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Competitive Advantage and Sustainability in the Mobile Phone Industry

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ABSTRACT

How a business achieves and sustains a competitive advantage has long been the central focus of strategic management research. The fundamental basis of long-run success of a firm is the achievement and maintenance of a sustainable competitive advantage. A firm's competitive advantage can result either from implementing a value-creating strategy not simultaneously being employed by current or prospective competitors or through superior execution of the same strategy as competitors. Intensified competition has put managers under constant pressure to come up with the requisite strategy to be on top of the competition. The purpose of this thesis is to explore the process by which firms can attain competitive advantage. Since attaining competitive advantage alone does not guarantee the necessary long run success that firms require to survive, the study further looks at the possibility of firms to sustain their competitive advantage in order to be ahead of their rivals.

The study uses a qualitative case study. The findings are based on the market performance of three of the major players in the mobile phone industry over a ten year period. Further, in line with the framework of the study, a comparison of the value activities of the case companies was carried out in order to give meaning to the state of market performance of the case companies. It was found, that by running optimum value activities, a firm can benefit from linkages within these activities as a result of which it can offer value to its end users as a low cost or unique product provider. This serves as the means of attaining competitive advantage. Further, sustaining a firm's competitive advantage was found to be feasible through the existence of differences in a firm's capabilities and that of competitors.

KEY WORDS: Competitive advantage, Sustainability, Firm success

1. Introduction

How a business achieves and sustains a competitive advantage has long been the central focus of strategic management research. The dominant paradigm in the field has been the competitive forces approach that posits the intensity of competition determines the profit potential for individual firms (Porter, 1980). According to this framework, a firm seeks a position in an attractive market that can be defended against both existing and potential competitors. Although the identification and development of the requisite capabilities is important, management's primary focus is on achieving a defensible low-cost or differentiation position, and on keeping rivals off balance through strategic investments, pricing strategies, and competitive signaling.

Simply put, **competitive advantage** is a position that a firm occupies in its competitive landscape. According to Porter (1985), a company has competitive advantages over its rivals if it generates profits that exceed the average of its industry. Porter (1985) identifies two basic types of competitive advantage.

- Cost advantage – a firm is able to deliver the same value as competitors to the customer at a lower cost;
- Differentiation advantage – a firm can have higher cost than the competition but a benefit delivered to the customer exceeds the benefits of its rivals, which is reflected in higher margins pricing.

Early literature on competition gives an insight into the development of sustainable competitive advantage. Alderson (1937) was the first to hint at a basic doctrine of sustainable competitive advantage, that a fundamental aspect of competitive adaptation is the specialization of suppliers to meet variations in buyer demand. This was followed by his recognition in (1965) that firms should strive for unique characteristics in order to distinguish themselves from competitors in the eyes of the consumer. Later, Hamel and

Prahalad (1989) and Dickson (1992) contributed to the discussion by elaborating on the need for firms to learn how to create new advantages that will keep them a step ahead of competitors. Hall (1980) and Henderson (1983) also backed the discussion by making a solid case for the need for firms to possess unique advantages in relation to competitors if they are to survive.

The issue discussed amongst scholars and marketers is the sustainability of the competitive advantages. The problem is that the most forms of competitive advantage cannot be sustained for any length of time because it does not take much time for competitors to duplicate it. In order to gain long-term success, the firm has to possess sustainable competitive advantages

The fundamental basis of long-run success of a firm is the achievement and maintenance of a sustainable competitive advantage. A fundamental issue in marketing strategy is considered to be the understanding of which resources and firm characteristics lead to sustainable competitive advantage (Varadarajan and Jayachandran, 1999). A firm's competitive advantage can result either from implementing a value-creating strategy not simultaneously being employed by current or prospective competitors or through superior execution of the same strategy as competitors (Bharadwaj, Varadarajan, and Fahy 1993). A firm's competitive advantage is said to be sustained when other firms are unable to duplicate the benefits of this strategy (Barney 1991). Due to its critical role in determining the long-term success of firms, a body of literature has emerged which addresses the content of sustainable competitive advantage as well as its sources and different types of strategies that may be used to achieve it. These arguments form the basis for achieving sustainable competitive advantage

The aim of strategic management research has been to a larger extent the offering of explanations as to why some firms outperform others. (Levinthal, 1995; Hawawini et al, 2003; Foss and Knudsen, 2003) The search for differentials in firm performance has prompted management scholars to fish out for underlying sources of firm competitive

advantage. In spite of myriad of explanations to firm success, the theoretical treatment in the strategic management literature has been dominated by two areas of research being the industrial organization economics and the resource based view of the firm.

Whereas the industrial organization economics focuses on industry structure as the key determinants of the success of firms competing in different industries, so that competitive advantage which is derived from superior performance becomes a function of the attractiveness of a firms industrial setting, the resource based view of the firm, which in recent times has been of great interest among scholars in uncovering the role resource based capabilities have on attaining competitive advantage (Collis and Mongemety, 1995; long and Vickers-Koch, 1995; McGee and Finney, 1997). Relying on the traditional strategic management construct of distinctive competence (Hofer and Schendel 1978), the resource-based view suggests that the source of competitive advantage is rooted in a firm's resources and capabilities. The RBV looks at the firm in terms of its bundles of unique tangible and intangible resources as its source of competitive advantage (Wenerfelt, 1984; Barney, 1991; Peteraf, 1993)

Resources include capital equipment, skills of individual employees, reputation, and brand names (Barney 1991). Capabilities, on the other hand, refer to a firm's skill at effectively coordinating its resources. In other words, resources are the source of firm's capabilities; and capabilities refer to a firm's ability to bring these resources together and to deploy them advantageously (Grant, 1991; Day, 1994). Capabilities also differ from resources in that they cannot be given a monetary value, as can tangible plant and equipment, and are so deeply embedded in the organizational routines and practices that they cannot be easily imitated (Dierkx and Cool, 1989)

The basic prescription of the resource-based view is that, firm resources that are of special characteristics such as valuable, rare, inimitable and non substitutable becomes a firms strategic assets and plays important role in determining a firms success (Amit and Schoemaker, 1993; Coff,1999)

1.1. Defining the research problem

The issue about competitive advantage and its sustainability has been a very controversial issue. The reason for this is the fact that sustainability in itself could not be defined. This is to say that no one definition fully describes the term such that one cannot fully name the time lapse or how long something has to last to be termed sustainable. Each individual will have various definitions to the term sustainability and hence the various views and interpretations. We are all aware of the fact that the environment is also very dynamic and day in and out various strategies that might have worked in the past may be obsolete in this present era and need to be further designed such that it will suit the present environment hence the term dynamic. I do not thereby seek to say that, in this research I might have a definite definition about the sustainability of competitive advantage in this dynamic environment but I seek through this research to bring out the fact or the question as to whether competitive advantage can be sustainable in this dynamic environment.

1.2. Research questions

In contributing to the existing knowledge on competitive advantage and its sustenance, the present study seeks to do so by looking at the process through which firms can attain sustainable competitive advantage as well as the feasibility of firms attaining such position. In this regard the following are posed as questions of the research.

- What are the ways firms can achieve sustainable competitive advantage?
- Is it realistic for firms to attain sustainable competitive advantage?

1.3. Objectives of the study

The study seeks to ascertain the following:

- To find out the factors that influences a sustainable competitive advantage in the mobile handset manufacturing industry.
- To fish out for major problems that face sustainability of an organization.
- To gain an insight as to whether an organization can achieve a realistic competitive advantage over its competitors.
- To make constructive suggestion or recommendation in relation to achieving a sustainable competitive advantage

It is expected that the findings of this study will not only add up to what is already known by the players in the mobile phone industry as to their potential sources of competitive advantage, but offer a clear and systematic path that can be followed to gain sustainable competitive advantage, while in one way or the other raise awareness to the potential bottlenecks to gaining sustainable competitive advantage. More so, the study aims at creating the awareness that organizations can realistically achieve sustainable competitive advantage in their respective industries.

1.4. Significance of study

Although many academicians and business minds have come out with various theories about sustainable competitive advantage, none of them seems to have fully answered the question in this area of study. This is partly due to lack of solid operational definition of sustainable competitive advantage. Also, current theory has no agreed upon method of assessing whether a sustainable competitive advantage has been achieved by a firm. This is what has probed me to go into this particular area of competitive advantage and in doing so I seek to do the following:

- To create awareness that competitive advantage can be sustained in this dynamic environment even though there is lack of a definite time period.

- To serve as good literature to the academic community for any further study in this area
- To help the general public especially managers, policy makers and people who matter in any environment to strategize and sustain their competitive advantage to some extent and keep on altering should the need arises in order to suit the prevailing circumstances.

1.5. Limitations of the study

In conducting this research, I will encounter some difficulties with respect to the limited time frame. The time frame within which the study will be conducted will be too short for comprehensive research to be done into this subject. A second limitation is that, most of the press releases are written by the companies themselves therefore they turn out to focus on the issue that are favourable to the companies and create impression of the success of the companies, which sometimes might not be true. Also since the companies control their web page most of the information you will have access to are the ones that are beneficial to the companies.

Thirdly, in relation to the theory, it has been mentioned that not much is known about the dynamic return patterns that resources can generate and that the value generation potential of resources may be time dependent, therefore understanding the patterns of change and adjustment of the returns generated by resource may be some how more important than understanding its long run stability in levels of returns (Mosakowski, 1993).

Another criticism of the theory is the fact that the resource based approach is not linked to the firm's external environment thus overlooking the impact of operational context. Accordingly, the theory's strength is focused on the firm level of analysis, neglecting its operational context and since competitive outcomes are determined by many forces, some of which are beyond the boundaries of the firm there is the need to factor in industry evolutionary forces and technology cycles in resource based analysis (McGrath 1996).

Fourthly, the case for internal validity in this study has its basis on the Profit Impact of Market Strategy model (PIMS), however experts have argued against the exclusive use of

the PIMS approach in economic assessment of the competitive behaviour of firms in that it fails to distinguish between results of strategic significance and those that merely reflect a risky process (Wensley 1982).

A fifth limitation which is in relation to the methodology is that there are several concerns for the use of case study. One of such concerns is the fact that case study research lacks rigor, thus the case study investigator can become sloppy and not likely to follow systematic procedures or allow biased views to influence the direction of the findings and conclusion. (Yin, 2003).

1.6. A brief introduction to the Global Mobile phone Industry

The global mobile communication industry is arguably one of the most successful sectors within the ICT industry. Within Europe in particular, the last decade has witnessed the diffusion of mobile phones across the population and the subsequent revenue that followed has been growing at such an admiring rate. According to experts, the impressive growth of the global mobile industry can be attributed to the growing consumer demand for sophisticated mobile phones and more so to the increasing pace of mobile phone acceptance in developing economies including China, Brazil, India and Russia . The international telecommunication union (ITU) reported that at the end of 2007, the global mobile penetration rate stood at 48% against 41% in 2006. The international telecommunication union (ITU) estimates that the mobile penetration rate for 2008 is likely to go over the 50% mark against 12% in the year 2000 while they also point out that the number of worldwide mobile phone subscribers will exceed 3.3 billion in 2008 and also, the annual handset sales are predicted to reach more than US \$ 3 Billion by 2009. (ITU - May, 2008.)

Improved innovative activities by the major players in the industry have led to the manufacture of mobile handsets with innovative features which have gained a lot of

popularity in the developed nations. But the developing markets, which are not yet saturated, namely, India, Russia, Brazil, Mexico, and China, with their rapidly developing economies will serve as new markets for the industry. Some of the prominent companies, namely, Nokia, Motorola, Samsung, LG, and Sony Ericsson will see remarkable growth in the industry.

The global mobile phone industry is based on many different manufacturers and operators. The industry is based on advanced technology and many of the manufacturers are operating in different industries, where they use their technological skills, distribution network, market knowledge and brand name. Three large manufacturers of mobile phones are today dominating the global mobile phone industry; Nokia, Motorola and Samsung. In addition to these companies there are many manufacturers that operate globally and locally. While some may claim a turnaround it is clear that the mobile industry is undergoing profound changes. The saturated developed markets are forcing the industry to find new sources of revenue streams while at the same time the industry is witnessing the presence of other organisations such as media companies, content providers, Internet media companies and private equity companies becoming involved in this market.

In an ever-changing environment, telecommunications operators are facing the challenges of growth, convergence, technological changes and increasing regulatory pressure. The telecommunications market, including satellite, wireless, wireline, internet and cable communication service providers, has witnessed severe setbacks and dramatic changes in recent times. Yet, the industry finds itself at the dawn of a new and even more competitive and exciting age, with great opportunities and challenges lying ahead. Financial indicators are improving globally in most sectors of the telecommunications market. Strong pricing competition in the fixed lines business on the one hand, and increasing market penetration of mobile phone communication on the other, has been the characteristics of the industry in the past. In present years, new products will have to attract new customers, while clear market strategies will be necessary to distinguish a company from its competitors.

Motorola has been a global leader in the handset manufacturing industry since the start of the 1990's. As years went by, the industries products became one of the fastest growing products market ever. The competition that followed resulted in Motorola being matched head-to-head by industry competitors like Nokia and Ericsson way up to the end of 1997. The beginning of 1998 saw the emergence of Nokia overtake the then market leader Motorola to become a dominant player in the mobile phone industry.

Nokia's dominance continued into the first few years of the 2000s, but it suddenly came under threat in 2003-2004, when smaller Asian vendors started making their presence felt with better products at lower prices. (Adner, 2003; Bhatt, 2005.)

1.7. Organization of the study

The thesis is structured in five chapters. The first chapter offers an introduction to the research. It discusses the general background of the study, statement of problem, research questions, objectives of the study, significance of the study, as well as limitation of the study and ends with a brief introduction of the case companies

The second chapter provides an examination of the current state of the literature on competitiveness from its roots to date. The chapter continues with firm level competitiveness and then moves unto the theoretical perspective of the study. It then ends with a presentation of the conceptual framework of the study that emerged from both the literature review and the theories of the study.

The methodological approach and research strategy used in the study is provided in chapter three. It introduces a general discussion of the various methods of research and their appropriateness for ones issue or subject of investigation. The chapter then demonstrates the method of data collection and analysis and ends with the study's trustworthiness.

Chapter four follows up with a presentation of the empirical evidence of the study. It offers an overview of operations of the case companies followed by a presentation and analysis of the empirical data of the case companies by comparing their value creating activities. The findings implications Vis-a -Vis the theoretical base of the study is then discussed.

Finally, chapter five discusses the main research results and presents the managerial implications of the study's findings. In addition, the chapter offers some recommendations to managers and organizations alike on possible ways to achieve and sustain their competitive positions within their industries and closes the docket with suggestions for future research.

2. The literature review and a theoretical framework

The purpose of this chapter is twofold. The first part reviews the literature while the second part will seek to explore the theoretical explanation as to how some firms are able to achieve success through the attainment of a favourable position in an industry relative to their competitors. To a lesser extent some emphasis will be laid on Michael Porter's five forces framework which examines performance heterogeneity among firms based on the external environment. The resource based-view perspective will be explored in some detail out of which the conceptual framework for the study will be formed. A criticism of the resource based view theory and in particular Porter's value chain perspective of the theory through which the framework is formed will be offered.

2.1. Strategy and competition

In his review of competition and business strategy, Ghemawat, (2002) traced the use of the term "strategy" to the ancient Greeks while its use in business dates back to the twentieth century. Prior to this era there was a limited application of competitive thinking to the operations of businesses. The wide applicability of competitive thinking in businesses as a strategy to control firms' competitive environment began to emerge during the second half of the nineteenth century. The challenge of allocating scarce resources across world economies during the two world wars brought with it innovative and strategic thinking in management decisions. This coupled with economic theories view of markets as impersonal forces beyond the control of individual organizations necessitating the need for firms or managers to find means of shaping the economic/business environment to their advantage. This rational brought about the need for business strategy. The need for organizations to match their internal competence "strength" and "weaknesses" with the external environmental risks "opportunities" and "threats" emphasize a direct relationship between competitive thinking and business strategy.

2.2. Effects of new Technologies

There has been a major shift in the way firms compete due to the emergence of a new economy, largely influenced by advanced technological developments. As noticed by (Gordon, 2000) albeit technology since time immemorial has served as a source of innovation and competitive differentiations among firms, it has, in this era brought a major change to the nature of competition as it serves as a means of creating strategic discontinuities during the latter part of the 20th century (Hitt et al, 1991). This trend has resulted in changes within firms as speed in technological innovation and diffusion has resulted in a rapid acquisition of important technologies by firms. This has led to a situation of constant innovation thus resulting in shortened product life cycles through constant and faster innovation. (Slatter, 1996)

The scale and pace of change and diffusion of technology impacts not only on product quality, price and life cycles but enhances the ease with which firms are matched by their rivals (Ghemawat, 1996). The above situation has changed the competitive nature of industries as firms are not only requiring the ability to be able to constantly build, destroy and rebuild new resources combination that are of value to consumers but to defend this against rivals so as their dynamic capabilities which is a source of their competitiveness is not lost to the competition. (Teece et al 1997; Eisenhardt and Martin, 2000) the bottom line being that new technologies are shaping the competitive landscape and factors required for competitive success.

2.3. Globalization

Contributing to the changing phases of firm competition and strategy is globalization.

Far-reaching changes are occurring today in the competitive requirements of industries, and this has had important implications for firm behavior and market structure. The main

driving force has been the globalization of competition: Globalization has increased competitive pressures on firms. Together with rapid technological change it has altered the environment in which firms operate thus in an open and liberalized world, increasing firm competitiveness has become a major challenge.

The influence of globalization on businesses has been enhanced by economic developments throughout the world coupled with relaxing trade barriers between countries of the world and foreign companies. (Hitt, et al 1998.) World economic developments has made it easier for firms to enter into foreign markets mostly through alliances, foreign direct investment by way of acquisitions of firms in foreign locations. Such economic developments has made it possible for firms to get access to capital from anywhere in the world and compete in international markets (Fraser and Oppenheim, 1997)

The impact of the world economic development and liberalization fuelled by the massive growth of information and communication technologies in recent times has reduced transaction cost for doing business in foreign markets and erased geographical as well as market barriers, increased access to technology and capital all of which makes it easier for firms to compete in international markets thereby intensifying competition among firms. The point is that, as globalization increases the number of buyers and sellers that can enter the contest in a given market, globalization has decreased concentration and hence intensified competition (Clougherty, 2001; Caves, 1982).

(Daley, 2001; Hitt, et al 2001; and Prastacos, et al 2002) described this as a driving force compelling firms that want to survive to find new means of enhancing their competitiveness. In this regard, improved technology and globalization has intensified the firm's competitive environment thus requiring firms to find means of enhancing their competitive position in the current dynamic business environment. Brown and Eisenhardt (1998) realize the need for firms to strike a balance between reacting, anticipating or being a change leader. The ever fast changing business environment therefore requires a substantial degree of organizational flexibility in order to be abreast with the necessary

dynamism required for competitive success in today's business environment (De meyer et al 1989).

2.4. Firm Competitiveness

The Organization for Economic Co-operation and Development (OECD) defined competitiveness more on a broader level as the ability of companies, industries, regions, nations and supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis" (OECD 1998). Similarly, (Tyson 1993) stated that Competitiveness is the ability to produce goods and services that meet the test of international competition, while the citizens enjoy a standard of living that is both rising and sustainable.

Others, like Porter defined competitiveness at the organizational level as productivity growth that is reflected in either lower costs or differentiated products that command premium prices. The generic strategies given by Porter also emphasizes these criteria (Porter, 1990) the logic in Porter's definition is that competitiveness usually refers to advantage obtained through superior productivity

Krugman (1994), argue that competitiveness is nothing but a different way of saying "productivity," taking into account the rate of growth of one firm relative to others. While the various definitions above have tried to apply the concept to a whole economy, Krugman argues that this term is applicable only to firms and not to countries. Countries do not compete with each other the way corporations do. He explained that, when a company is more competitive than its rivals, it tends to gain at their expense. However, when a country does well in the international markets, its success is not necessarily at the expense of other countries. International trade is not a zero-sum game. When firms are noncompetitive, they

go out of business and disappear, while countries, obviously, do not (Krugman 1994). Despite these different interpretations, there is a growing consensus about the importance of firm competitiveness. The argument is that firms, not nations, are the agents of growth—firms, not nations, shape the global economic order. In a global world, a world “without borders,” competitiveness has become the key to firm survival.

Firms’ profitability, costs, productivity and market share are all indicators of competitiveness. In line with this view, a firm’s competitiveness can be defined as the ability of the firm to design, produce and or market products superior to those offered by competitors, considering the price and non-price qualities (D'Cruz, 1992).

Generally, competitiveness is considered synonymous with success. In very simple terms, success can be intended as achievement of company objectives. Hence, performance should be measured in terms of how an organization manages its critical success factors (Ferguson and Dickenson, 1982). Pro-firm views such as (Prahalad and Hamel, 1990; Bartlett and Ghoshal, 1989) lay emphasis on individual firms and their strategies for global operations, and resource positions to identify the real sources of their competitiveness when viewed from the perspective of competence, some scholars emphasize the role of the firms internal factors such as firm strategy, structures, ability to innovate as well as tangible and intangible resources for their competitive success (Bartlett and Ghoshal, 1989; Doz and Prahalad, 1987; Hamel and Prahalad, 1990) This view is similar to the resource-based approach towards competitiveness (Prahalad and Hamel, 1990; Grant, 1991; Barney 1991 ; Peteraf, 1993;). Ability to develop and deploy capabilities and talents far more effectively than competitors can help in achieving world-class competitiveness (Smith, 1995).

Based on the views of Porter (1985) and Prahalad (1993), the competitiveness of the firm is a function of two factors. Porter used the concept of value chain to disaggregate buyers, suppliers and a firm into the discrete but interrelated activities from which value stems. Put differently, the firm’s customer value creation is a function of its primary – direct value creation and secondary – indirect value creation activities. Every firm’s value chain is

composed of nine generic activities which are linked to each other and to that of its suppliers and buyers. This is divided into primary activities, which involve the physical creation of the product, its sale and transfer to the buyer, and after sales service and indirect or secondary activities which support the primary activities by providing purchased inputs, technology, human resources, and various firm wide functions. The bottom line is that a firm can be competitive when its value creation for its customers is enhanced. The second factor that determines a firm's competitiveness is the total of its resources and capabilities which enables the firm to create and deliver the necessary value dimension for its end users. Those resources and capabilities are fundamental to the firm's ability to create the necessary value for its customers' which enhances its competitiveness. Hamel and Prahalad (1993) referred to the firm's resources and capabilities as core competence.

