

**The Determination of Core Competencies of Sappi Forest Product
Division as a basis of Establishing Future Development**

By

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DECLARATION

This work has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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ABSTRACT

The purpose of this study was to determine the core competencies of Sappi Forest Product division as a basis for establishing future developments. The literature focused on the resource-based view where the analysis of the firm's internal resources and capabilities can be used as the starting point of strategy. This was done through the identification of the core competencies by management within the organization via a survey questionnaire. The quantitative approach indicated that quality management was Sappi Forest Product's core competency while human resource was its weakest resource.

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Chapter 1: Introduction

1.1 Introduction

The development and use of core competencies to create competitive advantage and to strategically align the business is becoming more widespread in various industries. Core competencies are created by bundling employee skills, organizational assets, processes, and technologies enabling a company to provide a particular benefit to customers in a manner superior to their competitors. “Recently there has been a resurgence of interest in the role of a firm’s resources as the foundation for firm strategy” (Grant, 1991:115).

“Core competencies are the well spring of future product development. They are the “roots” of competitiveness, and individual products and services are the “fruits”. Every top management team is competing not only to protect the firm’s position within existing markets, but to position the firm to succeed in new markets. Hence any top management team that fails to take responsibility for building and nurturing core competencies is inadvertently mortgaging the company’s future”(Prahalad and Hamel, 1994:202).

For Sappi Forest Products, we need to determine what this core competence is - or competencies are - to ensure that the well performed internal activity or activities become central to the company’s competitiveness and profitability. It should represent Sappi Forest Products’ competitively valuable capability, which rivals do not have, while presenting an attractive potential for being a cornerstone of its strategy.

This chapter provides an overview of the study. It highlights the background to the study, giving the problem statement, research objectives and methodology with the delimitations of this study.

1.2 Background to Study

Within the last decade, Sappi has shifted its focus from ‘perfecting packaging paper’ to Sappi being ‘the word for fine paper’. Sappi Forest Product division was a major part of the ‘perfecting packaging paper’ strategy. This has all changed as Sappi expanded. The Forest Product division now needs to assist Sappi if it still wants to be part of the ‘global Sappi’, i.e. leader in the coated woodfree paper market.

The Sappi Forest Product division needs to road-map its future. Whichever direction the Forest Product division goes, it needs to identify what its core competencies are, provide value addition, leverage and a competitive advantage that will complement Sappi Ltd strategy. Basically, core competencies are used to answer the fundamental questions of strategy: where and how to compete.

Once it has identified its core competencies, Sappi Forest Product division needs to exploit them for superior financial performance that will be the envy of its competitors. The increasing potential for building substantial market power will provide a strategic edge and thus a source of longer term profits for Sappi Forest Products division. This study on core competencies is important as an aid to determine the future of the Forest Product division and also to provide direction and focus to the individuals who formulate strategic planning for this division.

1.3 Hypothesis

1. The determination of the core competencies of Sappi Forest Product Division.

As Sappi Forest Product division needed to road-map its future, it was important to determine the core competencies of Sappi Forest Product division. These competencies will provide value addition, leverage and a competitive advantage that will compliment Sappi Ltd strategy. Core competencies would be used to answer the fundamental questions of strategy: where and how to compete.

1.4 Research Objectives

The purpose of this study is to determine the core competencies of Sappi Forest Product division. Sappi Forest Product division will determine whether it complements the Sappi global strategy or will have to stand alone as a separate entity. To examine this issue, two research objectives were formulated. The first issue concerns the identification by management of core competencies within Sappi Forest Product division. The second issue relates to identifying the core competencies in terms of strategic models.

1.5 Methodology

A quantitative approach was used, employing triangulation in the research design. Primary data was compiled via a questionnaire to determine the perception of management and highlight the area where Sappi Forest Product's core competency lie, i.e. resources or capabilities. Secondary data sources were perused to verify the patterns and themes that were similar to those in the survey questionnaire.

The characteristics that were investigated include financial and accounting resources, production, marketing, technology, human resources, quality management, information systems and organisational management. Management opinions from the four mills that comprise the division were included in the survey. An overall perception of Sappi's core competencies was determined, as well as the perceptions of individual mills and departments. Secondary analysis was done with the aid of the following sources: financial reports; a copy of a training manual; a copy of a newsletter; articles from media packets; any additional data that the division thought addressed their core competency.

1.6 Delimitations of study

This study is limited only to Sappi Forest Product division. Sappi Fine Paper division was not considered in this study. Usutu mill, which is part of Sappi Forest Product, refused to participate in the survey. Insufficient literature was found after 1998, therefore, most of the literature is referenced prior to 1999.

1.7 Assumptions

There was no distinction made on age and experience of the respondents during the questionnaire survey. Management should have insight of the characteristics of core competencies of Sappi Forest Products and an understanding of the business itself.

1.8 Definitions

The Sappi Forest Product division and the Sappi Fine Paper division will be regarded as business units and Sappi Limited will be regarded as corporate management.

One of the difficulties of the literature on skills-based management is the range of terms writers in this field use to describe their ideas. Similar terms – strengths, skills, competencies, capabilities, organisational knowledge, and intangible assets – are used interchangeably by different authors. Kenneth Andrews (Kenneth, 1980:20) uses the term ‘distinctive competence’ to define not just what an organisation does, but what it does particularly well. Prahalad and Hamel (1990:79) introduced the phrase ‘core competence’ and defined it as an integrated bundle of skills and technologies; ‘a messy accumulation of learning’ which contributes to a business’s competitive success. Some authors, wishing to place particular emphasis on ‘collective learning in the corporation’ have chosen to use the phrase ‘capability’ or ‘core capability’ as better expressing the dynamic learning processes involved. What these terms have in common is that they define those unique capabilities, knowledge and behavioural routines which are a potential source of an organisation’s advantage.

Internal attributes will be referred to as resources and capabilities (Barney, 1995:115). A firm’s resources and capabilities include all of the financial, physical, human and organisational assets used by a firm to develop, manufacture and deliver products or services to its customers (Barney, 1995:115).

1.9 Outline of the Study

Chapter 1 gives a brief overview of the study, including the background to the study, hypothesis, research objectives, methodology, delimitations of the study, assumptions and definitions used in the study. Chapter 2 reviews the research on how organizations gain and sustain competitive advantage from both an external - Industrial Organization Theory (I/O)-, and internal view - Resource Based View

(RBV)-, largely within the manufacturing field. The external view focuses on the environment and competitive forces. The resource based view adopts a different perspective. This view shifts the emphasis from the competitive environment of firms to the resources that firms have developed to compete in that environment.

To qualify as the basis for sustainable competitive advantage, the resource must possess certain characteristics. Sappi Forest Products must ensure that the resource is hard to copy, have staying power and is competitively superior. In determining these competencies, these resources must add value, provide leverage and be unique. These resources need to satisfy the long term, basic customer preference, representing a significant portion of the total delivered value of the products. It must also involve excessive costs or risks for the customer to try to perform these activities (competencies) themselves or pay someone else to do it. These competencies must give Sappi Forest Product access to a wide variety of markets. The competencies should not be easily duplicated by competitors.

Chapter 3 describes the methodology used to conduct the research. As suggested by Lewis and Gregory (1996:100), the method employed of identifying core competencies is to get Sappi's top management to think through the business's core competencies and asked a series of questions about the activities of the business. Each of the main activities would then be rated using the criteria that reflect the kinds of tests suggested by Prahalad and Hamel (1990:87). Issues covered, for instance, would be; how well the activity is done, its contribution to customer satisfaction, and the possibility of imitation by rival firms.

Chapter 4 gives the results from the survey carried out on the Sappi Forest Products management. The results of the survey are displayed graphically to give an overall view of the competencies and resources of the Sappi Forest Product division, its mills and departments. Trends and themes on the various constructs were highlighted reviewing the secondary data.

Chapter 5 attempts to give an explanation of the trends and phenomena observed in the results. The discussion is based on collation of the secondary data and references to the literature reviewed. Via the resource audit and core competency identification an in-depth discussion is carried out on the various aspects of the questionnaire.

Chapter 6 presents the conclusions on the overall perception of the Sappi Forest Products, its mills and departments. It also includes recommendations that of the study that needs to be pursued and aspects for future research in the field.

1.10 Conclusion

In view of this, the research conducted attempted to extend the field of knowledge by focusing on core competencies affecting competitive advantage which would result in improved financial performance for Sappi Forest Products. This was done by examining influences such as the allocation of resources and management's role in core competence development. This study will identify core competencies and resource allocation for Sappi Forest Products and determine similarities between management's perception and the identification of core competencies in terms strategic models. The next chapter reviews the literature on core competencies and the associated strategic models with emphasis on the resource based view.

Chapter 2: Literature Review

2.1 Introduction

This chapter focuses on a few areas of the literature which covers the development and use of core competencies. The areas that will be covered include the various theories on the Resource based view (RBV), strategic models on core competencies, empirical research incorporating the RBV, and core competencies as the key construct of analysis. Under the RBV, the theories on competitive advantage will be investigated. These include skills of the organisation, competitive advantage in the context of strategy, access to markets, organisational capabilities, culture, management and their control systems. The strategic models that will be investigated include Grant's model (1991:115), Lado et al's model (1992:79), Schulz's model (1993:3), Tampoe's model (1994:68), Klein and Hiscock's model (1994:185), Barney's model (1997:145), Prahalad and Hamel's model (1990:87) and Lewis and Gregory's model (1996:100). The identification, characteristic and maintenance of core competencies will be discussed with their benefits.

2.2 Theories on Resource Based View (RBV)

2.2.1 Resources and Skills

According to Peters (1994:120) the best performance is due to the distinctive skills of the organisation. He proposed there are only three distinctive "skill packages" that are sources of sustainable competitive advantage: a focus on customer satisfaction, continuous innovation, and the ability of the organisation to constantly improve skills. He discusses the 7-S model that consists of seven variables; strategy, structure, systems, style, shared values, staff and skills. According to Peters (1994:121) "the driving variable in the model, which creates the pre-conditions for effective

strategizing, is above all, skills". He further states that, skills are the independent variable affecting strategy.

According to Naugle and Davies (1987:38), adding businesses to the portfolio should be evaluated in terms of current strengths, or as they refer to it; functional strengths. When resources or capabilities are not available, they should be developed. They refer to functional talents as Strategic Skills Pools (SSP). These SSP are not always easy to identify. They are not all skills in general but those that assist a business to win and maintain a competitive advantage. An example is Citicorp, which identified the opportunities in computers in banking, then set out to acquire and develop those skills. A method of assessing the skills is to list the success factors of the company and identify the skills behind each of those successes. A plan for resource allocation for SSP development should then be developed and the amount of capital used for development and the individuals associated with those skills should be maintained and tracked (Naugle and Davies, 1987:40).

Barney (1991:101) adopts Daft definition of the firm's resources to "include all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc. controlled by the firm that enables the firm to conceive of and implement strategies that improve its efficiency and effectiveness". The resources may be physical, human and organisational. Barney posits that competitive advantage is a firm's ability to create a value not currently being implemented by any other competitor and a sustainable competitive advantage is when the firms are unable to duplicate the benefits of other firms' strategies. The RBV model of the firm makes two assumptions in evaluating the source of competitive advantage:

1. that firms may be heterogeneous in their control of strategic resources
2. these resources may not be mobile across firms and, therefore,
heterogeneity can be sustained (Barney, 1991:102).

To create a sustainable competitive advantage, these resources must be valuable, rare and imperfectly inimitable (Barney, 1991:103). Valuable refers to the firm's ability to produce or do things that lead to financial value for the firm. Rare refers to the firm having attributes and characteristics that are not common to all firms; and, inimitable suggests that firms without these attributes and characteristics cannot successfully adopt the same practices to develop that culture. For the advantage to be sustainable, proper management and controls must be in place or else, the financial returns will not accrue.

“When a series of activities are organised into a system that works better than the sum of its parts, this business process can also create competitive advantage...” (Synder and Ebeling, 1992:26). They suggest that a core competency should: contribute significantly to the ultimate value of the end product or service; represent a unique capability that produces enduring competitive advantage; have the potential to support multiple end products or services (Synder and Ebeling, 1992:30).

Grant (1991:118) examined the distinction between resources and capabilities. “Resources are inputs into the production process - they are the basic units of analysis. The individual resources of the firm include items of capital equipment, skills of individual employees, patents, brand names, finance, and so on. But, on their own, few resources are productive. Productive activity requires the co-operation of resources to perform some task or activity. While resources are the source of a firm's

capabilities, while capabilities are the main source of its competitive advantage” (Grant, 1991:118). He related that research had been looking at the business level of strategy to see the relationship between resources, competition and profitability.

2.2.2 Competitive Advantage and Strategy

Barney and Zajac (1994:5) discuss how competitive advantage in the context of strategy should be studied. They posit that you cannot separate the study of the strategic consequences of the behavioural and social phenomenon from the study of the content of strategy. The authors suggest the quality of strategy implementation, the content of the firm’s strategies, and the competitive context within which the firm operates should be evaluated all together (Barney and Zajac, 1994:6).

They suggest that it is necessary to examine how competition leads to the development of competencies; how competencies affect the competitive field; how bundles of the firm’s competencies are related and linked to each other; how to measure the firm’s resources and capabilities; how to empirically test the impact of these competencies on a firm’s strategic options. They contend that the RBV is not the final level of the development of a theory of the firm. Questions that need to be addressed are:

1. How does competition affect the development and evolution of a firm’s competencies?
2. Once defined, how are sets of competencies in a firm related to each other?
3. What are the competitive implications of a firm’s competencies?

(Barney and Zajac, 1994:7)

2.2.3 Access to Markets

Prahalad and Hamel (1990:84) propose that core competencies should provide potential access to a wide variety of markets; make a significant contribution to the perceived customer benefits of the end product; and be difficult for competitors to imitate. Core competencies are built and enhanced over time. A company that does not invest in them will find it hard to enter emerging markets. They will have missed the learning curve period. Global leadership battles are waged in three areas: core competence, core products, and end products (Prahalad and Hamel, 1990:87). They suggest that time spent more on the budget allocation process and less on competing for the best people and their development makes the company lose out. They suggest building “a road map of the future that identifies which core competencies to build and their constituent technologies” (Prahalad and Hamel, 1990:89).

2.2.4 Organisational Capabilities

Collis (1994:145) proposes that competitive advantage comes from organisational capabilities which he defines as “the socially complex routines that determine the efficiency with which firms physically transform inputs into outputs” while constantly improving. He proposes that organisational capabilities can be a competitive advantage but that they will never be an ultimate source of sustainable competitive advantage. A skill can be superseded because there may be another way of accomplishing what you do. Another firm may find a better and more effective means to the same or an improved end. A skill can also become obsolete by a change in customers needs. He refers to this as infinite regress (Collis, 1994:147).

Ulrich (1987:170) stated that competitive advantage was traditionally believed to come from economic, strategic, or technological means. He further contends that to sustain competitive advantage, a firm's ability to generate unique valued products or services that cannot be easily copied, can no longer be achieved solely by the traditional means. While companies must still try to produce at low costs, maintain efficiency and innovativeness, they must also now develop organisational capabilities. Ulrich defined organisational capability as the "capacity of the organisation itself to change and adapt to financial, strategic, and technological transformations" (Ulrich, 1987:171). As the pace of change increases and the economy changes, organisational capabilities are becoming very important to companies. It is the task of human resource professionals to develop organisational capabilities (Ulrich, 1987:172).

Development in organisational capabilities will help the development of the three other traditional means of gaining competitive advantage. "Organisational capability is more than just people. People represent a critical aspect of organisational capability, but it is the organisation and people management systems that focus people's attention and shape their behaviour to create organisational capability. To be an organisational practice which builds organisational capability, the practice must meet the following criteria: Affect the entire organisation...be institutionalised within the organisation... [and]...be recognised and have a visible impact on attitude and behaviour of employees in the organisation" (Ulrich 1987:173). According to Ulrich et al (1991:90), these capabilities create a firm's culture, focus attention on motivations and behaviour, reinforce common goals and values, and become levers to affect change.

2.2.5 Organisational Culture

Barney (1991:100) writes that competitive advantage can come from certain skills or a combination of skills functioning within a culture as opposed to strength in a functional area such as finance. Barney contended that there are three attributes of a firm's culture that produce competitive advantage. It must be valuable, rare, and imperfectly inimitable (Barney, 1991:101). Organisational culture is also not the source of competitive advantage for all firms. Barney suggests that if a firm does not have a rare and inimitable culture, a firm cannot engage in activities to change their culture to one that is truly rare and inimitable. Firms may develop new ways that replace or change the way things are done and thus change the competitive advantage map. He defines culture "as a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business" (Barney, 1986:657).

He further states that even if a firm managed to imitate the culture of a successful firm, this would at best result in only normal economic returns. Competitive advantage may accrue if only a few or one firm can change their culture (Barney, 1986:667). Firms that have a culture which assists in maintaining a competitive advantage should analyse what part of their culture provides that advantage and develop it.

2.2.6 Management

Doz and Prahalad (1988:355) contend that the quality of management affected competitive advantage. Cost and technology are important but less discriminating. If two competitors have similar configurations it will be the quality of internal

management that produces the competitive advantage. Multi-national companies need management that can conceive and implement complex and differentiated strategies. They added that the variables that used to provide competitive advantage; cost advantages, imperfect market knowledge, financial market imperfections (i.e. cost of capital or access to capital), and resource configurations; provide less and less of a sustainable competitive advantage (Doz and Prahalad, 1988:356).

In the current environment, competitive advantage derives from how quickly and effectively the company can muster and apply its resources (Doz and Prahalad, 1988:356). This requires an ability to re-deploy and change co-ordination patterns in order to respond to new competitive needs and strategies. “This requires an underlying management structure which can facilitate effective strategy development and implementation” (Doz and Prahalad, 1988:355).

The variables necessary to accomplish this are:

- ∅ managers must possess superior information processing capability;
- ∅ a differentiated management system able to respond to a variety of businesses;
- ∅ the ability to manage interdependencies such as technology and product flow;
- ∅ the ability to manage strategic change and innovation;
- ∅ a quality executive process viewed as fair and open with rewards that are visible;
- and
- ∅ the establishment of pivot points.

(Doz and Prahalad, 1988:357)

Pivot points provide stability to managers by giving them some commonality within the organisation so the constant and rapid changes to suit the environment and

competition can be tolerated. These pivot points establish basic principles, or emotional and intellectual roots for management to focus upon.

2.2.7 Management Control Systems

Simmons (1990:128) examined management control systems and suggested that these systems are important in implementing and formulating strategy. Interactive systems which can guide the emergence of new strategies and are able to adjust organisational activity are important. He reviewed the previous studies and suggested that there is a link between the way firms achieve competitive advantage and their management control systems (Simmons, 1990:128). He studied two competing companies to see how they organized their management control systems at top management levels. While the companies had similar systems, they were used differently. He integrated four concepts to develop his model; limited attention of managers, strategic uncertainties, interactive management control, and organisational learning.

He discussed the delegation of many areas of control due to the daily demands on the attention of top managers. Firms in the same industry will consider different uncertainties as important based on the strategy they are implementing. The system is interactive if managers decide that it is important to gather information about uncertainties. An interactive system is used for signalling, surveillance, and decision ratification. With organisational learning, companies gain knowledge for use in improving the fit between the organisation and its environment (Simmons, 1990:130). In this way emergent strategies are managed. The system has its attention directed to threats and opportunities.

2.3 Strategic Models on Core Competencies

2.3.1 Grant's Model

Grant (1991:115) developed a five stage framework for a resource based approach to strategy formulation. The first step is to identify your resources. Then identify the capabilities and each resource dependent on that capability. Then appraise the rent generating capability of each capability and its necessary resources and then, finally, select a strategy which best exploits these capabilities relative to the environment.

Grant (1991:120) proposed that to identify the firm's capabilities and resources, managers should use a standard classification system such as accounting, marketing, etc. He explained that maintaining objectivity in identifying capabilities was difficult. Capabilities are organisational routines, a complex interaction of people and resource. The determinants of whether the organisation's resources and capabilities will be sustainable are affected by their durability (depreciation or obsolescence), transparency (other's ability to imitate), transferability, and replicability (Grant, 1991:121). Transferability can be affected by geographical immobility, imperfect information, firm-specific resources, and the immobility of characteristics (complex routine may be harder to imitate). Returns are based on two factors, the sustainability of the resources and capabilities, and the ability to appropriate rents earned.

2.3.2 Lado et al's Model

Lado, Boyd and Wright (1992: 79) proposed a model, which addressed the firm's strategic behaviour and incorporates four components; managerial competencies and strategic focus, resource based competencies, transformation based competencies, and output based distinctive competencies. They rejected the I/O model of the firm as

failing to look at “idiosyncratic” competencies which created a sustainable competitive advantage. They proposed that competencies can be developed through the decisions and actions of leaders so that fit of the firm / environment is more than luck (Lado et al, 1992:80).

