the market place.
- iii. Absolute economic outcomes such a Return on Assets and profit margin are dependent not only on managerial success but also on the firm's external environment. Adverse environmental conditions can dampen high levels of economic performance even in the best-managed firms.

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2.8 The Market-Based View

The marketing concept posited in the mid to late 1950s articulated that marketing was the principle function of the firm (along with innovation) because the main purpose of any business was to create a satisfied customer (Drucker; 1954) Profit was not the objective, it was the reward of creating a satisfied customer.

Later on the managerial viewpoint has become more dominant with its emphasis on the basic microeconomic paradigm of profit maximisation. However from an academic perspective, the relatively narrow conceptualisation of marketing as a profit-maximisation problem, focused on market transactions or a series of transactions seems increasingly out of touch with an emphasis on long-term customer relationships and the formation and management of strategic alliances.

The concept of exchange has long been recognised as the basis for marketing (Alderson 1965; Bagozzi 1975). Traditionally marketing has been conceived as a transaction involving a buyer and a seller; hence the emphasis has been one of building sales. Equilibrium has been said to occur when the customer purchases a product that satisfies personal objectives and at the same time results in a profit for the marketer. The aim is to get the customer to buy his product in preference to the competition. This is achieved by identifying the wants and needs of the customer and in responding in a way to satisfy them. In other words, the objective is to make a sale or get a customer in a given situation but not necessarily to keep a customer.

In the traditional view the firm was a distinct entity whose borders were defined by an organisation chart, which clearly delineated the boundary between the firm and the external environment. The external environment consisted of markets in which firms engaged in

transactions with vendors for the resources needed to conduct their affairs and with customers who purchased their products and services. The fundamental difference in the new economic order is that this clear distinction between firms and markets, between the company and its external environment has disappeared. (Badaracco 1991).

In boundary-less companies suppliers are not outsiders. They are drawn closer and become trusted partners in the total business process. Customers are seen for what they are – the lifeblood of the company and the focus is on satisfying their needs. Again boundaries between internal functions begin to blur. However these new responsibilities and tasks are not in alignment with the traditional profit-maximisation model, which has been at the core of marketing theory for the past four decades. This is because in the micro-economic paradigm the units of analysis are products, prices, firms and transactions. In the new world of marketing management we must look at people, processes and organisations.

2.9 Why the Resource-Based View?

The competitiveness literature has moved recently from a “market based” to a “resource-based” view of competition (Rumelt, 1984; Wernerfelt, 1984; Grant, 1995). The former view sees manufacturing as a perfectly adjustable system focussed to successfully follow the rules dictated by markets, while the latter suggests it is more profitable to focus on developing, protecting and leveraging a firm’s unique operational resources and advantages in order to change the rules of competition. This paradigm shift started with evidence that high performance is explained primarily by the strength of a firm’s resources, and not by the strength of its market position (Rumelt, 1984; Werner felt, 1984). It is only later that the resource-based view has gained more

importance since Prahalad and Hamel (1990) forcefully emphasized the link between core competencies and competitiveness.

This is why a resource-based view may be necessary, one where the primary good of strategy is to develop and leverage resources in order to create new market qualifiers and order winners. The innovative content for manufacturing strategy would be supported directly by key manufacturing capabilities deeply anchored within business processes and organizational routines (Nelson and Winter, 1982; Stalk et al., 1992; Transfeld and Smith, 1998). The new architecture of manufacturing would be based on knowledge and skills actively applied throughout processes, but also in terms of technologies, which form the basis for delivering various products and services (Prahalad and Hamel, 1990; Winter, 1987). The portfolio of core competencies would be linked to various operating decisions, which are normally dictated, by a market-based strategy, and may now become determinant (e.g. product and process design, strategic technological investments, etc). Along with decision regarding organisational infrastructure, such as human resource and management information systems, these critical operating decisions would come to represent the structural expression of core competencies within both the resource-based view and manufacturing strategy.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

This study was conducted through a cross-sectional survey of large manufacturing firms in Kenya that are quoted in the Nairobi stock Exchange.

3.2 Population

The study targeted the large manufacturing firms that are listed in the Nairobi Stock Exchange (NSE). There are a number of ways of determining the size of organisations such as the number of employees, capital employed, turnover, and profit.