2.5. Competitiveness and competitive advantage

The concept of firm competitiveness leads to that of competitive advantage. According to the largely consolidated view of competitive process, a firm's performance is affected by its competitive advantages. In its turn, the nature of such advantage results in one or more specific sources of competitive advantage which a firm controls. The concept of competitive advantage is central in strategic management studies (Porter, 1985; Ghemawat, 1986). It recalls that of comparison and rivalry. It can be interpreted as "the asymmetry or differential among firms along any comparable dimension that allows one firm to compete better than its rivals" (Ma, 2000: 53). A competitive advantage refers to the position of superiority within an industry that a firm has developed in comparison to its competitors.

Competitive advantage is one of the concepts that are at the heart of the Resource-Based Approach (RBA) and it is one of the cornerstones for the business model that has been developed from this approach. The ideas within the RBA cast a different light on how a competitive advantage is generated within a company and this has implications for company management and strategy. Porter suggested that by following one of these

strategies- cost leadership, differentiation or focused strategies; companies should be able to achieve a competitive advantage over rival companies that would be sustainable in the long term. To some extent this has proved to be the case. Successful companies do tend to follow one of these routes to success. Although the ideas suggested by Porter do seem to fit fairly well with the circumstances of many companies there is still a problem with this scenario. Although these strategies may lead to an initial competitive advantage for the company, competitors can copy many of these strategies in the longer term without difficulty and this competitive advantage would be eroded since new product features may be copied or developed and larger companies can attack niche markets. Also in the modern world, consumer tastes change quickly and new technologies present new opportunities, so that the marketplace may be in a state of constant change. The viewpoint that Porter takes focuses on the product/market situation of the company rather than the internal value creating processes where a real advantage may be generated.

The RBA by contrast focuses on the internal strengths and processes of the company and identifies key resources that may generate a competitive advantage that is sustainable in the longer term. It should be noted here that in the long term any competitive advantage would be eroded, as all resources may be substituted as new technologies evolve. Here the long-term is taken to mean, from two to ten years, which is a reasonable amount of time to have an advantage. Whereas product based advantages may only last a year or so, many resource-based advantages will endure for longer. In the case of a patent, there is a statutory period for the advantage, of at least twenty years and in the case of copyrights it is usually longer. By looking deeper in the company it is possible to identify the roots of competitive advantage, which appear in the marketplace as product features. These roots consist of resources and capabilities, which the company utilizes to create value in its products and services. Resources consist of the fundamental inputs to the production process, while capabilities are combinations of resources, which the company has developed over time in its quest to produce value for customers. Within the RBA viewpoint resources are defined in a much wider way than in the traditional economic definition of labour, land and capital. Many of these new resources are intangible in nature and may not appear on the companies' balances sheet. Examples consist of Brands, Patents and Licenses. (Amit and

Schoemaker, 1993; Barney, 1997; Peteraf, 1993.) This implies that firms with rare and superior resources relative to the competition are able to occupy strategic position in the market. The core to the generation of competitive advantage is the capability of a firm to create more value than the least efficient competitor (Peteraf and Barney, 2003: 314).

2.6. Two basic types of competitive advantage- cost advantage and differentiation advantage.

The firm creates value by performing a series of activities that Porter identified as the value chain. In addition to the firm's own value-creating activities, the firm operates in a value system of vertical activities including those of upstream suppliers and downstream channel members. To achieve a competitive advantage, the firm must perform one or more value creating activities in a way that creates more overall value than what competitors does. Superior value is created through lower costs or superior benefits to the consumer (differentiation). The advantages of cost or differentiation determine the firms' positional advantage as either a leader in cost or differentiation in the market.

The integration of the resource based view and Porter's positional view is used to form a model of competitive advantage below

Figure one below illustrates the firm's competitive advantage.

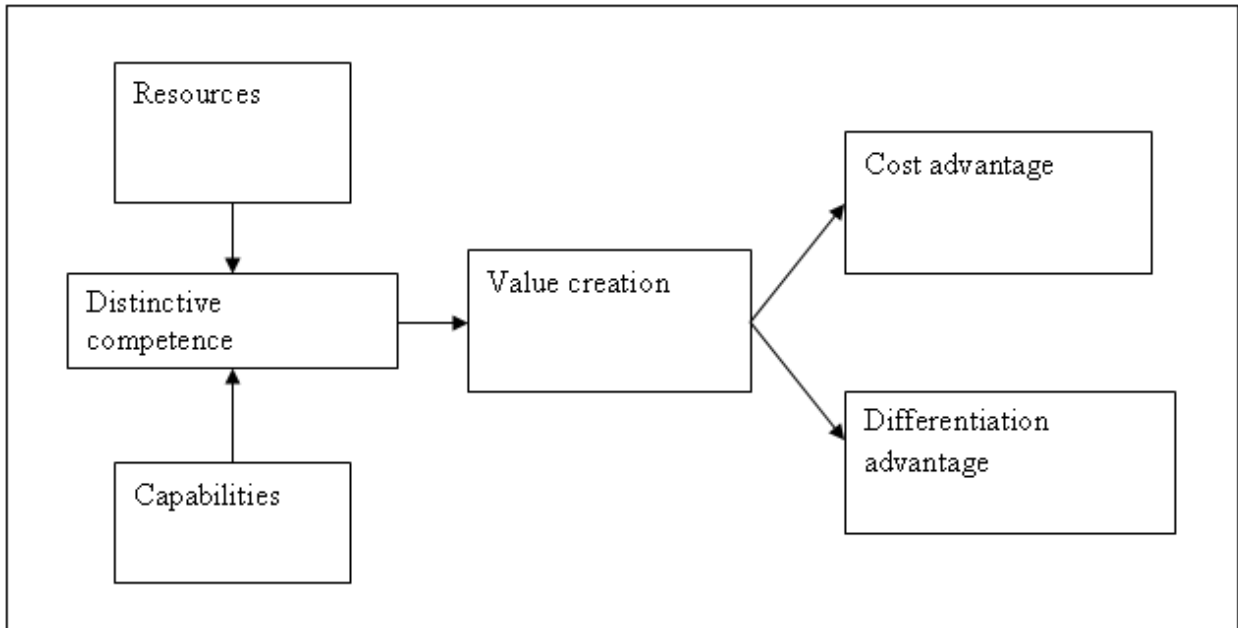


Figure 1. Firms' competitive advantage.

2.7. Sustainable competitive advantage: Defined

The concept of competitive advantage leads to sustainability of the advantage. For at least two decades, the concept of competitive advantage has been central to the practice and study of strategic management (Rouse & Dallenbach, 1999). The concepts became, perhaps the most important one in strategy, with the publication of Porter's immensely popular *Competitive Strategy* in 1980, followed by his *Competitive Advantage* in 1985. In Porter's view, Competitive advantage is at the heart of a firm's performance in competitive markets (1985). He argued that a firm's ability to outperform its competitor's lie in its ability to translate its competitive strategy into a competitive advantage. Competitive strategy entails positioning the firm favourably in an industry relative to competitors. Positioning results

from choosing one of four competitive strategies – differentiation, low cost leadership, focus differentiation, or focus low cost leadership. Competitive advantage, the achievement of above-average industry profitability, is garnered by differentiating (i.e., offering some uniqueness valued by customers), or by being the lowest cost producer in the industry.

The idea of a sustainable competitive surfaced in 1984, when Day suggested types of strategies that may help to “sustain the competitive advantage” The actual term “sustainable competitive advantage” emerged in 1985, when Porter discussed the basic types of competitive strategies that a firm can possess (low-cost or differentiation) in order to achieve a long-run sustainable competitive advantage. Interestingly, According to Michael Porter (1985), to achieve competitive advantage management is faced with a choice between one of three strategies, which he calls, ‘generic competitive strategies’. They are called generic in the sense that they can be pursued in any market by all businesses and industries, regardless of whether they are manufacturing, service or non-profit organizations.

Cost-leadership strategy – the firm strives to be the lowest-cost supplier and thus achieve superior profitability to form an above-average price-cost margin. (Product) differentiation strategy – the firm strives to differentiate its product (or service) from rivals’ products, such that it can raise price more than cost of differentiating and thereby achieve superior profitability. Focus strategy – the firm concentrates on a particular segment of the market and applies either a cost – leadership or a differentiation strategy. Even though Porter tried to define sustainable competitive advantage no formal conceptual definition was presented in his discussion.

A “sustainable competitive advantage has been defined as the unique position that an organization develops in relation to its competitors that allows it to outperform them consistently” (Hofer and Schendel, 1978; Swierez and Spencer, 1992) For a competitive advantage to be sustainable it needs to be tangible, measurable and capable of preservation over time (South, 1981). Barney (1991) emphasizes the importance of four conditions that an enterprise’s strategies must possess before a sustainable competitive advantage can be

achieved. First, the strategy must be valuable, or capable of either exploiting opportunities or neutralizing threats. Second, it must be rare among its current and potential competitors. Third, it must be imperfectly imitable, or unable to be copied or duplicated, and finally, it should have no strategically equivalent substitutes.

Barney (1991:102) has probably come the closest to a formal definition by offering the following:

“A firm is said to have a sustained competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy. The objective in selecting and following a well-defined competitive strategy is to achieve competitive advantage that has sustained superior profits compared to rivals. This comes from positioning a firm in the market place so that it has an edge in coping with competitive forces and in attracting buyers. Sustainability is best considered as the time period in which superior performance is maintained. The extent to which competitive advantage is sustainable will usually depend upon a number of organization features.

- *Ability to build and leverage core competences, builds architecture, and develops strategies which are superior to those of competitors and which are difficult to emulate.*
- *Its ability to co-ordinate and integrate its activities more effectively than its competitors.*
- *Its ability to continuously improve strategies, competences, architecture and co-ordination.”*

Day and Wensley (1988) admit that there is no common meaning for competitive advantage in practice or in the marketing strategy literature. This view is supported by Coyne (1986) who also admitted that although the concept of sustainable competitive advantage has long occupied a central place in strategic thinking, there isn't a single definition of it that is acceptable to all.

Although lacking a formal definition, Coyne (1986) contributed to the construct by proposing that in order to possess a sustainable competitive advantage, consumers must perceive some difference between firms' product offering and the competitors' offering. This difference must be due to some resource capability that the firm possesses and competitors do not possess. Also, this difference must be some product/delivery attribute that is a positive key buying criterion for the market (Coyne 1986). The key is being able to predict the actions of others in the industry over time; by matching the firm's resources to the gaps and voids that exist in the industry, a competitive advantage can be created. This advantage is sustained if competitors either cannot or will not take action to close the gap (Coyne 1986).

Is competitive advantage sustainable in today's dynamic, hyper-competitive environment as many strategy researchers proclaim? The term 'dynamic' refers to the shifting character of the environment; certain strategic responses are required when time-to-market and timing is critical, the pace of innovation is accelerating and the nature of future competition and markets is difficult to determine."

The above question is very important to strategy researchers and managers, alike and both of them have no clear answer to it. There has been two major obstacles stand in the way of arriving at a definitive answer.

First and foremost there is no common definition of the concept of competitive advantage. Traditionally in the field of strategic management, competitive advantage has been defined as a firm consistently earning a higher rate of return than its competitors (Grant, 1991; Schoemaker, 1990). Recently, however, with the advent of the resource-based view (RBV) as an influential framework in the strategic management field, alternative definition of competitive advantage have gained acceptance, introducing ambiguity.

Second, the term "Sustainable" lacks specificity. That is, the amount of time or duration of a sustained competitive advantage is never specified by proponents of the traditional view or the RBV. Those people who are in favour of the traditional view use "long-term" to describe sustained, leaving the readers to guess, for example how long is "long-term" one

year, two years or more? Proponents of the RBV avoid the issue of the time duration of sustainability altogether by asserting that a sustained competitive advantage exists so long as another firm is not able to replicate a firm's competitive advantage (Barney, 1991). This proposition assumes that a particular competitive advantage is idiosyncratic (that is, it can only be possessed by single firm). However, Eisenhardt and Martin (2000) point out that multiple firms possess effective dynamic capabilities that have common features. Effective dynamic capabilities as resources are sources of competitive advantage.

Firms are said to have sustainable competitive advantage when they consistently produce products and or deliver services with attributes which correspond to the key buying criteria for the majority of the consumers in their market. These attributes will include factors such as price, specification, reliability, aesthetics, functionality, availability, image etc. Competitive advantage is enjoyed by those firms who are able to provide value to majority of customers in their target market. According to Coyne (1986), in order for firms to sustain their competitive position, they need not only deliver products and services with significant attributes to customers but should also possess capability differences which can stand the test of time. Coyne's (1986) view on how firms can sustain their competitive advantage is summarized in figure 2.

Figure two below illustrates sustainability of competitive advantage (based on Coyne, 1986)

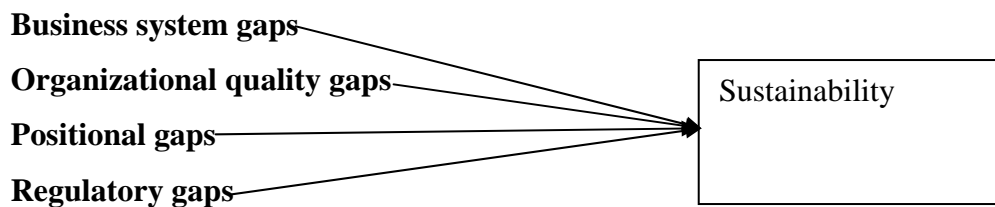


Figure 2. Coyne's sustainability of competitive advantage.

2.8. Capability differentials

Coyne (1986) identified four sources of capability differentials which firms can count on to sustain their competitive advantage. These are: business system gaps, organizational quality gaps, positional gaps and regulatory or legal gaps.

Business system gaps is borne out of the firms ability to carry out specific tasks due to special skills, knowledge and experience as well as those in the value chain such as suppliers, distributors and other stakeholders and when competitors are unable to catch up.

Organizational quality gaps refer to the entire organization and its culture. It includes the values and beliefs as well as habits and attitudes of individuals who make up the organization. Where such values and beliefs lead to a strong notion of high quality standards, strong organizational learning ability, strong desire to react to challenges and an ability to change, then such quality gaps become a contributor not only to attainment of competitive advantage but its sustenance as well

A positional gap is a direct result of the organizations past decisions or actions which have helped it attain a certain positive reputation with its customers. It has all to do with the firms strategic moves to locate its plants or facilities in a particular location as a result of which it will have an edge over the competition. Due to the time length that a competitor might take to attain such position, it deters such moves on their part thus enabling the firm not only to enjoy competitive advantage but sustain it in the long run

Regulatory/legal gaps come about when a particular firm possesses legal entities in the forms of trade secrets, contracts, intellectual property rights etc relative to the competition. These legal entities can be relied upon by the firm in order to enjoy competitive advantage and sustain it as well.

The combination of the above four capability differentials resulting from organizational competencies or skills as well as its assets, form the basis for the sustainability of competitive advantage

In Coyne's (1986) view, the competitive process is a direct function of the differences between firms and such differences only makes sense when they affect the market position of firms thus attracting the attention and loyalty of substantial customer base which enhances the firm's sustainable competitive advantage. All differences that do not affect the competitive position of firms are irrelevant

Sustainable competitive advantage is defined as "above-average performance in the long run" (Porter, 1985:11), with the amount of time defining the "long run" not specified. In the absence of a definitive period of time denoting sustained advantage, authors often use terms such as "long-term" (D'Aveni, 1994:11), "long run" (Ghemawat et al, 1999:49) and "short-term" (Eisenhardt & Martin, 2000:1118) to describe sustained period of time. These terms are very ambiguous and virtually useless in making strategic and operational decisions. When researchers do mention a particular period of time that they consider denotes sustainability, the time period varies from one article to another and sometimes within the same article, leaving reader bewildered and confused.

2.9. Towards a conceptual framework

Fundamentally, there are two dominant explanations to the sources of firms' competitive advantage. The answer to the question of performance differences among firms have been mainly influenced by these two schools of thought. One school of thought theorizes the performance differences based on the economic attractiveness of the structural factors of the industries in which firms' operate, in which case particular emphasize is placed on factors such as entry and exit barriers and economies of scale thus an economic explanation with respect to differences between industries forms the basis of this argument

(Hill, 1988; Chamberlin, 1993; Porter, 1980; 1981; 1990)

The other school of thought, championed by strategic management scholars, underlines the importance of firm-specific resources in determining variance of performance among firms. Research works belonging to the resource-based, view of firms' fall within this perspective. The focus is shifted from the external to internal sources of competitive advantage, by pointing out that a firm creates a competitive advantage through the accumulation, development, and reconfiguration of its unique resources and capabilities. Resource-based view emerged as dominant paradigm in the strategic management studies during the 90s. According to this perspective, a firm's competitive advantage derives from those resources that match specific conditions such as value, heterogeneity, rareness, durability, imperfect mobility, unsubstitutability, imperfect imitability, and 'ex ante' limits to competition (Barney, 1991; Peteraf, 1993)

An alternative view within the resource based view stream is Porter's (1985) value chain frame work. In Porter's (1985) view, by separating the business system into a series of value generating activities, which Porter termed the *value chain*; a firm can develop competitive advantage. The implication is that activities within the firm add value to the products and services that the firm produces. Competitive advantage is thus gained by the firm if all activities within the *value chain* are run at optimum level.

In the view of shank and Govindarajan (1993), by undertaking a value chain analysis, a firm is able to understand the behaviour of costs and the sources of differentiation. A low cost strategy focuses on providing goods and services at a lower cost than the competition. Differentiation strategy on the other hand focuses on creating a unique position in the market through provision of goods or services that are valued for their uniqueness or fit to the needs of a particular group of buyers. (Porter, 1980)

The present study will therefore be based on Porter's value chain framework; however a brief light is shed on the industrial organization economics from the perspective of Porter's five forces frame work.

2.9.1. Introducing Porter's five forces framework

Industrial organization economics focuses on industry structure as major determinants of performance across industries as such, the external environment is argued to be the central theme within traditional industrial organization (Mauri and Micheals 1998), traditionally, industrial organizational theory focuses on examining the effects of concentration, firm size and entry barriers as main determinants of firm success (Hill and Deeds, 1996). In spite of arguments that the theoretical backing of the industrial organization model is outmoded, Michael Porter's 1980 publication, "The Competitive Strategy: Techniques for Analyzing Industries and Competitors," is said to have revived the industrial organization argument. Porter, (1980) in applying the industrial organization ideas but focusing on industry structures, to the field of strategic management specifically on competitive advantage, outlined an analytical framework for understanding the effects of industry structure on the profit potential of firms within an industry. This framework is one of the most influential contributions to the strategic field employing industrial organization economic logic.

Porter's (1980) framework has its basis in the structure-conduct-performance (SCP) paradigm from industrial organization economics. The essence of which is that the firm's performance in the marketplace depends critically on the characteristics of the industry in which it competes (Porter, 1981). Shifting away a little bit from the traditional S-C-P paradigm, Porter (1980) acknowledges the role of firms in formulating appropriate competitive strategy to achieve superior economic performance, competitive strategy that could lead to a change in the industry structure in favour of the firm. In Porter's view the source of profits is not to be found in the firm but rather in the structure of the industry, especially the nature and balance of its competitive forces (Schoemaker, 1990).

Table 1. Guideline theories of the research.

Author/date	Article/book	Main contribution
Porter (1980)	The Competitive Strategy: Techniques for Analyzing Industries and Competitors	The five forces framework: Firm's performance in the marketplace depends critically on the characteristics of the industry in which it competes
Porter (1985)	Competitive Advantage: Creating and Sustaining Superior Performance	Competitive advantage grows fundamentally out of the value a firm is able to create for buyers
Barnley (1991)	Firm Resources and Sustained Competitive Advantage	A firms sustainable competitive advantage is a function of four attributes of its resource: valuable resource, rare resources, imperfectly imitable resources and non substitutable resources
Peteraf (1993)	The corner stone of competitive advantage: A resource based view	A firms sustainable competitive advantage is a function of four attributes of its resources: resource heterogeneity, Ex post limits to competition, imperfect mobility and Ex ante limits to competition

- **Porter's five forces framework**

Focusing his attention on industry structures, Porter (1980) viewed the degree of competition within an industry as solely determined by five forces. These forces according to porter serves as a bedrock in determining the profit potential of a particular industry thus, leading to a firms superior performance relative to the competition.

Figure three below illustrates Porter's five competitive forces.

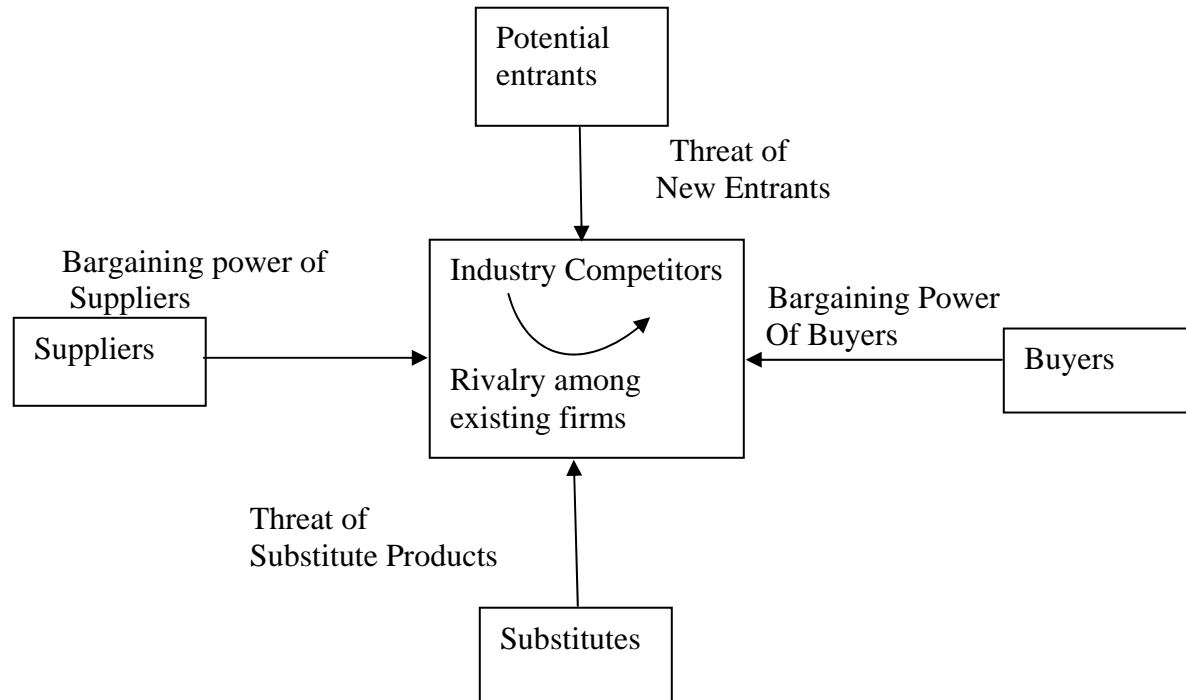


Figure 3. Five Competitive Forces (Source: adopted from Porter, 1980 p.4).