Their view was different from the deterministic models of I/O that view competitive advantage as being affected more by the industry’s structural characteristics. They saw strategic selection; a “pattern of strategic decisions and actions that determines organizational survival and renewal” (Lado et al, 1992:80); as part of the ability of firms to create competitive advantage. The organisation has the ability to create opportunities internal and external to the firm.

They proposed in their model that managerial competencies were concerned with the leader’s ability to create strategic vision (Lado et al, 1992:80). Transformation based competencies comprise organisational culture and innovativeness. Resource based competencies are any tangible or non-tangible human and non-human assets that the leadership has or can acquire. Outputs are products of the firm whether visible or invisible such as reputation (Lado et al, 1992:83).

2.3.3 Schulz’s Model

Schulz (1993:3) examined the internal resources of organisations to see their role and effect in creating a value for the organisation. He examined:

1. “the role of general management in making choices that guide which resources, particularly which skill-based resources a firm will develop and which markets it will use those resources to serve;
2. the processes over time by which leaders and managers transform their resources into activities that create value for customers;
3. and identifies the important characteristics and relationships of exemplary resource and skill-based management processes”.

According to Schulz (1993:4), organisational resources and skill development are a relatively unexplored area of the fit equation between strategy and the environment. He examined four current models of the strategy process; traditional, competition-based, structural resource-based, and process resource. He discussed the strengths and weaknesses of each model and developed his own model.

The traditional model proposed that performance was affected by the manager’s abilities to match internal strengths and weaknesses with the environment. It focused on the process of strategy. It did not account well for emergent issues, learning, and organisational inertia and change. The competition based model related performance as a function of the firm’s scope and positioning within an industry. The weakness of this model was that it assumed all firms have the same resource base, it did not provide a means for assessing any internal sources of competitive advantage, and it did not take into account organisational learning and systems development (Schulz, 1993:4).

The resource based view focused on resources that built a competitive advantage through the generation of rents. The firm is the owner of these valuable resources. The weakness of this model was that it did not investigate how resources were converted to services, or how the resources fitted into the larger strategic management process. The process based model focused on the role of the firm as creator of the resources. It did not account for the external and environmental forces in the strategic fit equation; identification and classification of resources as they were transformed in the value added process (Schulz, 1993:5).

The model Schulz developed was a skill-based process model that examined the relationship between the entrepreneurial processes, managerial processes and leadership processes that helped a firm establish a sustainable competitive advantage. It encompassed both structural and process attributes. His model addressed the weaknesses of some of the other models but did not eliminate them. The objectives of his model were to help understand:

1. “how general managers conceptualise and identify the skills their firms have and need;
2. how they invest in and build relevant skills, and;
3. how they convert these skills into strategic capability and deploy them in an attempt to achieve sustainable competitive advantages.” (Schulz, 1993:31)

2.3.4 Tampoe’s Model

Tampoe (1994:68) discussed the theories of core competencies that created an advantage. He said that to qualify as ‘core’, a competency must be essential to

corporate survival, invisible to competitors, difficult to imitate, unique to the corporation, a mix of skills, resources and processes, sustainable over time, greater than the competence of an individual, essential to the development of the core products, essential to the strategic vision and decision of the organisation, marketable and commercially valuable, and few in number. He proposed that core competencies were “the technical sub-system of an organization and, therefore, embedded within its’ production and management process”.

He described a technique for identifying core competencies. First, select the products or services that contribute the most to the organisation’s strategy, revenues and profit. Next, the components such as technologies, skills, processes, strategic assets used to create them must be identified. These are the competencies that can then be nurtured and analysed for use in new markets and products, or for alliances or divestment. His model “suggests that the ability of an organisation to sustain profitable growth is derived from converting its vision into reality by combining its shared goals, its organizational motivation, and its core competencies to generate core and end products and services” (Tampoe, 1994:72).

2.3.5 Klein and Hiscock’s Model

Klein and Hiscock (1994:185) outlined various techniques for use in competence analysis and strategy formulation. One technique was skill mapping which assisted an organisation in identifying key skills. A second technique was skill cluster analysis which allows an organisation see how the skills were clustered “and therefore [suggests] the constellation of skills which would constitute core competencies”

(Klein and Hiscocks, 1994:185). They considered a competence to be an aggregated asset, and a skill to be a sub part of the competence.

The first step in skill mapping was to identify skills. This was done by examining the organisational structure, by conducting interviews, identifying those easily evident from products or services, and identifying those evident to customers or market watchers. The second step was to benchmark against competitors. The final step was to determine which skills the organisation considered most important. All skills were ranked and the highest ranked skills were chosen. In skill cluster analysis, an opportunity matrix was used to indicate which products required which skills. Skills that were associated with each other in a number of products were the core competencies (Klein and Hiscocks, 1994:187).

2.3.6 Barney's Model

Barney (1997:145) suggested using a VRIO (Value, Rareness, Imitability, and Organization) framework. Four questions that must be answered are:

1. "Are the resources and capabilities valuable, enabling the firm to respond to environmental threats and opportunities?
2. Which other firms already possess valuable resources and capabilities?
3. Is there a cost to other firms obtaining those resources and capabilities?
4. Is the firm organized to exploit the full competitive potential of its resources and capabilities?"

2.3.7 Prahalad and Hamel's Model

The concept of core competencies was popularised by C.K Prahalad and G. Hamel in 1990. It is the organisation's major value-creating skills and capabilities that are shared across multiple product lines or multiple businesses (Hamel and Prahalad, 1990:82). Hamel and Prahalad argued that any firm is likely to have about five to six core competencies at most (1990:85). These core competencies can also be based on complex fusing together of production skills and technology (Hamel and Prahalad, 1990:85). For example, Sony has used its expertise in designing, manufacturing and selling miniaturised electronic technology to exploit numerous market opportunities in portable tape players, portable disc players, portable television and small cameras (Barney, 1995:117).

Hamel and Prahalad (1990:87) proposed three questions to establish whether a competence is, in fact, core. These are as follows:

- Ø Could the firm gain access to several different markets by using the competence?
- Ø Does the competence contribute significantly to the perceived customer benefits of the end product or service?
- Ø How difficult is it for other companies to acquire the competence?

Hamel and Prahalad (1990:88) further suggest that skills and technologies are the basic elements of a core competence. They indicate that core competencies are embedded in core products that are then used in a range of different end products. Perhaps firms that can organise and nurture linkages between skills, technologies, core products and end products are better at coping with dynamic competitive situations that demand high rates of innovation (Joyce and Woods, 2001:250).

2.3.8 Lewis and Gregory's Model

Lewis and Gregory (1996:100) suggested a method of identifying core competencies that could be used by top management to think through the business's core competencies. They suggested that top managers be asked a series of questions about the activities of the business. The managers are encouraged to map the interdependencies and linkages between the main activities. Each of the main activities must be rated using the criteria that reflect the kinds of tests suggested by Prahalad and Hamel as suggested above. Issues covered, for instance, would be; how well the activity is done, its contribution to customer satisfaction, and the possibility of imitation by rival firms. Lewis and Gregory (1996:110) also suggest that there is a need to identify the requirements of the top-rated activities in terms of equipment, machines, software, people skills, technology skills and management.

2.4 Empirical Research Incorporating the RBV

Snow and Hrebiniak (1980:318) examined the relationship between strategy, distinctive competency and performance based upon manager's perceptions. They desired to see if "top managers in organizations pursuing different strategies would show different patterns in their perceptions of distinctive competencies". They chose the four strategies. They decided to use a broad approach in classifying distinctive competencies in ten categories; financial management, production, engineering, general management, marketing/selling, market research, product research and development, distribution, legal affairs, and personnel.

They employed a questionnaire to measure the ten distinctive competencies and organisational strategy. Top managers identified their strategy types from descriptions

and the competencies were scored as a weakness, strength or OK. They found that managers had a perception that defenders and reactors outnumbered analysers and prospectors.

Snow and Hrebiniak (1980:330) examined the distinctive competency associated with each strategy. They found none of the strategies could be distinguished on any one distinctive competency, except for product research and development. The distinctive competencies were analysed in combination using multivariate analysis of variance to see if there were any patterns. They examined and ranked managers for perceived competencies for each strategy. They used simple correlation analysis. They established support for their hypothesis on defenders and reactors, and partial support for the hypothesis on prospectors. The analyser hypothesis could not be supported. A two way ANOVA between strategy, industry, and performance established that they were related to organisational performance. The reactor strategy was shown to be associated with the poorest performance except in the air transportation industry.

Hitt and Ireland (1986:410) completed a study of 185 industrial firms in the Fortune 1000 to examine the relationship between corporate level distinctive competencies and performance across firms using different diversification strategies and having different corporate structures. The corporate level distinctive competencies and performance relationships were found to vary by type of diversification strategy but not by type of corporate structure.

They identified from previous research 55 total distinctive competencies which they categorized under the main business functions; marketing, general administration,

engineering, production engineering, research and development, finance, personnel, or public and governmental relations. Executives were asked to rate the importance of the functions on a seven point Likert scale. Market returns were used to assess performance. The results suggested that “corporate level distinctive competencies related to performance varies by the type of diversification strategy employed by the firm... [but] apparently do not vary with type of divisional structure used by the firm” (Hitt and Ireland, 1986:412).

Hall (1992:136) proposed that intangible resources can affect sustainable competitive advantage, and that analysis of these resources should be a major part of the strategic management process. He classified intangible assets as those that you “have” such as patents, which were capabilities based on assets or those that were concerned with “doing” such as functional skills and cultural capabilities, which are capabilities based on competencies. He proposed that by comparing the organisation’s balance sheet valuation with its stock evaluation, you will get an indication of the value of intangible resources.

He identified and categorised intangible resources which he claimed act as ‘feedstock’ to Coyne’s capability differentials. He surveyed CEOs in the United Kingdom as to what effect reputation had on their success. They were asked to rate the contribution of 12 resources: reputation of products; know-how of employees; know-how of suppliers; know-how of distributors; networks; data bases; public knowledge; trade secrets; contracts; intellectual property; specialist physical resources; and organisational culture.

Reputation, product reputation, and employee know-how were rated as the most important contributors to company success. There was little difference between industries. They were also asked to estimate how long it would take to recreate those intangible resources if they had to start over. The resources that were rated as the most important were also rated as having the longest replacement time.

Hall tested his framework in six case studies. He examined the role of each of these capabilities and also the role of the intangible resources within these capabilities. The assets most quoted as contributing to competitive advantage were; quality, availability, image and price. Regulatory capabilities ranked as the least important contributor to competitive advantage by all executives. He suggested that sustainability of competitive advantage was related to sustainability of key product attributes and the durability of the superiority of these resources.

Powell (1995:37) examined TQM's (total quality management) ability to sustain competitive advantage and concluded that quality, training, process improvement and benchmarking, the elements of TQM, do not offer a competitive advantage. The features of open culture and employee empowerment, and executive commitment produced competitive advantage. He referred to these features as the tacit resources. Powell proposed that TQM might not be inimitable in many firms because it required a complete restructuring of culture. His results showed that firms that have had TQM longer do not have significantly higher performance, so those that implement it late in the game are not lost.

His research demonstrated that it is the ability to implement TQM well that made the difference and arrived at a hypothesis that it is the presence of a skill or resources that aids in good implementation of TQM (Powell, 1995:37). He researched the relationship between TQM and performance and found a correlation. He compared 12 variables associated with TQM to performance and found that executive commitment, open organisation, and employee empowerment were the only variables to produce significant partial correlations with the performance variables (Powell, 1995:38). The results were consistent with the resource based view of the firm.

This suggested that TQM provides some firms a means to understand and acquire the resources it needs for a competitive advantage. He analysed successful firms that did not have “TQM” and found that many of them, while not espousing TQM, had on their own implemented many of the TQM standards. He responded that a limitation of his research is that there is no causation shown between TQM and performance, only a correlation. There was no indication which came first and his sample size was small.

2.5 Key Constructs and Their Interrelationship

2.5.1 Core Competencies

2.5.1.1 Characteristics of Core Competencies

From the literature the following characteristics of core competencies have been identified:

1. Rare (Barney, 1986:657, 1991:100, 1997:20)
1. Inimitable, lack of transferability and replicable (Barney 1986:657, 1991:100; Dierickx and Cool, 1989:1506; Prahalad and Hamel, 1990:80; Grant, 1991:114; Tampoe, 1994:70)
2. Add significantly to the ultimate value of the product or service (Barney, 1986:657, 1991:100, 1997:20; Synder and Ebeling, 1992:27; Grant, 1991:114; Tampoe, 1994:71)
3. Have potential to support multiple products or services (Prahalad and Hamel, 1990:81; Synder and Ebeling, 1992:28)
5. Represent a unique capability that produces long lasting competitive advantage (Synder and Ebeling, 1992:29; Tampoe, 1994:71)
6. Essential to corporate survival (Tampoe, 1994:72)
7. Invisible to competitors (Tampoe, 1994:72)
8. Greater than the competence of an individual (Tampoe, 1994:72)
9. Essential to the strategic vision and decisions of the organization (Tampoe, 1994:73)
10. There are a limited number within each organization (Tampoe, 1994:73)
11. Durable (Grant, 1991:115)
12. Manifest differently in organizations (Turner and Crawford, 1991:75)

Selznick (1957:76) postulated that special capabilities and limitations arise as the organization develops. These capabilities and limitations are intrinsic to the organization and dependent upon the development of the organization. No two organizations will develop the same; every variation in environment, personnel, strategic choice, etc. will create a different manifestation. Examining such characteristics as invisibility to competitors, rarity and lack of transferability suggests that these competencies would have to be identified by the organization. Outsiders would not have the ability to identify competencies to which they are not privy.

2.5.1.2 Identifying Core Competencies

In reviewing the research on identifying core competencies a number of methods have been suggested. The method of using a standard classification system of functional activities such as marketing, finance, human resources, etc. (Snow and Hrebiniak 1980:320; Grant, 1991:117; Hall, 1992:140) or a pre-determined list (Aaker, 1989:95) appears to be in contradiction of the RBV theory.

The characteristics of core competencies of rareness and lack of imitability suggest they are specific to the organization. For instance, a company might possess a competency in technical execution which might rely on systems that cross the functional activities of human resources and operations. A pre-set classification system would miss the dynamics that occur in these linkages. Barney (1986:660) and Powell (1993:130) singled out culture and TQM as variables creating competitive advantage. These variables are more likely to help create competitive advantage as systems through which resources and skills are developed and deployed. Culture would affect how resources and skills are manifested. According to Barney

(1986:662) competitive advantage results from a combination of skills that can cross functional departments, within a culture.

Organizational capabilities and core competencies must be identified by individuals within the organization. Collis (1994:145) suggests creating a list of capabilities that appears to have potential. The list is then reviewed by managers. Klein and Hiscocks (1994:75) posit that the competencies be identified by examining the organizational structure, products and services, and by interviewing organizational managers. Winterschied (1994:100) identified them during interviews with organizational members, coding any response described as “being good at” as a core competency.

Tampoe (1994:71) suggested that core competencies be identified by selecting the products and services that contribute the most to the organization’s strategy, revenues, and profit and identify the technology, skills, assets, processes, and strategic assets used to create them. Since they are invisible to competitors, identification must be accomplished using individuals within. Core competencies are expected to be the underlying strength of a competitive advantage.

2.5.1.3 Core Competencies and Competitive Advantage

Hofer and Schendel (1978:25) were the first to link competitive advantage to core competencies. “Competitive advantage, ... is the unique position an organization develops vis-a-vis its competitors through its pattern of resource deployments” (Hofer and Schendel, 1978:25). They state that the importance of resource deployment is indicated by the fact that scope can be affected by weak resources or poor positioning of resources. To assess what opportunities and threats there are in a particular product/

market segment, a business must compare its resource profile with the critical success factors of the segments in which it competes. Examining Hofer and Schendel's theory it appears that resources contribute to competitive advantage if they are strong and properly positioned. For resources to be strong and properly positioned, organizational members would have to be cognizant of what they were, they would have to be developed, and they would have to be a part of the strategic planning.

2.5.1.4 Resource Allocation Implementation and Signalling

Once core competencies have been identified, they should be invested in (Reed and DeFillipi, 1990:90; Prahalad and Hamel, 1990:85; Stalk et al, 1992:60; Collis and Montgomery, 1995:120) and nurtured (Tampoe, 1994:68). Unique skills and resources do not automatically create competitive advantage; it is developing, investing in and constantly reevaluating these resources and skills that provide a superior financial return (Stalk et al, 1992:65). Naugle and Davies (1987:35) suggest a plan for resource allocation is developed and capital for development be designated.

A tracking system is recommended and individuals associated with key competencies should also be tracked. "One indication of the importance of resource deployment and competitive advantage is the fact that scope can be limited by weak resources or poor positioning of resources" (Hofer and Schendel, 1987:25). They state that resources must be developed, invested in, and deployed for competitive advantage. The actual process of doing this has not been well explored in the literature. This process must be detailed and analyzed by management. Synder and Eberling (1992:29) suggest that competitive advantage arises when a series of activities are organized into a system

that works better than the sum of its parts. Part of management's responsibility is to organize activities into productive systems.

Competitive advantage relies on the quality of management. Management's ability to quickly and effectively gather, interrelate and apply or redeploy its resources affects the achievement of competitive advantage (Doz and Prahalad, 1988:350). According to Castanias and Helfat (1991:157), top management's skills affect structure, systems, new strategic initiative, culture and lobbying. As Barney (1986:661) suggested, culture affects competency development. Culture also aids in creating some of the characteristics of core competencies; difficult to imitate, rare, and valuable.

Management affects and perpetuates the culture of the organization by its practices. Core competencies can also be a series of activities or skills grouped together in systems that work better than the sum of its parts. Management's role is to manage these systems (Porter, 1985:45). Management also decides on strategic initiatives. According to Lado et al. (1992:83), competencies are developed through decisions and actions of leaders. The fit that is made between the firm and the environment is more than just luck. Managers must make and implement decisions that create that fit.

Hall (1992:137) suggests that managers not only identify key resources but they must have a means of communicating them to others in the firm. This insures the ability of all organization members to focus on, enhance, use, and protect these resources. Signalling what is important to the organization occurs when members understand what variables management is monitoring. Where management places an emphasis is a signal to the organization where members should concentrate their efforts. Simmons

(1990:135) relates that one way top managers signal to the organization is to make certain control systems interactive and to program others. According to Peter's (1994:120) all members of the organization must be working on improving their skills.

While the literature promotes management's role and responsibility in the identification, development, implementation and deployment of core competencies, there has been little effort to outline exactly how this process occurs.

Barney (1991:111) suggests that proper management controls must be in place for financial returns to accrue. Ultimately management's goal is to produce financial returns for stakeholders. Without an understanding of the process, the attainment of competitive advantage and superior financial returns will be haphazard at best. Unique managerial competencies are also required to evaluate the economic returns of core competencies (Lado et. al, 1992:89).

Some of the key factors in resource allocation, development and implementation are:

1. There must be a plan for capital investment in developing competencies.
2. There must be a tracking system for competencies and people associated with certain skills.
3. Management must gather, organize and deploy resources.
4. Management must re-evaluate core competencies.
5. Management must signal to organization members what competencies are important.
6. Management must have a system for evaluating the economic return.

2.5.1.5 Core Competencies and Financial Returns

Comparison of financial returns is based on the theories that alignment produces above-normal rents (Barney, 1997:120; Coulter, 1998:125) and that resources create value for a company. An organization's ability to identify, then develop and implement core competencies should create above normal returns. In order for development and implementation to occur, the managers responsible for the development and implementation must work together. There must be alignment between the actions of corporate managers and unit managers in the development and implementation of competencies.

Hall (1992:140) suggests that comparing the organization's balance sheet valuation to its stock valuation gives an idea of the value of firm resources. Hall, in his 1992 study, compared the competencies of high and low performing firms. To differentiate high performers from low performers he calculated the increase in sales per employee over several years. Snow and Hrebiniak (1980:321) used the ratio of total income to total assets. Hitt and Ireland (1986:412) used market returns and Collis (1994:146) used return on market investment to assess performance. The financial ratios chosen by previous researchers were used for firms in the manufacturing field.

2.6 Shortcomings in the Literature

There has not been any recent development from researchers on the resource based view on core competencies of companies. Most of the findings in this area were done during the late 1980s and early 1990s (as depicted in the literature review), when business units were looking for ways to compete with each other in the same business. It seems that the thinking on distinctive competencies or corporate strengths stalled,

and that influential academics and consultants turned their attention to other approaches to strategy.