According to the KIRDI (1997) Directory of manufacturing industries, small firms are those with 1 – 19 employees while medium sized firms have 20 – 49 employees. Where the number of employees was used to define the size, a firm with at least 50 employees was considered large (Mbeche & Yego, 1996; Nyamwange, 2001). This study adopted this definition. This is because information on headcount was more easily available than that on capital employed, turnover and profit. The population was drawn from the Nairobi Stock Exchange Handbook (2002). All the quoted manufacturing firms save for one had over 50 employees as per the KIRDI 1997 classification.

3.3 Sample

The sample consisted of all large manufacturing firms listed under the industrial and allied, agricultural and alternative market segment in the Nairobi Stock Exchange. A total of 15 large manufacturing firms were surveyed from these sectors. (See Table 3.3).

Sector	Number of firms	Sample
Agricultural	4	2
Commercial and Services	9	-
Finance and Investment	11	-
Industrial and Allied	16	12
Alternative Market Segment	10	1
Total	50	15

Source: NSE Handbook 2002

TABLE 3.3: CLASSIFICATION OF FIRMS BY SECTOR IN THE NAIROBI STOCK EXCHANGE

Such a sample will increase the opportunity for reducing sampling error or increasing precision. The cross sectional survey provides the opportunity to generalize the research findings to the broader population

3.4 Data Collection

Data collection was done through a semi-structured questionnaire comprising open-ended and close-ended questions. The questionnaire was divided into two sections. Section A was used to collect general information on the company profile, size and ownership. Section B aimed at

collecting data with regard to the objectives of the study. The Likert scale was used to compare some of the variables.

The researcher used the drop and picks later method of data collection and was available to clarify any issues that arose. The reason for this is because many respondents did not have the time for the interview method and cost limitations. The target respondents were production managers or their equivalents.

3.5 Data Analysis

The data collected was edited for accuracy, uniformity, consistency and completeness and arranged to enable coding and tabulation before statistical analysis (Cooper and Emory, 1998; Nachmias & Nachmias 1999). The data was coded and cross tabulated to enable the responses to be statistically analysed. Data was largely measured on the Likert scale and of ordinal level measuring various levels of agreement or otherwise. Descriptive statistics were used by way of percentages, tables, proportions and frequency distributions. The t-test was used to test the hypothesis. Computer aided software (SPSS) was used to carry out data manipulation.

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Ownership of the Companies

33% of the respondents indicated their company is locally owned, 11% of the respondents indicated their company is foreign while, 56% of the respondents indicated that their company is jointly owned (locally and foreign). Table 4.1 below gives a summary of the ownership of the companies.

TABLE 4 1: OWNERSHIP OF COMPANIES

	Frequency	%
Locally owned	3	33
Foreign	1	11
Jointly owned	5	56
Total	9	100

4.2 Size of Company

22% of the respondents indicated they have 5-19 employees and 22% indicated that they have 20-49 employees respectively, 11% of the respondents indicated that they have 50-99 employees while, 44% of the respondents indicated they have 100-199 employees. Table 4.2 below shows a summary of the size of the companies.

TABLE 4.2: NUMBER OF EMPLOYEES

	Frequency	%
5 - 19	2	22
20-49	2	22
50-99	1	11
Total	9	100

4.3 Importance of manufacturing choices

The respondents were asked to show the extent of importance they place on manufacturing choices. The responses were as follows:

89% of the respondents indicated significance in importance of choice in cost while, 11% of the respondents indicated less significance to importance of choice in cost.

44% of the respondents indicated flexibility was very important, 45% indicated that it was important and 11% indicated that it was somewhat important. Quality

In the choice of quality, all the respondents indicated that quality was very important.

67% indicated that delivery speed, is very important and 33% indicated that delivery speed was important. All the respondents indicated quantity as important.

Table 4.3 below gives a summary of the importance of choices.