The first of the five structural forces is the threat of new entrants. The focus is on the strength of an industry's buyers to new comers. This force favours an industry with barriers that can prevent entry of new firms so that the industry's profit potential is protected. Accordingly, Hill and Deeds (1996) classified such barriers to entry to be the outcome of product differentiation, brand image and loyalty as well as economies of scale. If barriers to entry are high, there is the tendency that existing firms in the industry will strive to maintain those barriers in order to prevent outsiders from gaining entry so as the industry's performance is preserved (Hill and Deeds, 1996; Grant, 2002). In contrast to the above situation, when entry barriers are lower, the industry will witness the influx of new entrants, a consequence of which could be overcapacity within the industry, competition for market

share and which will not only badly destroy industry performance but individual firms' performance as well.

The second of the structural force is the rivalry among existing competitors. It lays emphasis on the degree of competition among firms in an industry. The fundamental explanation of this second force is the behaviour of firms engaged in a fight for market share and profitability. Mintzberg, et al (1998), reckon the four other forces lead ultimately to rivalry which is equitable to competition as "war"

The third of the five structural forces is the threat of substitute products or services. The emphasis is on the degree and level of competition that exist within an industry and between industries. Industry profitability is better protected in those industries with fewer substitutable products or services. In contrast, industries with high amount or number of readily available substitutable products or services will have less profit potential. As explained by Mintzberg et al (1998), competition becomes dependent on the extent to which products or services in an industry could be substituted with products from another industry.

The fourth of the five structural forces is the bargaining power of buyers. This focuses on the relative purchasing power of customers to a firm. As consumers demand high quality products or services at lower prices, firms' usually concede to such demand when buyers have stronger bargaining powers. Such moves lead to rivalry within an industry which consequently eats into an industry's profit margins (Digman, 1999). In industries where the threats of substitute products or services are high, buyers enjoy higher bargaining powers at the expense of manufacturers thus, reducing the profit potential.

The fifth and final of the structural forces is the bargaining power of suppliers. The emphasis here is on the relative control or powers of suppliers within an industry. A handful of suppliers within an industry would have stronger bargaining power over price thereby reducing that of firms' in the industry. Such a situation negatively influences the

overall industry performance. If by contrast, suppliers are many, firms in the industry will benefit from the right to choose, which will enhance their bargaining power over price thereby having a good impact on the overall industry's performance (Bennett, 1996)

Porter's five forces treated the attractiveness of an industry's structure as the focus for determining profit potential of firms. In this case a strategy to enter into a market must set off with a careful analysis of the industry's attractiveness in order to assess its profit potentials in addition to a competitive position that can successfully place the firm to the industry in order to obtain superior performance

- **Criticisms of Porter's five forces framework**

The fact that Porter's (1980) five forces model drew its logic from the SCP paradigm and applied it in strategic management has drawn some criticisms from scholars'

First, the unit of analysis in the SCP based models is the industry and not the firm, this way the model cannot offer explanation to intra-industry performance differences among firms. Empirical studies have shown higher firm effects than industry effects on performance, (Rumelt, 1991, McGahan and Porter, 1997)

Second, Porter's strategy is about positioning a business in a given industry structure, while "the reality of business during the 1990s is that industry structures are far from stable and are undergoing major transitions" (Prahalad and Hamel, 1994, p. 10). Also, it's been argued that today's business environment is so dynamic that a static approach to the industry analysis may no longer be an appropriate tool for strategy formulation. In a similar vein, "Traditional industry boundaries are blurring as increasingly many industries converge or overlap, especially in information technology-related industries" (Sampner, 1998, p. 344) It can be argued that the dominant contemporary approach to the analysis of sustained competitive advantage is the resource- based view. Resource-based view

scholars argue that the sources of a firm's competitive advantages rely on its set of unique and differentiated resources (Porter 1980; Barney, 1991; Peteraf, 1993; Porter, 1985)

2.9.2. Resource base view approach to competitive advantage- Barney's (1991) perspective.

The basic assumption behind the resource based view is that each organization possesses unique resources and capabilities which provide the basis for its strategy and ultimately, the source of its returns. The differences in resources form the basis of competitive advantage. Barney (1991), mentioned four attributes through which a firm's resource can generate sustainable competitive advantage thus the resource must be valuable, rare, imperfectly imitable and non substitutable.

- **Valuable resources**

When firms resources are valuable they become a source of competitive advantage or sustained competitive advantage. Such valuable resources is said to exist when the resources enable the firm to implement strategies that lead to improvement in its efficiency and effectiveness, thus the valuable resources enhances strategies to exploit opportunities or neutralize threats. Firm attributes may have characteristics that could qualify as sources of competitive advantage but this only becomes the case when they can be used to exploit opportunities and or neutralize threats in the environment. In this sense firm attributes can be considered a resource and a potential source of sustained competitive advantage only when it is valuable. There is a complementarity between environmental models of competitive advantage and the resource based model which help isolate firm attributes that exploit opportunities and or neutralize threats. In this sense, referring to the opportunities and threats of the external environment within the SWOT model resources are valuable

when they help seizing an opportunity in the firm's environment or when they help neutralizing some threat in that environment, or at least shielding the firm against the threat.

- **Rare resources**

Firms' resources cannot be a source of competitive advantage or sustained competitive advantage when they are in possession of large number of competitors. Competitive advantage is enjoyed by a firm when it implements value creating strategy not being implemented at the same time by large number of other firms. If the resource that is valuable to the firm is possessed by large number of firms, the logic is that each of these firms will have the opportunity to exploit rent out of these resources in a way that non of them can have a competitive advantage. If a resource is valuable but commonly available to large number of firms that resource will lose its value in the sense that it will not be able to serve as a source of competitive or sustained competitive advantage. The implication is that for resources to serve as source of sustained competitive advantage it must be valuable and rare. However, valuable but common resources can help in a firm's survival when exploited to create competitive parity in an industry where no one firm can gain competitive advantage but enhance their economic survival. The bottom line is that as long as valuable resources remain in a few hands not enough to create perfect competition, that resource stand a chance of generating a competitive advantage. Firms that control valuable and rare resources possess a competitive advantage and will be able to implement superior strategies.

While necessary, the above two criteria are not sufficient, since they do not guarantee that competitive advantage can be enjoyed on a sustained basis. Attention is shifted to the other two additional necessary criteria that resources must conform to in order to give rise to a sustainable competitive advantage, namely *non-imitability* and *non-substitutability*.

- **Imperfectly imitable resources**

Valuable and rare organizational resources can only be sources of sustainable competitive advantage if firms that do not possess these resources cannot obtain them. There are some reasons that explain the condition under which firm resources can become imperfectly imitable. These are the ability of a firm to obtain resource is dependent upon unique historical conditions, the link between the resources possessed by a firm and a firm's sustained competitive advantage is causally ambiguous or the resources generating a firm's advantage is socially complex. Unique historical conditions and imperfectly imitable resources: the resource based view of competitive advantage of firms is of the view that firms are intrinsically historical and social entities as well as their ability to acquire and exploit resources depend on their place in time and space. At the passage of this unique time and space, firms that were not able to make use of the time and space to acquire resources cannot obtain them in future, thus making such resources imperfectly imitable to those firms who have them. Unique historical circumstances surrounding a firm's founding or management take over at a point in time influences its performance and competitive advantage. If a firm's unique path in history enabled it to obtain valuable and rare resources, then it can exploit such resources in implementing value creating activities that cannot be imitated by other firms that has not followed that path in its history.

Causal ambiguity and imperfectly imitable resources: this situation exists when the link between the resources controlled by a firm and its sustained competitive advantage is not understood or understood imperfectly. When such conditions exist it becomes difficult for other firms to duplicate a successful firm's strategies through imitation of its resources since it becomes difficult to know which one to imitate. In the light of causal ambiguity, imitating firms are unclear which resources generate sustainable competitive advantage so they cannot determine the action to take in order to duplicate the strategies of firms with sustained competitive advantage. This explains the reason why some firms consistently outperform others. If a firm with competitive advantage understands the link between the resources it controls and advantages it sustains, it then becomes possible for disadvantaged firms to learn through imitation which will erode the firm's sustained competitive

advantage. For a firm's competitive advantage to be sustained it should not be able to explain the source of the advantage, in which case it becomes impossible to be imitated by other firms'. Causal ambiguity then becomes a source of sustained competitive advantage when all competing firms have an imperfect knowledge of the link between the sources controlled by a firm and its competitive advantage.

Social complexity: A firm's inability to systematically manage and influence its resources is due to its complex social nature which makes it imperfectly imitable thus constraining the ability of other firms to imitate these resources. An organizations personal relations among managers, culture reputation among suppliers and customers are but a few of such wide varieties of resources that may be socially complex hence their imperfect imitability. A distinction is made between the above wide varieties of complex resources and complex physical technologies which by their nature are imitable. Meanwhile the efficient exploitation of physical technologies in firms involve the use of socially complex resources which implies that several firms could possess same physical technologies but the one with competitive advantage in socially complex resources stand a chance to exploit this technology in implementing strategies that will enhance its sustainable competitive advantage

- **Non-substitutability**

The last attribute to resources becoming a source of sustained competitive advantage is non substitutability of the resource. There must be no strategically equivalent valuable resources that are themselves either not rare or imitable otherwise firm valuable resource become substitutable when an alternative valuable resource can strategically be exploited to implement the same strategies at the same time. If there are no strategically equivalent firm resources then firms can generate sustained competitive advantage. However, if there are strategically equivalent firm resources then other current or potentially competing firms can implement the same strategies in different ways using different resources. Where such

alternative resource is common and imitable numerous firms will implement similar strategies which will not generate sustainable competitive advantage. This can take the form of similar resources that enable a rival firm to implement similar strategies as it may be impossible to exactly imitate another firm's resources. Different firm resources can also be strategic substitutes as such resources can manifest themselves in different organizational setting and circumstances. When two firms have different resources but can be substituted for each other, then none of them can generate sustainable competitive advantage from that resource.

The last two criteria to attaining sustained competitive advantage direct attention to the barriers that may block imitation and substitution. These criteria also allows sustainable competitive advantage to be viewed in terms of situations in which all attempts by competitor firms at imitating or substituting a successful firm have ceased.

2.9.3. Peteraf's 1993 Analysis

In contrast to Barney's, Peteraf, (1993) offered a different analysis of conditions for sustainable competitive advantage. He focused more explicitly on the economic analysis of various types of rent based on individual resources other than strategy as the relevant level of analysis. This model offers a theoretical understanding of why some firms perform better than their competitors. In his view firms can generate sustained competitive advantage from their resources when those resources meet all four necessary conditions.

The first of these four is resource heterogeneity- *Ricardian or monopoly rent*. Under this condition, firm resources or production factors are intrinsically differentiated in levels of efficiency such that some are superior to others. Its implication is that firms have varying resources needs and capabilities therefore as they compete in the market place, those with marginal resource can only expect to breakeven while those with superior resource can

expect to earn more rent. Firm resources are industry-relative and scarce. In this sense those with superior resource can produce at a lower average cost than others thus enabling them to earn supernormal profits in the form of rent from their scarce resources. They cannot however expand output rapidly no matter how high the price may be due to their inelastic supply curve. The model views resources as in fixed supply however; these resources while limited in the short run may be renewed and expanded within the firm due to experience in its everyday use which will lead to the growth of the firm. Heterogeneity conditions are applicable to models of market power and monopoly rents. What distinguishes the two is the fact that monopoly profits results from a deliberate restriction of output rather than scarcity of resource supply as well as product differentiation in the form of uniqueness or the result of intra-industry mobility barriers which differentiate firms from one another. Central to the resource heterogeneity model is that superior resources remain in limited supply so efficient firms can sustain their competitive advantage by making sure their resource is not expanded freely or imitated by other firms.

- **Ex post limit to competition**

In addition to conditions of heterogeneity in resources through which competitive advantage can be sustained, ex post limit to competition requires that subsequent to a firm gaining superior position and earning rents there must be forces which limit competition from those rents since competition will erase rent by increasing the supply of scarce resources. If this is not the case, it will undermine a monopolistic attempt to restrict output. Imperfect mobility and substitutability are two main factors that limit ex post competition. Substitutes reduce rents by making the demand curves of monopolist more elastic. Imperfect imitability is better explained by the term “isolating mechanism” which refers to how individual firms are protected from imitation in order to preserve their rents. These include property right to scarce resources to information asymmetries and the notion of causal ambiguity. Other isolating mechanisms that promote heterogeneity in resource or preserve a firm’s competitive advantage are producer learning and buyer switching cost,

reputation, economics of scale, barriers to entry etc. Isolating mechanism have been described by other authors Rumelt, 1984, 1987; Yao, 1988; Ghemawat, 1986; Dierickx & Cool, 1989

- **Imperfect mobility**

Apart from rents generation from heterogeneity in resource and forces that limit competition from those rents, they cannot be sustained until measures are taken to ensure that resources are unavailable to firm's competitors. By this resources are of little or no use outside the firm. This is due to the resources embeddedness within the firm. These resources serve as a source of sustained competitive advantage to firms when they are not tradable because they have no use outside the firm and if tradable, are more valuable within than outside the firm. These resources are imperfectly mobile because they are used in conjunction with other assets or resources and are of little use on their own, thus limiting their mobility. Resources also become imperfectly mobile when the transaction cost associated with their transfer are exceedingly high. This imperfect mobility of resources makes it untradeable and remain firm bound thus serving as a source of sustainable competitive advantage for a longer period. This is therefore a necessary condition for sustained competitive advantage

- **Ex ante limits to competition**

The last condition that ensures firms competitive advantage is the ex ante limits to competition. This requires that prior to a firm getting a superior resource position; there must be limited competition for that position so that rent which will be an epitome of competitive advantage is not offset by cost of obtaining that rent. If there is fierce competition for a resource, the cost for acquiring it will be high and acquiring it at that high cost will offset the advantage that can be obtained by having that resource. On this basis firms are able to enjoy competitive advantage when they have the foresight of going for

resources that are not so competitive to acquire so that its rent from having superior resource is not eroded by the cost of obtaining that resource.

It is these resources and capabilities that are the source of a competitive advantage that is sustainable in the longer term. These resources are by their nature difficult for other companies to imitate, or even identify in some cases. An example of such a case will be that of proprietary technology, which a company has developed over time, to suit its particular production needs. The result is that any real advantage developed by a company will not be easily copied, thus enabling a company with a successful product, to achieve higher margins and profits. The RBA suggests that the true source of competitive advantage lies in the resources and internal processes of the company rather than in the product/market situation of the company. The implications of this for developing a successful strategy for growth are that a company should look to create unique, distinctive resources that competitors would find difficult to copy by either developing them internally or acquiring them in the marketplace.

2.9.4. Porter's view-the value chain perspective

In the present dynamic business setting, firms are faced with slower growth and stronger competition.

Changes in the dominant competitive logic of firms are of particular interest to the maintenance of superior performance (Prahalad and Hamel, 1994). To this end, the need to understand performance differentials among firms has become important for both the theory and practice of strategic management (Nelson, 1991). Porter's value chain framework (1985) is presently the most accepted tool for both representing and analyzing the logic of firm-level value creation.

Competitive advantage grows fundamentally out of the *value* that a firm is able to create for its buyers. In competitive terms, value is the amount that buyers are willing to pay for what a firm provides them. While Porter's (1980) five forces framework as a competitive

analysis tool has received some criticisms from resource-based scholars, (Barney, 1991; Wernerfelt, 1984), the value chain framework is still widely accepted as tool for analyzing performance differentials among firms. Porter uses the concept of a *value chain* to disaggregate buyers, suppliers and a firm into the discrete but interrelated activities from which value stems. Such a process is necessary in order to understand activities that contribute to the firm's relative cost position and create a basis for differentiation. In Porter's view, the logic behind activity disaggregation is that they constitute the basis of a firm's product creation which customer's value. . Different activities have different economics and contribute differently to the valuable characteristics of the product. The activity disaggregation must be complete in the sense that it captures *all* activities performed by the firm. (Porter, 1985.)

Every firm's value chain is composed of nine generic activities which are linked to each other and to the activities of its suppliers, channels and buyers.(Porter, 1985) They can be divided into two broad types: Primary activities are directly involved in creating and bringing value to the customer, thus, it involve the physical creation of the product, its sale and transfer to the buyer, and after sales service, whereas support activities enable and improve the performance of the primary activities, it does provide purchased inputs, technology, human resources, and various firm wide functions.(Porter, 1985)

Support activities only affect the value delivered to customers to the extent that they affect the performance of primary activities. Primary value chain activities deal with physical products (Porter, 1985: 38).

Porter's value chain framework is illustrated in figure four.

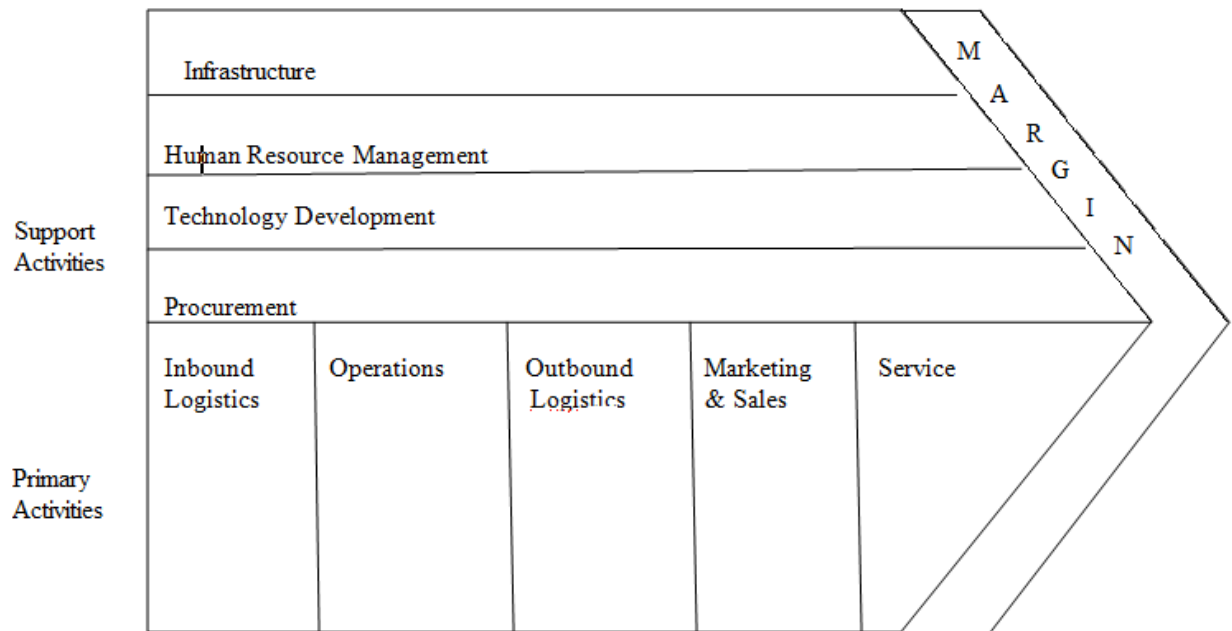


Figure 4. Porter's value chain framework (Source: Adopted from Porter, 1985: 37).

- **Primary activities**

The five generic primary activity categories of the value chain are (Porter, 1985: 39–40):

- *Inbound logistics.* Activities associated with receiving, storing, and disseminating inputs to the product.
- *Operations.* Activities associated with transforming inputs into the final product form. Value is added to the product at this stage as it moves through the production line

- *Outbound logistics.* Activities associated with collecting, storing, and physically distributing the product to buyers.
- *Marketing and sales.* Activities associated with providing a means by which buyers can purchase the product and inducing them to do so. The marketing mix is used to establish an effective strategy, any competitive advantage is clearly communicated to the target group by the use of the promotional mix
- *Service.* Activities associated with providing service to enhance or maintain the value of the product

The primary activity categories—particularly the inbound logistics–operation–outbound logistics sequence—are well suited to characterizing the main value creation process of a generic manufacturing Company. Casual empiricism suggests that manufacturing or process industry firms frequently use the value chain activity category vocabulary when defining and describing their operations. Marketing is included as a primary activity category as these activities inform the customer of the relevant product characteristics and ensure product availability on the market. Similarly, the inclusion of service as a primary activity category follows from the fact that service can be critical for the value realized by the customer.

- **Support activities**

The generic support activity categories of the value chain are:

- *Procurement.* Activities performed in the purchasing of inputs used in the value chain. This deals with the sourcing of raw materials at the best price and best possible quality for the firm

- *Technology development.* Activities that can broadly be grouped into efforts to improve product and process. The use of technology to obtain a competitive advantage within the organization is very important in today's technological driven environment. Technology can be used in production to reduce cost thus add value, or in research and development to develop new products, or via the use of the internet so customers have access to online facilities
- *Human resource management.* The organization will have to recruit, train and develop the correct people for the organization if they are to succeed in their objectives. Staff will have to be motivated and paid the 'market rate' if they are to stay with the organization and add value to it over their duration of employment.
- *Firm infrastructure.* This ensures that activities of general management, planning, finance, accounting, legal, government affairs, and quality management works efficiently and helps drive the organization forward

Support Activities, which whilst they are not directly involved in production, may increase effectiveness or efficiency.

To diagnose a firm's competitive advantage, it is necessary to isolate activities with discrete technologies and economics. Broad functions, such as manufacturing or marketing, must be subdivided into activities. Everything a firm does must be captured in a primary or support activity. Comparing the value chains of competitors then highlights differences which form the basis of competitive advantage.

While discrete value activities are the building blocks of competitive advantage, they are not independent. They are related by linkages within the chain which reflect relationships between the way one value activity is performed and the cost or performance of another. Linkages within the value chain are crucial for competitive advantage. Exploiting linkages usually requires information flows that allow optimization or coordination to take place.

Linkages not only exist within a firm's value chain, but between a firm's chain and the value chains of suppliers and channels (vertical linkages), a firm's value chain is embedded in a system of interlinked value chains (Porter, 1985: 34). The overall system is thus a chain of sequentially interlinked primary activity chains that gradually transform raw materials into the finished product valued by the buyer. This linkage within the chain does provide additional opportunities to enhance competitive advantage.

Sustainable competitive advantage is determined by the nature of the sources of competitive advantage. These are in part captured by uniqueness and nonimitability of the drivers of cost and value that underlie a position.