They did not consider the internal capabilities. These were exemplified by the likes of Michael Porter (1990:4) who developed frameworks such as the five-force analysis, which helped managers understand external opportunities and competitive threats. In this approach, the strategist analyses the industry attractiveness and market opportunities and formulates a strategy based on these analyses. At the corporate level, techniques of portfolio planning, developed by the Boston Consulting Group and others, helped corporate managers analyse the corporate portfolios in terms of competitive position and industry attractiveness.

Furthermore, there had been no research work carried out in determining the core competencies for a pulp and paper industry. As Sappi Forest Product is at a crossroads in road-mapping its future, there was a need to identify its core competencies to provide value addition, leverage and a competitive advantage that will complement Sappi Ltd strategy.

2.7 Conclusion

For these authors, the starting point of strategy was the analysis of the firm's internal resources and capabilities. The resource-based school focuses on the firm's internal characteristics to explain why firms pursue different strategies with different outcomes. The resource-based school accepts an organisation's history and experiences, its character, culture, strengths and capabilities - all contribute to its strategy and are crucial in determining the success of that strategy (Campbell and

Luchs, 1997:8). These aspects will need to be determined for the Sappi Forest Products division. Resource-based thinkers regard internal attributes and capabilities as a more stable anchor for the business level strategy than the varying demands of a volatile marketplace.

From the reviewed theoretical research it appears that there are a number of different variables that can create a competitive advantage. Core competencies are one of those variables. It would appear from the characteristics of core competencies that they are specific to each organisation. Even if two organisations have similar core competencies the way they manifest themselves is different. These differences could be created by the way the organisation is structured, the corporate culture, how the competencies are developed, or the interaction in the competitive market that shapes them. The core competencies of an organisation should be identified.

The common denominator in the reviewed research seems to be the ranking of the most important capabilities and identifying which ones support specific strategies. Since competencies support the competitive methods that provide an organization with an advantage, they were analyzed in relation to performance. What is notable about a majority of the actual research articles is that they utilized pre-generated lists of factors.

Resource allocation and the different factors needed to develop and implement core competencies that create competitive advantage were alluded to but there was no actual research on the process. Missing from the literature was the 'how' and 'what' of the resource allocation process. The question of the necessity for congruency

between all management levels in the development and implementation of competencies is also unresolved. It appears that alignment is necessary between external and internal forces of the organization.

In examining the models developed, the researchers attached importance to: identifying the actual competencies (Collis, 1994:145; Grant, 1991:119; Tampoe, 1994:68; Klein and Hiscocks, 1994:186); their rent generating capabilities (Grant, 1991:119); how managers identify them (Schulz, 1993:10); the effect of the managerial processes (Schulz, 1993:23) and managerial competencies (Lado et al, 1992:81). Klein and Hiscock (1994:187) suggested that identification can be done by examining the structure of the organisation, and conducting interviews. It should be evident from examining product/services, or evident to customers and market watchers. The skill clusters should be ranked in importance. Naugle and Davies (1981:40) suggested that the success factors of the company be listed first before identifying the skills behind those factors. These models identify only certain resources as core, and this fits with the theory of an organisation possessing only a few core competencies.

The next chapter discusses the methodology employed to carry out this research.

Chapter 3: Methodology

3.1 Introduction

This chapter gives the methodology employed to conduct the research. The research design with the objectives, unit of analysis, definition of constructs and research steps are explained. The research steps are given in detail with the methodology of primary data collection, secondary data for triangulation, sample selection, data handling and the methods of analysis employed for the data collection. The delimitations of the study are also given.

3.2 Research Design

The first component suggested by Yin (1994:30) to be included in the research design is a statement of the research questions and propositions, if any.

3.2.1 Research Objectives

- ∅ To identify the core competencies of Sappi Forest Products in terms of employee perception.

- ∅ To identify the core competencies in terms of strategic models.

3.2.2 Validity

“The study must possess construct validity, internal validity, external validity, and reliability” (Yin, 1994:33). Multiple sources of evidence and establishing a chain of evidence will help ensure construct validity. Information for this research was gathered through interviews, surveys, company documents, and printed articles. The use of these various techniques for data gathering helped create construct validity.

Internal validity is important for explanatory studies where we desire to establish causal relationships. Pattern matching techniques or explanation building are means used to establish internal validity. External validity concerns establishing the domain to which the study's findings may be generalized. The results of this research are limited in generalization, but offer propositions and conclusions concerning core competencies and their contribution to the organization performance of Sappi. Reliability concerns the ability of others to repeat the study and achieve the same results. This was accomplished by documenting procedures used in detail.

3.2.3 Justification of the Methodology used

The conclusion reached from the review of the literature is that core competency identification by strategy type, using only quantitative methods such as surveys, is insufficient and provides only a cursory examination of competencies. The competencies identified are general and are more related to industry and strategy.

For superior financial returns, however, a company must develop competencies that provide them with "a unique position visa-vis its competitors through its pattern of resource deployments and or scope decisions" (Grant, 1991:131). This suggests that no other company would have the exact same characteristics. In some instances, they may have similar methods of competing, but the means they use to develop and deploy their resources are unique.

Core competencies also manifest themselves differently in organizations due to factors such as management of linkages, company culture, and how organization

participants are signalled to develop and deploy resources. These variables may be unique to the specific organization and must be investigated within the company.

The literature suggests that management must provide signals as to what competencies are important. For financial returns to accrue, organization participants must understand, receive, and act upon these signals. In the study of strategy, matches/alignment is always important, whether it is a match between the environment and strategy, or strategy and structure, or other environment / organization variables. It is apparent that firms where executives and unit general managers agree on competency, development and implementation will experience higher performance (Grant, 1991:132).

The use of multiple sources of data for triangulation purposes also lends credence to the study. The second portion of the study collected supporting data. Memos, communications, and other documents provided evidence of the communication of signals by senior management. It was an additional means to support executives' perceptions of how the importance of core competencies is transmitted and to generate financial data.

As described in the research methodology, an organisation's resources are simply the inputs needed to perform the work and the capabilities are routines and processes that determine how efficiently and effectively the organisation transforms its resources into outputs (Coulter, 1998:123). Based on Day's model (1994:38), the relationship of these can be seen as follows:

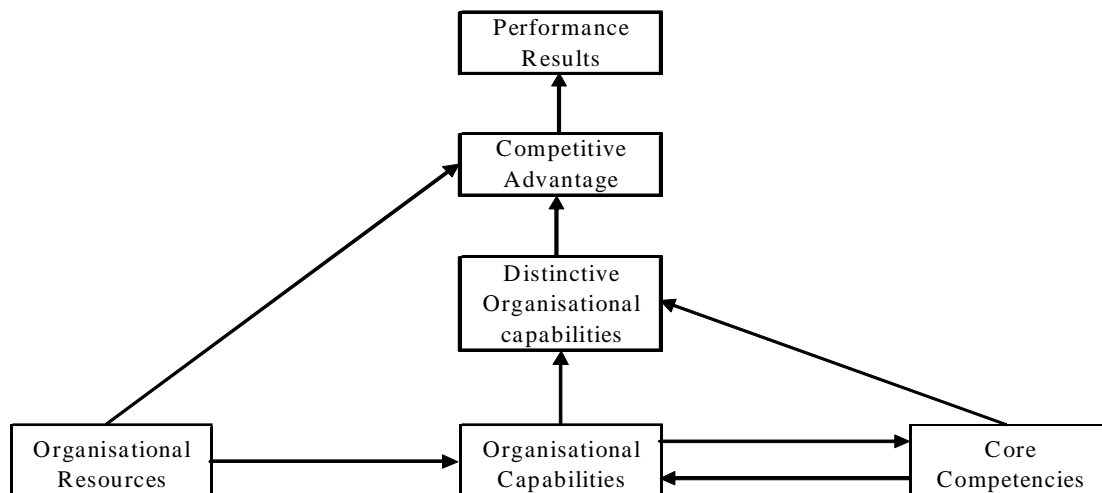


Figure 3.1: Strategic role of organizational resources and capabilities

According to Zikmund (1991:23), to define the problem researchers must define the unit of analysis. The unit of analysis specifies at what level data will be collected. The level may be at that of the organization, a department, work group, or individuals. It may occur at more than one level. In this study, the units of analysis are:

1. core competencies
2. resource allocation

3.2.3.1 Core Competencies

In the literature, various terms were used by different researchers. Distinctive competencies, core capabilities, organizational capabilities, and resources have been several of the terms identified. The distinctions between the terms are subtle (Barney, 1997:34). The term core competency was adopted for this study. According to Prahalad and Hamel (1990:199) a core competency is a “bundle of skills and technologies that enable a company to provide a particular benefit to customers”. It has also been defined to include assets and processes which were incorporated into

the definition. Managers were asked to identify core competencies - 'what bundle of skills, assets, processes, and technologies they possess that enables them to provide a benefit to customers that creates competitive advantage'.

Previous studies have suggested a number of methods for identifying core competencies. Klein and Hiscocks (1994:87) suggested that core competencies be identified through interviews, examining organizational structure, products, and services. Tampoe (1994:68) suggested selecting products and services that contribute the most to the organization's revenue / strategy, as well as identifying the components used to create them. Through the literature review, the resources and capabilities provided the core competencies that were then listed on the survey for unit managers to choose those they believed to be the core competencies. Secondary data in the form of documents and printed media also provided additional data for these questions.

3.2.3.2 Resource Allocation

Competitive advantage was previously defined as "the unique position an organization develops vis-a-vis its competitors through its pattern of resource deployments and / or scope decisions" (Coulter: 1998:120). An implicit concept arising from this definition is that decisions must be made, and there must be a pattern of resource deployments. Patterns arise from the decisions of executives and managers on how and what resources are to be used to develop core competency.

Barney (1997:56) relates that, according to Day (1994:45), resources are all assets, capabilities, competencies, organizational processes, firm attributes, knowledge and

so forth controlled by the firm to conceive and implement strategies that improve its efficiency and effectiveness. The importance of allocating resources to the development and implementation of core competencies was discussed in the literature. The literature mentioned little about what resources should be allocated and processes for doing this.

The questions to gather this information were developed from the literature review and the knowledge of the researcher. They were tested and re-evaluated for clarity by a pre-test group consisting of academics and industry professionals. The interviews with executives provided the information on core competencies which was used to develop the survey questions. The data gathered through this process will aid in developing theories and propositions in this relatively unexplored area.

3.3 Definition of Constructs

The constructs that were studied are given below:

1. Financial and accounting resources;
2. Production / operations
3. Marketing
4. Technological resources
5. Human resources
6. Quality management
7. Information systems
8. Organisation and general management

It is important to see that a functional approach, regardless of situational differences, focuses on basic business functions and leads to a more objective, relevant internal

analysis that enhances strategic decision making. Whether looking at attributes of marketing, production, financing, information systems or human resource management, the functional approach structures the managers' thinking in a focused, potentially objective manner. It's an approach that assesses and highlights the organisation's capabilities and thus determines its competencies. It highlights the organisation's strengths and weaknesses as well. In order to examine how the company can create competitive advantage, it has to look at how these resources work together to create capabilities.

As each construct is defined and examined, the research question pertaining to it and the operational questions used in the survey will be reviewed. All the questions are related to Sappi Forest Products i.e. where 'Sappi' appears it refers to 'Sappi Forest Products'.

3.3.1 Financial and Accounting resources

- Ø Are the assets fully deployed in a manner that optimises their use and return to shareholders?
- Ø Has the division an efficient and effective accounting system for cost, budget and profit planning?
- Ø Has the division an ability to raise long term capital?
- Ø Has the division the capacity to utilize alternative financial strategies, such as lease or sale and leaseback to reduce costs?
- Ø Is the cost of capital low relative to that of industry?
- Ø Is the cost and barriers of entry into this industry high?

3.3.2 Production / Operations

- ∅ Does Sappi have economies of scale?
- ∅ Is there an optimum use of facilities; location and layout
- ∅ Has Sappi an excellent inventory control system?
- ∅ Is Sappi a low cost producer of pulp?
- ∅ Is Sappi a low cost producer of paper?
- ∅ Are there effective operation control procedures and maintenance programs?

3.3.3 Marketing

- ∅ Is the concentration of sales in a few products?
- ∅ Is the concentration of sales in a few customers?
- ∅ Does Sappi have a large local market share?
- ∅ Does Sappi have a large global presence?
- ∅ Does Sappi understand the customer's needs?
- ∅ Does Sappi generate high consumer confidence and interest from the products produced?

3.3.4 Technological Resources

- ∅ Does Sappi consistently create new markets and opportunities through new products?
- ∅ Does Sappi consistently create an environment of creativity and innovation?
- ∅ Is there an effective research and development program?
- ∅ Is Sappi, in technological competencies, ahead of its competitors?
- ∅ Does Sappi use most recent technologies available?
- ∅ Does Sappi have in-house expertise to produce new products and solve problems?

3.3.5 Human Resources

- ∅ Does Sappi value its employees?
- ∅ Does Sappi create leadership development opportunities through job rotation and enrichment and investment programs?
- ∅ Does Sappi foster and encourage learning, probing, and discovery and is it tolerant of mistakes and setbacks?
- ∅ Does Sappi hire and nurture highly talented employees?
- ∅ Does Sappi create and sustain a collaborative working environment?
- ∅ Do the compensation practices and programs reflect organisational performance and financial results?

3.3.6 Quality Management

- ∅ Are there continuous improvements in production process?
- ∅ Does Sappi practice successful TQM methods designed to continuously improve value, quality and performance?
- ∅ Does Sappi consistently set the highest quality, benchmarks and standards relative to its competitors?
- ∅ Does Sappi adhere to ISO 9000/2000, ISO 14000 and ISO 18000 requirements?
- ∅ Does Sappi have internal processes to enhance quality of products?
- ∅ Does Sappi adhere to strict quality specifications with suppliers and customers?

3.3.7 Information Systems

- ∅ Does Sappi use information technology to increase market presence?
- ∅ Does the organisation sets a standard for communicating with customers on important matters?
- ∅ Is there accurate information about sales, operation, cash and suppliers?
- ∅ Does Sappi have the people who have the ability to use the information that is provided?
- ∅ Is there a strong central network for co-ordination of information?
- ∅ Does Sappi have the latest upgrades in information communication?

3.3.8 Organisation and General Management

- ∅ Does Sappi demonstrate a commitment driven by an integrated set of strategic visions?
- ∅ Does the Board have a vested economic and moral interest in the financial and social behaviour of the organisation?
- ∅ Does Sappi effectively manage investor relations, expectations and communications?
- ∅ Is it effective in motivating divisional management?
- ∅ Does top management have the skills, capabilities and interest of the business at heart?
- ∅ Does Sappi practice intra-organisational synergy (between divisions)?

3.4 Research Steps

3.4.1 Primary Data Collection

The primary method of data collection was via a survey. Core competencies were identified by management of Sappi Forest Products. The self-administered questionnaire was developed by the researcher to identify the resources and capabilities within Sappi. The questionnaire was sent to each interviewee via the internal e-mail system. Literature on resource classification and organisational capabilities was used as the basis. A pre-test group of industry managers was utilized to evaluate the relevancy of the survey questions to minimize errors in question wording, sequence or other elements.

A Likert scale was used for the questionnaire. The respondent was asked to agree or disagree with each statement and each response reflected the degree of attitudinal favourableness. The scores were totalled to measure the respondent's attitude. The eight characteristics which were measured include financial and accounting resources, production, marketing, technology, human resources, quality management, information systems and organisational management. Each characteristic had six statements which was scored on a three point rating scale, i.e. agree = 3, don't know = 2 and disagree = 1, indicating the extent of the respondents' agreement with the statements presented. Forty-eight questions were used to elicit the levels of satisfaction on the eight characteristics and the results of these were combined for one rating on each characteristic.

3.4.2 Documentation for Triangulation

In the case study, additional supporting data was provided through the use of documents. During company audits, documents relating to any of the concepts involving core competencies were requested, in addition to the financial data. For example, such documents included, but were not limited to:

1. memos to unit managers that state certain areas of service or production they should be concentrating on;
2. memos on assistance/programs offered through services that support competency development;
3. memos on inspection reports of units that include their adherence to company guidelines;
4. newsletters;
5. copies of standard operating procedures that relate to processes, etc. and support core competency development;
6. capital budgets detailing where resources are being allocated;
7. financial reports for the company and for the units that include information for calculating financial ratios for company performance;
8. training manuals.

Articles in industry journals were also gathered for the period 2000-2003.

3.4.3 Sample Selection

Probability, self-selection sampling of employees was done. Employees in management positions, who have the insight of the characteristics of core competencies of Sappi Forest Products and an understanding of the business itself, were used as the target population. The mills involved were Ngodwana, Usutu, Cape

Kraft and Tugela. However, management from Usutu refused to participate in this survey as instructed by their general manager. Reasons were not given and they were not considered in the survey.

There were 155 employees excluding Usutu mill. For a 95% level of certainty, a minimum of 100 employees were required assuming that data was collected from all cases in the sample (Saunders et al, 1997:129). 83 employees responded after various reminders were given within the due date. There were 47 from Tugela mill, 29 from Ngodwana and 7 from Cape Kraft. Although there were 17 short of a minimum requirement for 95% level of certainty, the results would still be valid as the sample was 54% of the population (Saunders et al, 1997:128). The responding departments were production, technical, engineering, administration, human resources and marketing.

3.4.4 Primary Data Analysis

The survey highlighted the core competencies of the division according to the perception of management. Sappi Forest Products core competency will be indicated as that characteristic whose statements produced the highest acceptance amongst management. It is possible that there may be a combination of characteristics that will be the core competencies of the division. As the division is made up of four mills and different departments, it was interesting to see which factors each mill and department indicated as core competencies. As this was self-selection sampling, care was taken to have a representative sample from each mill and department. Weekly reminders were sent to ensure maximum representative response.

The mean of each competency for each mill was compared using the Analysis of Variance (ANOVA). ANOVA is used to test difference in means when there are 3 or more independent groups (Saunders & Lewis, 1997:316). ANOVA is also appropriate when only one dependent variable is used. Each core competency was used as the dependent variable to compare the three mills. The null hypothesis is that there is no difference, $H_0 = u_1 = u_2 = u_3$. For this test the level of significance was set at $p = 0.05$. Similar tests were carried out for the 6 departments. Each competency was used as the dependent variable to compare the 6 departments. The null hypothesis was that there was no difference, $H_0 = u_1 = u_2 = u_3 = u_4 = u_5 = u_6$. The level of significance used was also set at $p = 0.05$. The F statistic was used to indicate the significant difference between the groups.

3.4.5 Secondary Data Analysis

In addition to responses from executives and unit managers, secondary data was reviewed for the division. Data was collected by two means; by request directly to the company and through a database search to collect articles and printed material about the company. A database search was done for articles about each mill for the time period, 2000-2003. Secondary data gathered included; financial reports, a copy of a training manual, a copy of a newsletter, articles from media packets, and any additional data that the division thought addressed their core competency. These secondary data sources were reviewed to identify the patterns and themes that were similar to those in the survey questionnaire.

3.4.6 Delimitations of study

This study is limited only to Sappi Forest Product division. Sappi Fine Paper division was not be considered in this study. Usutu mill, which is part of the Sappi Forest Product division, refused to participate in the survey with no reasons given. However, the findings was based on the 3 other mills that made up the division. Based on the findings, assumptions could be made for Usutu mill.

3.4.7 Assumption

For the questionnaire, there was no distinction based on age and experience of the respondents. Management should have insight of the characteristics of core competencies of Sappi Forest Products and an understanding of the business itself.

3.5 Conclusion

A quantitative approach was used employing triangulation in the research design. Literature was reviewed to provide the theoretical background, previous research findings and to develop questions for the survey. The survey questionnaire was pre-tested using senior level executives of Sappi Forest Products to evaluate the questions and minimise errors in wording, sequence or other design elements. The survey determined management's perception of the core competencies for Sappi Forest Product division. Documents and supporting materials produced by the division were gathered and analysed as secondary sources for triangulation purposes.

Results of the data collection are provided in Chapter 4, and analysis of results, comments, and future research recommendations are presented in Chapter 5.

Chapter 4: Results

4.1 Introduction

The purpose of the survey was to ascertain the perception of management on the core competencies of Sappi Forest Products. The constructs were analyzed to determine the core competencies. The results of the survey are displayed graphically on bar charts to give an overall view of the competencies and resources of the Sappi Forest Product division, its mills and departments. A brief explanation will accompany each chart. ANOVA analysis was done to determine the mean of each department and mill and these means were compared to test the null hypothesis for any differences. Reviewing the various secondary data highlighted the constructs and themes that were apparent in the survey.