TABLE 4.3: IMPORTANCE OF CHOICES

Extent of Importance in	Very Important	Important	Somewhat Important	Total
Choice of cost	89		11	100
Choice of flexibility	44	45	11	100
Choice of quality	100			100
Choice of delivery speed	67	33		100
Choice of quantity		100		100

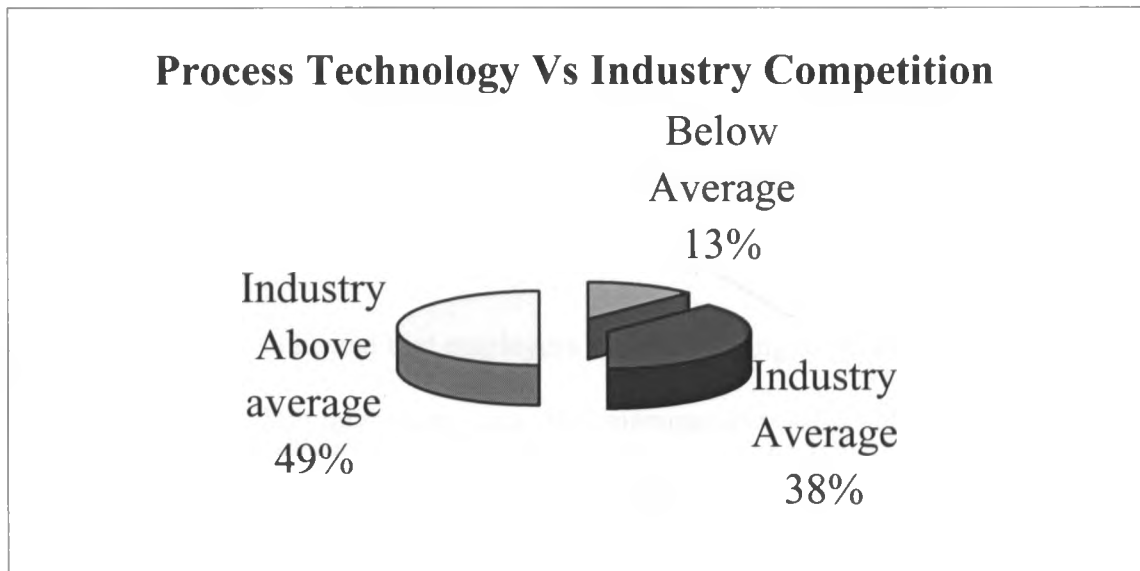
4.4 Proprietary Manufacturing Processes and Equipment

89% of the respondents indicated that they have patented manufacturing processes and equipment. They consider these unique production processes and equipment to be valuable resources and a source of competitive advantage,

4.5 Comparing technology with industry competition

The respondents indicated that in comparing their process technology with the industry competition, 49% of them indicated that their technology is above industry average, 38% indicated that they are on the industry average, 13% indicated that they are below industry average. Figure 1 below shows a summary of this.

FIGURE 4.1: Comparing Technology With Industry Competition.



Comparing industry with their production equipment, 22% indicated that, their production equipment were absolutely state of the art, 56% indicated that they are better than most companies in the industry and 22% indicated that they are about equal to the industry average.

4.6 The effect of patenting on plant performance in the past 5 years

On the effect of patented equipment and processes in the last five years, for the respondents that strongly agreed 13% indicated that it has had a positive effect on wastage level, 38% indicated

that it has had a positive effect on delivery speed, 14% indicated that it has had a positive effect on throughput time and 71% indicated that it has had a positive effect on the production flexibility. For those respondents that indicated that they agree, 75% indicated that it has had an positive effect on wastage level, 50% indicated that it has had a positive effect on delivery speed, 50% indicated that it has had a positive effect on throughput time and 14% indicated that it has had a positive effect on production flexibility. 13% disagreed that it has had any positive effect on wastage levels or production flexibility, 13% strongly disagreed that it has had a positive effect on delivery speed or throughput time.

4.7 Employees training and treatment of process improvement ideas within the plant

89% of the respondents indicated that employees receive training to perform multiple tasks. 77.8% indicated they strongly agree that the management takes all product and process improvement suggestions seriously and 22% agree. 44% indicated that they strongly agree that useful suggestions are usually implemented in the plant and 56% agree.