Unlike the traditional value chain concept which is product centric, buyers also have *value networks* which start with the customer priorities and align its activities to satisfy customer demand (Bovet & Martha 2000). A firm's differentiation stems from how its value chain relates to its buyer's chain. Points of contact between buyers and the firm are potential sources of competitive advantage, where value for the buyer (in the form of lower costs or improved performance) is created through a firm's impact on the buyer's value chain.

The competitive scope of a firm is also important in creating competitive advantage. Broad scope, for example, may allow a firm to exploit interrelationships between the value chains that serve a number of different product or buyer segments, geographic areas or related industries, while narrow scope can allow the tailoring of its chain to serve a particular target segment, geographic area or industry, resulting in lower costs or differentiation compared to competitors. This relationship between competitive scope and the value chain provides the basis for defining more relevant business unit boundaries and allows a firm to establish organizational structure more in line with its sources of Competitive advantage. (Porter, 1985.)

2.9.5. Porter's view: generic strategic perspective

When a firm sustains profits that exceed the average for its industry, the firm is said to possess a competitive advantage over its rivals. The goal of much of business strategy is to achieve a sustainable competitive advantage.

Michael Porter identified two basic types of competitive advantage:

- Cost advantage
- Differentiation advantage

A competitive advantage exists when the firm is able to deliver the same benefit as competitors but at a lower cost (cost advantage), or deliver benefits that exceed those of competing products (differentiation advantage). Thus, a competitive advantage enables the firm to create superior value for its customers and superior profits for itself. Cost and differentiation advantages are known as positional advantages since they describe the firm's position in the industry as a leader in either cost or differentiation.

2.9.6. Resources and Capabilities as basis for cost leadership and differentiation

A resource-based view emphasizes that a firm utilizes its resources and capabilities to create a competitive advantage that ultimately results in superior value creation. According to the resource-based view, in order to develop a competitive advantage the firm must have resources and capabilities that are superior to those of its competitors. Without this superiority, the competitors simply could replicate what firm was doing and any advantage quickly would disappear. Resources are the firm-specific assets useful for creating a cost or differentiation advantage and that few competitors can acquire easily. The following are some examples of such resources:

- Patents and trademarks
- Proprietary know-how
- Installed customer base

- Reputation of the firm brand equity

Capabilities refer to the firm's ability to utilize resources effectively. An example of capabilities is the ability to bring a product to market faster than competitors. Such capabilities are embedded in the routines of the organization and are not easily documented as procedures and thus are difficult for competitors to replicate. The firm's resources and capabilities together form its distinctive competencies. These competencies enable innovation, efficiency, quality, and customer responsiveness, all of which can be leveraged to create a cost advantage or a differentiation advantage.

2.9.7. Cost Advantage and Differentiation Advantage

Using value chain analysis to achieve either a lower cost structure or a differentiated product creates competitive advantage. A firm positions itself in its industry through its choice of low cost or differentiation. This decision is a central component of the firm's competitive strategy. Another important decision is how broad or narrow a market segment to target. Porter formed a matrix using cost advantage, differentiation advantage, and a broad or narrow focus to identify a set of generic strategies that the firm can pursue to create and sustain a competitive advantage.

2.9.8. Porter's generic strategies

If the primary determinant of a firm's profitability is the attractiveness of the industry in which it operates, an important secondary determinant is its position within that industry. Even though an industry may have below-average profitability, a firm that is optimally positioned can generate superior returns. A firm positions itself by leveraging its strengths. Michael Porter has argued that a firm's strength ultimately falls into one of two headings: cost advantage and differentiation. By applying these strengths in either a broad or narrow

scope, Michael Porter suggested in his book *Competitive Advantage* Published in 1980 that there are three main ways in which a company could achieve a competitive advantage that will last, the three generic strategies result: cost leadership, differentiation, and focus. These strategies are applied at the business unit level. They are called generic strategies because they are not the firm or industry dependent.

2.9.9. Cost leadership strategy

This generic strategy calls for being the low cost producer in an industry for a given level of quality. It suggests the company would attempt to become the producer with the lowest costs in its industry. Adopting the best cost approach which can be attained by being able to offer the lowest average cost per product in ones industry is the main route for achieving this position. Such companies usually sell a basic product, which is similar to other product in the market; ensuring that costs are kept lower than competitors to maintain a reasonable margin generates profits. The firm sells its products either at average industry prices to earn a profit higher than that of its rivals or below the average industry prices to gain market share. In the event of a price war, the firm can maintain some profitability while the competitors suffer losses. Even without a price war, as the industry matures and prices decline, the firms that can produce more cheaply will remain profitable for longer period of time. The cost leadership strategy usually targets a broad market

Some of the ways that firms acquire cost advantages are by improving process efficiencies, gaining unique access to a large source of lower cost materials, making optimal outsourcing and vertical integration decisions, or avoiding some costs altogether. If competing firms are unable to lower their costs by a similar amount, the firm may be able to sustain a competitive advantage based on cost leadership. Firms that succeed in cost leadership often have the following internal strengths:

- Access to the capital required in making a significant investment in production assets; this investment represents a barrier to entry that many firms may not overcome.
- Skill in designing products for efficient manufacturing, for example, having a small component count to shorten the assemble process.
- High level of expertise in manufacturing process engineering
- Efficient distribution channels

Each generic strategy has its risks, including the low-cost strategy. For example other firms may be able to lower their costs as well. As technology improves, the competition may be able to leapfrog the production capabilities, thus eliminating the competitive advantage. Additionally, several firms following a focus strategy and targeting various narrow markets may be able to achieve an even lower cost within their segments and as group gain significant market share.

2.9.10. Differentiation Strategy

In this strategy the company aims to differentiate its products from those of competitors by developing product features, which the others do not have. Customers must value this of course, which then enables the company to charge a premium price. Profits generated by this are added value and higher margins and profits should be the result. A differentiation strategy then calls for the development of a product or service that offers unique attributes that are valued by customers and that customers perceive to be better than or different from the products of the competition. The value added by the uniqueness of the product may allow the firm to charge a premium price for it. The firm hopes that the higher price will be enough to cover the extra costs incurred in offering the unique product. Because of the product's unique attributes, if suppliers increase their prices the firm may be able to pass along the costs to its customers who cannot find substitute products easily. Firms that succeed in a differentiation strategy often have the following internal strengths:

- Access to leading scientific research.

- Highly skilled and creative product development team.
- Strong sales team with the ability to successfully communicate the perceived strengths of the product
- Corporate reputation for quality and innovation.

The risks associated with a differentiation strategy include imitation by competitors' and changes in customer tastes. Additionally, various firms pursuing focus strategies may be able to achieve even greater differentiation in their market segments.

It is presumed here that the initial understanding of the constituent parts of the research question has been substantially dealt with. Thus there is viability for the researcher to develop a frame of reference alongside come up with a theoretical frame work to explore the research problem

As stated earlier, the research question of the study has been divided into two categories. Firstly, what are the ways firms can achieve sustainable competitive advantage? Secondly, is it realistic for firms to attain sustainable competitive advantage? Thus, a conceptual framework is built to address both research questions. Drawing upon the literature review and the theory presented in this chapter, a conceptual framework aimed at showing a process by which firms can attain sustainable competitive advantage through its internal operations is presented

The conceptual framework for this study is developed based on Porter (1980, 1985; Coyne, 1986). The model is based on Porter's value chain analysis and generic strategy for achieving competitive advantage in an industry as well as Coyne's (1986) capability differentials necessary for sustaining competitive advantage. Although the original generic strategies proposed by Porter (1980) were cost leadership, differentiation and focus strategies, the framework for this study will adopt only the cost leadership and differentiation strategies since the focus strategy is either cost leader or differentiator except it focuses on a particular market.

The conceptual framework of the study is illustrated in figure five.

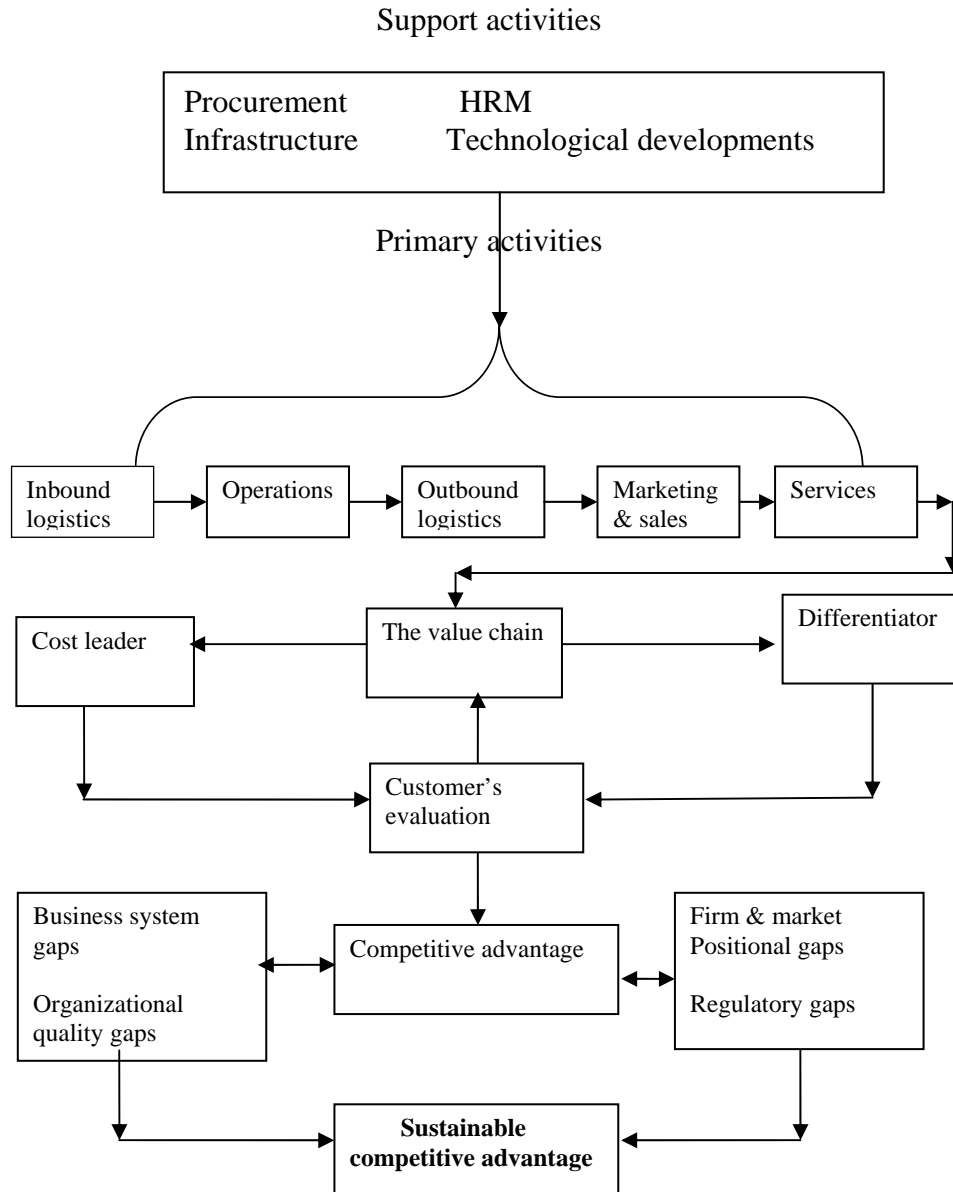


Figure 5. The conceptual framework of the study.

As shown in the above figure, the value chain framework is an approach for breaking down the sequence (chain) of business functions into the strategically relevant activities through which utility is added to products and services. Value chain analysis is undertaken in order to understand the behavior of costs and the sources of differentiation (Shank & Govindarajan, 1993).

Porter (1980) argued that a business can develop a sustainable competitive advantage based on cost leadership or differentiation.

To survive in today's highly competitive business environment, any organization must achieve, at least temporarily, a competitive advantage. A low cost/price strategy focuses on providing goods or services at a lower cost than the competition, or superior goods or services at an equal cost.

The second strategy for gaining competitive advantage is differentiation. The primary focus of this strategy is to create a unique position in the market through provision of goods or services that are valued for their uniqueness or fit to the needs of a particular group of buyers. A differentiating strategy also requires ongoing cost control efforts within a strategic management emphasis geared towards differentiating offerings.

By focusing on such linkages, the value chain analysis provides a powerful tool for strategic thinking to gain sustainable competitive advantage. Organizations achieve a competitive advantage by managing the value chain better than other institutions in their industry. Managing the value chain implies increasing the quality of products and services, while reducing the institution's costs and increasing revenue, thus increasing competitive advantage. Examining a firm's value chain and comparing it to those of key rivals indicates areas of cost advantage or disadvantage.

2.9.11. Criticisms of the theory

1. One common criticism leveled against the RBV is its vagueness of terms or lack of agreement on the definition of its terms. By way of example, the RBV stream compose of concepts such as *strategic firm resources* (Barney, 1986), *core competencies* (Hamel & Prahalad, 1990), *corporate capabilities* (Nohria & Eccles, 1991) and *organizational capabilities* (Stalk et al, 1992) among others. The existence of various constructs within the RBV adds confusion to its understanding and therefore limits its usefulness in strategic thinking. Such vagueness of construct hinders the development of empirical research and repeatability of results. (McGrath, 1996)

2. Another criticism of the theory is the fact that Porter's value chain model is not linked to the firm's external environment thus overlooking the impact of operational context. Accordingly, the model's strength is focused on the firm level of analysis, neglecting its operational context and since competitive outcomes are determined by many forces, some of which are beyond the boundaries of the firm there is the need to factor in industry evolutionary forces and technology cycles in firm's internal strength analysis (McGrath 1996)

3. It has been mentioned that not much is known about the dynamic return patterns that resources can generate and that the value generation potential of resources may be time dependent, therefore understanding the patterns of change and adjustment of the returns generated by resource may be some how more important than understanding the long run stability in levels of returns, (Mosakowski, 1993)

2.9.12. Summary

In summing up, the chapter started with a brief insight into how the challenge of allocating scarce resources across world economies during the two world wars led to innovative and strategic thinking in management decisions which consequently brought about the need for

firms to find means of shaping the business environment in order to enhance their position, thus leading to competition

It then moved on to the contemporary business environment in technological developments was found to impact on product quality, price, life cycle and has as a result enhanced the ease with which firms are being marched by their competitors, thus changing the competitive landscape of industries

Following this was globalization which was found to have contributed to the changing phases of firm competition and strategy. The impact of globalization on firm competition was found to be consequences of enhanced economic development throughout the world, relaxing trade barriers between countries, easy access to capital worldwide and massive growth of information and communication technologies. Such developments were found to have increased the number of buyers and sellers that can compete in a given market thus decreasing concentration and intensifying competition. As a result of the above, globalization was found to have imposed a major challenge on firms in such a manner that those firms that want to survive are poised to finding the necessary means to enhance their competitiveness.

Although scholars seemed to fairly understand the concept of competitiveness, no universally accepted definition was offered. Profitability, cost productivity and market share were found to be indicators of competitiveness which was found to be synonymous with success. The concept of competitiveness then led to competitive advantage which was found to be asymmetry of differentials among firms along any comparable dimensions that allows one firm to compete better than its rivals. In spite of the above, the literature proved that the concept has no common meaning acceptable to scholars or in practice. It was noted however that the concept is used to denote occupation of superior position in the market due to the use of superior resources and capabilities to provide superior customer value leading to higher market share and profitability. An insight into how competitive advantage could be gained was posited by the resource based view that heterogeneity among firms in

their resources and capabilities as a result of incomplete factor markets leads to differences among firms as a result of which some firms could gain competitive advantages

Based on Porter's value chain perspective, which falls within the RBV stream and Porter's generic strategy of cost and differentiation, a model of competitive advantage was created.

The understanding of competitive advantage drove the discussion to the other dimension of the concept under study, which was sustainability of competitive advantage. The concept of sustainable competitive advantage was found to have surfaced during the publication of Day (1984) when he suggested strategies that can help a firm sustain its competitive advantage. The actual concept was found to have emerged in 1985 when Porter (1985) published his immensely popular book "competitive advantage" Porter argued that firms are faced with three strategic options being low cost, differentiation and focus strategies, collectively referred to as the generic competitive strategies, one path of which leads to the achievement of sustainable competitive advantage. Sustainability was found to be direct function of four main capability differentials among firms. These differentials were business system gaps, organizational quality gaps, positional gaps and regulatory gaps. The literature could neither provide a definite and common definition of the concept nor offer an exact time frame within which a firm could be said to be enjoying sustainable competitive advantage, this, then, was found to have rendered the concept not only vague and ambiguous but makes its applicability in concrete strategic decision making questionable.

The second part of the chapter focused on the theoretical part of the study, it started by offering a hint to the two dominant explanations to the source of a firm's sustainable competitive advantage. While one school of thought focuses on the firm's external environment or forces, the other looks into the firm's internal environment. Although the study sought to make use of the later school, the former school modernized by Porter (1980) focusing on industries external environment, underscored five forces- threats of substitute products, bargaining power of suppliers, bargaining power of buyers, threat of new entrants and rivalry among existing competitors, the characteristics of which were

found to determine a firm's performance in the market place. The pitfalls to such approach to examining a firm's performance were elaborated on in the chapter.

The latter school which was the focus of this study employed the perspectives of different scholars. One of such was Barney (1991) who argued that a firm's sustainable competitive advantage is a function of four attributes of its resources; valuable resources, rare resources, imperfectly imitable resources and non substitutable resources. The other perspective was that of Peteraf (1993) whose argument was that a firm can gain sustainable competitive advantage if its resources have attributes of heterogeneity, ex post limit to competition, imperfect mobility and ex ante limits to competition. The final perspective which dominated the frame work of this study was Porter (1985). He argued that sustainable competitive advantage grows fundamentally out of the value a firm is able to create for buyers. This, in addition to the adaption of one of his three generic strategies leads to competitive advantage. Sustainability of competitive advantage was found to be a function of four capability differences being, business systems, organizational, positional and regulatory gaps between firms and their rivals. The chapter concluded by offering a frame work for the study based on Porter (1980; 1985) and Coyne (1986).

3. Methodology

This chapter describes the methodology of the case study and the characteristics of the qualitative research. In addition, the chapter explains how data was collected and analyzed. It then follows with a description of the trustworthiness of the empirical data.

Methodology is the science of research decisions. It provides rules and norms for the researchers to evaluate the decisions for chosen approach and implement them in the research (Hessler 1992). There are two main broad approaches to carrying out a research. These are quantitative and qualitative. The difference between quantitative and qualitative research arise from their procedures (Ghauri et al. 2005:109).

Quantitative research has its roots in the natural sciences and is concerned with carrying out investigations based on observable and measurable events in some way and which can be repeated by other researchers. In this sense, quantitative research more often than not employs the use of deductive reasoning by making use of specific observations, measures and detect patterns and regularities, formulate hypothesis for exploration and end up developing some general conclusions or theories

Denzin and Lincoln (2000: 8-10), describe quantitative research as one that “*emphasizes the measurement and analysis of causal relationships between variables, not processes.*” It usually makes use of various mathematical models, statistical tables, and graphs, and is not concerned with rich descriptions as it may disrupt the process of developing generalized conclusions or theories

In their view, (Denzin and Lincoln 2000), qualitative research on the other hand, as the name already implies, highlights the qualities of entities and processes and meanings that are not experimentally examined or measured in terms of quantity, amount, intensity, or frequency. Moreover qualitative research values rich descriptions of the everyday social world, and within situational constraints stresses the relationship between the researcher and what is studied. Therefore it includes verbal and visual research material. It has its roots in the social sciences, which is interested in understanding human behaviour and the social

world. This was due to increasing difficulty in explaining human behavior in simple measurable terms which only answers the how often and how many of human behaviour or social events without adequately addressing the why side of social phenomenon.

Denzin and Lincoln (2000:3) define qualitative research as “*a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible*”. Thus, qualitative research studies the selected issue in depth and detail by trying to make sense of things or interpret them in their natural settings by collecting and using a variety of different empirical materials.

Qualitative research employs the use of both inductive and deductive reasoning depending on the nature of research approach.

According to Gummesson (1991), deductive research starts with existing theories and concepts and formulates hypotheses that are subsequently tested; its vantage point is received theory. In this case, a deductive reasoning approach to a research is one that starts with an accepted general rule, premise or theory for a particular circumstance out of which a conclusion about a particular event is drawn while inductive research starts with real-world data, and categories, concepts, patterns, models, and eventually, theories emerge from this input. The inductive reasoning approach to a research draws conclusion based on personal observation of a set of events or empirical data as a result of which a discovery can be made. Similarly, Ghauri & Gronhaug (2005, pp. 14 - 16) defines discussed approaches as follows. “*Deductive reasoning is the logical process of deriving a conclusion from a known premise or something known as true. Inductive reasoning is the systematic process of establishing a general proposition on the basis of observation or particular facts.*”

According to Yin (2003) there is also a case study approach to research which can take qualitative or quantitative form. It involves in depth analysis of a single or small number of units and allows the investigator to retain the holistic and meaningful characteristics of real-life events. Case study method is especially suitable for studying real life events such as organizational and managerial processes (Yin. 1994: 14). As a method of research, the case

study offers a richness and depth of information not usually offered by other methods. By attempting to capture as many variables as possible, case studies can identify how a complex set of circumstances come together to produce a particular manifestation. In addition, the case study strategy means that the researcher takes in depth focus on the case as an object of interest in its own right. This also makes it different compared to other qualitative strategies. One important characteristic of case studies is that they are able to produce multiple sources of evidence. Therefore, in case studies, multiple sources of information are investigated and different viewpoints are taken into account. Yin (1994: 14) highlights that this case study strategy should not be associated only with qualitative research.

For every case study topic, different kinds of documents offer more relevant information. These documents can be, for instance, letters and other communication material, agendas, announcements, and written reports in general, administrative documents, previous studies of the same topic area, and newspaper articles. The most important reason to use documents in case studies is to widen and corroborate evidence from other sources (Yin 1994: 81). Documentary sources are often easy to access and costs to get them are low. Documents also offer insights to history and this kind of information may not be available in spoken form. For instance, when investigating the marketing messages that a company uses, documents that are intended for external audiences (e.g. websites and advertisements) can be utilized (Daymon & Holloway 2004: 216–217). In addition to the above, the case study method has a distinct advantage over many other methods when “how” and “why” questions are being posed in specific situations (Yin 2003), which also are the questions that this study tries to find answers to.