4.2 Response Rate on the Questionnaire

Mill	No. of responses	Total in management	% participants
Tugela	47	71	66
Ngodwana	29	77	38
Cape Kraft	7	7	100
Total	83	155	54

Table 4.1: Total Response rate

Although there were 17 short of a minimum requirement for 95% level of certainty, the results will still be valid as the sample was 54% of the population (Saunders et al, 1997:128) which means over half the population responded. It would have been preferable if more management personnel from Ngodwana responded to the survey. However, three reminders were sent to them over four weeks, but the response rate did not improve significantly after each reminder. A deadline had to be met and it was decided to continue with the analysis of the results. With the response rate obtained,

results would still be meaningful and conclusions could be derived as there were over 50% of the population that responded (Saunders and Lewis, 1997:128).

4.3 Overall Perception of Sappi Forest Products

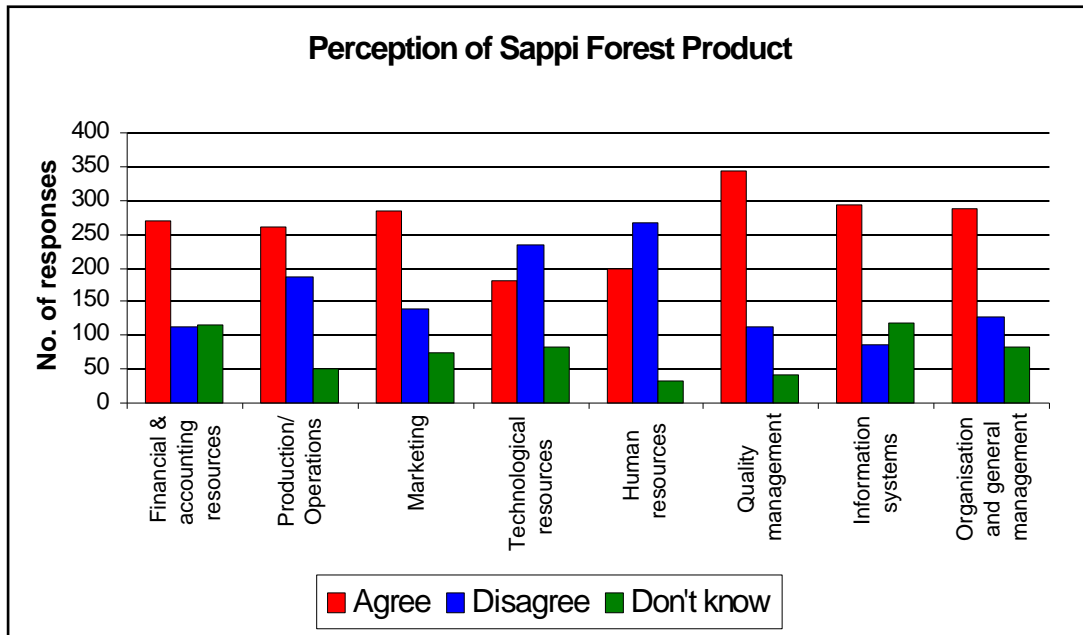


Figure 4.1: Perception of Sappi Forest Product Management

Sappi’s management showed the highest agreement with the statements on Quality Management, followed by Information Systems and Organisation and General Management. On Human Resources, they displayed the highest disagreement in the statements. The constructs on which management had little knowledge were Financial and Accounting Resources and Information Systems. It should be noted that the number of responses was based on the total response on each construct of either agree, disagree or don’t know.

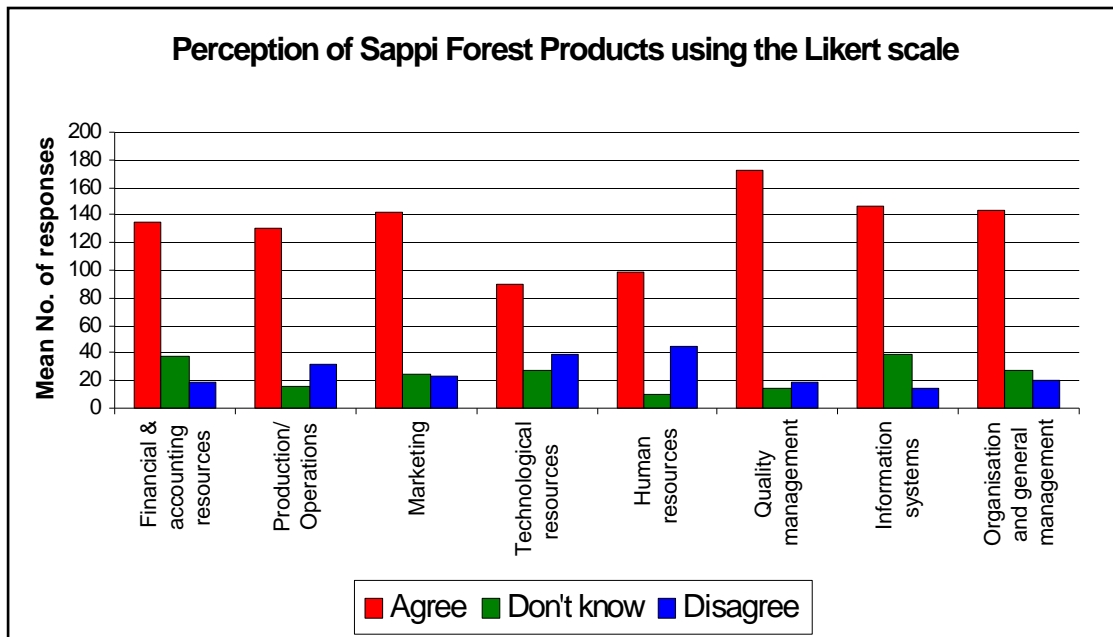


Figure 4.2: Perception of Sappi Forest Products management using the Likert scale

Using the Likert scale for the analysis indicated the same trend as above. The Likert scale was based on the mean of each construct, where agree = 3; don't know = 2 and disagree = 1.

ANOVA

Mean of the total 'agree' statements of the 3 mills

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1630.125	7	232.875	0.222072	0.974392	2.657195
Within Groups	16778.33	16	1048.646			
Total	18408.46	23				

Table 4.2: Single factor ANOVA of the means of the agree statements of the 3 mills

As the calculated F ratio is less than the $F_{critical}$, we accept the null hypothesis and conclude that the treatment means do not differ, i.e. the total 'agree' statements of the 3 mills do not significantly differ. For the various constructs, the 3 mills indicate similar trends. Also note that the 'between groups' mean square (232.88) is many

times smaller than the ‘within groups’ mean square (1048.66). This also confirms that the treatment means are equal.

4.4 Perception at the Various Departments in Sappi Forest Products

Mill	Department	No. of responses
Total	Production	18
	Engineering	28
	Administration	9
	Technical	20
	Human Resources	5
	Marketing	3
	TOTAL	83

Table 4.3: Response of the various departments of Sappi Forest Products

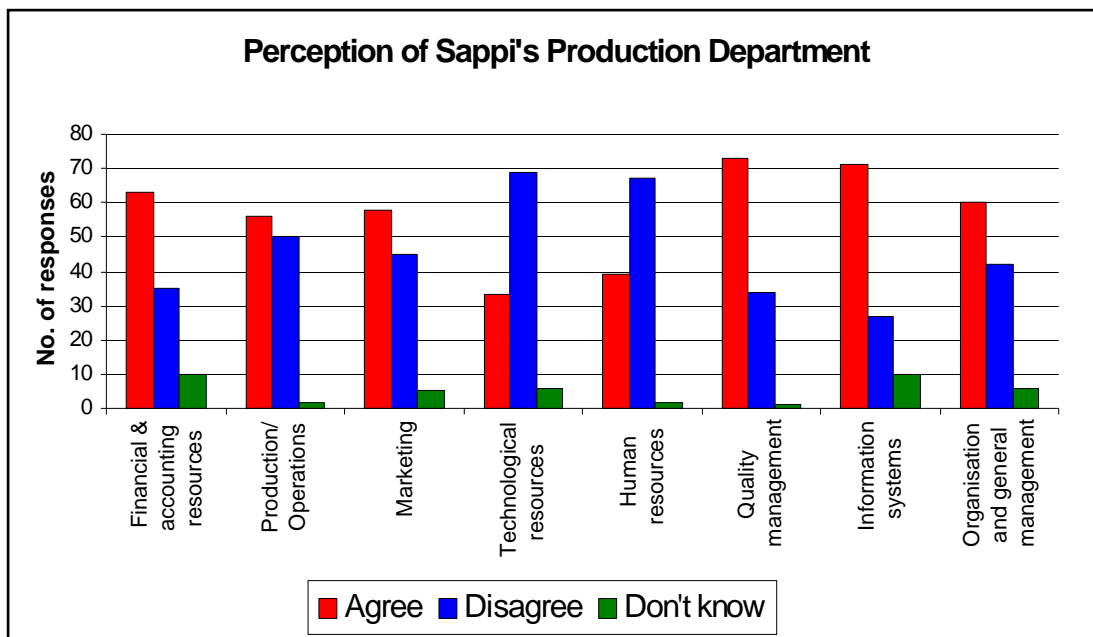


Figure 4.3: Perception of Sappi's Production Department

The production department showed the highest agreement with the Quality Management and Information Systems constructs. Their highest disagreement was with the Human Resource and Technological Resource constructs. The production

department showed good knowledge of the various constructs as there was a low level of ‘don’t know’ statements.

ANOVA Mean of the Production department between the 3 mills

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	116.4896	7	16.64137	0.278177	0.953488	2.657195
Within Groups	957.1667	16	59.82292			
Total	1073.656	23				

Table 4.4: Single factor ANOVA of the means of the agree statements of the Production departments between the mills

With the F ratio less than $F_{critical}$, we accept the null hypothesis, i.e. there is no difference in the perception of the production department of the 3 mills on the various constructs.

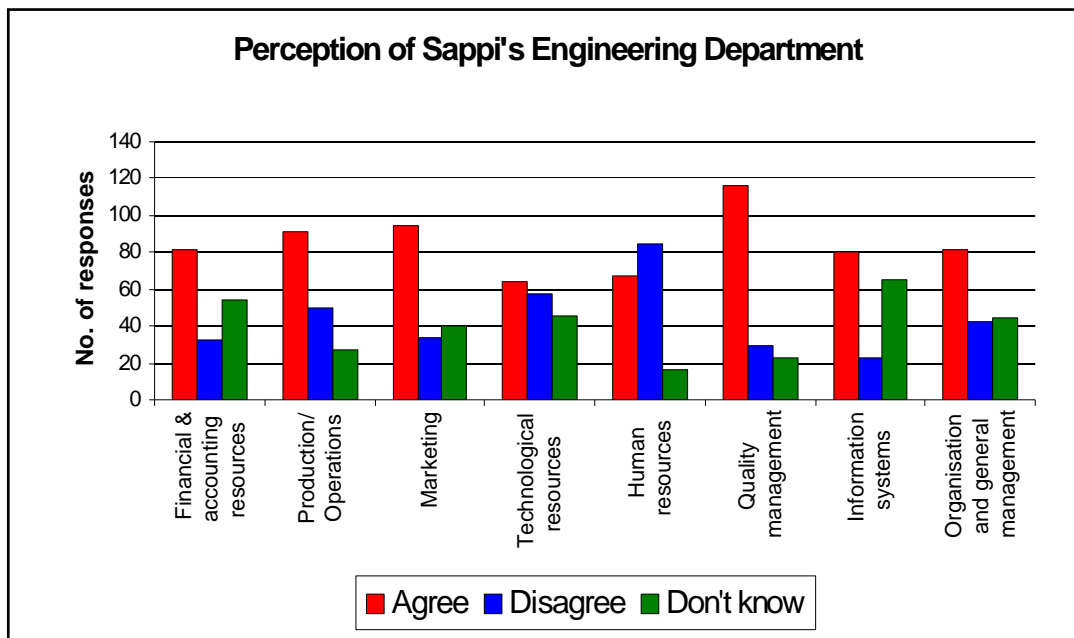


Figure 4.4: Perception of Sappi's Engineering department

The Engineering department also indicated the highest agreement with the Quality Management construct. Human Resources also caused the highest disagreement.

Their knowledge on Information Systems was low. Overall, their knowledge on the various constructs was low relative to the other departments.

ANOVA Mean of the Engineering department between the 3 mills

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	157.9583	7	22.56548	0.210769	0.977816	2.657195
Within Groups	1713	16	107.0625			
Total	1870.958	23				

Table 4.5: Single factor ANOVA of the means of the agree statements of the Engineering department of the 3 mills

With the F ratio less than the $F_{critical}$, we accept the null hypothesis, i.e. there is no difference in the perception of the Engineering department of the 3 mills on the various constructs.

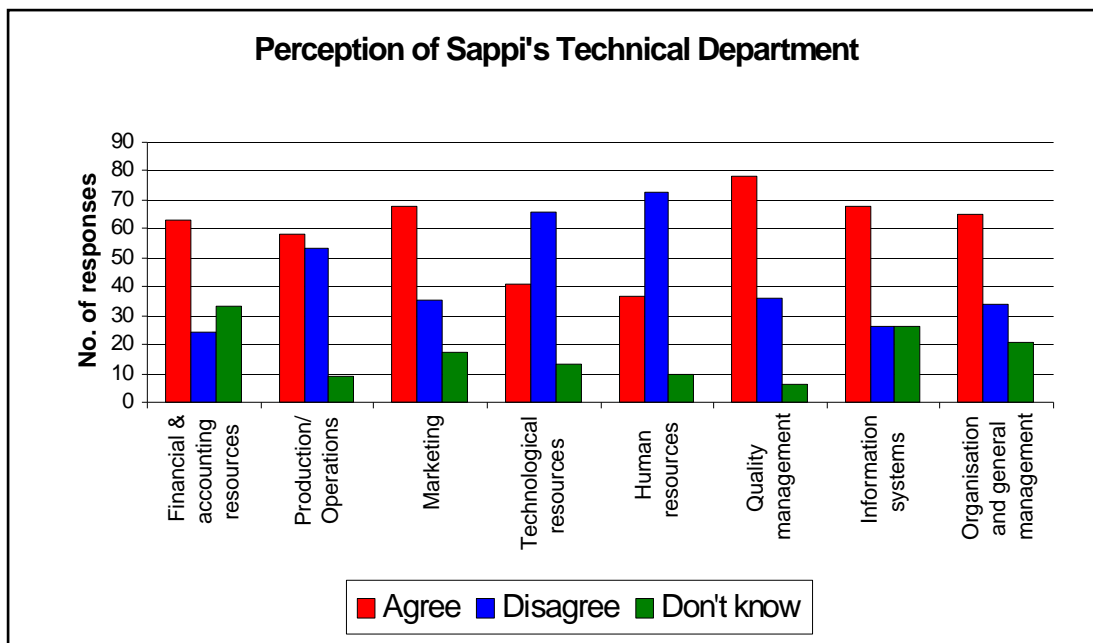


Figure 4.5: Perception of Sappi's Technical department

Again, the same trend as the production department was evidenced for the Technical department. The Technical department also indicated a high degree of 'don't know' for the various constructs.

ANOVA Mean of the Technical department between the 3 mills

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	114.9583	7	16.42262	0.232533	0.970984	2.657195
Within Groups	1130	16	70.625			
Total	1244.958	23				

Table 4.6: Single factor ANOVA of the means of the agree statements of the Technical department of the 3 mills

With the F ratio less than the $F_{critical}$, we accept the null hypothesis, i.e. there is no difference in the perception of the Technical department of the 3 mills on the various constructs.

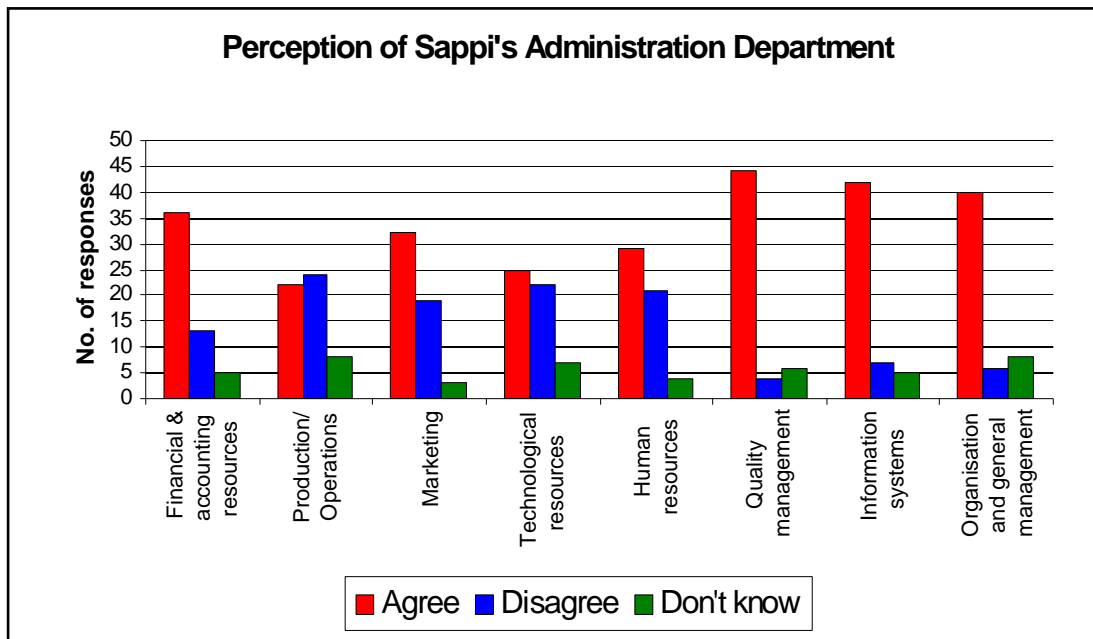


Figure 4.6: Perception of Sappi's Administration department

The Administration department indicated high 'agreed' responses to Quality Management, Information Systems and Organisation and General Management questions. Their highest disagreement was with the Production/Operations construct. Their response on the 'don't know' was evenly spread across the various constructs.

ANOVA Mean of the Administration department between the 3 mills

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	38.125	7	5.446429	0.343759	0.921456	2.657195
Within Groups	253.5	16	15.84375			
Total	291.625	23				

Table 4.7: Single factor ANOVA of the means of the agree statements of the Administration department of the 3 mills

With the F ratio less than the $F_{critical}$, we accept the null hypothesis, i.e. there is no difference in the perception of the Administration department of the 3 mills on the various constructs.

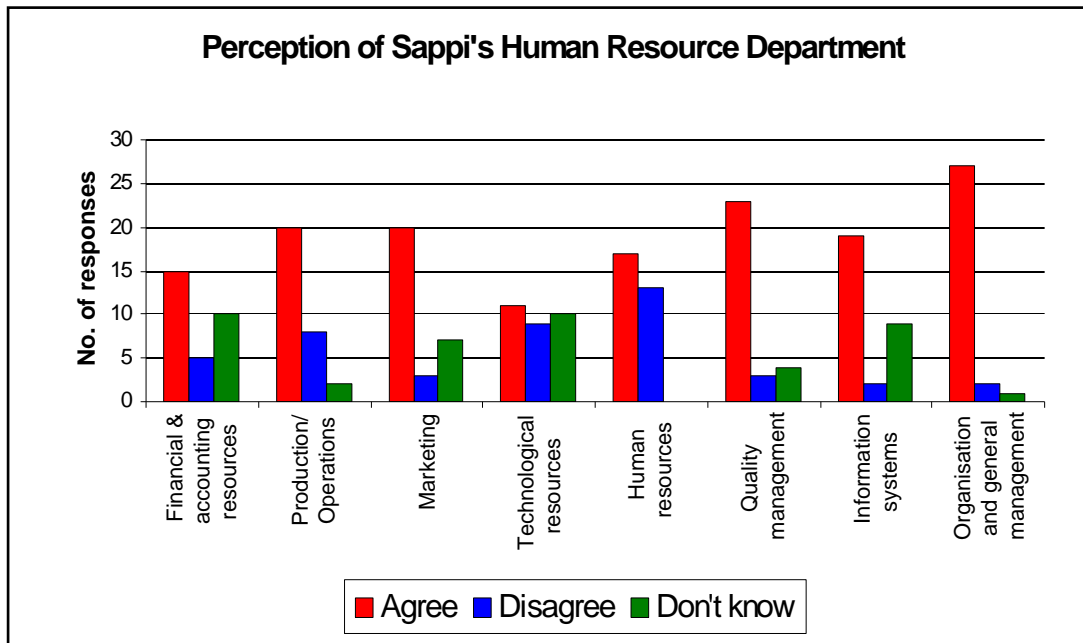


Figure 4.7: Perception of Sappi's Human Resource department

The Human Resource department indicated the highest agreement with the Organizational and General Management construct, which is their area of expertise. Surprisingly, they indicated the highest disagreement with the Human Resource construct. They didn't know much about Financial and Accounting Resources, Technological Resources and Information Systems.