4.8 Effect of internal learning on plant performance over past five years

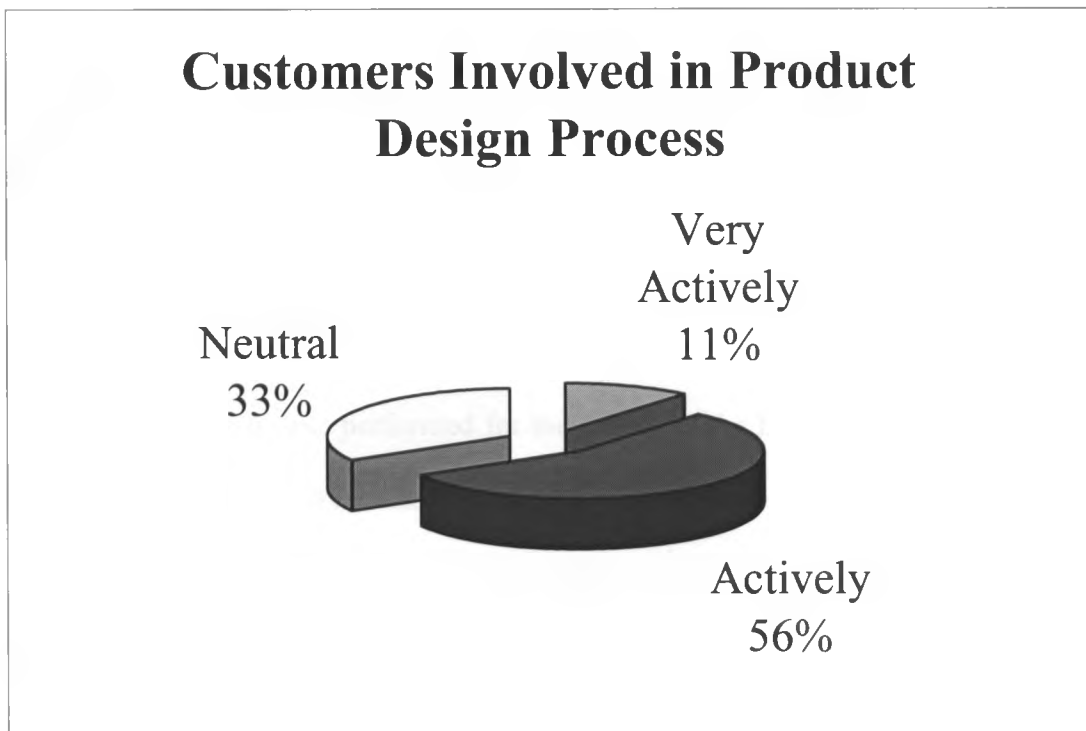
Over the last five years the lessons that have been learnt on the plant, 67% indicated that they strongly agree that it has had a positive effect on manufacturing cost, 56% that it has affected the level of wastage in the plant positively, 44% said that it has affected the percentage of deliveries customers receive on time, 22% that it has affected the number of days from receipt of raw materials to delivery to customers, and 33% that it has affected flexibility. For those that indicated that they agree, 33% indicated that it has had a positive effect on manufacturing cost, 33% that it has had an effect on wastage levels, 44% that it has had an effect on delivery, 56%

that it has had an effect on throughput time, and 44% indicated that it has had an effect on the production flexibility. The other respondents were neutral and others disagreed.

4.9 Effect of plant-customer interfacing

The frequency to which the customers should give feedback on quality and delivery performance, 22% indicated that it should be very frequently, 56% indicated that it should be frequently and 22% indicated they are neutral. The extent to which the customers should be involved in the product design process, 11% strongly agreed, and 56% agreed and 33% were neutral, see Figure 2 below.

FIGURE 4.2: Customers involved in product design process



4.9 Plant-supplier relationships

On whether a long-term relationship with suppliers was necessary, 67% indicated that they strongly agreed and 33% agreed. On the extent that the plant should maintain close

communication with the suppliers about quality considerations and design changes, 78% strongly agreed and 22% agreed.

4.11 Effect of external learning on performance over the past five years

Over the last five years working closely with suppliers, 67% indicated that they strongly agree that it has had a positive effect on manufacturing cost, 44% that it has affected the level of wastage in the plant, 22% that it has affected the percentage of deliveries customers receive on time, 22% that it has affected the number of days from receipt of raw materials to delivery to customers, and 22% that it has affected flexibility. For those that indicated that they agree, 33% indicated that it has had a positive effect on manufacturing cost, 33% that it has had an effect on wastage levels, 44% that it has had an effect on delivery, 56% that it has had an effect on throughput time, and 67% indicated that it has had an effect on the production flexibility. The other respondents were neutral and others disagree.