The research questions in the present study are approached by using qualitative case study methods. The reasoning of this research as mentioned earlier will be deductive, in which case the study will employ the use of deductive analysis of data as a result of which the study’s critical theme will emerge

Similarly, Yin (2003:2) confirms that the distinctive need for the case study is borne out of the desire to understand complex social phenomenon. By this, it allows investigators to retain the holistic and meaningful characteristics of real life events

3.1. Data collection

There are six main sources of evidence for case study research. These are documents, archival records, interviews, direct observation, participant observation and physical artifacts. Each source has its own strength and weakness and no single source has a complete advantage over all the others. Document information and archival records are relevant for every case study topic. Document information can take the form of news letters, memoranda and other communiqués, agendas, announcements, minutes of meetings and other written reports of events. Archival records take the forms of service records such as number of clients served over a given time period, organizational records as well as personal records. Such documents represent an objective reflection of reality. They become mediums through which researchers can search for a correspondence between their descriptions and the events to which they refer. Documents thus account for facts that exist independently of interpretations. Other strengths in the use of documentation and archival records are that, they are stable and can be reviewed repeatedly, unobtrusive thus not created as a result of the case study, it is exact in names references and details of an event and has broad coverage of events spanning from long time, many events and settings. (Yin, 2003.)

According to experts, documents (e.g., news reports and crime statistics) become mediums through which the researchers search for a correspondence between their descriptions and the events to which they refer. Here, documents account for social facts that exist independently of interpretations.

This study will mainly be based on and make use of secondary data. Sources of secondary data will be grouped into three. The first will be newspaper articles and press releases. I'm saying this because most of the manufacturers of the mobile handset press releases are available on the Internet and it is the best way to have information about the current developments of the company. Secondly the annual report of the companies. This is because it helps people to have a better understanding about the company and its strategy. With the issue of the annual report, it describes the financial position of the company and its operations and also it serves as a medium of communication to investors and potential investors. Thirdly information will be gathered on the case companies' activities from the university of Vaasa library, books, articles journals etc

3.2. Data analysis

According to Yin (2003:109) data analysis consists of examining, categorizing, tabulating, testing or otherwise recombining the collected evidence to address the initial propositions of the study. There are several procedures that could be used when undertaking documentary analysis. Four of such procedures are; grounded theory, qualitative data analysis, content analysis and discourse analysis.

Following Yin (1994), I see the need to establish an analytical strategy that will lead to conclusions based on the evidence from the case companies. For this reason an overview of the operations of the three dominant companies in the mobile communications industry will be presented to help in the understanding of the empirical analysis in particular and the industry in general. Next, in line with the suggestions of Miles and Huberman (1984), but focusing on sales and market share as key success measure variables, of the case firms' over a ten year period (1999- 2008) will be examined. Even though profit has been mentioned as one of the key determinants of firm's success, it is not included in this study due to difficulty in getting access to profits of all the three major players of the industry for

the whole period under study. The success level of each firm will be determined by its sales volume and share of the market. The evidence will then be examined by using a deductive approach to find out correlations between the empirical data and the theory that was presented in the literature review.

3.3. Trustworthiness

The basic question addressed by the notion of trustworthiness, according to Lincoln and Guba, (1985, p. 290) is simple: “How can an inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?” However, (Eisner, 1991, p. 39) mentions that “qualitative studies typically employ multiple forms of evidence and there is no statistical test of significance to determine if results count.” Judgments about usefulness and credibility are left to the researcher and the reader. When judging qualitative work, Strauss and Corbin (1990 pp.250) believe that the “usual canons of good science require redefinition in order to fit the realities of qualitative research”.

Lincoln and Guba (1985, p. 300) have identified one alternative set of criteria that correspond to those typically employed to judge quantitative work. Comparison of criteria for judging the quality of quantitative versus qualitative research

Table 2. Comparison of quality of quantitative verses qualitative research

Conventional terms (quantitative)	Naturalistic terms (qualitative)
Internal validity	credibility
External validity	transferability
reliability	dependability

3.4. Internal Validity versus Credibility

In quantitative research, internal validity refers to the extent to which the findings accurately describe reality. Lincoln and Guba (1985) mentioned that “the determination of such isomorphism is in principle impossible” (p. 294), because the researcher would have to know the “precise nature of that reality” and, if that is already known, there would be no need to test it (p. 295). According to Yin (2003, p. 34) internal validity refers to the rigor with which the study is conducted (E.g. study design and measurements) and the extent to which the researcher of the study have taken into account alternative explanations for any causal relationships he explored. Internal validity is said to be established in a research if the outcome is a function of the variables that are measured, controlled or manipulated in the study. It thus offers the approximate truth about inferences regarding cause-effect or causal relationships. The quantitative researcher must postulate relationships and then test them; the postulate cannot be proved, but only falsified. (Lincoln and Guba, 1985).

Qualitative researcher, on the other hand, assumes the presence of multiple realities and attempts to represent these multiple realities adequately. Credibility becomes the test for this. Credibility depends less on sample size than on the richness of the information gathered and on the analytical abilities of the researcher (Patton, 1990). It can be enhanced through triangulation. Patton identifies four types of triangulation: 1) methods triangulation; 2) data triangulation; 3) triangulation through multiple analysts; and 4) theory triangulation. Other techniques for addressing credibility include making segments of the raw data available for others to analyze, and the use of “member checks,” in which respondents are asked to corroborate findings (Lincoln and Guba, 1985, pp. 313-316).

The common view of the roots of competitive advantage lie in a firm’s ability to gain a cost- leadership position or differentiation advantage (Porter, 1980; 1981) The basis of a cost-leadership position or differentiation advantage lies in the product market arena, where competition is basically a contest to gain market share (Buzzel et al. 1975) Gaining market share is assumed to be the key- driver of sustainable competitive advantage

otherwise known as superior performance (Jacobson and Aaker, 1985; Buzzel and Gale 1987) Inferring from above, it becomes clear that the use of the two key success measure variables notably market share, makes the case for internal validity in this study

3.5. External Validity / Generalizability versus Transferability

In quantitative research, external validity refers to the ability to generalize findings across different settings. This involves a trade-off between internal and external validity (Lincoln and Guba, 1985). That is, in order to make generalizable statements that apply to many contexts, one can include only limited aspects of each local context. Lincoln and Guba (1985 pp. 110-111 & 124) explained that generalizability is “an appealing concept,” because it allows a semblance of prediction and control over situations. Yet they suggest that the existence of local conditions “makes it impossible to generalize”.

Cronbach, (1975 pp.125) came to the conclusion that “when we give proper weight to local conditions, any generalization is a working hypothesis, not a conclusion”.

In the qualitative research paradigm, the *transferability* of a working hypothesis to other situations depends on the degree of similarity between the original situation and the situation to which it is transferred. The researcher cannot specify the transferability of findings; he or she can only provide sufficient information that can then be used by the reader to determine whether the findings are applicable to the new situation (Lincoln and Guba, 1985). In a similar opinion, (Uusitalo 1991: 84-86) pointed out that external validity is usually concerned with the generalization of the research findings which is normally the aim of quantitative studies. Case studies are not aimed at making generalizations but rather examining individual cases in detail. The focus of this study is on exploring and understanding firm superior performance within a limited setting which in this case is the mobile communication industry with emphasis on the three major players as my case companies.

3.6. Reliability versus Dependability

Kirk and Miller (1986 pp. 41-42) identify three types of reliability referred to in quantitative research, which relate to: 1) the degree to which a measurement, given repeatedly, remains the same; 2) the stability of a measurement over time; and 3) the similarity of measurements within a given time period. They observed that “issues of reliability have received little attention” from qualitative researchers, who have instead focused on achieving greater validity in their work (p. 42). Lincoln and Guba (1985 p. 316) summed up Kirk and Miller’s (1986) view of how reliability might be seen in qualitative research by noticing that: “Since there can be no validity without reliability (and thus no credibility without dependability), a demonstration of the former is sufficient to establish the latter” Reliability refers to the extent to which data collection techniques or analyzing methods will yield consistent findings on repeated trials, or how similar the results are if the research is repeated using different forms. Due to time and financial constraints, it is difficult for a researcher to administer the same instrument to the same subjects on two occasions. In addition, it is difficult to decide on the ‘right’ time span. (Saunders et al. 2007: 149-150) concluded that there may be four threats to reliability; 1) subject or participant error, 2) subject or participant bias, 3) observer error and 4) observer bias. Validity implies reliability: a valid measure must be reliable. But reliability does not necessarily imply validity: a reliable measure need not be valid. The main source of reliability in this study is its use of archival and documentary records. Such records take the forms of service records of clients served, organizational and personal records which represents an objective reflection of reality. Documents do not only account for existing facts independent of interpretation but are stable and subject to repeated review (Yin, 2003)

The theoretical composition of the current study posits that within the broader spectrum of the resource based view, firm superior performance reflects in high sales volume, market share and operating profit, (just to mention a few). This ultimately manifest in industry dominance due to that firms comparative advantage in resources which in addition, satisfies the criteria proposed by Barney (1991) and Peteraf (1993) thus, offering some perceived

value in the market place. Put differently, Porter, (1985) simply described this as a good value chain analysis which is an implementation of value-creating strategy not simultaneously being employed by current or prospective competitors.

The developed framework which seeks to address the two research questions under study, being first, the ways firms can achieve sustainable competitive advantage and second, the reality for firms to attain sustainable competitive advantage presumes a good value chain analysis on the part of a firm- hence, sustainable competitive advantage where a firm shows long-run success over the competition within an industry. The approach is not to entirely measure the value activities of the case companies' as determinants of sustainable competitive advantage. This is due to known difficulties in assigning and analyzing activities in terms of the five generic primary value chain categories which in most cases leads to obscurities rather than illuminate the essence of value creation. However, in operationalizing the developed framework of this study, a rough comparison of the value activities of the case companies will be done. This is to account for the implication of the two key performance indicators being sales and market share of the case companies which will be analyzed over a ten year period to determine who is enjoying a sustainable competitive advantage as a result of implementing value-creating strategies not being employed by current or prospective competitors.

4. Overview of operations: the empirical analysis

The fourth chapter presents the empirical case study and the results. It starts by briefly presenting an overview of operations of the three case companies and the reason why these three companies were chosen. Next, the results of the collected empirical data will be presented, a rough comparison of the value activities of the case companies will be done and then its implications vis-à-vis the theoretical framework for the study created towards the end of the second chapter will be discussed.

4.1. Nokia Group background

The history of Nokia started in 1865, when a Finnish mining engineer, Fredrik Idestam, established a wood-pulp mill in southern Finland in the village of Nokia. It initially manufactured paper then moved into the rubber business, then the Cable industry followed by telecom cables and then micro computers before entering into research for radio transmission in the 1960's. Then Nokia's mobile phones and telecommunications infrastructure Products started to reach international markets, and by the late 1990's Nokia had established itself as a global leader in digital communication. Today, the Nokia Corporation is made up of four business groups: Nokia Siemens Networks, mobile phones, multimedia and enterprise solutions. At December 31, 2007, Nokia employed a total of 112 262 people (68 483 people at December 31, 2006). (Ali-Yrkkö et al, 2000; Nokia's annual report, 2007.)

4.1.1. Nokia Telecommunications

Nokia develops and manufactures a broad-range of advanced infrastructure solutions to meet the needs of a variety of customers, including fixed operators, mobile operators and Internet service providers. In addition, Nokia provides related service creation and network

management solution, customer services and system integration. It is a world-leading supplier in GSM infrastructure, including wireless data solutions. A key player in focused areas of fixed and datacom networks; Nokia Telecommunications is also a significant supplier of broadband and IP network solutions.

4.1.2. Nokia Mobile Phone

Nokia is the world's largest mobile phone manufacturer with sales in over 130 countries worldwide. With a comprehensive product portfolio, covering all major standards and consumer segments, Nokia is in a strong position to lead the development toward the fourth and fifth generations of mobile communications. Building on its know-how in core infrastructure as well as the design of software and user interface, the company is leading the development of new wireless data applications. The company developed sophisticated mobile phones and accessories for all major analog and digital (GSM, AMPS, CDMA, TDMA) standards. Nokia mobile phones were developed to make communicating easier, and to provide beauty in design.

4.1.3. Nokia Communication Products

Nokia Multimedia Terminal is a pioneer in digital terminals for interactive multimedia applications and digital broadcasting via satellite, cable and terrestrial networks. Product development focuses on terminals for reception of broadband transmission of digital audio, video and data services. Nokia Industrial Electronics is one of Europe's leading manufacturers of advanced PC and workstation monitors, including applications for professional desktop communication and new technologies. It is also one of the leading suppliers of mobile phone battery chargers.

4.1.4. Nokia Ventures Organization

The Nokia venture organization explores new business areas facilitating future growth and boosting Nokia's product and long-term business development. Currently, Nokia ventures Organization includes a Wireless Business Communications focusing on the development of new wireless solutions for corporate customers, Wireless Service Applications focuses on the development of new solutions for the wireless environment, especially in the area of health care. The unit has already successfully developed its first product, Well Mate, which is a health care tool for personal management of chronic diseases, Wireless Software Solutions focuses on the development of software products based on the Wireless Application Protocol (WAP) standard and the Silicon Valley based Nokia Ventures Fund focuses on start-up businesses and technologies globally. (Source: www.Nokia.com, 21-9-08, Nokia's annual report & Nokia press releases)

4.2. Motorola, Inc. background

Motorola's role in telecommunication industry as pioneer, innovator and visionary in mobile communications is well known. Originally founded as the Galvin Manufacturing Corporation in 1928, the name of the company was changed to Motorola in 1947 when the company started manufacturing radios for cars. Motorola has come a long way since introducing its first product, the battery eliminator. For more than 80 years, Motorola has proven itself a global leader in wireless, broadband and automotive communications technology and embedded electronic products, and has become a company recognized for its dedication to ethical business practices and pioneering role in important innovations.

As of the second quarter of 2007, Motorola realigned its operating business segments to include: mobile devices, Home and Networks Mobility, and Enterprise Mobility solutions. At December 31, 2007 and December 31, 2006, Motorola and its subsidiaries employees stood at approximately 66,000

4.2.1. Motorola Operations

Motorola has kept moving at the pace people are living. Its product have grown and changed over the years and drive for excellence has strengthened and intensified. From five-Pound Handie-Talkie radio to the lightweight models of today, Motorola has been the leading provider of two-way radio services to public safety, government, transportation, utility and manufacturing enterprises. Its digital cable set-top terminals and cable modems deliver the promise of a connected home just as the original has in radios and televisions did in the 1930s and 40s. The leader in embedded processor production, Motorola has developed a broadband array of microprocessors for a wide range of products, from some of the first video games, today's advance digital cameras, personal communications, Motorola changed the way the world communicates, form the introduction of the DynaTAC cell phone in 1983 to today's sleek handsets and innovative technology for mobile telephone service. It is also a key supplier of integrated systems for automobiles, portable electronic devices and industrial equipment. Throughout its history, Motorola has transformed innovative ideas into products that connect people to each other the world around them. Moving forward, the company strives to keep its commitment of making things better and life easier.

Today, Motorola develops a portfolio of technologies, solutions and services including:

- **Wireless Handsets** – Motorola is one of the world's leading provider of wireless handsets, which transmit and receive voice, text, image and other forms of information and communication.
- **Wireless Networks** - Motorola also develops, manufactures and markets public and enterprise wireless infrastructure communication systems, including hardware and software.
- **Mission-Critical Information Systems** – Motorola is a leading provider of customized, mission-critical radio communications and information systems.
- **Broadband** – Motorola is a global leader in developing and deploying end-to-end digital broadband entertainment, communication and information systems for the

home and for the office. Motorola broadband technology is manufactured for both network operation and retailers to deliver products and service to end-users.

- **Automotive** – Motorola claims to be the world's market leader in embedded telemetric systems that enable automated roadside assistance, navigation and advanced safety features for automobiles. Motorola also provides integrated electronic for the power train chase sensors and interior controls.
- **Semiconductor** – Motorola is one of the world's largest producers for embedded processing and connectivity products for the automotive, network and wireless communication industries

Motorola's cell phones go hand-to-hand with those made by global leader Nokia. The number one manufacturer of wireless handsets centers its business on personal communication products like cell phones and two way radios. Motorola is a leading supplier of such wireless infrastructure equipment as cellular transmission base stations, amplifiers, and network switching systems. Motorola's semiconductor unit is a maker of embedded chips used in wireless carriers Nextel Communications and electronics distributors such as Avnet. It also has a division that focuses on government and industrial customers.

Many of the company's products have been radio-related, starting with a battery eliminator for radios, through defense electron and mobile phone manufacturing. The company is also strong in semiconductor technology, including chips used in computers. Motorola has been the main supplier for the microprocessor used in Apple Power Macintosh personal computers. This chip, the PowerPC, was developed with IBM. Motorola has a diverse line of communication products, including satellite systems, digital case boxes and modems. (Source www.motorola.com accessed 1-9-08, Motorola's annual report 2007)

4.2.2. Motorola Venture

Motorola Venture is the global strategy venture capital investment arm of Motorola, Inc. MV invests at all stages in developing the company's strategies, new markets and new talent. (Source: www.motorola.com/ventures. Accessed 1-9-08)

4.3. Samsung Background

Samsung Electronics was established in 1969 in order to provide an engine of future growth for the Samsung Group. Though the electronics industry seemed promising in the 1960s none of the Korean firms had advanced technology. As at that time, Samsung began by producing low-end black-and –white televisions in a joint venture with Sanyo, a Japanese electronics company. Three years later the company started producing black-and-white televisions under its own name “Samsung.” In 1970 the company began producing other home appliances, including washing machines, refrigerators, colour televisions and microwave ovens. The company's unyielding emphasis on quality, innovation, and globalization resulted in significant changes within the organization, and galvanized foundation for future growth. As a result of many years of reorganization, Samsung now has five major divisions: Digital Media Network, Digital Appliances Network, Telecommunications and Device Solution Network, Semiconductors networks and LCDs networks. At December, 2006 Samsung employed 36,000 people at its R&D unit, representing 26% of its entire workforce. Samsungs operations centers mainly on its five main business segments which include:

4.3.1. Semiconductors

Samsung offers total mobile solutions to satisfy changing customer needs for digital products with more functionality and higher performance. Its semiconductor business which is one of its mainstay operations consist of three major divisions: Memory, system

LSI and Storage. Memory chips are used to store data, while system LSI (for Large-Scale Integration) products are essentially integrated circuit devices that process user applications

4.3.2. LCDs

Due to growing demand for various mobile products (mobile phones, game consoles, PDAs, MP3 players and so on) Samsung branched into the development, production and sale of various small and medium-sized displays starting in 2001. Today, Samsung is the world's largest maker of LCD panels used in IT products (mainly notebook PCs and desktop monitors) and flat panel TVs

4.3.3. Digital Appliances

Samsung electronics applies some of the world's most advanced technologies to a full range of digital appliances from premium refrigerators, air conditioners, washing machines, ovens, vacuum cleaners and other appliances.

4.3.4. Digital Media

Samsung has taken the lead in the spread of digital convergence by developing innovative products that shape new lifestyles and by providing the cutting-edge technology to accelerate the convergence trend. Its digital media consist of four major divisions: Visual Displays, Digital Audio-video, Printing and Computer Systems.

4.3.5. Samsung's Mobile phones Business

In 1983, Samsung Company initiated its mobile telecommunication business, which has now become the future growth engine of the company. Samsungs premium brand and

distinctive designs make it one of the global leaders in mobile phones. Mobile phones no longer are limited to making phone calls. In today's world, the purpose envisioned in the designer's mind becomes more important. Samsungs collective creativity has given rise to innovative mobile phone designs and new models. It continues to develop cutting edge technologies and services based on its mobile phones to allow its customers access to a wealth of information, provided at affordable prices anytime and anyplace. Samsung has been setting new trends in the mobile phone industry with models that are either the first or the best of their kind. These include the world's first mobile phone with 10-megapixel camera, a "super music phone" model with 8GB hard drive onboard, a MediaFLO phone (for digital TV reception), an unlicensed media access (UMA) phone that links cellular with WiFi for VoIP calls, and the "Global Roaming Phone" that supports CDMA, GSM and JCDMA for automatic roaming in 90 countries. Samsung launched its ultra Edition series of mobile phones in Europe in June 2006 with a release of its hugely popular ultra slim phones within months followed by its 3G version in August

The company's Information and Telecommunication R&D Center is in Suwon, where its headquarters is located. The purpose of the Center was to incorporate all of its business specialties – Semiconductors, electronic components, multimedia, and a telecommunications to maximize technological synergies among them. The Suwon R&D Center also interconnects with other R&D centers, both in Korea and in other 25,500 patents overseas since 1998. The main focus of R&D is the development of new technology standards for 4G communications and the mobile Internet. Samsung hold approximately one hundred patents related to 3G and 4G technologies. (Samsung's annual report 2006) The above overview shows the dominant positions occupied by the three case companies within the global mobile phone industry, thus making them optimal for the present case study

4.4. Data presentation and analysis

This part of the chapter would explicate the market performance of the three major industry players in the mobile phone industry and then present a rough comparison of their value activities which is then discussed with regard to the theoretical framework of the study. The discussion follows the theoretical framework build to examine the two research questions: ‘what are the ways firms can achieve sustainable competitive advantage and the second question seeks to ascertain the reality of firms attaining sustainable competitive advantage.

Figures 6 & 7 illustrates the global sales and market share of the mobile phone industry from 1999 to 2Q 2008.