ANOVA Mean of the Human Resource department between the 3 mills

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	13.83333	7	1.97619	0.254992	0.9629	2.657195
Within Groups	124	16	7.75			
Total	137.8333	23				

Table 4.8: Single factor ANOVA of the means of the agree statements of the Human Resource department of the 3 mills

With the F ratio less than the $F_{critical}$, we accept the null hypothesis, i.e. there is no difference in the perception of the Human Resource department of the 3 mills on the various constructs.

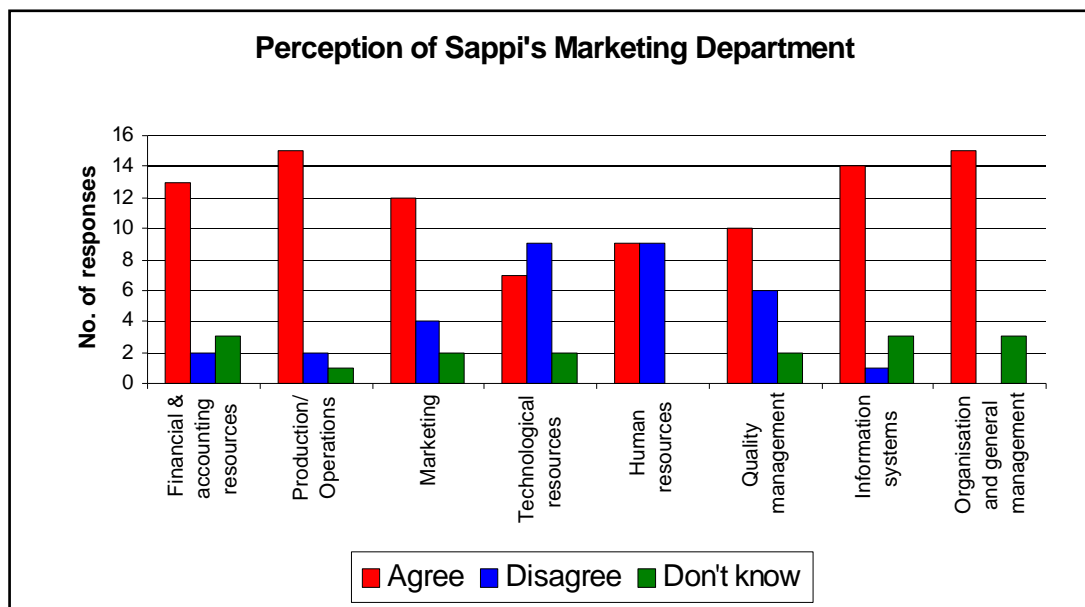


Figure 4.9: Perception of Sappi's Marketing department

The highest agreement in the Marketing department was with the Production/Operations and Organisational and General Management constructs. The Marketing department indicated the highest disagreement with Human Resources and Technological Resources.

ANOVA Mean of the Marketing department between the 3 mills

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	5.072917	7	0.724702	0.143743	0.992627	2.657195
Within Groups	80.66667	16	5.041667			
Total	85.73958	23				

Table 4.9: Single factor ANOVA of the means of the agree statements of the Marketing department of the 3 mills

With the F ratio less than the $F_{critical}$, we accept the null hypothesis, i.e. there is no difference in the perception of the Marketing department of the 3 mills on the various constructs.

4.5 Perception at the Various Mills

4.5.1 Perception at Tugela Mill

Mill	Department	No. of responses
Tugela	Production	10
	Engineering	17
	Administration	5
	Technical	10
	Human Resources	3
	Marketing	2
	TOTAL	47

Table 4.10: Response of the various departments at Tugela mill

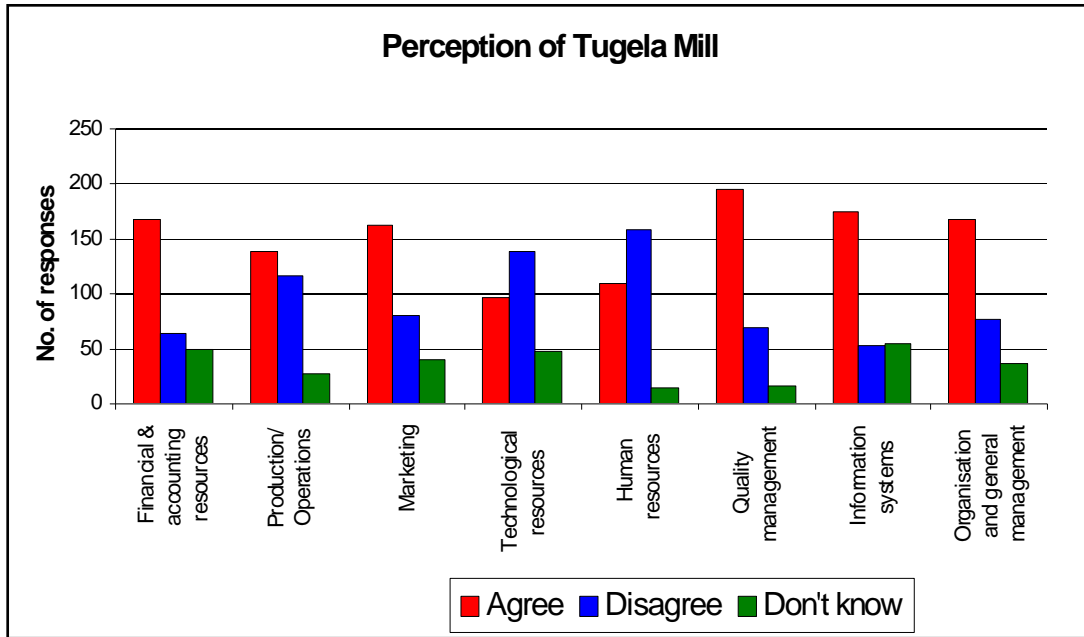


Figure 4.10: Perception of Tugela mill’s management

Tugela mill’s management has indicated the highest agreement with Quality Management and the highest disagreement with the Human Resource statements. Their knowledge was fair, as the number of ‘don’t know’ responses were almost the same for all the constructs.

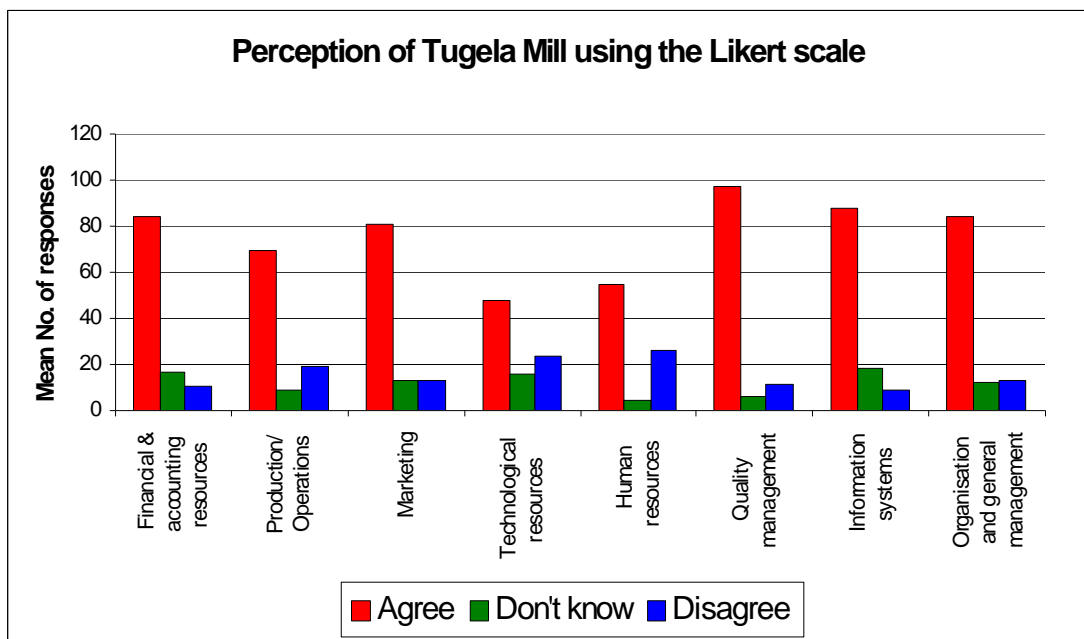


Figure 4.11: Perception of Tugela mill’s management using the Likert scale

Using the Likert scale, the same trend as indicated above can be seen.

The graphical representation of the various departments at Tugela mill is shown below.

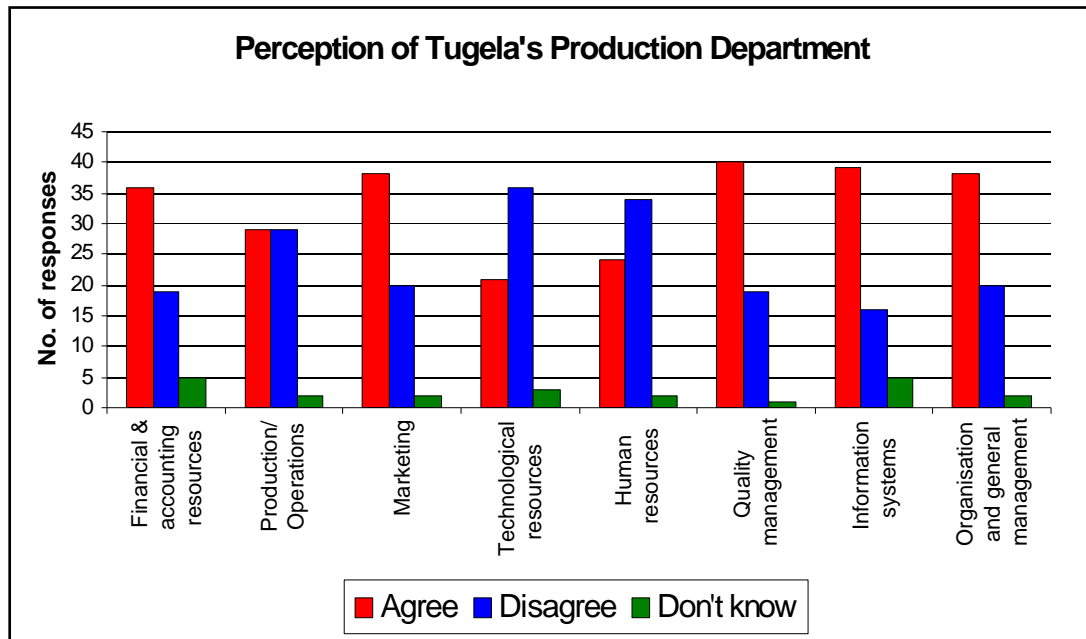


Figure 4.12: Perception of Tugela's Production department

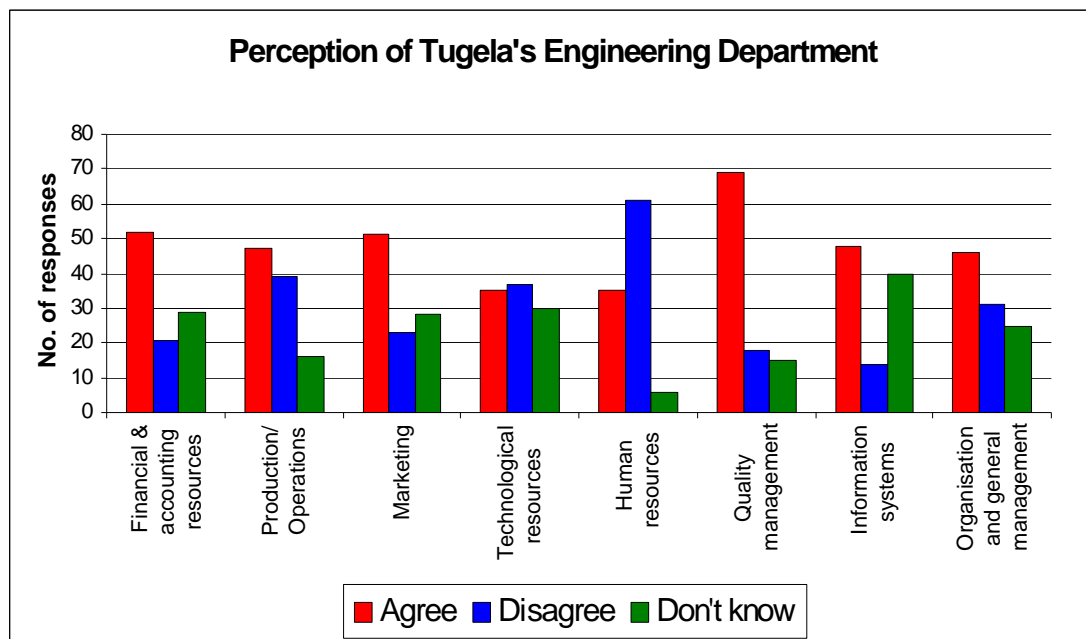


Figure 4.13: Perception of Tugela's Engineering department

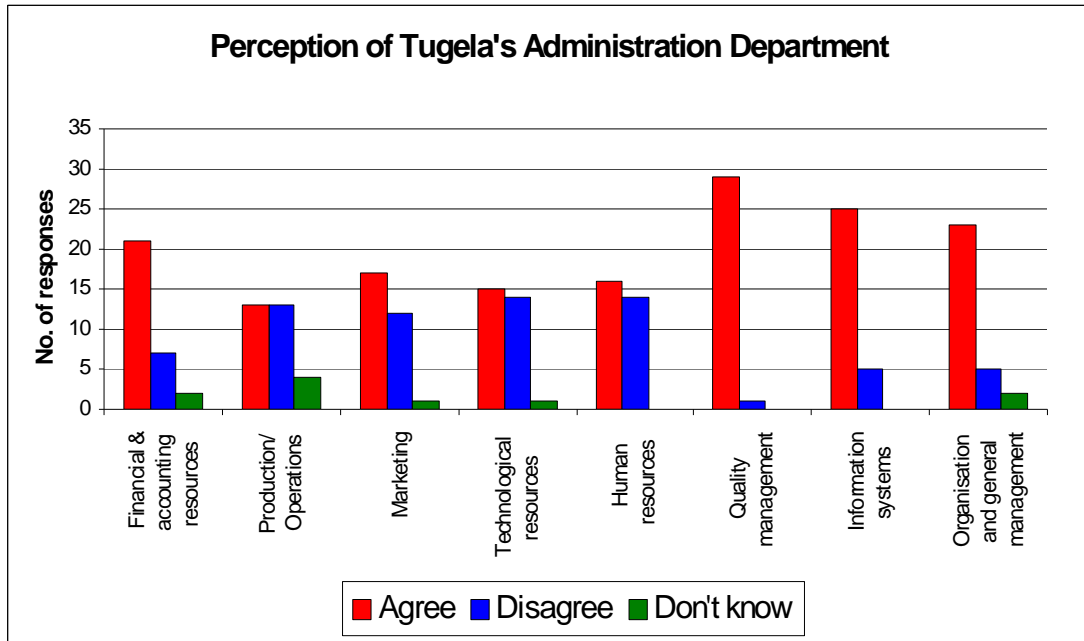


Figure 4.14: Perception of Tugela's Administration department

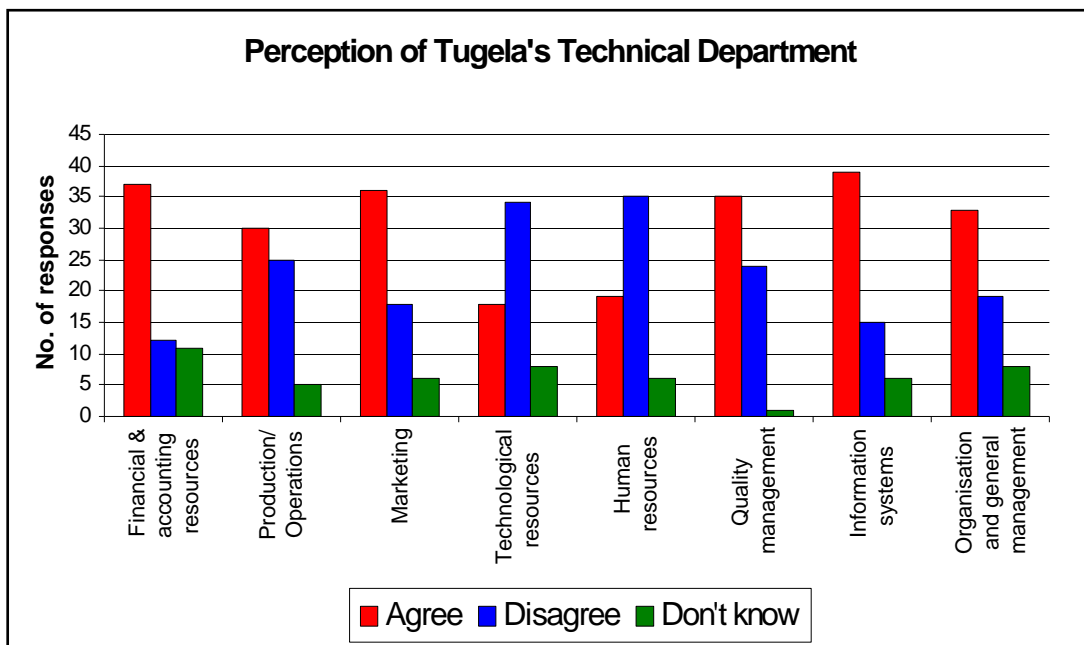


Figure 4.15: Perception of Tugela's Technical Department

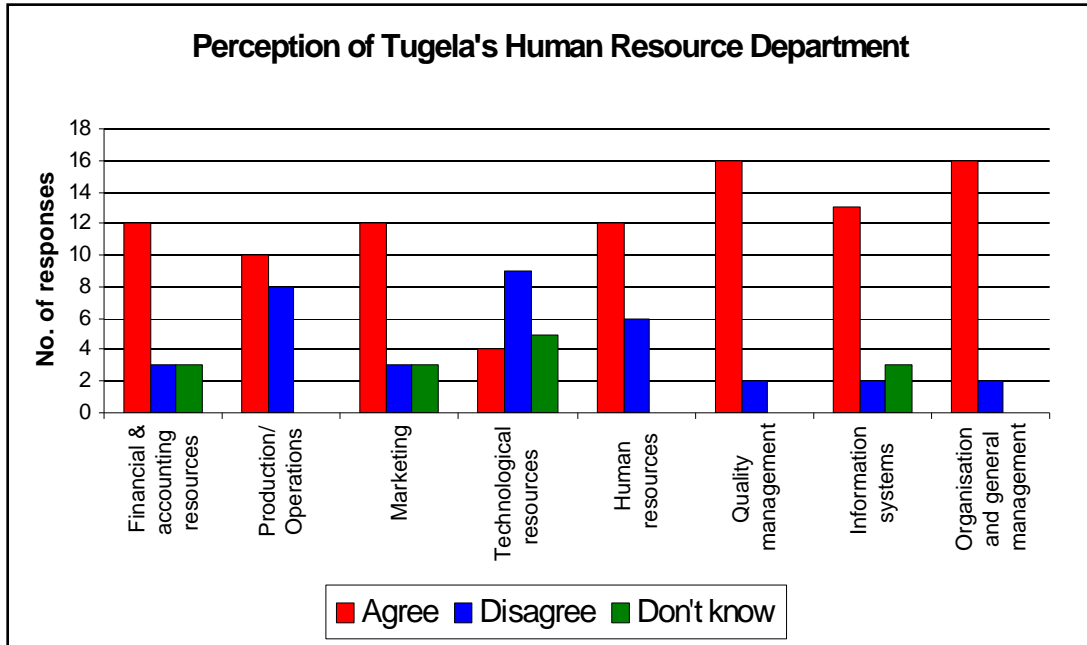


Figure 4.16: Perception of Tugela's Human Resource Department

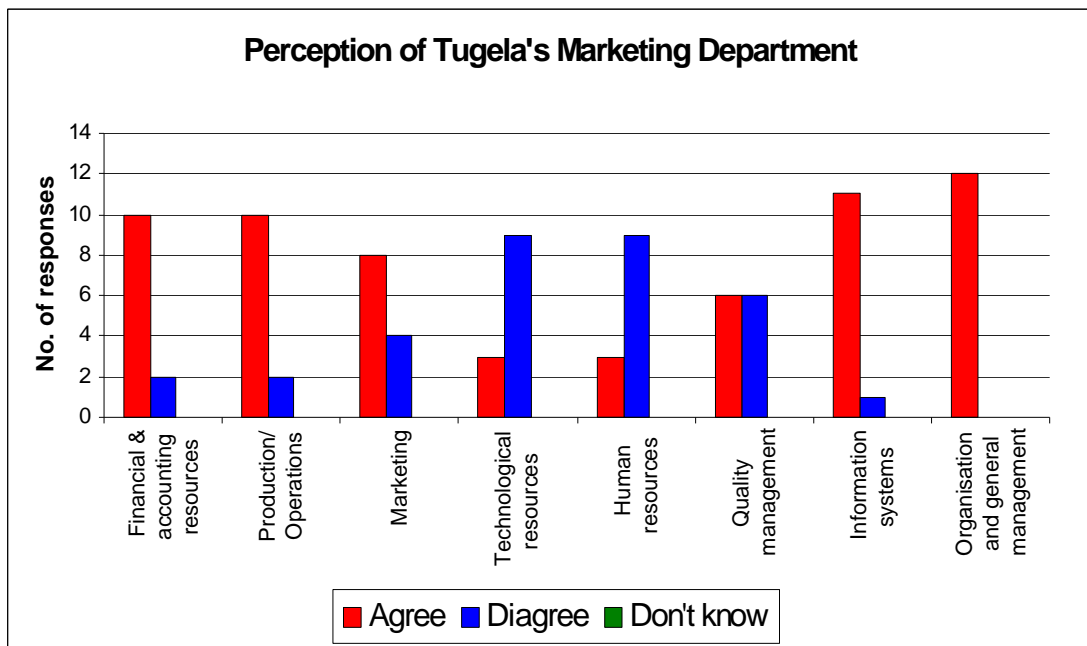


Figure 4.17: Perception of Tugela's Marketing department

4.5.2 Perception of Ngodwana mill

Mill	Department	No. of responses
Ngodwana	Production	7
	Engineering	9
	Administration	2
	Technical	9
	Human Resources	1
	Marketing	1
	TOTAL	29