4.12 Testing of the Hypothesis

A t-test measurement was performed for the testing of the hypothesis. The null hypothesis stated that manufacturing resources and capabilities do not have a positive effect on performance at the plant level. The research hypothesis stated that resources and capabilities have a positive effect on performance at the plant level. The overall mean or the mean of means was calculated at 1.78. This is what was used as the test value as shown on Table 4.4 below

Five measures of performance at plant level were addressed by the questionnaire and the respondents were asked to indicate the level of importance of each on a 5-point scale.

TABLE 4.4 t-TEST SAMPLE STATISTIC

One-Sample Statistics				
				Std. Error
The Plant Level	N	Mean	Std. Deviation	Mean
Has had a positive effect on manufacturing cost	9	1.33	0.5	0.17
Has had a positive effect on wastage levels	9	1.67	1	0.33
Has had a positive effect on delivery speed	9	1.78	0.97	0.32
Has had a positive effect on throughput time	9	2.11	0.93	0.31
Has had a positive effect on production flexibility	9	2	1	0.33
Mean of Means		1.78		

TABLE 4.5: t-TEST OUTPUT

Test Value = 1.78

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Has had a positive effect on manufacturing cost	(2.68)	8	0.03	(0.45)	(0.83)	(0.06)
Has had a positive effect on wastage levels	(0.34)	8	0.74	(0.11)	(0.88)	0.66
Has had a positive effect on delivery speed	(0.01)	8	0.99	(0.00)	(0.75)	0.74
Has had a positive effect on throughput time	1.07	8	0.32	0.33	(0.38)	1.04
Has had a positive effect on production flexibility	0.66	8	0.53	0.22	(0.55)	0.99

On a two-tailed t-test, with 8 degrees of freedom, the manufacturing cost and the wastage level had mean less than the test value and the delivery speed had a mean equal to the test value. Throughput time and production flexibility had means greater than the test value. The test assumed a 95% confidence level. From the table above, it can be seen that the significance values for the wastage levels, delivery speed, throughput time, and production flexibility all have values greater than the required significance value of 0.05. Only the manufacturing cost has a significance value of 0.03, which is less than 0.05.

Therefore generally for the manufacturing capabilities and resources, it can be said that there is no significant difference. Therefore we fail to reject the null hypothesis, that manufacturing resources and capabilities do not have a positive effect on the performance at the plant level except the manufacturing cost.

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

5.1 Summary

This study was conducted on a cross section of large manufacturing firms in Kenya that are quoted in the Nairobi Stock Exchange. The survey targeted 15 of these firms and received responses from 9 of them. This represented a response rate of 60%. However one firm had already been delisted by the time the study was being conducted.

The objectives were to study three types of manufacturing capabilities and resources namely proprietary processes and equipment, internal and external learning and whether they have any correlation with performance at the plant level. A further objective was to find out whether there is evidence that Kenyan manufacturing firms quoted in the Nairobi Stock Exchange have focussed on developing these capabilities

Data was collected using a semi-structured questionnaire and various measures used to capture information on the resources and capabilities. From the responses received and analysed, majority of the firms were jointly owned by the locals and the foreigners and had between 100 and 199 employees. Others were of relatively small sizes in terms of the number of employees.

Majority of the respondents indicated in their responses that cost, flexibility, delivery speed and quality were very important factors in determining the choice of the manufacturing priorities.

From the responses the choices can be ranked in terms of importance as quality, cost, delivery speed and flexibility. Quantity is really a manufacturing outcome but it seems to have a high level of importance also.

The majority of respondents agreed that they possess unique production processes and equipment and that these are a source of competitive advantage.

The respondents indicated that in comparing their process technology with the industry competition, majority of the respondents were above the industry average or just on average. They also indicated that production technology was better than those of the other industries.. This means that the majority (49%) of the companies have attached some importance in ensuring that their process technology is above industry average. Furthermore 78% of the industries indicated that their production equipment is better than most companies in the industry. This shows the importance the manufacturers have put on their equipment. Of these only 22% have absolutely state of the art equipment showing that there is still much ground to cover in terms of acquiring modern equipment

Majority of the respondents also indicated in their responses that patenting has had a positive effect on the manufacturing cost, wastage level, delivery, throughput time and flexibility. From the analysis, it is evident that the manufacturing companies are realising some improved performance as a result of having proprietary manufacturing equipment and processes because of the high levels of positive responses.