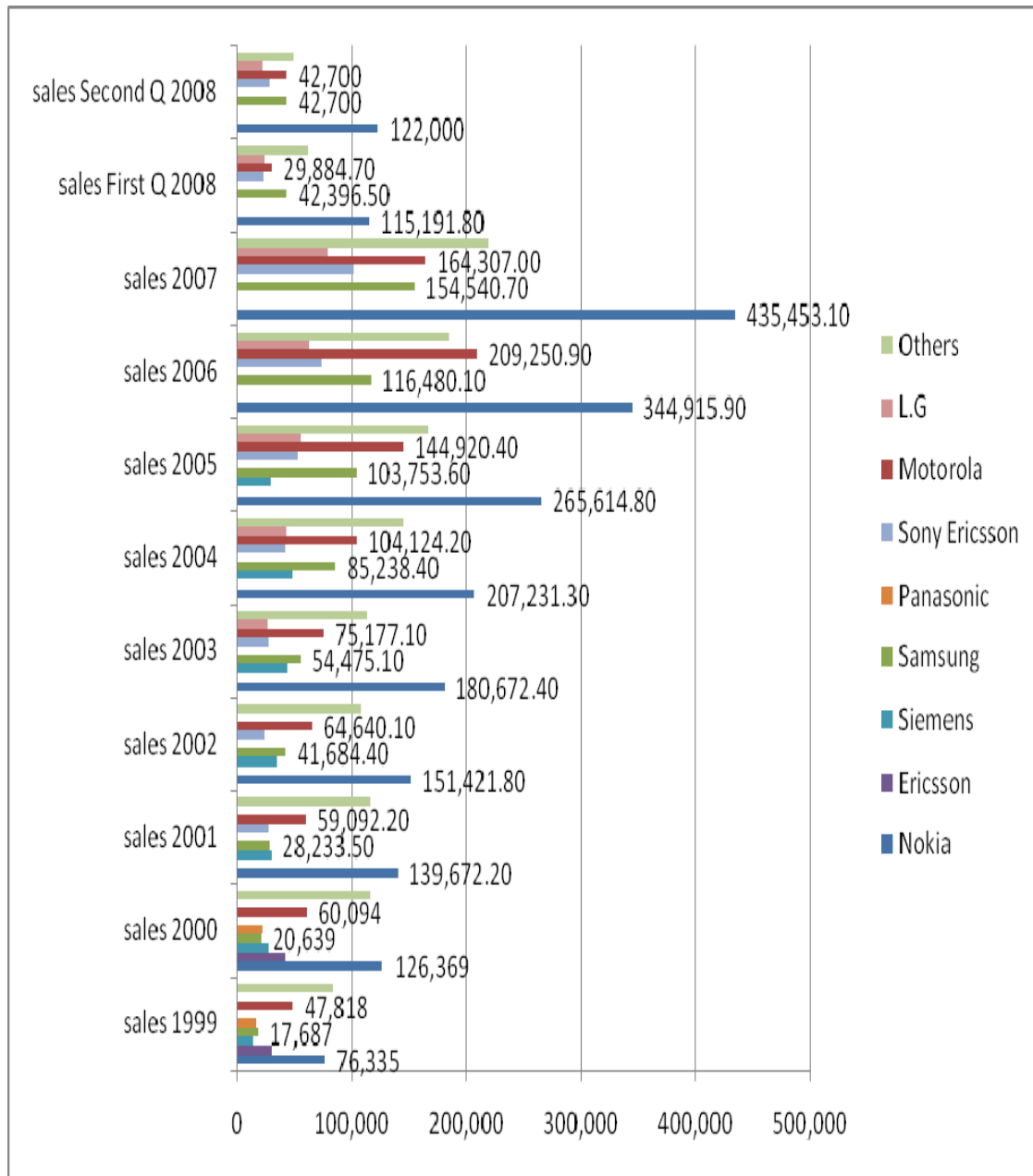


Figure 6. Worldwide Mobile Phone Sales to End-User from 1999 to 2Q 2008 (Thousands of Units).

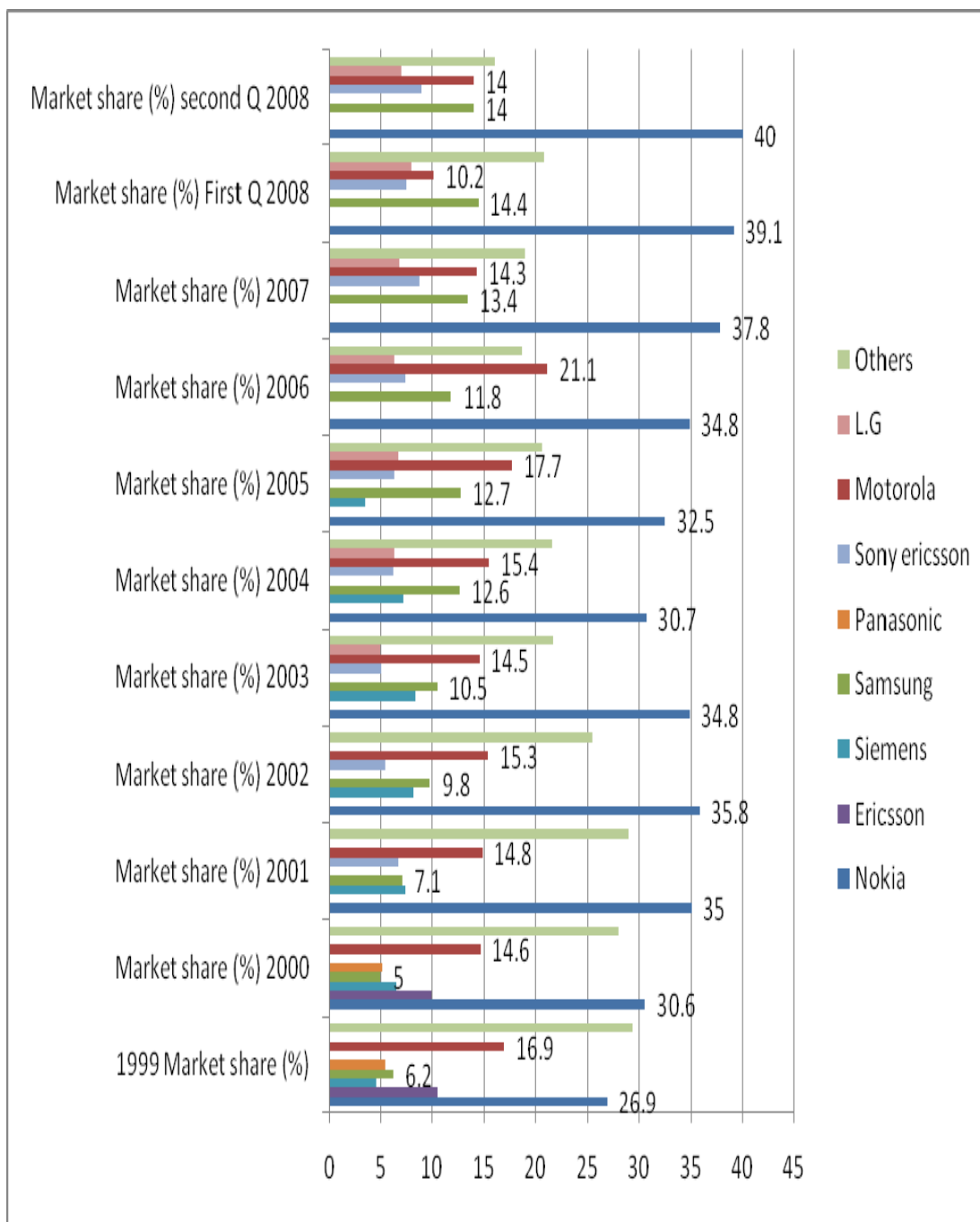


Figure 7. Worldwide Mobile Phone market shares (%) from 1999 to 2Q 2008.

Global mobile phone sales totaled 283,581 units in 1999 and 412,731 units in 2000 respectively. This shows an improvement of 45.5% in global sales total in the year 2000 over that of 1999. Figures 6 and 7 above indicate that the leading three mobile phone manufacturers for 1999- 2000 were Nokia, Motorola and Ericsson. Among these three, Nokia occupied the first position with sales of 76,335 units of mobile phones, representing 26.9% of the total market share in 1999 and 126,369 units of mobile phones, representing 30.6% of the total market share in the year 2000. Nokia therefore increased its share of the total global market by more than 3% between the 1999, 2000 sales years, showing not only a clear lead in the share of the market but a position of dominance among its competitors in the market.

Motorola occupied the number two position in the global mobile phone sales market between the years 1999 and 2000. It secured 16.9% share of the total global market in 1999 and 14.6% in the year 2000. Unlike Nokia, even though Motorola was number two it showed signs of weakness as its share of the market for the year 2000 did not increase at the growth rate of the global mobile phone market indicating a diminishing rate of growth for the 1999, 2000 sales year.

The third position in the global mobile phone market was occupied by Ericsson in the 1999, 2000 sales years, selling 29,785 units of mobile phones representing 10.5% of the total share of the market in 1999 and 41,467 units of mobile phones representing 10.0% of the total share of the market in the year 2000. Unlike Nokia, Ericsson's market share growth did not commensurate with the overall sales growth within the market in the 1999, 2000 sales year.

Samsung Corporation, which is one of the chosen case companies under analysis in this study, was not one of the top three industry players during the 1999, 2000 sales year of the mobile phone industry. Samsung's total sales of global mobile phone in 1999 was 17,687 units of mobile phones, representing 6.2% of the total share of the market and that of the year 2000 was 20,639 units of mobile phones representing 5.0% of the total share of the market. This was an indication of sales improvement in the year 2000 upon that of 1999

which is commensurate with the general improvement in global mobile phone sales. (See appendix 1)

As figures 6 and 7 depicts, Nokia maintained its position as the number one global mobile phone seller in the 2001/2002 sales year. Nokia sold 139,672.2 units of mobile phone in 2001, representing 35% of the total market share and sold 151,421.8 units of mobile phones in 2002, representing 35.8% of the total market share thus, indicating a continuous improvement in sales and subsequent increment in market share over its competitors during the 2001/2002 sales season.

Following Nokia was Motorola who also maintained its position as the number two global mobile phone seller in the 2001/2002 sales season. Motorola sold 59,092.2 units of mobile phone in 2001 out of the global total of 399,583.2 units of mobile phones sold for the year. Its sales represented 14.8% of the total share of the market. In 2002, Motorola improved upon its sales performance by selling a total of 64,640.1 units of mobile phone out of the global sales total of 423,418.5, thus gaining 15.3% of the global market share.

With a total sale of 29,752.8 units of mobile phones representing 7.4% of the total market share in 2001, Siemens occupied the third position, it however could not hold on to its position in the 2002 sales season and was over taken by Samsung who improved upon its sales in 2001 by selling 41,684.4 units of mobile phones in 2002 out of the global total of 423,418.5 units of mobile phone, thus increasing its share of the global market to 9.8% representing an increment of about 2.5% over the previous year. (See appendix 2)

Following their lead from 1999, Nokia maintained its position as the number one mobile phone manufacturer among its rivals during the 2003/2004 sales season by selling a total of 180,672.4 units of mobile phones in 2003, representing 34.8% of the total share of the market and selling in 2004, a total of 207,231.3 units of mobile phones which gave it 30.7% of the total global market share. Although Nokia held on to its number one position from the 2003 to 2004 sales year, the rate of its sale increment in 2004 did match up with

the overall improvement in global sales total to the extent that its market share fell by about 4% in 2004 over that of 2003.

Motorola continued to hold on to its place as the number two global mobile phone manufacturer of the world by selling a total of 75,177.1 units of mobile phones, representing 14.5% of the global market share in 2003. This was followed by sales of 104,124.2 units of mobile phones in 2004, representing 15.4% of the global market share. Motorola improved upon its global market share in 2003 by gaining an additional 0.9% in 2004. This was an obvious inroad into that of Nokia who lost about 4% of its global market share during the same period.

During the 2003/2004 sales season, Samsung secured the position of global number three mobile phone manufacturer by selling 54,475.1 units of mobile phone in 2003, representing 10.5% of the global market share and improved upon this by selling 85,238.4 units of mobile phones in 2004, representing 12.6% of the global market share. This represents a strong performance by Samsung as it increased its share of the global market by over 2%. (See appendix 3)

Nokia remained the worldwide leader with sales of 265,614.8 units of mobile phones, representing 32.5% of the total global market share in 2005. This was improved upon in the following year with sales of 344,915.9 units of mobile phones, giving it 34.8% of all mobile phone sales in that year, thus increasing its share of the global market by more than 2%. Coming right behind Nokia was Motorola, who sold 144,920.4 units of mobile phones in 2005 to take 17.5% of the global market share. This was then followed with total sales of 209,250.9 units of mobile phones in 2006, giving it 21.1% of all mobile phones sold in that year. This was a major improvement in performance on the part of Motorola as it increased its share of all mobile phones sold by more than 3% from 2005 to 2006.

Samsung remained in the third position in 2005 with sales totaling 103,753.6 units of mobile phones, raising its market share to 12.7% representing only 0.1% gain from the

previous year. Samsung held onto the number three position in 2006 by selling 116,480.1 units of mobile phones which gave it 11.8% of the global market share, showing a slight loss in market share compared to the previous year's performance. (See appendix 4)

Nokia consolidated its position as the leading global mobile phone seller in the year 2007 with sales of 435,453.1 units of mobile phones representing 37.8% of the global market share, thus increasing its share of the global market by 3% from the previous year.

Motorola once again solidified its position as number two in worldwide mobile phone sales in 2007 with shipments of 164,307.0 units representing 14.3% of the global market share. Motorola's performance was rather worrying as it showed signs of weakness in the market by losing over 6% of its global market share compared with that of the previous year.

Samsung maintained the third position in global mobile phone sales in 2007 with 154,540.7 units of shipment representing 13.4% of the global market share. Unlike Motorola, Samsung showed a slight improvement in its performance over the previous year by increasing its share of the global market by over 1%. The overall performance during the year 2007 showed Nokia firmly establishing itself as the number one global mobile phone manufacturer as it gained market share that is more than double that of its nearest competitor, Motorola thus showing a position of clear edge over its rivals in the industry. (See appendix 5)

With global mobile phone sales totaling 294,283.0 units in the first quarter of the year and increasing to 305,000,000 units of sales in the second quarter of the same year, Nokia remained the worldwide leader in the industry by selling 115,191.8 units of mobile phones in the first quarter to gain 39.1% of the global market share. During the second quarter of the same year, Nokia even widened the gap between it and her rivals by selling 122,000,000 units of mobile phones out of the world total sales which took its shares to a comfortable 40%.

With sales of just 42,396.5 units in the first quarter of 2008, Samsung overtook Motorola to occupy the number two spot in the world-wide mobile phone market, representing 14.4% of the global market share. In the second quarter of the same year, Samsung did show a slight improvement in sales by selling 42,700,000 units of mobile phones, giving it 14% of the global market share. Although its market share fell slightly by 0.4% in the second quarter of the year, it was able to hold on to its newly occupied number two spot.

By the first quarter of 2008, Motorola lost its number two spot to Samsung as it sold just 29,884.7 units of mobile phones representing 10.2% of the global market share. Motorola however improved on its performance during the second quarter of the year by selling 42,700,000 units of mobile phones to be at par with Samsung as it gained 14% of the global market share. (See appendix 6)

Porter's value chain framework is repeated in the next page in order to enhance understanding of table 3 which is presented to simplify the value chain comparison of the case companies.

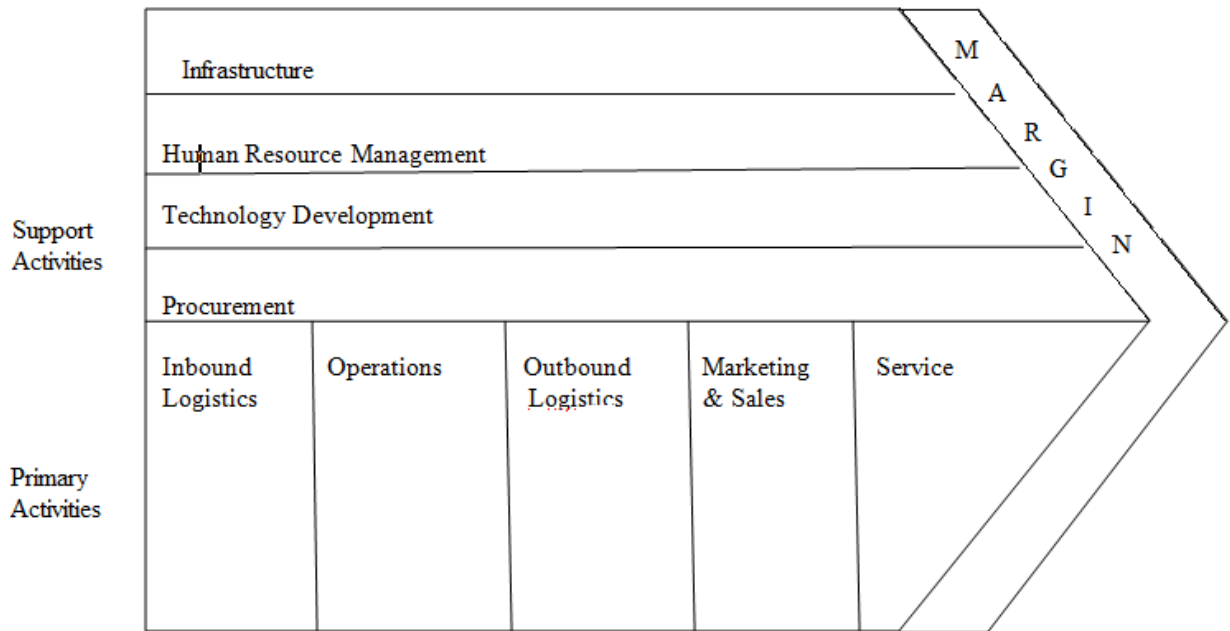


Figure 4. Porter's value chain framework (Source: Adopted from Porter, 1985: 37).

4.5. Value chain comparison of Nokia, Motorola and Samsung

This part of the chapter compares Nokia's value chain to that of Motorola and Samsung in order to ascertain who is running an efficient and effective supply chain, thus showing in high sales volume and market share as proposed by Jacobson and Aaker, (1985); Buzzel and Gale, (1987) to be the key drivers of sustainable competitive advantage. The comparison focuses on logistics, manufacturing, R&D (technology/innovation), marketing & sales, human resource management and firm infrastructure. A discussion of the cost and differentiation strategy of the case companies will be presented followed by a look at measures taken by the industry leader to sustain its position

Table 3. Value chain comparison of Nokia, Motorola and Samsung.

	Nokia	Motorola	Samsung
Logistics	<p>Focuses on communicating customer needs to suppliers.</p> <p>Relies on global supply web tied electronically into production systems of suppliers plant</p> <p>Supplier choice is mainly determined by suppliers' vision common to that of Nokia.</p> <p>Tracks inventories for its self and suppliers operations.</p> <p>Relies on simple logistic service provider for economics of scale through combined shipment.</p>	<p>Integrates suppliers products into solutions offered to own customers.</p> <p>Global supply base using software platform for optimization, online request for quotation and reverse auction.</p> <p>Supplier choice is mainly influenced by suppliers' performance in local market.</p> <p>Suppliers grouped into strategic, preferred and tactical.</p>	<p>Integrates suppliers products into solutions offered to own customers.</p> <p>Relies on an online market place technology known as "Glonet" for access to low cost suppliers. Supplier choice is mainly influenced by time reduction process.</p>
Manufacturing/operations	<p>Few basic designs.</p> <p>Common components.</p> <p>One phone, multiple markets.</p> <p>Basic technology platform.</p>	<p>Several basic designs.</p> <p>Several components.</p> <p>Different phones for different markets.</p> <p>Multiple technology platforms.</p>	<p>Several basic designs.</p> <p>Several components.</p> <p>Different phones for different markets.</p> <p>Multiple technology platforms.</p>
Technology/innovation (R&D)	<p>Decentralized R&D.</p> <p>Globally scattered R&D units.</p> <p>Science & freedom of research as basis of</p>	<p>Science as sole basis of innovation.</p> <p>Centralized R&D.</p> <p>Internationally scattered R&D units.</p>	<p>Science as basis of innovation.</p> <p>Centralized R&D.</p> <p>Internationally scattered R&D units.</p>

	innovation. Nokia	Product innovation Motorola	Product innovation Samsung
Technology/innovation (R&D)	Product innovation focuses on functions, features & design. Idea generation goes beyond corporate R&D boundaries.	Focuses mainly on functions & features. Idea generation usually within corporate R&D boundaries.	Focuses mainly on functions & features. Idea generation usually within corporate R&D boundaries.
Marketing and sales	Relies on multiple market segments. Attaches very high importance to brand image. Attaches very high importance to customer satisfaction and retention. First to market mobile phones as regular products.	Relies on single market segments. Attaches high importance to brand image. Attaches high importance to customer satisfaction and retention. Until recently, markets mobile phones as status symbol.	Relies on few market segments. Attaches high importance to brand image. Attaches high importance to customer satisfaction and retention. Until recently, markets mobile phones as status symbol.
HRM	Internet is main recruitment method. Recruitment places very high emphasis on talent. Regular rotation of employees through various units. Deliberate policy of re employing previous employees.	Internet is main recruitment method. Recruitment places high emphasis on talent. No deliberate policy to recruit previous employees.	Internet is main recruitment method. Recruitment places high emphasis on talent. No deliberate policy to recruit previous employees.
Firm infrastructure	Process organized organization. Very flexible organization.		Functionally organized organization. Flexible organization. Business groups not so

	Closely aligns business groups to R&D Nokia	Motorola	aligned to R&D activities. Samsung
Firm infrastructure	activities. Very strong corporate culture of product innovation and customer satisfaction.	Functionally organized organization. Flexible organization. Business groups not so closely aligned to R&D activities.	

4.5.1. Logistics

As a multinational firm with operations and sales in almost every part of the world, Nokia places great emphasis on logistics. Also, shortened product life cycle, faster pace for new product development and faster time to market new products in the mobile phone market has reemphasized the need for best supply chain practices.

Nokia's logistic development is better understood from the perspective of its supplier network as its production is centered in 13 different manufacturing locations around the world. Over the past years, Nokia has changed its mode of co-operation with suppliers. It shifted from the traditional sub contracting in the 1980's in which sub contractors were mainly used as buffers to stabilize manufacturing capacity to that of co operation in the 1990's when outsourcing emerged as an option to in-house manufacturing, thus serving as a regular means of manufacturing operations rather than a way to stabilize utilization rate of capacity. Bhutto, (2005) noted that as Nokia realizes its inability to perform all activities in-house, it outsources only its non core activities based particularly on financial benefits and strategic decisions. Nokia's mobile phone outsourcing ratio stands at approximately 20-25% of manufacturing volume. Later in the 1990's Nokia extended co-operation with its suppliers due to high demand, shortened product life and high foreign sale volume. This resulted in re organization of supply chain to more use of assembler services (Ali Yrkko 2001 P.44-46)

O'Reilly (2006) noted that Nokia realized that its old way of doing business by forecasting demand over the long term, engaging with suppliers over lowest cost and producing to stock rather than order proved difficult for retailers in selling its products. This was due to lack of good communication in both up and down streams of the supply chain. As a result, Nokia shifted its focus to consumer needs communicated to its suppliers. This change in strategy generated efficiency into Nokia's product and facility design as well as its entire supplier relationship.

In an effort to reduce days of raw material inventory, Nokia tracks inventories for its own operations as well as that of its suppliers. Also, in order to combine shipment and exploit economies of scale, Nokia relies on a simple logistic service provider for coordination of its inbound transportation to each of its manufacturing sites. Through good communication in both up and down streams of its supply chain, Nokia has been able to reinvent its component sourcing and distribution strategy through various sales channels on a world wide scale, thus contributing to its entire success. (O'Reilly 2006.)