Table 4.11: Response of the various departments at Ngodwana mill

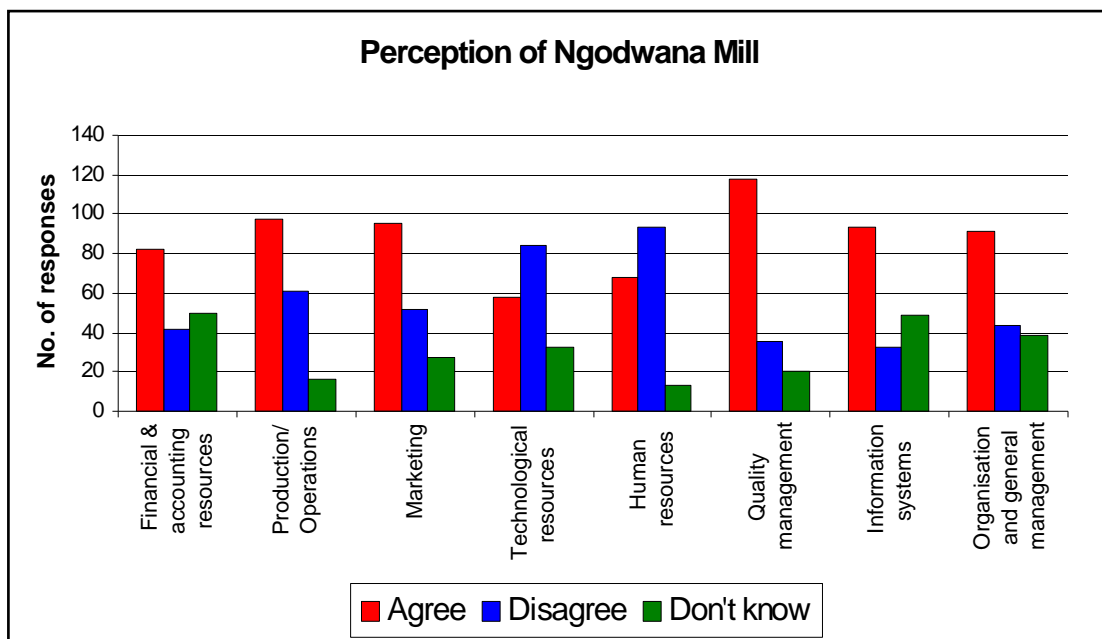


Figure 4.18: Perception of Ngodwana's mill's management

Again, there was the highest agreement with the Quality Management construct questions and the highest disagreement with Human Resources questions. The analysis of management from Ngodwana mill showed very similar trends to that from Tugela mill.

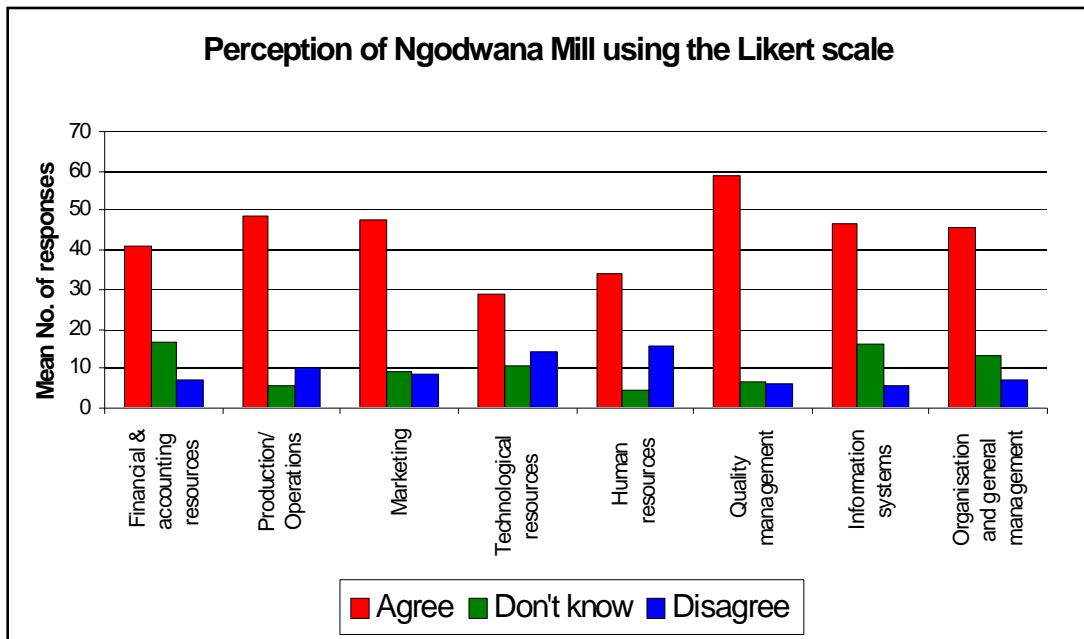


Figure 4.19: Perception of Ngodwana’s mill’s management using the Likert scale

These trends just reinforced those described above in figure 4.18.

The graphical representation of the various departments at Ngodwana mill is shown below.

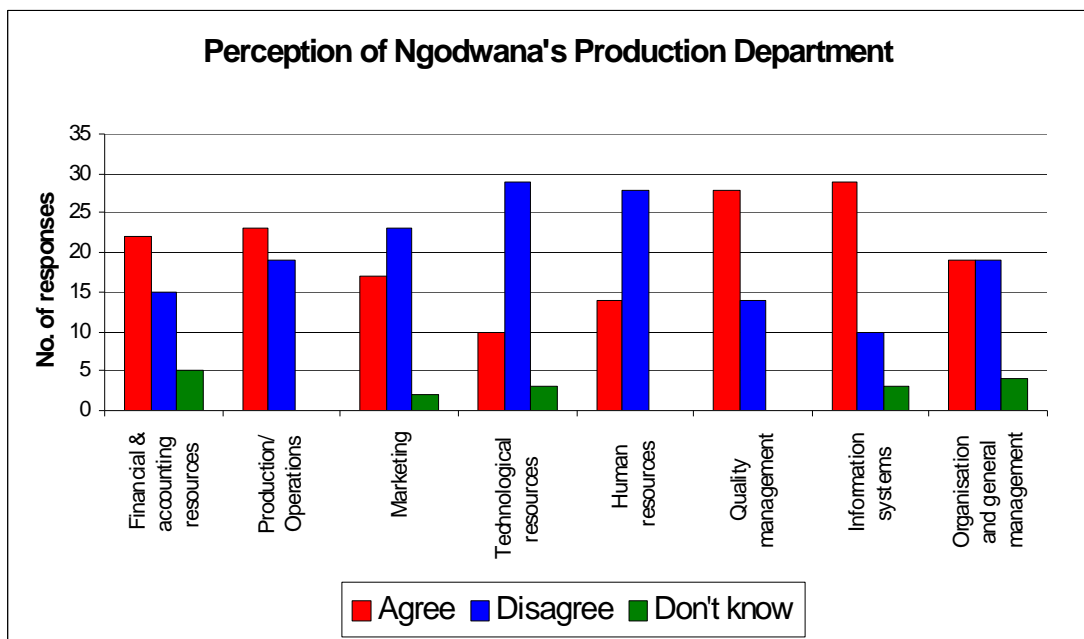


Figure 4.20: Perception of Ngodwana’s Production department

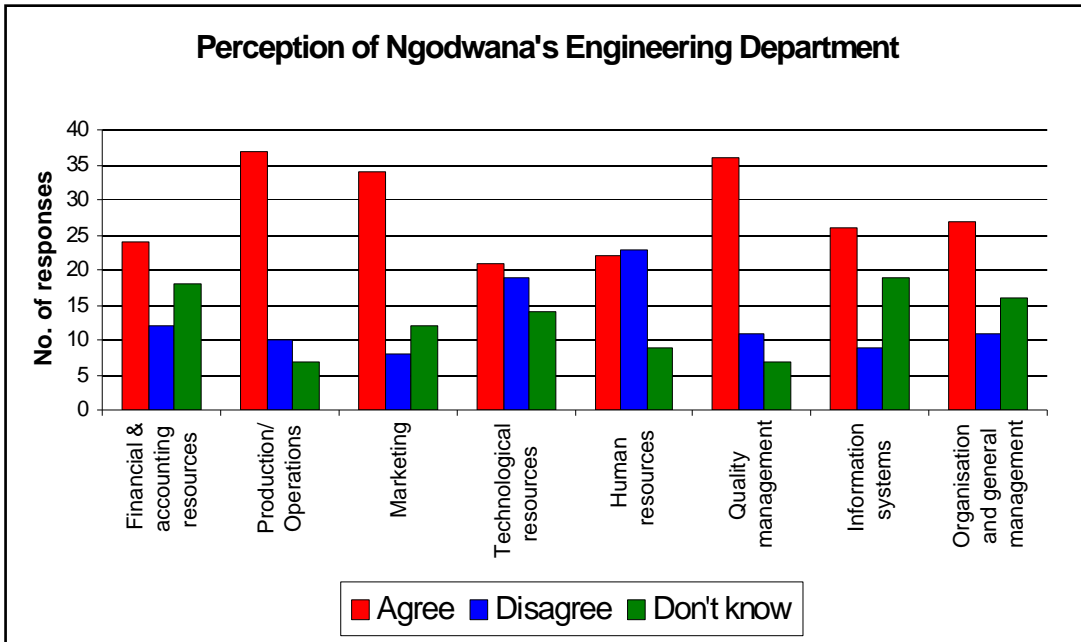


Figure 4.21: Perception of Ngodwana's Engineering department

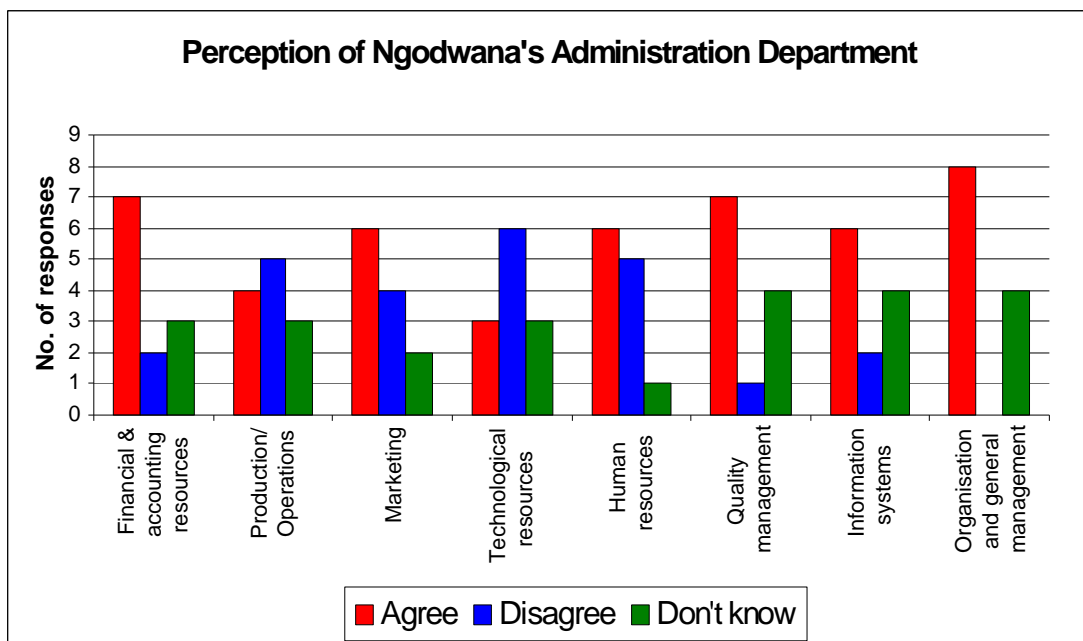


Figure 4.22: Perception of Ngodwana's Administration department

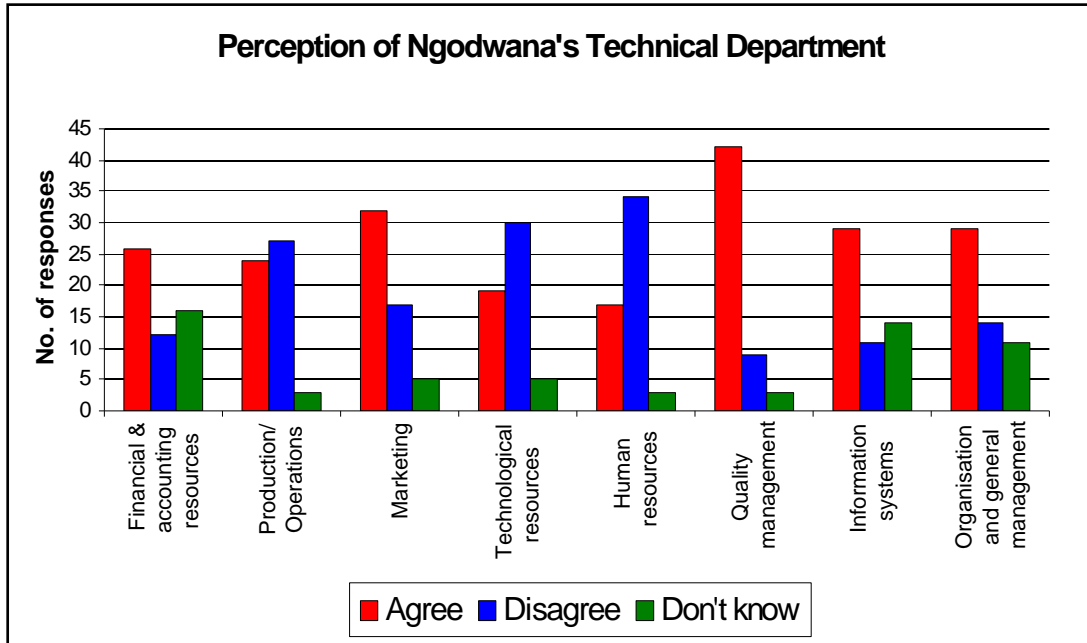


Figure 4.23: Perception of Ngodwana's Technical department

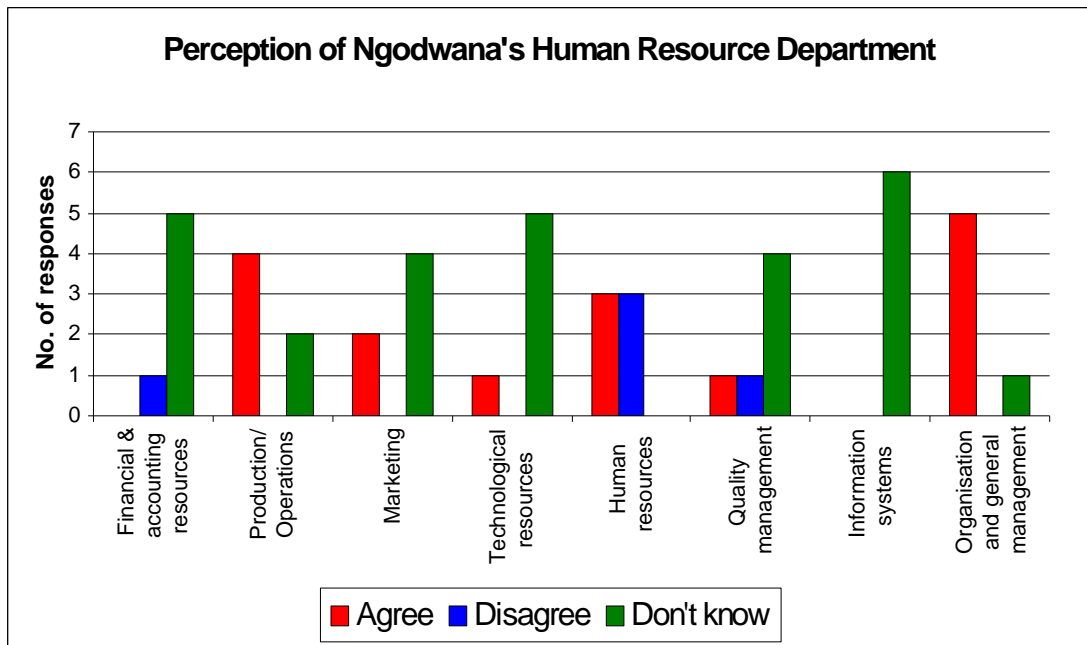


Figure 4.24: Perception of Ngodwana's Human Resource department

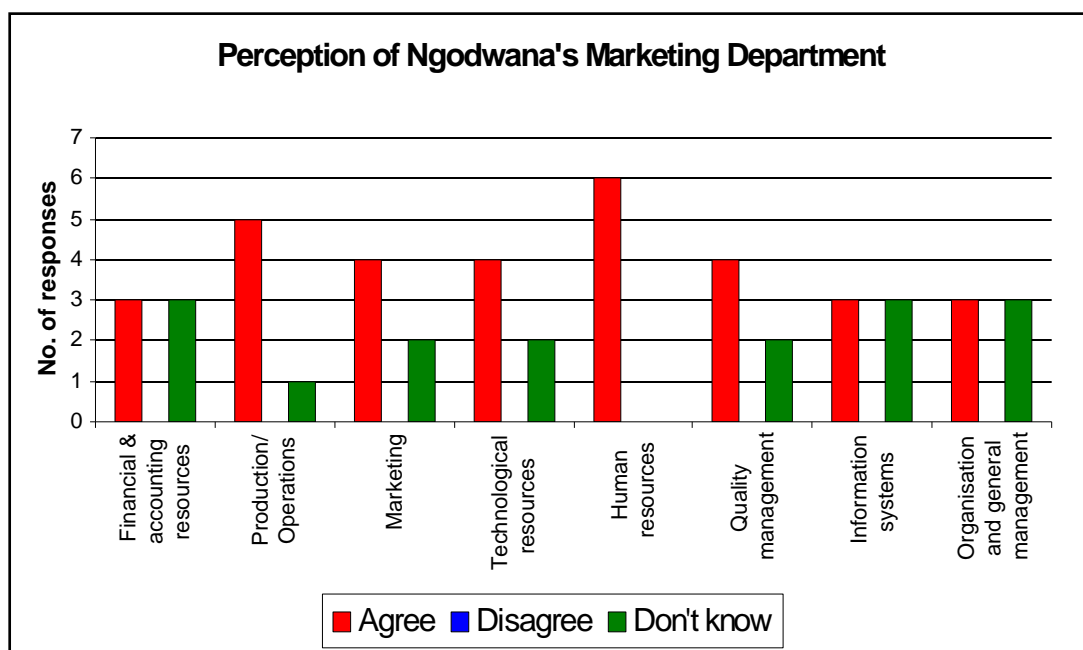


Figure 4.25: Perception of Ngodwana's Marketing department

4.5.3 Perception of Cape Kraft mill

Mill	Department	No. of responses
Cape Kraft	Production	1
	Engineering	2
	Administration	2
	Technical	1
	Human Resources	1
	Marketing	0
	TOTAL	7

Table 4.12: Responses of the various departments at Cape Kraft mill

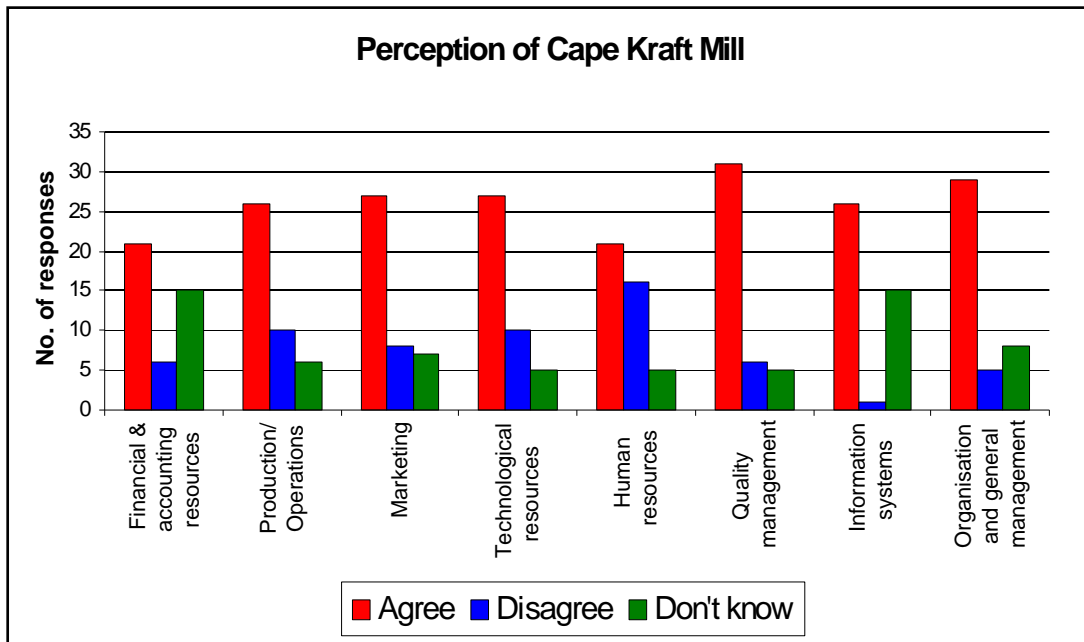


Figure 4.26: Perception of Cape Kraft mill management

This mill also showed the same trends as the previous two mills where there was the highest agreement response for Quality Management and the highest disagreement for Human Resources. These trends explain why the overall perception of Sappi Forest Products looks similar.