Most of the respondents agreed that employees receive training to perform multiple tasks within the plant. They strongly agreed that the management takes all product and process improvement suggestions and that useful suggestions are usually implemented in the plant. On the effect of internal learning on plant performance over the last five years, most respondents agreed that there has been a positive effect on manufacturing cost, wastage levels, production flexibility, and throughput time and delivery reliability.

Majority strongly agreed that the plant should develop long term relationships with suppliers, maintain close communication with the suppliers about quality considerations and design changes, customers should give feedback on quality and delivery performance and that customers should be involved in the product design process.

Over the last five years working closely with suppliers, most of them strongly agreed that it has had a positive effect on manufacturing cost, the level of wastage in the plant, the percentage of deliveries customers receive on time, the number of days from receipt of raw materials to delivery to customers, and flexibility.

5.2 Conclusions

The objective of this study was to study three types of resources and capabilities that are built within the manufacturing function namely the unique processes and equipment improvement, internal learning and external learning and determine whether these resources and capabilities can improve performance for the plant and on whether there is evidence that large manufacturing firms listed in the Nairobi stock Exchange have focused on developing these processes.

From the findings of the study, it was evident that manufacturing resources namely proprietary equipment and processes are recognised as a valuable resource and plants have realised better performance as a result of deploying them to specific tasks. This is in terms of manufacturing cost, production flexibility, delivery reliability, reduced wastage levels and production throughput. However the firms have consciously focussed on developing these resources because of the fact that these resources are patented and there is a high level of awareness of the resources possessed by other industry competitors. This is consistent with St John and Harrison

(1999) who argue that custom- designed equipment can create a manufacturing resource that is difficult to observe and imitate.

The respondents strongly agreed that manufacturing capabilities namely internal and external learning can improve performance of the plant in terms of production flexibility, quality, reduce wastage and improve delivery to customers and reduce throughput time. Plants that listen to their suppliers and customers have realised better performance and achieve an edge in development of new products and processes. External learning occurs when a plant works closely with its suppliers to develop better linkages with them. From the findings Kenyan firms quoted in the Nairobi Stock exchange have acknowledged the importance of close supplier-plant interfacing. This is consistent with establishing long-term relationships in order to provide unique capability for the plant (Gerwin, 1993), which establishes competitive advantage.

Internal learning leads to an adaptable work organisation, which as can be seen, from the responses has led to improved performance. From the responses there is a high level of interaction and communication between the plants, the employees, suppliers and customers and this encourages the building of capabilities. This is in terms of the training of multifunctional employees and incorporating employee suggestions into the processes and product development. From the foregoing there is deliberateness in building the manufacturing capabilities and resources by Kenyan manufacturing firms listed in the Nairobi stock Exchange.

The research findings failed to reject the null hypothesis that manufacturing resources and capabilities do not have a positive effect on performance at the plant level.

Therefore the study achieved the objectives it set out to achieve and came up with important results.

The Resource Based View of Competition sees companies as very different collections of physical and intangible assets. No two companies are alike because no two companies have the same set of experiences, acquired the same assets and skills and built the same organisational cultures. These assets and capabilities determine how efficiently and effectively a company performs its functional activities. Following this logic, a company will be positioned to succeed if it has the most appropriate stocks of resources for its business and strategy. Therefore capabilities and resources arising from manufacturing processes and infrastructure may become a valuable resource for the firm.

First, manufacturing resources and capabilities such as custom designed equipment, worker experience and incremental process improvement can create a manufacturing capability that is difficult to imitate. Suppliers are also not outsiders. They are drawn closer and become partners in the total business process. Customers are seen for what they are – the lifeblood of the company and the focus is satisfying their needs.

Second, at any point in time, superior capabilities in manufacturing processes have been demonstrated to confer performance advantages, and consistent improvement of manufacturing processes can lead to a series of competitive advantages.

5.3 Limitations of the Study

The study, though very important and targeting a small number of respondents was not easy to achieve because of some limitations.

There was no up to date listing of manufacturing firms. The KIRDI (1997) directory of manufacturing firms was used. However the information on company size based on the number of employees was not accurate because some have downsized and cannot be considered large. The Nairobi Stock Exchange Handbook (2002) did not have information on number of employees for all the firms.

Much of the measurement was done on an ordinal scale and as such more robust methods of data analysis and manipulation were not possible.