In choosing its key suppliers, Nokia considers two main logistical factors. The first is that a system supplier must not only be financially healthy and be able to grow and develop at quite the same pace and speed, but share a common vision with Nokia in order to secure steady component supply in the long run. A second logistical factor is product development. System suppliers must be willing to take part in the early stage of product development in order to be able to solve their own assembly problems, so that production delays can be avoided on their part. Production delays on the part of system suppliers easily multiply along the chain and cause a severe delays in product launching. Nokia realizes that improving the efficiency of the supply chain optimizes both material and information flows, therefore it is necessary to build an infrastructure which assures an efficient exchange of information between parties. (Ali-Yrkkö, 2001, p 49)

Nokia relies on a global supply web which is a proprietary collaborative planning tool tied electronically into the production systems of its suppliers plant and this gives it a better response to demand driven signals. By coordinating its supply chain directly and using outsourcing only as a means of adding flexibility, Nokia is able to drive value. (O'Reilly, 2006)

In a bid to cut cost and increase productivity throughout their operations, Both Motorola and Samsung in a move similar to Nokia's, realized the need to introduce efficiency into their supply base. In the case of Motorola, the first point of focus was its relationship with suppliers. Motorola adopted a global supply base and implemented a complete, end to end, software platform to enhance its supplier relationship. By this, both Motorola and its suppliers rely on the software platform which uses advanced technologies for optimization as well as online request for quotation and reverse auctions, thus allowing for more focused supplier negotiations which are of benefit to both Motorola and its suppliers. (Metty et al, 2005.) Unlike Nokia, Motorola's choice of supplier is influenced by factors such as supplier performance in local markets, reliability and market domination. Also, Motorola groups its suppliers into three categories namely, strategic, preferred and tactical. Its relationship with each of the three varied from one to the other. Similar to Nokia, both Motorola and Samsung integrates suppliers' products into the solutions that they provide to their own customers (Foulds & West, 2006) In the case of Samsung, due to lack of domestic components manufacturers, it relies heavily on components from abroad. For this reason, time reduction process such as order placing from foreign suppliers is of great importance in its supplier relationship. Samsung relies on an on line market place technology known as "Glonet" for easy and reliable access to information on low cost suppliers. (Hun oh et al, 2000).

4.5.2. Operations/manufacturing

Nokia is a global firm with manufacturing facilities in countries such as Finland, Brazil, China, Germany, Hungary, Malaysia, Mexico, UK, South Korea and the USA. One factor that contributes to Nokia's competitive edge in the mobile phone industry is its ability to efficiently and effectively coordinate its operations and manufacturing process than its main industry rivals (Nokia 2007)

In analyzing the reason behind Nokia's success, Crockett, 2001 p.20 offers a comparison of Motorola's product line to that of Nokia. *"Compare Motorola's product line to Nokia's. The Finnish company uses just a handful of basic designs that share components such as screens, batteries, and some chips. Motorola, by contrast, juggles many different model platforms with little overlap among parts - making it nearly impossible to get the economies of scale Nokia enjoys."* A situation which can be some how similar to the other cell phone manufactures.

Due to shortened life cycle of mobile phones, Nokia, unlike Motorola, Samsung and others championed a concept of one phone in multiple markets and as a result was able to use shorter and cheaper time to market. *"Nokia is a company taking full advantage of the global economy, taking a few designs, then producing them in all [cellular] formats all over the world"* (Forbes, 2003)

Most of Nokia's phones are built on few and basic technology platforms. From these platforms, Nokia builds its so called *"base phones"* which can then be re-modified not only for different user groups but different markets as well as for different technologies, as from gsm to cdma phones. By using the same platform, basic technology and common components in its phone manufacturing, Nokia is able to significantly reduce the development time of its new phone models as most components are readily available. Motorola, unlike Nokia uses different platforms for different world mobile network standards, it thus require more resources for each new phone series. Samsung uses an approach similar to that of Motorola.

Also, economies of scale are achieved since separate components are ordered in bulk, thus leading to smaller unit costs. Relying on its bulk component purchase, Nokia is able to use its position as supplier's major customer to avoid delay and shortage of components from its suppliers, thus avoiding delays in shipment than its rivals

Nokia performs in-house the assembling and development of software for its phones and outsources other non core manufacturing activities to suppliers who develop components in co operation with Nokia after which components are shipped to Nokia factories around the world to be assembled as a final product.

Nokia's strategy of spreading design cost over multiple markets boosted its profits as mobile phones entered the volume market. By keeping no less than 50% of the technology shared across standard and frequencies, Nokia achieves a lower manufacturing cost per product compared to its industry rivals, thus making its targeting of market segments efficient and effective compared to Motorola and Samsung. (Adner, 2003.)

4.5.3. Technological development/innovation (R&D)

By the early 1990's Nokia had realized that mobile phone was to become a commodity which would only sell if it suits the customers' needs in both its function and aesthetic features. Nokia therefore saw the need to add new attributes apart from technical performance. Since then, Nokia has become a frontrunner in developing cutting edge technologies and made innovation a top priority. Being a front runner in innovation and new product development, Nokia, unlike its rivals benefits from first mover status by introducing several new handsets. *"The Nokia 2100 was the first phone with Nokia's hallmark design"* (Adner, 2003 p.7) The Nokia 6110 introduced in 1997 was adjudged by business week 1998 at the time as *"the best wireless Phone on the Market"* Nokia made the world's first Internet Protocol packet data call with its 3G solution based on final commercial standard and has since then established its cutting edge technology and trend setting lifestyle by offering products like the Nokia 3310, Nokia 3330, Nokia 8210, Nokia

8250 and Nokia 8850 the gold edition, all incorporating Nokia's innovative and personalization features (Bhatt, 2005;Adner, 2003)

According to experts one key to success in today's dynamic cell phone industry is innovation. Realizing this, Nokia inculcated into its employees a culture of innovation and structured its R&D in a manner far different from Motorola, Samsung and other industry rivals. Unlike the R&D setup of its main rivals often centralized, hierarchical, strict rules and relies mainly on science as its basis of innovation, Nokia's R&D staff are scattered across the world operating freely and most often reporting directly to the head of R&D *"who considers it his duty to break down his people's mental inhibitions, freeing their minds to strive toward the next big breakthrough"*. (Adner, 2003 p. 21) By organizing its R&D into autonomous units around the globe, Nokia unlike Motorola, Samsung and other industry rivals is able to engage its R&D staff into new areas. Nokia's independent R&D units located in 15 countries around the world, very often close to leading universities and industry clusters are free to create their own business model, undertake in advance its own R&D and marketing by relying on Nokia's central research laboratory for basic technology and product design. This is then handed over to a shared operation and logistic group. Nokia's then president, Matti Alahuhta, is reported to have said that *"By allowing teams the space they need to dig deeper into their area of interest, we've enabled them to create a big business and do it fast,"* and that *"Big companies lose sensitivity. People need to feel that they can make a difference. And they need to have the power to make their ideas happen. We've created a small-company soul inside a big-company body."* (Adner, 2003 p.21, 22)

Due to its great emphasis on R&D, Nokia ensures that this is integrated into its whole corporate process and ensures interaction among R&D units on a daily basis with all other units including strategic planning, production sales and marketing. In some parts of the company the research and development process chain starts with what Nokia refers to as *Research and Technologies*. This focuses on a more generic research than pure product development. The next step in this approach is *Technology and Platforms*. Here the emphasis is on focused projects with defined goals, which look beyond the requirements of

immediate product development. Things developed here may well be incorporated into several product designs of the future. The actual product development takes place in a phase called *Concurrent Engineering*. Here all the effort is channeled into creating products, which fulfill customer needs. (Nokia, Annual Report, 1999, p. 26 - 27)

Unlike Motorola and Samsung who focus their product innovation process on functions and features, Nokia in addition to these two attributes focuses on design in order to segment its products across usage needs, demographics and life style. (Bhutto, 2005) Another significant difference to Nokia's innovative approach that puts it ahead of its rivals is that its innovations go beyond its corporate R&D laboratories. Nokia searches for new ideas from sources outside its corporate borders. It has developed what it calls *Nokia's Insight & Foresight teams* which seek out disruptive technologies, new business models, and promising entrepreneurs beyond Nokia's walls (Adner, 2003) The success of Nokia as noted by (Adner, 2003 p.18) can be credited among other factors to *"its superior design and ease-of-use which became important to create willingness-to-pay as less technologically savvy consumers were shopping for mobile phones"*. Through its series of gradual innovative activities, Nokia is able to offer superior design and ease of use cell phones relative to that of Motorola and Samsung thereby strengthening its efforts in inducing customers to buy its products.

4.5.4. Marketing and Sales / Customer Service

Investments in R&D alone do not guarantee success in the market. The high growth of Nokia's sales and market share is an indication that the company has advanced well in selling and marketing as well as services offered to its customers.

Nokia, unlike Motorola and Samsung adopted a holistic approach to marketing. This led it to focus on consumer friendly design and the power of branding as the corner stone for growing its mobile phone market. In expanding its market base, Nokia was the first to adopt a market segmentation strategy by designing different models for its different market

segments. As a consequence its Highfliers and Trendsetters segments emerged in 1998. The basic idea behind this was the understanding for the need for communication as expressed in its slogan “Connecting People”. Nokia distinguishes customer segments according to their needs and apply appropriate technology to suit the market. At the time of adopting its market segmentation strategy which was initiated with its Nokia 8810 as its first segment specific phone, its rivals such as Motorola, Samsung and others relied on a single segmented of high –end business users. Through its market segmentation strategy, Nokia unlike Motorola and Samsung was able to differentiate itself in both consumer and business user segments. (Adner, 2003; Bhatt, 2005.)

Also, an important factor that enabled Nokia to capture value in its entire value chain was the building of a strong image with its final users. The image of user friendliness and fashion that it attached to its “*Nokia brand*” enabled it to shift the focus of competition from technological features.

In 2008, Business Weeks’s inter brand best *Global Brands* ranking, put Nokia’s brand as the 5th most recognized brand in the world with an estimated brand value of (Millions) \$35,942. This is quite impressive as Nokia is one of only two non-US companies to make it to the top 10 list of most valuable brands. Samsung’s brand for that same year stood at # 21 valuing (Millions) \$ 17,689 while Motorola’s stood at # 87 worth (Millions) \$ 3,721 (Business week online 2008)

Successful branding is an endorsement and indication of quality. Thus with a well known and respected brand image a company can mark its product prices above the less known competitors. Nokia’s strong brand image relative to Motorola and Samsung increased its customer’s willingness to pay thus allowing a pricing strategy based on consumers value rather than purely on cost. (Adner, 2003)

In addition, Nokia distinguished its marketing and sales strategy from that of Motorola and Samsung by moving down stream towards its customers. By this, it makes customer satisfaction and retention an essential objective. Nokia inculcated into its marketing and sales staff a culture of willingness and ability to listen to its customers. By moving

downward in the value chain Nokia is able to satisfy the demand of its customers better than Motorola and Samsung (Bhutto, 2005)

More so, while Motorola and Samsung continued to advertise their mobile phones as status symbols way into the 1990's, Nokia in the early 1990's changed its advertising style and began to market its cell phones as regular products without a stamp of luxury. Such change of marketing was revolutionary, for after that, not only business, but also private individuals bought more cellular phones. (Ali-Yrkkö, 2001, p. 34 - 35)

Furthermore, Nokia uses an efficient planning and execution technique by working closely with its operators, distributors and other stakeholders. One of such strategic partnership is its vendor financing. This strategic partnership is what Nokia uses to elude Motorola and Samsung to aggressively increase its market share. (Bhatt, 2005)

Given Nokia's lead in user-friendliness and early commitment to support added features important to its mass customers serves as a pivotal point in how its entire value chain benefitted and thus contributed to its high sales and market share relative to its industry rivals.

4.5.5. Human Resource Management (HRM)

For Nokia, human resource management is a very important issue. Due to the fast pace of growth in the telecommunication industry competition for talented personnel has soared higher in recent times. The growth rate of Nokia is indicative of the fact that one third of its personnel have not been with the company for more than two years.

The main recruiting method is the internet. Most job applications come through it, many of them through local Nokia pages. Nokia's GEMS (Global Employment Management System) recruiting system helps managers to search from created database potential personnel with the requisite skill for particular jobs thereby improving effectiveness and enhancing the possibility for new inventions

Nokia, unlike its industry rivals puts emphasis on recruiting talented youngsters. In accomplishing such HR recruitment objective it has developed an active university program in which it has developed active relationships with over 100 universities around the world. Through these relationships Nokia finances and cooperate in research programmes that have value for the company. As an HRM policy, Nokia commits its key personnel to the organization through its stock option programme. The aim of this is to engage people to the company for a long period of time. In 1999, 5000 key people (10 % of personnel) were a part of this programme. (Nokia's Annual Report, 1999.)

Nokia, unlike its rivals makes use of global operating standards for business practices, transfer of technology and HRM systems through out its business units. In order to efficiently translate R&D efforts into products that satisfy market demand by way of technological developments, Nokia unlike Samsung and Motorola regularly rotates its R&D personnel in order for them to share, exchange, and enhance their capabilities to developing products that stand above the competition (Bhatt, 2005; Bhutto, 2005) Nokia's HRM is made unique by its job rotation practice which routinely allows its personnel to face fresh challenges in completely new areas as reiterated by (Adner 2003 p.22) that *"Lawyers have become country managers. Network engineers have moved into handset design. The goal is to bring new thinking to familiar problems"*.

Also serving as a distinguishing factor from its rivals, Nokia's HR policy encourages employee recognition and motivation through high level of trust. This provides its employees with the necessary independence and opportunities for personal and professional enrichment. In addition, Nokia has an internal corporate culture that builds all its competencies and capabilities around its highly skilled personnel. By this, it engages in continuous recruitment and training of previous employees in order to enhance continuous creativity and learning process. More so, the best in the market compensation and benefits packages are designed to attract and motivate skilled personnel to enhance the achievement of its corporate vision (Bhutto, 2005) Samsung's effort to introduce flexibility and creativity into its HR, led it to establish the so-called Pro Teams Projects aimed at building

internal atmosphere and culture that will facilitate employee recognition and integration of employees opinion in the mobile phone manufacturing process. This however failed due to the projects cumbersome nature and lack of focus (Baloh et al, 2008)

4.5.6. Firm Infrastructure (Organization)

Nokia has not had a fixed infrastructure during the past two decades. It gave up efforts to become a global multi business organization in the 1980's and channeled all its energy into telecommunication and equipment manufacturing.

In the early 2000's Nokia was faced with intense competition from Motorola and Samsung due to its focus down stream activities towards global brand thereby slightly losing grips of upstream activities of technological evolution. This situation caused Nokia to reconsider its strategic intent and shifted its organizational structure effectively from January 1, 2004. This organizational reorganization was to align the company's overall structure with its strategy. This led to the creation of two new business groups namely Multimedia and Enterprise with Nokia Phones and Networks, and two horizontal groups: Customer and Market operations, and Technology platforms to support four vertical Business groups. The outcome of this re structure was enhanced customer satisfaction, time compression, industry globalization and organizational integration relative to that of Motorola and Samsung. (Bhutto, 2005.)

In contrast to Motorola and Samsung, Nokia transformed itself from a functionally organized organization into that of a process organized one. This led to a significant reduction in time to market which was gained from continuous contributions from manufacturing, sourcing and marketing personnel in the entire process. In responding to the dynamic market pattern of the mobile phone industry, Nokia created a flexible organization that strongly avoids fixed hierarchies and encourages cross business task forces to address issues and keep transforming itself as the need arises. By this, Nokia, unlike Motorola and

Samsung have its business and innovation process in line with market and manufacturing realities. Also, Nokia stimulates controlled entrepreneur- like environment by allowing considerable decision power to department managers and allows internal flexible staffing systems. (Adner, 2003.)

More so, Nokia, in a more effective way than Motorola and Samsung closely aligns its business groups with R&D activities in order to promote technological integration. By this, a periodical rotation of its highly skilled technological staff is carried out to promote efficient translation of R&D efforts into products that satisfy its market demand through technological Platform Groups in mobile phone markets. In addition, Nokia undertakes performance measurement and highly independent controlled systems on a regular basis to enable management to overcome highly strategic issues. This is done by Group executive board who measure the values of customer satisfaction, respect for individuals, achievement recognition and continuous learning through performance measurements. This is then controlled and aligned to its overall corporate strategies and values from its headquarters to individual business units to processes. (Bhutto, 2005.) Another strong contributing factor to Nokia's edge over its industry rivals is its strong corporate culture relative to that of Motorola and Samsung. Nokia's corporate culture emphasizes and values product innovation and customer satisfaction. (Adner, 2003 p.7) simply puts the Nokia way of doing things as "*customer satisfaction, respect for the individual, achievement and continuous learning*".

4.6. Cost leadership and differentiation strategy of Nokia, Motorola and Samsung

When looking at the reason behind Nokia's edge over its industry rivals, Ewing 2007 reports that "*From stylish \$750 handsets with built-in global-positioning receivers to \$45 basic models with black-and-white displays, Nokia saturates the booming mobile-phone market in a way neither Moto nor any other competitor has been able to duplicate. Nokia's*

formidable lineup of some 100 models is just one of many reasons why more than one out of every three handsets in the world traces its origins to the Helsinki suburb of Espoo”.

Nokia pioneered differentiation of its products in the mobile phone industry in two stages: these were the functional development of the early to-mid 1990's and the user interface features of the late 1990's in both the consumer and business user segments. Nokia used design to differentiate its products. Some features of Nokia's designs as opposed to Motorola and Samsung were rounded edges, good proportions, interesting colours, higher resolution and larger displays. Others were phonebook, caller identification, vibration, clock and alarm as well as other security features. Such features became common in Nokia's high-end phones. By this, Nokia was able to offer its affluent buyers phones with highly differentiated features in terms of technology. Internet browsing, music players, GPS satellite receiver and the ability to connect to Wi Fi networks are some of the differentiated features of Nokia's high end phones. (Adner, 2003.)

Differentiation in the high segment alone could not guarantee over all success therefore, Nokia unlike Motorola and Samsung was quick to realize the associated problem with heavily relying on high- end differentiated products. This led it to focus on the low-end in addition to the high-end and in between, thereby leaving Motorola and Samsung relying heavily on the high-end of the market. (Ewing, 2007)

Nokia was the first among its competitors to realize that mobile phones were to become a commodity and thus took steps to offer them at low prices. This led it to design and market its phones at variety of price levels which resulted in its segmentation strategy. As mentioned above in the discussion under marketing and sales, Nokia, at a time when Motorola and other rivals focused strictly on the single high segments, in addition to that moved into low and medium price phones. In order to become a cost leader in the industry, Nokia developed global platforms based on which it is able to introduce various different models and styles with lower cost whereas Motorola and Samsung produced different

models on different platforms, thus not being able to match up to Nokia in cost. (Adner, 2003.)

(Ewing, 2007) reckons that Nokia's lowest priced phones comes with quality and stylish features that makes it appeal to most low-income people enjoying their first taste of telecommunications. In contrast, Motorola's low-cost phones has failed to match Nokia's due to its inefficiencies in quality and stylish features, thus not appealing to potential buyers. Crockett, 2001 lamented that, Motorola's inability to match up to Nokia is not only due to the fact that its phones does not just click with consumers but its designs are clunky and most often \$ 200 higher than consumers are willing to pay. This situation is some how similar to Samsung and Nokia's other competitors. Nokia's dominance of Motorola and Samsung in cost has been attributed to its superefficient supply chain manufacturing systems. This has resulted in its supply chain being named the best on the globe for the year 2008, as reported by the Boston consultancy's AMR research's annual survey of top supply chain operators. Samsungs was ranked number 10 while Motorola was number 12. (Ewing, 2007; AMR research, 2007.)

Nokia's high sales volume and market share in the mobile phone industry, relative to Motorola and Samsung is therefore a direct outcome of its cost leadership and differentiation strategy.

4.7. Measures for sustaining competitive advantage

As the framework for this study diagnosed, taking measures to attain competitive advantage alone does not guarantee sustainability which is necessary to enjoying long run success in an industry. Therefore there is the need to look at measures taken by Nokia in contrast to Motorola and Samsung that is helping in its sustenance of its competitive advantage in the mobile phone industry.

4.7.1. Positional quality gaps

Nokia, unlike Motorola and Samsung took a risky decision in the early 1990's to focus on mobile technology. Over the years this decision is paying off as it has enabled it to entrench itself in the mobile industry thereby making it difficult for its rivals to match its expertise in the industry, thus helping it to sustain its competitive advantage in the sector. Nokia was the first to realize in advance the mobile phone business opportunities in emerging markets. This enabled it to take the lead among its rivals in locating its plants in fast growing markets such as China and India. (Ewing, 2007) reports that Nokia *“has invested hundreds of millions of dollars building distribution systems and networks of retailers in developing countries, including vans that bump along the rural roads of India between stops for instruction on how to use mobile phones”*. This has accordingly made it the number one handset supplier not only in those markets but the world over. In addition, Nokia strove to improve its competitiveness by leaving its rivals behind and dispersed its manufacturing facilities to low cost locations in Korea and Mexico. Also of strategic importance to Nokia's sustenance of its competitive advantage over its rivals is that, it was the first in the industry to introduce market segmentation. This, it did at a time when its rivals focused on the high end of the market. Furthermore, Nokia was the first to take steps towards building strong image with its end users, thus leading to the establishment of a strong brand image with its consumers. (Adner, 2003.) The same can not be said of Motorola and Samsung. This situation thwarts any effort by Motorola and Samsung to break Nokia's dominance in mobile phone sales

4.7.2. Business system gaps

Nokia's ability to use a few design that share components among devices and design phones with fewer parts than Motorola and Samsung solidifies its position as cost leader in the industry. (Ewing, 2007) Nokia's efficient supply chain management which serves as key gap in its business processes and that of Motorola and Samsung is shown by its minimum days of raw material inventory and the exploitation of economies of scale

through combined shipment coupled with its global supply web connected electronically to its supplier's production systems. Another important attribute of Nokia's business processes that distinguishes it from that of Motorola and Samsung is its special relationship with its distributors. Such special is the relationship that Nokia finances some of its vendors whose activities have a direct impact on Nokia's sales and market share. The existence of such gaps between Nokia's business processes and that of Motorola and Samsung makes it difficult for them to erode Nokia's competitive advantage thereby allowing Nokia to sustain its competitive position

4.7.3. Organizational quality gaps

Nokia's corporate culture is one of the company's strategic and competitive advantages. It believes in establishing standards and keeping them open to everyone to facilitate the growth of its mobile phone market. The basis of Nokia's corporate culture is customer satisfaction, innovation, performance and employee recognition. This culture is enhanced by the creation of a flexible organization that strongly downplayed fixed hierarchies. Unlike Motorola and Samsung, Nokia highly encourages the formation of cross business task force to address specific issues and keep transforming itself as products are developed. There is no part of the value chain that Nokia's distinctive organizational culture directly impacts on its product design and manufacturing process than R&D. Due to Nokia's strong culture of innovation it structured its R&D in a manner that allows freedom of operation and spread it across the globe. This does not only allow Nokia to engage its R&D staff into new areas any where in the world but speeds up product development and allows the application of appropriate technology to a given market. (Adner, 2003.) Since innovation is the key to success in the fast dynamic mobile phone business, Nokia's unique culture that has positively impacted its R&D set up and the entire organization relative to Motorola and Samsung does not only enhance its competitive advantage but guards against it.