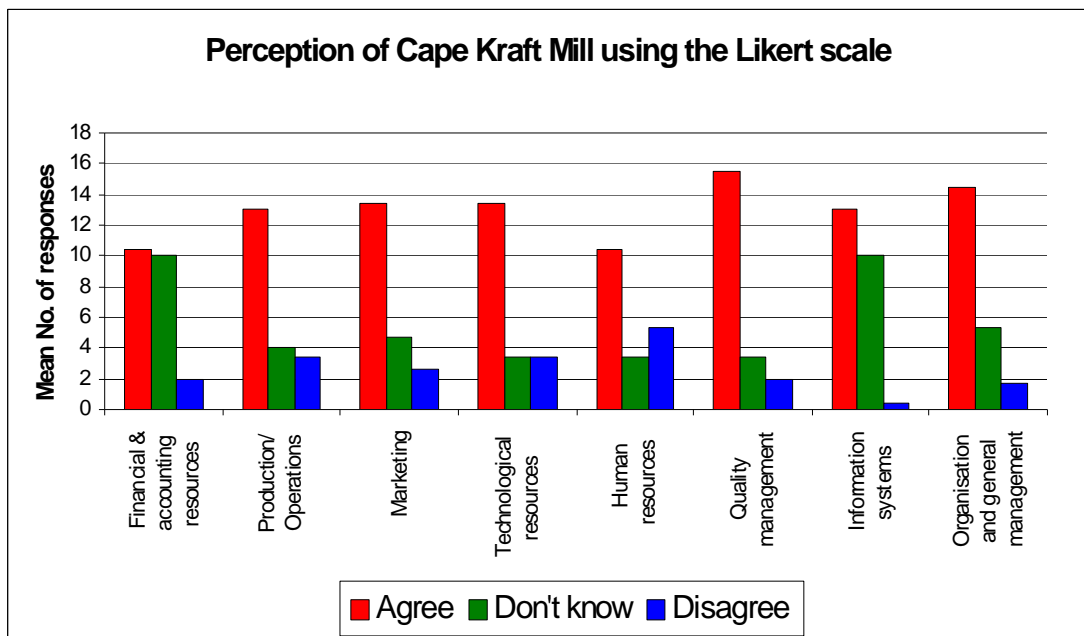


Figure 4.27: Perception of Cape Kraft mill management using the Likert scale

The graphical representation of the various departments at Cape Kraft mill is shown below.

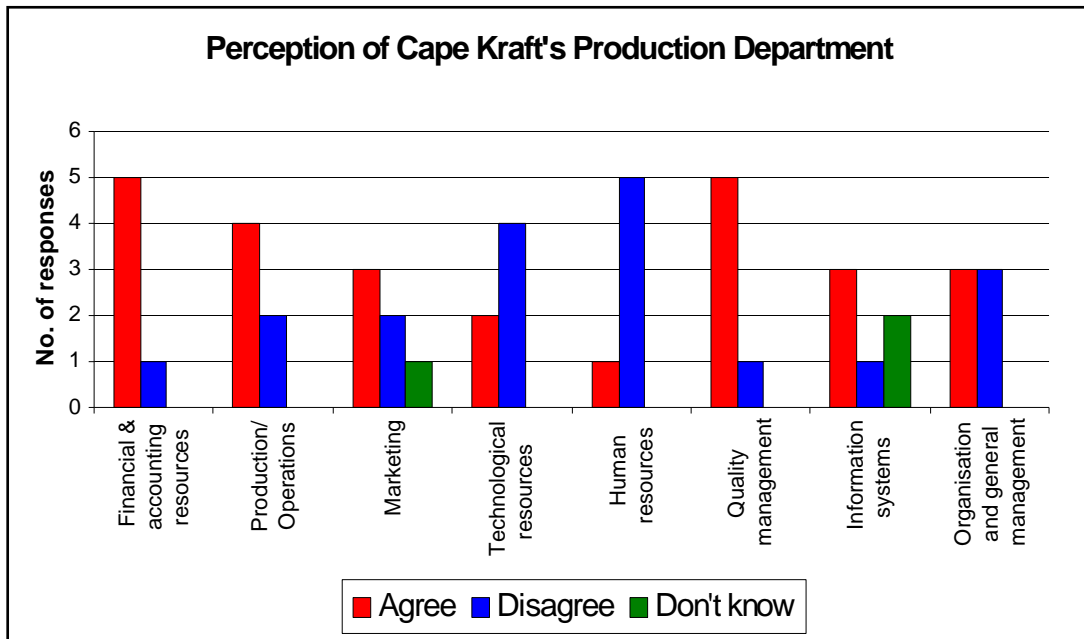


Figure 4.28: Perception of Cape Kraft's Production department

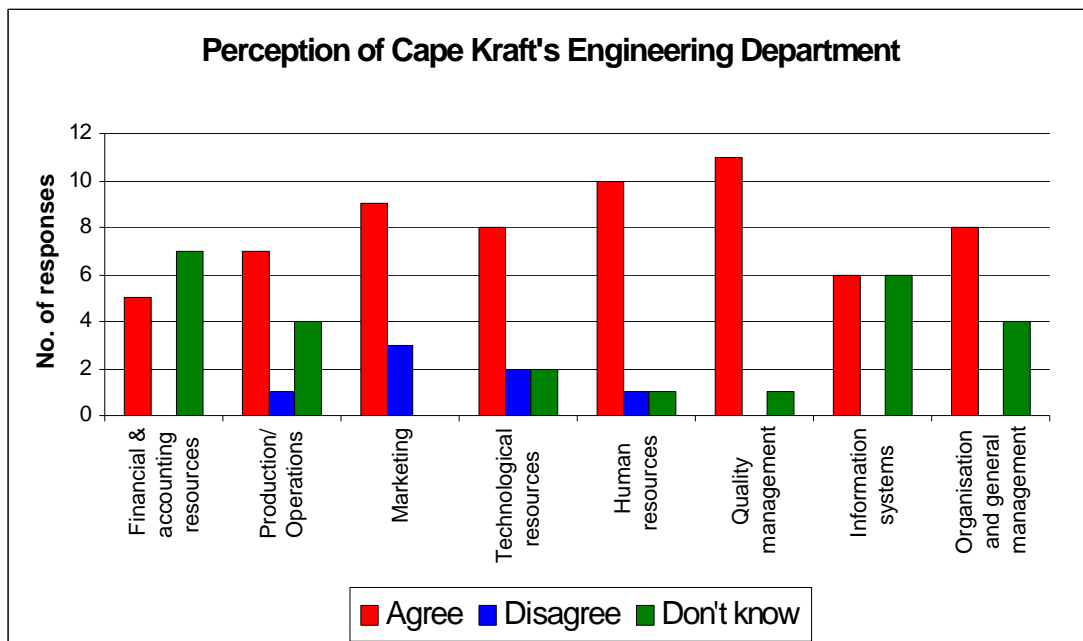


Figure 4.29: Perception of Cape Kraft's Engineering department

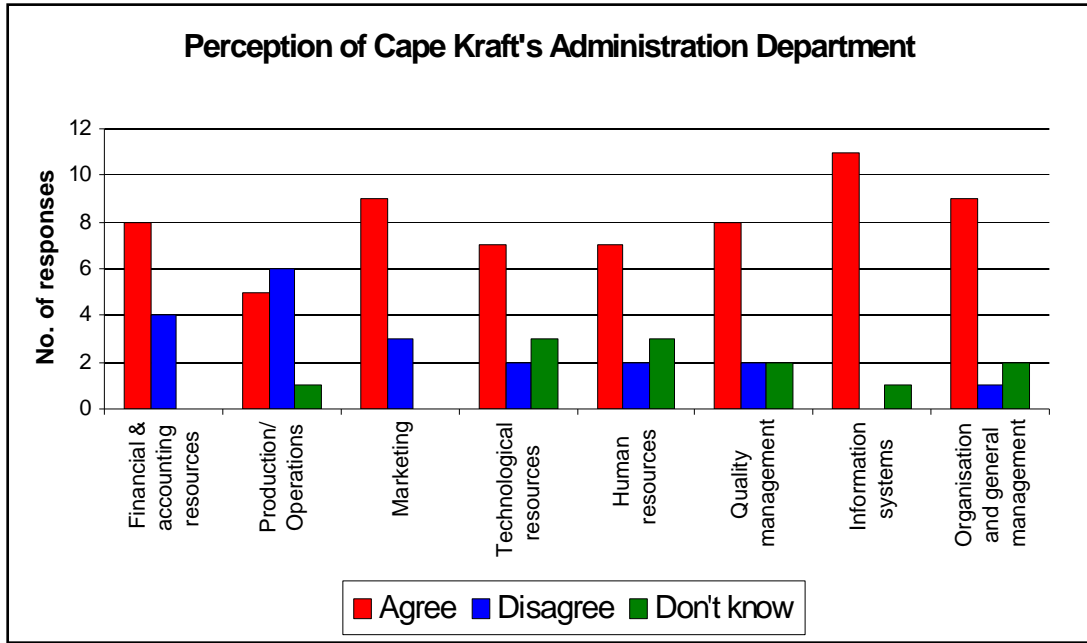


Figure 4.30: Perception of Cape Kraft's Administration department

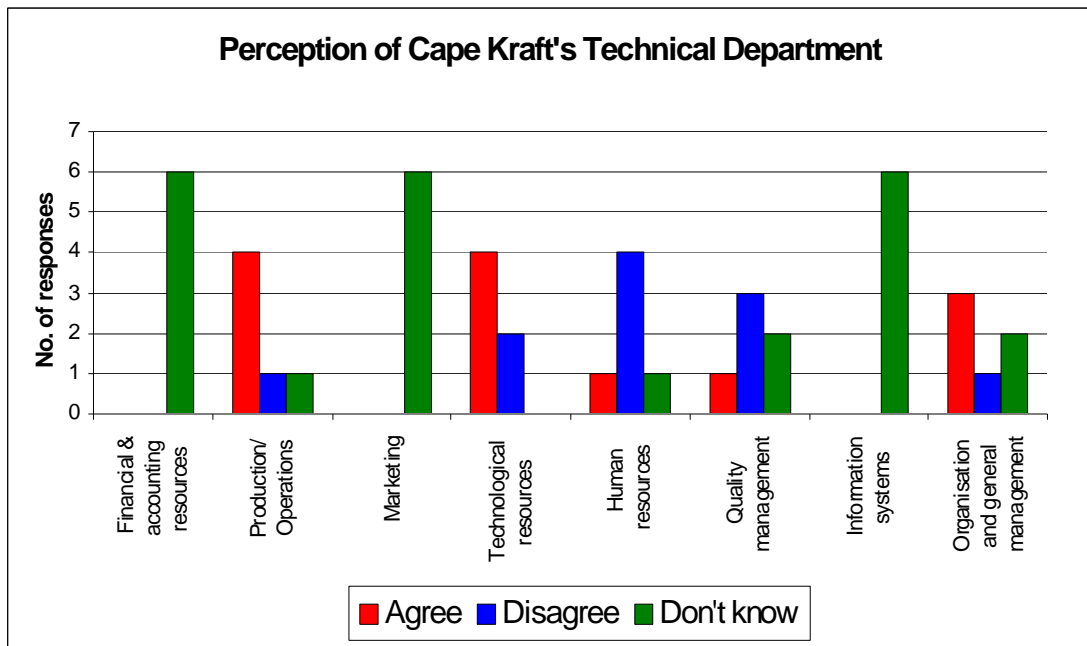


Figure 4.31: Perception of Cape Kraft's Technical department

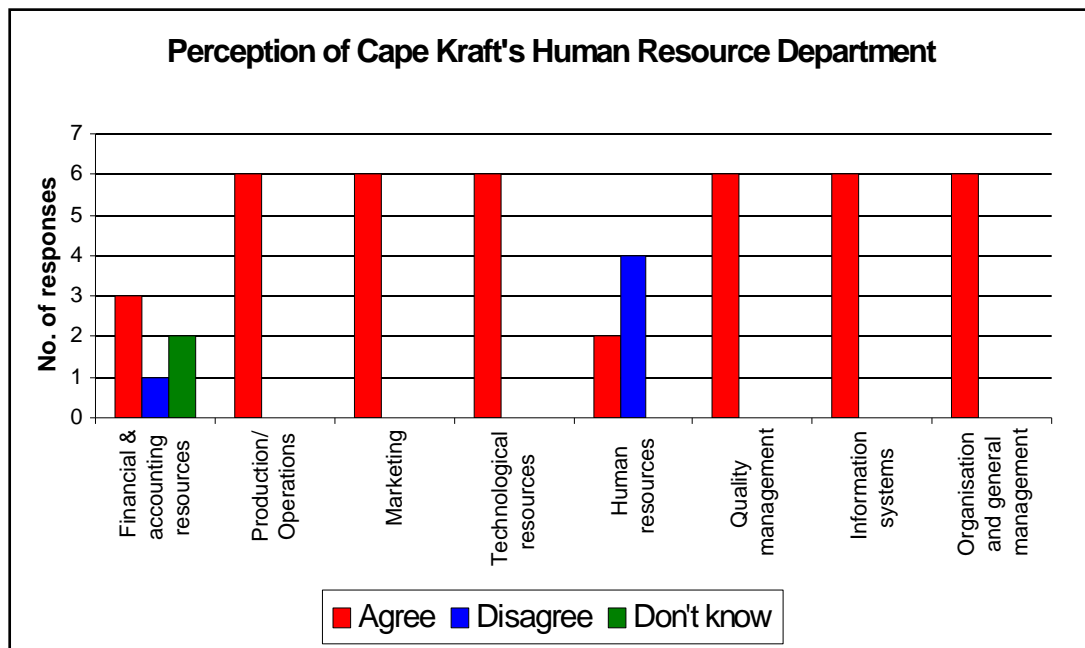


Figure 4.32: Perception of Cape Kraft's Human Resource department

4.6 Secondary Results

Examining the various articles, magazines and reports on Sappi Forest Products, a few of the constructs and themes were apparent. These are highlighted below.

4.6.1 Sappi's annual report

The constructs that were well documented include:

- ∅ Financial and accounting resources
- ∅ Human resources
- ∅ Quality management

Like other annual reports, the focus of Sappi's annual report is the performance of the company against financial objectives and any other highlights over the past year. This report is compiled for the shareholders of the company. In the contents page, there is a

chapter on Sappi's people, environmental commentary and many other chapters dedicated to financial analysis.

The chairman's statement makes mention of the above constructs amongst others i.e. technological upgrades, organisational management, marketing and productivity. In Sappi's endeavor in becoming a global leader of the products it sells, high quality, customer focus, product innovation, delivering efficiencies, reduced risk, skills development and performance mindset are all themes that Sappi highlighted in the first few pages of the report. Quality resources and marketing are the outstanding features.

4.6.2 Towards Sustainability

The constructs that were highlighted in this magazine include

- Ø Quality management
- Ø Human resources
- Ø Technological resources
- Ø Organisational and general management

This magazine is a yearly publication aimed at all the stakeholders, i.e. current and future employees, customers, suppliers, investors and shareholders. The contents included three categories, i.e. promoting prosperity, building human capability and striving for continuous improvement. The focus was on Sappi's core business activities and operating profitably and efficiently thus generating economic growth. It also highlights Sappi's commitment to entrench good corporate governance and maintain a culture of continuous improvement.

“Towards Sustainability” attempts to build human capability by helping people reach their full potential through skills and personal development and by promoting a diverse workplace. It helps to empower people and communities through education and training and other social investment programmes. In order to maintain sustainability, it requires continuous improvement in all aspects of its business.

4.6.3 Sappi News

Its focuses on the following constructs

- Ø Marketing
- Ø Technological Resources
- Ø Financial news
- Ø Quality and Environment
- Ø Human Resources

This is a bi-monthly in-house publication for the employees and stakeholders. It focuses on the business at present and the future (six months planning). Marketing, product development and people are the focus for this magazine. The above constructs appear in the contents as well.

4.6.4 Sappi Technology

This is a quarterly publication and focuses on technological resources of Sappi and how value can be created by building competitive advantage through technology. Another focus was the technical innovation awards promoting employees to be innovative and giving recognition to those who excelled in saving money or making money via their innovations.

4.6.5 On a Roll

This is a monthly internal newsletter for the employees. It is a means of giving information and communicating all aspects of the business to the employees. It focuses primarily on people.

4.6.6 Blueprint

This is a weekly newsletter giving the highlights of the week to the employees. Its focus is also people and their contributions to the mills.

4.6.7 Sappi's intranet web site

This internal web site is for the employees, giving information on all aspects of the mills from the various departments, production, advertisements, telephone directory etc.

4.6.8 Sappi's internet web site

This is accessible to all who surf the internet. It has all the information pertaining to the company, history, annual reports and Sappi's achievements in all aspects from production to marketing and organisational and general management.

4.7 Conclusion

All three mills surveyed indicated the same trend, i.e. highest agreement for Quality Management and highest disagreement for Human Resources statements. Management had little insight into the Financial and Information Systems. Within the various departments, the trend varied slightly as indicated in the table below.

Highest Certainty in these statements:

Mills / Department	Agree	Disagree	Don't know
Sappi Forest Products	Quality management	Human resources	Information systems
Tugela mill	Quality management	Human resources	Information systems
Ngodwana mill	Quality management	Human resources	Financial resources
Cape Kraft	Quality management	Human resources	Information systems & Financial resources
Production	Quality management	Technological resources	Information systems & financial resources
Engineering	Quality management	Human resources	Information systems
Administration	Quality management	Technological resources	Operations
Technical	Quality management	Human resources	Financial resources
Human Resources	Organisation & general management	Human resources	Financial resources & Technological resources
Marketing	Operations and Organisation & general management	Human resources & Technological resources	Information systems & Financial resources

Table 4.13: Summary of the Perception in the various categories

The secondary results affirm the findings from the survey questionnaire. However, with so much emphasis on Human Resources, there is still a negative perception of this construct. It will be interesting to see why this perception is so. The next chapter will analyse and discuss the reasons for these findings and how they relate to the literature review.

Chapter 5: Discussion of Results

5.1 Introduction

This chapter discusses data and results of the previous chapters. It attempts to give an explanation of the trends and phenomena observed in the results. Discussions on all the constructs are given below. As quality management was seen as the construct that gave Sappi Forest Products a competitive edge, a more detailed explanation on this will be given. The discussion is based on collation of the secondary data and references to the literature review will be made where appropriate.

5.2 Resource Audit

In chapter 4, the results of the internal resource audit, as described by Coulter (1998:132), were given, which assessed the organizational strengths and weakness of the various functions. This was achieved by utilizing the survey questionnaire, as described by Lewis and Gregory, where top managers were asked a series of questions about the activities of the business (Lewis and Gregory, 1996:100). Just as Porter's value chain approach (Porter, 1987:46) starts with the premise that every organisation needs customers and needs to provide value to those customers in order to achieve a competitive advantage, the internal resource audit starts with the premise that every organisation has certain functions that it must perform (Coulter, 1998:132). In pursuing a sustainable competitive advantage, these functions may be performed well or performed poorly.