By virtue of the fact that most of the respondents are very busy executives, the time was not on the side of the researcher and therefore the researcher could not get 100% response rate. The cost of the project from the inception to completion was also very inhibitive. However the researcher waded through despite these limitations.

5.4 Recommendations for Further Research

The researcher recommends that further study can be done the following: -

- i The manufacturing capabilities that Kenyan plants use to gain competitive advantage so that they can be established. Identifying important capabilities clarifies differences between manufacturing outcomes and manufacturing means. An understanding of needed capabilities clarifies the manufacturing objectives that underlie strategic

manufacturing initiatives. A vision of needed capabilities provides a dynamic basis for improvement, which goes beyond simple strategic alignment and beyond static improvement goals. Understanding manufacturing capabilities provides deeper insights for translating manufacturing policies and hardware into product attributes that produce competitive advantages. Strategic manufacturing initiatives should seek to gain leverage from existing manufacturing capabilities or to develop needed capabilities that are currently lacking.

APPENDICES

Questionnaire

SECTION A

Name of Company _____

Position of office (respondent) in the company _____

Please tick the option that best describes the ownership of the company

Local

Foreign

Jointly owned (local and foreign)

1. Please tick the statement that that best describes the number of employees in your company

5 – 19

20 – 49

50 – 99

100 – 199

200 – 499

Over 500

2. How long has your company been in business in Kenya -----
-- years

Section B

3. To what extent is each of the following factors important in determining your choice of manufacturing priorities.

Please tick one

	Very Important	Important	Somewhat Important	Not important
Cost				
Flexibility				
Quality				
Delivery Speed				
Other (specify)				

4. Does your plant possess equipment and/or processes protected by the firm's patents?

Yes [] No []

5. Does the patented equipment and/or processes help your company to gain competitive advantage?

Yes [] No []

6. How does the process technology at your plant compare to industry competition within Kenya?

Poor or low end of the industry []

Below average []

Average or equal to the competition []

Better than average []

Superior []

7. What term below describes your production equipment relative to your industry?

Absolutely state-of-the-art []

Better than most companies in the industry []

About equal to the industry average []

Below the industry average []

Poor, near the bottom of the industry []

8. Over the past 2 to 5 years what has been the effect of patented equipment and processes (**please tick**)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
i)	Has had a positive effect on Manufacturing cost					
ii)	Has affected the level of wastage in the plant					
iii)	Has positively affected the percentage of deliveries customers receive on time.					
iv)	Has positively affected the number of days from receipt of raw materials to delivery to customers					
v)	Has affected production flexibility					

9. Please indicate any other factors that will enrich this study

10. Do employees receive training to perform multiple tasks?

Yes []

No []

11. Management takes all product and process improvement suggestions seriously
Please tick one

Strongly agree	Agree	Neutral	Disagree	Strongly Disagree

12. Useful suggestions are usually implemented in this plant.
Please tick one

Strongly agree	Agree	Neutral	Disagree	Strongly Disagree

13. Over the last 2 to 5 years lessons acquired within the plant:
(Please tick)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
i)	Have had a positive effect on Manufacturing cost					
ii)	Have affected the level of wastage in the plant					
iii)	Have affected the percentage of deliveries customers receive on time.					
iv)	Have affected the number of days from receipt of raw materials to delivery to customers					
v)	Have affected production flexibility					

14. Please indicate any other comments that would enrich this study

15. It important to establish long-term relationships with suppliers
(Please tick one)

Strongly agree	Agree	Neutral	Disagree	Strongly Disagree

16. To what extent does the plant maintain close communication with suppliers about quality considerations and design changes **(please tick only one)**

At all times	Sometimes	Only when Necessary	Not at all

17. How often do your customers give feedback on quality and delivery performance
(please tick one)

Very Frequently	Frequently	Neutral	Somewhat Frequently	Not at all

18. To what extent are your customers involved in the product design process?
(please tick one only)

Very actively	Actively	Neutral	Passive	Not at all

19. Over the last 2 to 5 years working closely with suppliers
(Please tick)

		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
i)	Has had a positive effect on Manufacturing cost					
ii)	Has affected the level of wastage in the plant					
iii)	Has affected the percentage of deliveries customers receive on time.					
iv)	Has affected the number of days from receipt of raw materials to delivery to customers					
v)	Has affected production flexibility					

20. Please indicate any other comments that would enrich this study

Thank you for your assistance and co-operation.

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