4.7.4. Legal gaps

As noted by experts, the race to be on top in the dynamic mobile phone industry is dependent on a firm's ability to innovate faster and continuous, in order to satisfy the ever changing preferences of the modern customer. Although Nokia and its competitors alike are owners of some intellectual rights in the industry, Nokia, unlike Motorola and Samsung have an edge in the industry as it owns intellectual right to the most competitive handset software in the market. - *"The Series 60 platform"* This is a comprehensive software platform for smart phones that Nokia licenses as a source code product to other mobile handset manufacturers. The Series 60 platform is designed for mobile phone users with easy-to-use; one-hand operated handsets characterized by high-quality colour displays, rich communications and enhanced applications.

In welcoming LG electronics to the Series 60 community which includes Samsung and other competitors, Nokia's Vice President, Technology Marketing and Sales, Antti Vasara, commented that *"LG Electronics' decision to license the Series 60 Platform further strengthens the platform's position as the most competitive handset software on the market..."* Nokia Press Release: March 22, 2004

Nokia's intellectual ownership among others, of the single most competitive handset software in the industry is a strong tool that Nokia can use to sustain its competitive advantage over its industry rivals

4.8. Theoretical implications

According to the findings above, Nokia has had a commanding lead in the global mobile phone industry in both sales and market share year on year for a ten year period. Nokia's dominant position in such a highly competitive industry is indicative of the various activities that it undertakes which are directly linked to the value that it is able to create for its buyers. The framework for the study presented in chapter two, posits that by running

optimum value activities, a firm can benefit from such linkages within its primary and support activities through which it can either offer a low cost or differentiated product of value to its customers. This will enable it attain competitive advantage. In addition, by creating gaps in the forms of organizational, businesses, positional and regulatory, between itself and competitors, the firm can sustain its competitive advantage.

Inferring from the value chain comparison carried out in chapter four, it is credible to argue that Nokia's dominant position is a direct result of its efficient value activities. Nokia is able to coordinate the receiving, storing and disseminating inputs to its product efficiently than the competition while it possesses better capabilities for converting its inputs into the final product form than its rivals. In addition to the above, the comparison of the case companies value activities showed that, Nokia has a better means for collection, storage and physically making its products available to buyers and able to provide means by which its products can be purchased by buyers. Also, it is able to induce them to do so in a way that surpasses the competition while the value of its products is maintained through the provision of services that ensure such maintenance which is second to none of that of its competitors. This gives support to the studies framework presented in chapter two.

Also of equal contribution to Nokia's dominance in sales and market share in its industry are those activities that while they are not directly involved in production help boost its effectiveness in the customer value creation process than that of its rivals. The purchasing of inputs that are used in its value chain as well as efforts to improve on its products and process of production to ensure customer satisfaction as shown in the value activities comparison, are ahead of the competition. The associated benefits in the end have been translated into high sales and market share relative to its industry rivals.

Nokia's efficiency in value activities to that of industry rivals as the framework posits added to its understanding of those activities that contribute to its relative cost position serving as a basis for differentiation of its products from that of the competition.

More so, this have enabled Nokia to reduce the cost of its value creating activities, thus cutting down on its total amount of resources used as a reduction in its economic cost

below its competitors due to its possession of economies of scale, learning curve, differential low cost to factors of production, technological advantage independent of scale and policy choices, thus allowing it to be ahead of the competition as evidenced in its high sales and market shares. (See comparison of value activities)

By contrast, differentiation strategy has allowed Nokia to offer products that are not only of unique attributes but are valued by its customers to be different from that of the competition. By offering products that are superior to the competition, Nokia is not only able to command higher prices, but also maintain its leadership position within the industry. This is supported by (Buzzell & Gale 1987) that when customers perceive a firm's products to be of superior quality, the firm stands to gain several benefits: (1) stronger customer loyalty. (2) Greater repeat purchases. (3) Lower vulnerability to price wars. (4) The ability to command higher relative prices without affecting share. (5) Lower marketing costs, and (6) higher sales growth

Nokia's high market share in the industry could be equated to its strategic position within the industry through its value creating activities as either possessing the means of realizing cost or providing better value than their competitors. Achieving large shares of the markets within an industry is considered more profitable than smaller market share rivals. Market share can be explained as a firm's sales in relation to total industry sales. The Boston Consulting Group Matrix acknowledges market share as a key indicator of industry growth (Lynch, 2000, p. 175; David, 2001, p. 212) therefore, firms that command the market of an industry are able to profit from their established branding (Buzzell *et al.*, 1975)

Buzzell & Gale (1987) identified market share as one of the business strategy and competitive position variables that are positively related to the success of a firm. They further acknowledged that market share has a more dramatic effect on return on investment (ROI) and that the pretax profit margins on sales for market leaders are about three times those of businesses with smaller market share. (Buzzell, & Gale, 1987:94) hinted that market share is related positively to profitability and clearly stated that "Market Share *in*

*itself doesn't "cause" anything. . . . It reflects two kinds of forces, however, that *do* cause high or low profits*" It is therefore acceptable that increased market share can be equated with success, while decreased market share indicates unfavorable actions by firms and most often equated with failure.

The above arguments give support to the empirical data presented above which indicates Nokia's dominance in sales and market share of the global mobile phone industry is indicative of its competitive advantage among its industry rivals. These, coupled with Porter (1985) claim that a company has competitive advantages over its rivals, when it sustains profits that exceed the average for its industry.

The analysis and discussion as to the sustainability of Nokia's competitive advantage can not be exhaustive and thus, will be open since it is confined to the presented data above. The evidence from the empirical data is of no doubt that Nokia is enjoying a competitive advantage over its rivals. However, this cannot be said without caution as to whether Nokia's advantage is sustainable. To this end, if one could easily get away with the notion that the presented data is indicative of Nokia's sustainable competitive advantage, then factors that might account for its sustenance as presented in the experts opinion on measures taken by Nokia in contrast to its rivals to sustain its competitive advantage, can be attributed to differences in their various capabilities to that of the competition. This was presented at the bottom part of this study's framework.

Nokia's entire system of business operation which is reflective of its special skills, knowledge, experience and quality of relationship with its suppliers, distributors and customers are not the only attributes that are efficiently different from that of its rivals but its whole organization and its culture such as values, beliefs, habits and attitudes of its workforce is positively inclined towards high quality standards, strong organizational learning ability, strong desire to react to challenges and an ability to change, well position it in a way that it is able to hold on to its competitive advantage to the competition. Also of a positive contribution to the sustenance of its competitive advantage among its rivals is its

taken strategic decisions in the past as a result of which customers have a positive image about the company and its products as well as its possession of certain intellectual property rights, trade secrets and contracts relative to the competition, thus making it difficult for its rivals to strip it of its competitive advantage.

5. Recommendations and conclusions

The purpose of the final chapter is to summarize the results of the study, explain those results, offer some recommendations for individual managers and organizations as well as suggest possible research directions.

The first chapter set the ball rolling by initiating a discussion regarding the problem and scope of the study. A discussion of the study's problem area was offered by looking into various literature and developed theories regarding the research problem. From the literature review and theories discussed, a theoretical framework was created as a basis for addressing the two research questions:

- What are the ways firms can achieve sustainable competitive advantage?
- Is it realistic for firms to attain sustainable competitive advantage?

As a central purpose of this study, the possibility of firms attaining and more so sustaining competitive advantage over their industry rivals was to be sought. To address the research questions, Porter's (1985,) value chain model which describes the activities that takes place in a business and relates them to an analysis of the competitive strength of the business was employed. Porter, (1985) broadly grouped the firms activities into primary- those that are directly concerned with creating and delivering a product and secondary- which whilst they are not directly involved in production, may increase effectiveness or efficiency, thus providing a means of better understanding the activities through which a firm develops a competitive advantage and creates shareholder value. Porter's (1980) two basic types of competitive advantage in the forms of cost advantage as a result of which the firm is able to deliver the same benefits as competitors but at a lower cost and differentiation advantage through which the firm is able to differentiate itself from its competitors by providing unique products that are valuable to buyers beyond simply offering a low price. By understanding the firm's value activities as a result of which value can be created in the

form of either a cost leader or differentiator serves as a basis for attaining competitive advantage.

Coyne (1986) proposed that in order for firms to sustain their competitive advantage there must be four clear differences in their capabilities. Business system gaps, which emanates from special know how as a result of which the firm is able to better carry out certain task than its competitors, organizational quality gaps, which in sum is the entire organization and its culture that better sets it apart from competitors, positional gap, which due to past activities have resulted in the organization enjoying a good image among customers as opposed to its competitors and finally, legal gaps, which originate from the firms possession of certain legal entities that the competition can not get access to. The above capability differentials were presented as basis for a firm sustaining its competitive advantage

The qualitative case study method was considered appropriate for this study. However, under the circumstance of limited time and resources, secondary sources of data were solely used to get the empirical evidence for the study, thus, focusing on the profit impact on marketing strategy (PIMS) model, performance measure variables such as sales and market share of the case companies were observed over a ten year period. One key success variable- profit was excluded due to difficulty in getting access to that of all of the case companies for the whole ten year period. In order to operationalize the developed framework for the study, a comparison was done of the various value activities of the three case companies. This was to offer justification to the market performance of the case companies regarding the hard data of sales and market share of the mobile phone industry.

The findings of the study permits one to comfortably draw the conclusion that there are not only possible ways by which firms can attain competitive advantage but can realistically sustain such advantage in the present dynamic business environment. Such was the case that a look into the performance of the major players in the global mobile phone industry revealed that one, (Nokia) due to the running of an optimum value activities as proposed by Porter (1985), the offering of valuable but cost competitive phones (Porter, 1980; Ewing,

2007) and clear distinctions between its capabilities and that of the competition, (Coyne, 1986) has been able to continually out perform its rivals within the industry for ten years. Porter, (1985) claimed that a company has competitive advantage over its rivals, when it sustains profit that exceed the average of its industry. Buzzel & Gale, (1987:94) acknowledged that market share has a more dramatic effect on return on investment (ROI). They concluded that the pretax profit margins on sales for market leaders are about three times those of businesses with smaller market share. The above arguments give support to the findings of this study to conclude that Nokia has competitive advantage over its rivals in the mobile phone industry and it is currently sustaining its position.

5.1. Some concerns with the “sustainable competitive advantage concept”

Contrary to the findings or conclusions of this study are concerns regarding the entire concept of “sustainable competitive advantage” as discussed in the strategic management literature by various authors who leave room for concern regarding any solid or concrete conclusion in the issue of competitive advantage and its sustainability as reported in this and other studies.

The first issue of concern is that the concept of competitive advantage has no common definition in both practice and theory thus making the concept not only ambiguous but difficult to stand on its conceptual premise to draw meaningful and acceptable conclusions. A second issue of concern is the sustainability part of the concept. Due to the lack of a specified time within which one firm could be said to have sustained its competitive advantage, the duration of a firm’s sustainable competitive advantage is “open rather than closed”, thus raising question marks on any such claim since it becomes an issue of “only a matter of time”.

5.2. Managerial implications

The competitive landscape of global businesses has never been so intense as today. This is the outcome of not just improved and incessant technological changes but changing competition rules, markets and customer taste and preferences, thus making firms competitive position neither secured nor guaranteed. The current competitive phenomenon make firms' competitive position threatened, thus imposing a duty upon managers to find means by which their firms can gain competitive advantage over their rivals. As much as there are no certain means to firm success and this study aims not at creating such impressions, the results of the study provide insights that might be helpful to managers in addition to some recommendations. The managerial implication is that the findings suggest that, optimum level value activities in the forms of primary and secondary activities subsequently lead to customer value creation thus manifesting in high sales volume and market share. This subsequently leads to gaining competitive advantage on the part of the firm.

5.2.1. Human resource management

HRM policies are recognized as essential to the building of a competitive advantage since they can reduce employee turn over and increase productivity thereby positively contributing to a firm's competitive advantage. Also of equal importance is the fact that personnel of organizations are the main source of competitive advantage. As found by this study, Nokia's superior HRM strategy contributed to its dominance of the global mobile phone industry. Recognizing the fast pace of growth in its industry and its resultant competition for talented personnel, Nokia adopted a Global Employment Management System to enable it recruit skillful personnel who could serve as tools for improving effectiveness and enhance the possibility of new inventions. Also, by adopting an HR policy of global operating standards, Nokia led the way when it adopted an HR strategy

different from its rivals by using regular job rotation as means to enhance its personnel's capabilities to meet fresh challenges. (Bhatt, 2005; Bhutto, 2005; Adner, 2003.)

More so, it was proved by the findings of this study in the case of Nokia and how its HR policy contributed to its dominant position in the mobile phone industry that, by adopting HR policy that encourages employee recognition and motivation through high level of trust, does not only give a firm an urge over its rivals in attracting the best personnel but developing an internal corporate culture that builds all the firm's competence and capabilities around its highly skilled personnel coupled with the best in the industry compensation and benefits package enables firms to attract and retain the requisite personnel to contribute significantly towards realizing the organizations mission. (Bhutto, 2005.)

The implication here is that ownership of effective HRM policies should be one of management's priorities. By this, employees of the organization should be handled properly, well coached, and highly motivated so that they can efficiently contribute to the development and execution of strategies especially in today's faster-paced, industrial world and these can give the company competitive advantage.

5.2.2. Technological developments

With today's market changing at high-speed, no existing business believes it has a future without a strong focus on technological developments through innovation (R&D). Being able to achieve a front runner status in one's industry by developing cutting edge technologies and making innovation a top priority is a sure way to gaining competitive advantage in today's fast paced and dynamic market. Taking the lead in innovation and new product development makes one's firm occupy a position of first mover status through the introduction of several new products (Bhatt, 2005; Adner, 2003) which has become a necessary means to gaining sustainable competitive advantage in the present market of shortened product life.

The implication here is that, in order for one's firm to occupy a dominant position in its industry, there is the need for managers to create a culture in which innovation can flourish. To do so, there is the need to integrate the organization's R&D into its whole corporate process and ensure interaction among R&D units on a daily basis with all other units including strategic planning, production, sales and marketing. This will lead to the development of unique products at reduced cost and of significant value to the customer thereby enhancing the firm's position among its industry rivals.

5.2.3. Marketing and sales

The customers of today want everything in a very quick way, cheaper, and also to suit their taste and preference, therefore a firm's marketing capability to match its core competencies with customers' desired value from the product or service is not only essential but is also critical to gaining sustainable competitive advantage. One way to attaining such a position is the adoption of a holistic approach to marketing the company's products. By this, customer friendly designs and branding can lead the way to successful marketing. The common approach to coming up with consumer friendly products is through understanding of the consumers needs. This can be achieved by adopting segmentation strategies through which different products can be tailored with the application of appropriate technology to meet the needs of different segments of the market. Through such segmentation strategy a firm is able to differentiate itself in different segments of the market. (Adner, 2003; Bhatt, 2005) Also, an equally important factor that enables a firm to gain sustainable competitive advantage by capturing value in its entire value chain is strong image with its final users. Attaining an image of user friendliness gives the firm an edge over competitors.

The implication here is that, as firms compete among each other to be ahead of the competition there is the need to understand the customers' value needs. A competitive edge is thus gained by those firms that are able to provide superior value to the customer. As

marketing and sales were found in the case companies value activities comparison, to contribute to an optimum level value creation, it becomes critical that managers make it a priority to develop effective and efficient marketing mix that competitors can not match up to so as to be above the competition in that regard.

5.3. Recommendations:

5.3.1. Corporate Culture as a Fundamental Competitive Advantage

The strength of every organization's culture is one of the most fundamental competitive advantages, this is because if the company is able to build and preserve its culture which has been adopted it really have some positive impact on the organization. With the culture commitment, the employee's role to pursue the organization cause and mission is seen as a key to position the company in a very successful manner. In this sense the employees of the company understand its culture and able to work towards it. This does give the company some edge over its competitors in the industry.

5.3.2. Mastering supply chain as a basis for gaining competitive advantage

The speed with which firms respond to the demand of customers can contribute to the firm's success since the availability of products significantly contributes to customer loyalty. In this time of improved consumer taste and preference, shortened product life coupled with the impact of globalized markets and technological development, the competitive landscape of industries have intensified more than ever. As a result of these developments, the success of a firm depends on the ability to holistically and strategically master the planning and control of total material flow from suppliers through end-users in order to be ahead in its industry. Getting a firms product and or services to the right place at the right time at the lowest cost is a major contributor to competitive advantage. The ability

to realize that improving efficiency within one's organization alone is not enough and that coming up with strategies to make the whole firms supply chain competitive is key to getting on top of one's industry. The implication here is that understanding and practicing of optimum supply chain management is an essential prerequisite for staying competitive in the global race and for enhancing high volume sales, market share and profitability.

5.4. Suggestions for further research

There are several possible directions for further research however the discussion below will focus on two main options.

The first option for future research could be a refinement of the current study's constructs. As noted earlier the study solely relied on the PIMS model of analysis for its internal validity and as the exclusive use of the model in economic assessment of the competitive behavior of firms have been criticized by experts for failing to distinguish between results of strategic significance and those that merely reflect a risky process, future research should attempt to improve upon validity of the construct by employing multiple sources of evidence. Another option for future research which is construct related is that the study was based on a single industrial setting a result of which its generalizability could be limited. In order to improve on this, future research should extend across multiple industries

The second option for future research is the adoption of a broader frame of firm competitive factor analysis. The current study's frame relies heavily on Porter's (1985) value chain analysis for customer value creation as a basis for attaining competitive advantage. The value chains strength is focused on the firm's internal activities which has little or no direct link with the firm's external environment, thus overlooking the significance of operational context. As competitive outcomes are determined by some forces beyond the firm's internal boundaries, it is appropriate that future research adopts a

frame that includes both internal and external factors in order to gain a broader picture of factors that determine firm competitiveness.

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Appendixes

Appendix 1. Sales and market shares of Nokia, Motorola and Samsung for 2000 and 1999

Worldwide Mobile Phone Sales to End-User for 2000 and 1999 (Thousands of Units)

Company	2000 Sales	2000 Market Share (%)	1999 Sales	1999 Market Share (%)
Nokia	126,369	30.6	76,335	26.9
Motorola	60,094	14.6	47,818	16.9
Ericsson	41,467	10.0	29,785	10.5
Siemens	26,989	6.5	12,982	4.6
Panasonic	21,511	5.2	15,581	5.5
Samsung	20,639	5.0	17,687	6.2
Others	115,662	28.0	83,393	29.4
Total	412,731	100.0	283,581	100.0

Source: Gartner Dataquest (February 2001)

Appendix 2. Sales and market shares of Nokia, Motorola and Samsung for 2002 and 2001

Worldwide Mobile Phone Sales to End-User for 2002 and 2001 (Thousands of Units)

Company	2002 Sales	2002 Market Share (%)	2001 Sales	2001 Market Share (%)
Nokia	151,421.8	35.8	139,672.2	35.0
Motorola	64,640.1	15.3	59,092.2	14.8
Samsung	41,684.4	9.8	28,233.5	7.1
Siemens	34,618.0	8.2	29,752.8	7.4
SonyEricsson	23,112.9	5.5	26,955.9	6.7
Others	107,941.4	25.5	115,876.6	29.0
Total	423,418.5	100.0	399,583.2	100.0

Source: Gartner Dataquest (March 2003)

Appendix 3. Sales and market shares of Nokia, Motorola and Samsung for 2004 and 2003**Worldwide Mobile Phone Sales to End-User for 2004 and 2003 (Thousands of Units)**

Company	2004 Sales	2004 Market Share (%)	2003 Sales	2003 Market Share (%)
Nokia	207,231.3	30.7	180,672.4	34.8
Motorola	104,124.2	15.4	75,177.1	14.5
Samsung	85,238.4	12.6	54,475.1	10.5
Siemens	48,455.8	7.2	43,754.3	8.4
LG	42,276.8	6.3	26,213.7	5.0
Sony Ericsson	42,031.7	6.2	26,686.3	5.1
Others	144,643.7	21.6	113,009.6	21.7
Total	674,001.9	100.0	519,988.5	100.0

Source: Gartner Dataquest (March 2005)

Appendix 4. Sales and market shares of Nokia, Motorola and Samsung for 2006 and 2005**Worldwide Mobile Phone Sales to End-User for 2006 and 2005 (Thousands of Units)**

Company	2006 Sales	2006 Market Share (%)	2005 Sales	2005 Market Share (%)
Nokia	344,915.9	34.8	265,614.8	32.5
Motorola	209,250.9	21.1	144,920.4	17.7
Samsung	116,480.1	11.8	103,753.6	12.7
Sony Ericsson	73,641.6	7.4	51,773.8	6.3
LG	61,986.0	6.3	54,924.6	6.7
Siemens	-	-	28,590.6	3.5
Others	184,588.0	18.6	166,985.1	20.6
Total	990,862.5	100.0	816,562.9	100.0

Source: Gartner Dataquest (March 2007)

Appendix 5. Sales and market shares of Nokia, Motorola and Samsung for 2007**Worldwide Mobile Phone Sales to End-User for 2007 only (Thousands of Units)**

Company	2007 Sales	2007 Market Share (%)
Nokia	435,453.1	37.8
Motorola	164,307.0	14.3
Samsung	154,540.7	13.4
Sony	101,358.4	8.8
Ericsson		
LG	78,576.3	6.8
Others	218,604.3	18.9
Total	1,152,839.8	100.0

Source: Gartner Dataquest (February 2008)

Table seven above represents worldwide mobile phone sales and market share of the major industry players for the sales year of 2007.

Appendix 6. Sales and market shares of Nokia, Motorola and Samsung for 2Q 2008 and 1Q 2008**Worldwide Mobile Phone Sales to End-User for 2Q2008 and 1Q2008 (Thousands of Units)**

Company	2Q 2008 Sales	2Q 2008 Market Share (%)	1Q 2008 Sales	1Q 2008 Market Share (%)
Nokia	122,000	40	115,191.8	39.1
Samsung	42,700	14	42,396.5	14.4
Motorola	42,700	14	29,884.7	10.2
LG	21,350	7	23,645.8	8.0
Sony	27,450	9	22,061.0	7.5
Ericsson				
Others	48,800	16	61,103.2	20.8
Total	305,000	100.0	294,283.0	100.0

1Q2008 Source: Gartner Dataquest (May 2008)

2Q2008 Source: Euro News (17.07.08)

Table eight above shows worldwide mobile phone sales and market share of the various top industry players for the first and second quarter of 2008.