This assessment concentrates on the availability or lack of critical resources, and the level of performance in organizational routines and processes (i.e. work activities being done) in each of these functional areas. Strategic decision makers use this

internal audit to assess the organization's resources and capabilities from the perspective of its different functions. It gives an understanding whether the resources and competences fit the environment in which the organization is operating. Many of the issues of strategic development are concerned with changing strategic capability to better fit a changing environment. The organization's capability may be the leading edge of strategic developments, in the sense that new opportunities may exist by and exploiting the organization's unique resources and competences in ways which competitors find difficult to match stretching (Johnson and Scholes, 1999:150). Taking Day's model (given in figure 3.1) one step further gives the following relationship.

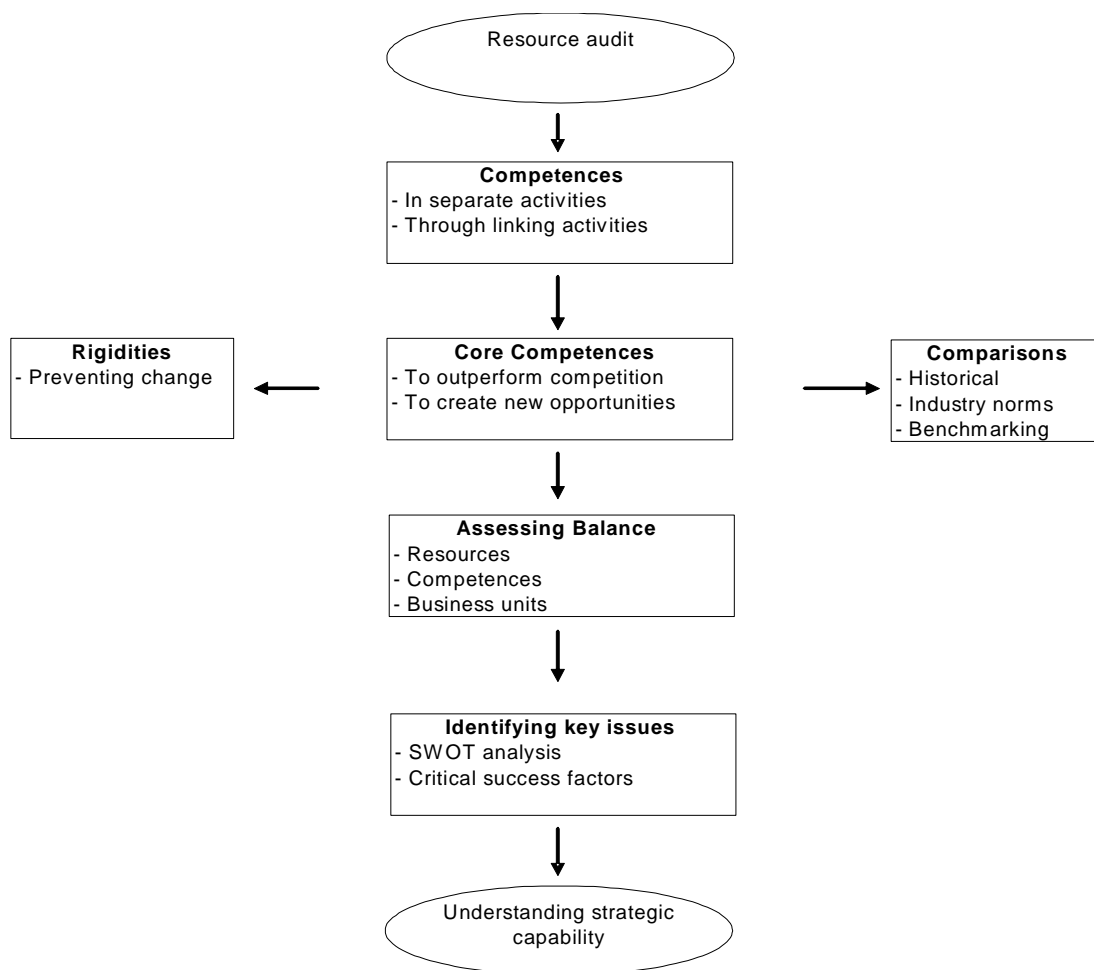


Figure 5.1: Analysing Strategic Capability (Johnson and Scholes, 1999:151)

From the above figure, assessing the competence requires an analysis of how resources are being deployed to create competences in separate activities, and the processes through which these activities are linked together. According to Johnson and Scholes (1999:153), the key to good or poor performance is found here rather than in the resource per se. The resource audit is useful in understanding and describing these activities and linkages. The above figure provides a systematic way to move from an audit of resources to a deeper understanding of strategic capability.

5.3 Core Competence

Analysis of the survey and secondary information shows that Sappi places great focus on Quality Management. All the mills indicated the same trend –highest agreement on the quality management statements. Quality management is an integral part of the business. Every aspect of the business involves quality and the standard to which those tasks are measured – from planting the seedling to dispatching the paper to the customers.

According to Hall's (1992:137) finding, one of the most quoted intangible resources that contribute to sustainable competitive advantage is quality. His findings were based on six case studies. However, Powell's findings were contradictory when he examined TQM's ability to sustain competitive advantage. He concluded that quality, training, process improvement and benchmarking - the elements of TQM - do not offer a competitive advantage (Powell, 1995:37). Powell proposed that TQM might not be inimitable in many firms because it required a complete restructuring of culture. His results showed that firms that have had TQM longer do not have significantly higher performance, so those that implement it late in the game are not

lost. However, he suggests that TQM provides a means to understand and acquire resources a firm needs for a competitive advantage.

Unique skills and resources do not automatically create competitive advantage; it is developing, investing in and constantly reevaluating these resources and skills that provide a superior financial return (Stalk et al, 1992:65). It is not surprising that in the analyses of Sappi Forest Product a great deal of focus, development and investment has taken place in terms of continuous improvement in quality management. An analysis of each of the statements on quality management given in the survey questionnaire is given below.

5.3.1 Quality Management

A discussion on each statement in the questionnaire on quality management will be given below.

5.3.1.1 There are continuous improvements in the production process

Over the past year, the Sappi Forest Product has spent over R400 million (Sappi, 2003) to enhance their product offering. Sappi commissioned the rebuild of their Sack kraft machine, PM4, at Tugela, which was designed to improve the quality of the product that is used for heavy duty requirements such as cement and potato sack paper. They upgraded the washing systems at Usutu mill to produce cleaner pulp for their customers and installed a linerboard coater at their Cape Kraft mill to produce a new range of print-friendly packaging paper. Ngodwana mill spent R60 million (On the Roll, 2003) replacing the furnace tubes to maintain reliability and production of their units.

At Tugela mill, they have moved away from the conventional batch cooking process to continuous digestion of the wood chips and recently modified the cooking process in order to recover more liquor. All of this was done to increase the throughput and improve the quality of pulp used in the paper machines.

Every year, there is an approximate total of R20 million for improvements in production at the various Sappi Forest Product mills. For the 2004 financial year, Tugela mill will have an upgraded and improved washing plant at a cost of R105 million, which will produce cleaner pulp for the paper machines and increase production in the process. Sappi is serious in maintaining its competitive edge over its rival Mondi in this country, and the strategy it is pursuing is providing superior quality paper to its customers.

5.3.1.2 Practice of successful TQM methods designed to continuously improve value, quality and performance

Sappi has entrenched TQM in all aspects of their value chain process. All the processes in the production of paper from the forestry until the finished paper warehouse are analysed via the TQM process. Sappi Forest Product's goal is to achieve world class standards by utilising these tools. As a result of utilising these methods, Sappi Forest Products produces the cheapest pulp for the paper making process. It has given Sappi a competitive advantage over its rivals.

Internally, in the value chain process, there are quality specifications and each department has the right to reject sub-standard products being sent to its process. Each department operates as a mini business unit and the performance of each mini

business unit manager is assessed according to the quality and throughput of the products processed via that department. This is part of the management incentive scheme that is filtered to lower management levels. In this way, every employee is responsible for the quality of products sent from his/her department. This brings about teamwork and empowerment.

Teamwork brings people together from different functional areas into groups (multi-disciplinary teams) that can enrich the decision-making process with information from many different perspectives. Empowerment gives to employees, who have direct contact with the problem, the responsibility for delivering quality, with the authority to identify problems and formulate and implement solutions.

Some of the process tools used to ensure control, determine capabilities and improve the process quality include:

- ∅ Check sheet: each process controller and artisan has check sheets for the process and equipment under his/her responsibility. Any defects and problems are identified and captured via notification in SAP (Systems Application Program) to the relevant engineering discipline for repairs and maintenance.
- ∅ Control charts: These are used by the process controllers to ensure the various processes are within the acceptable zone, i.e. the 6 sigma control.
- ∅ Cause and effect diagrams, pareto-analysis, brainstorming and process flow analysis: These are used by the multi disciplinary team (production and engineering) for problem solving, root cause analysis and to prevent reoccurrence of similar problems in future. It is also used in the training of new employees in the process.

5.3.1.3 Adheres to ISO 9000/2000, ISO 14000 and ISO 18000 requirements

These are globally accepted quality standards. ISO 9000/2000 is related to the quality of the system management, ISO 14000 is an environmental management system while ISO 18000 is a quality standard related to safety, health and environment. These standards are independent third part evaluations of the company's practices and are also benchmarks which enable the company to measure their progress towards environmental compliance. In addition, certification offers assurance to customers that Sappi's products are produced in an environmentally responsible manner.

Sappi recognises that its operations have an impact on the environment. They own and manage some 540 000 hectares of land used for growing trees. It is clear that their operations have an impact on the environment. They strive for continual improvement in the management of this impact on the environment and use globally recognised management systems to monitor their progress. Sappi recognises that responsible environmental management of natural resources, linked with social responsibility, are the requirements of sustainable development.

Sappi's range of products is produced from renewable resources - fibre from forests together with pre- and post-individual waste. In Southern Africa, this fibre is sourced mainly from their own tree farm, which is managed in accordance with Forest Stewardship Council Certification guidelines. In South Africa, Sappi was the first in the forest products industry to develop an Environmental Code of Practice (in 1989) and institute an annual environmental audit. It standardised environmental management throughout Sappi's tree farming operations which is an ongoing means to monitor the application of their environmental management system.

In South Africa, Sappi has continued their work on developing Integrated Water Management plans at five of the mills. These plans are being developed in conjunction with the regulatory authorities to meet the requirements of the National Water Act of 1998. The implementation of continuous air emission monitoring programmes, as well as committing capital, has led to significant improvements at the Ngodwana mill. Similar programmes are starting to show benefits at the Stanger and Tugela mills. Further improvements are expected in the year ahead.

During 2003 the expansion of LignoTech South Africa, a joint venture between Sappi and Borregaard of Norway, was completed. Now 250,000 tons a year of effluent from Sappi Saiccor, which were previously directed to the sea, are converted to saleable products in the expanded operation. The LignoTech plant extracts and beneficiates lignin from the calcium lignosulphate contained in the waste stream. Lignin based products are used as dispersing agents in concrete, textiles dyes, pesticides, ceramics and as binding agents in briquetting, animal feed and dust suppression.

A cross-regional team is responsible for identifying best practices and advising the group on compliance. This environmental cluster focuses specifically on water consumption, effluent treatment, emission reduction and compliance, solid waste disposal and the efficient use of energy.

5.3.1.4 Adheres to strict quality specifications with suppliers and customers

Sappi adheres to a strict code of conduct with its suppliers and ensures that it complies to its customers requirements. Some of these procedures are as follows: There is a rigorous questionnaire that potential suppliers have to comply with before

being placed on the vendors list. Depending on the potential value of the business, and the motivation by the plant personnel for reasons to place the potential supplier as a vendor, the Sappi personnel also has to visit the site of the potential vendor to verify the claims made and to ensure that these are suppliers with credentials. On a yearly basis, the suppliers are audited randomly to ensure that they still adhere to Sappi specifications.

The same rules that apply to suppliers, Sappi applies to itself to ensure the highest quality paper is dispatched from its mills to the various customers. As part of its core values, Sappi Forest Products has given its commitment to supplying quality paper to its customers. If the quality does not meet stringent requirements, the paper is rejected and re-processed. Customers are welcome at anytime to verify, via an independent third party, the quality of the paper sent to them and are compensated by Sappi if there are discrepancies to the detriment of the customer. The customer also audits the papermaking process at the various mills to ensure that the systems are satisfactory and the product they receive is manufactured in an environmental friendly manner.

5.4 Weakest Resource

The questionnaire showed that management perceived human resource to be the weakest resource of Sappi Forest Products. While people are clearly tangible, the resources that they offer to the business are their skills, knowledge, and reasoning and decision-making abilities. Identifying and appraising the stock of human capital within a firm is complex and difficult (Grant, 1997:125).

Individuals' skills and capabilities can be assessed from their job performance, from their experience, and from their qualifications (Grant, 1997:125). However, these are only indicators of individuals' potential. The problems of recognizing individuals' abilities are exacerbated by the fact that people work together in teams where it is difficult to observe directly the contribution of the individual to overall corporate performance.

Hall did a study when surveying CEOs (chief executive officers) in the United Kingdom, where they were asked to rate the contribution of 12 resources: reputation of products; know-how of employees; know-how of suppliers; know-how of distributors; networks; data bases; public knowledge; trade secrets; contracts; intellectual property; specialist physical resources; and organisational culture (Hall, 1992:136). According to Hall's study (1992:137), company reputation, product reputation, and employee know-how were rated as the most important contributors to a company success. There was little difference between industries.

If Sappi Forest Product needs to change this resource into a strength which can become path of the core competencies, then it will need to consider the value of its employees more seriously. The quicker they recognize that it is not just individuals' expertise and knowledge that is important but the ability of employees to work effectively together, the quicker will they change this resource into a strength that will be the envy of its competitors. As Prahalad and Hamel (1990:89) suggest; more time spent on the budget allocation process and less on competing for the best people and their development makes a company lose out.

As the pace of change increases and the economy changes, organisational capabilities are becoming very important to companies like Sappi Forest Products. It is the task of human resource professionals to develop organisational capabilities (Ulrich, 1987:172). According to Ulrich (1987:172), Sappi Forest Products needs to see that organisational capability is more than just people. People represent a critical aspect of organisational capability, but it is the organisation and people management systems that focus people's attention and shape their behaviour to create organisational capability.

Reviewing the secondary results indicates that Sappi Forest Products has identified this weakness and have put a plan in place. Sappi people are critical to their success like any other business. Sappi Forest Products' ability to meet the needs of global markets hinges on equipping their people with skills, knowledge, technology and confidence. These are required to prosper in a rapidly changing world, where developing knowledge calls for ever-increasing levels of skills and expertise. Sappi is focusing on helping their people grow, develop and build their potential in keeping with their business philosophy of continuous improvement. They are further committed to promoting a racially, culturally and ethnically diverse workplace, entrenching a culture of safety and engaging with their stakeholders.

The year 2003 saw the launch of two significant global initiatives: the introduction of Sappi leadership competencies and an updated performance management review process. The former focuses on the need to build leadership capability for the future while the latter is focused on developing a standard format for constructive discussion around performance, people, the organisation and growth. As regards to education and

training, a key component of their people management toolkit is the talent review process. The process ensures that a quality discussion around performance and potential is held on each employee, which results in talent being identified early so that the appropriate development opportunities are afforded to these young individuals. This is all carried out with the objective in mind of building a strong leadership bench within Sappi Forest Product.

Training is another top priority at every level in all their operations. Sappi people will receive diversified training according to their position and needs, which are ascertained through the comprehensive annual performance management system. Currently, their global average number of training hours per employee is just over 32 hours annually. This will be doubled within the next three years.

Sappi seeks to offer their employees a remuneration package that fairly rewards performance and skills and is competitive in the environments in which they work. Where appropriate, they favour incentive-based remuneration which rewards performance, particularly exceptional contributions to the company.

5.5 Analysis of the other Resources

A brief analysis of the other resources will be given. This was done to show how these resources have the opportunity to become competencies. The bases would be cost efficiency, value added, robustness and managing linkages (Johnson and Scholes, 1999:157).

5.5.1 Financial and Accounting Resources

Sappi can take some comfort from the fact that the returns on net assets remain in the upper quartile of the industry and that cash generation remained positive. Their balance sheet strengthened further from 2000 and at the year-end of 2003 they had US\$584 million in cash and cash equivalents on hand, partly a result of cash generated, but mainly as the result of taking advantage of the low interest rate environment to lock in long-term low-cost funding instruments. With a net debt-to-total-capital ratio of 30.8%, they are well positioned to ride out the current storm and to take advantage of growth opportunities when they arise.

Their priority for use of cash generated is to keep the business healthy, to pay a dividend which they aim to grow in real terms, and to invest in high return projects which should be matched against the alternative of buying back their own shares. Sappi further aims to maintain an appropriate level of gearing and their credit rating, to enable them to be as financially flexible as possible.

Sappi has implemented SAP, which provides an integrated suite of software application modules that serve to automate and standardize key business processes. To a large extent, these modules are integrated and thus give accurate product costing through the various supply chain processes. SAP highlights the areas for improvements as well as unprofitable processes. It allows for better planning across all functional areas. This gives Sappi a competitive advantage in the supply chain management system. Standardizing the business processes and transaction throughout its mill worldwide will help information flow within the organization and along the

supply chain. It also provides common base information that anyone can access in real-time.

5.5.2 Operations / Production

Sappi Forest Products division has created a successful pulp hedge for their paper divisions, which buy slightly more pulp than their Forest Products division sells. This form of economic integration significantly reduces their exposure to the violent swings in the pulp market, particularly since their Forest Products division is an efficient, low-cost producer of pulp with significant competitive advantages.

With the tree growth in South Africa much faster than their counter parts in Europe and North America, i.e. 8 years compare to 60 years to maturity for softwood tree, the Sappi Forest Product division has a competitive edge in an oligopoly market. The low energy input costs, coupled with the low raw material costs, make producing the lowest cost pulp for its paper making mills Sappi Forest Product division's core competency. The cost of producing pulp at its Forest Product division is cheapest throughout the Sappi group. This is a competency difficult for rival companies to compete with.

5.5.3 Marketing

Sappi has also made progress in internationalizing their shareholder base. Five years ago less than 10% of their shareholders were domiciled outside South Africa. Today they have a wide spread of shareholders – more than 25% of their shareholding is in the USA and in total about half of it is outside South Africa. They manufacture in eight different countries on three different continents. They sell their products in well

over 100 countries in the world, their shareholders are to be found in all corners of the globe, and they have the leading coated paper brands. Geographic diversity helped them to offset the volatile movements of the major currencies. Sappi Forest Product has strong market share position in South Africa in their main product areas of:

- Containerboard 51%
- Sackkraft 81%

5.5.4 Technological Resources

Sappi Forest Product has an integrated technological resource centre equipped with modern day technology that is the envy of its competitors. It realized that focus needs to be placed on research and development if it wanted to be ahead of its rivals. Since one of the sources of sustainable competitive advantage is continuous innovation (Peters, 1984:120), Sappi Forest Product needs an advanced up to date technological centre to meet these needs. This is also a finding of Ulrich (1987:170); i.e. competitive advantage comes from economic, strategic and technological means.

5.5.5 Information Systems

In a world where information is transferred via electronic means is a given requirement for survival, companies go to great lengths to better their rivals and provide unique value to their customers by providing e-Business. Sappi's e-commerce system allows customers to place orders online while at the same time, with the implementation of SAP, Sappi's supply management system allows for real time update of materials with its suppliers.

5.5.6 Organization and General Management

Doz and Prahalad contended that the quality of management affected competitive advantage (Doz and Prahalad, 1988:355). If two competitors have similar configurations it will be the quality of internal management that produces the competitive advantage. Sappi Forest Product has to some extent realized this. Therefore it has embarked on a programme ensuring focus on the need to build leadership capability for the future. Multi-national companies like Sappi need management that can conceive and implement complex and differentiated strategies. They added that the variables that used to provide competitive advantage; cost advantages, imperfect market knowledge, financial market imperfections (i.e. cost of capital or access to capital), and resource configurations provide less and less of a sustainable competitive advantage (Doz and Prahalad, 1988:356).

5.6 Appraising the Profit-Earning Potential of Resources and Capabilities

The profit returns of resources and capabilities depend upon the extent to which Sappi Forest Product deploys its resources and capabilities to establish a competitive advantage over its rivals. The profit Sappi can obtain from its resources and capabilities depend upon three factors each of which in turn depends upon a number of resource characteristics.

5.6.1 The Extent of Competitive advantage

For Sappi Forest Products resource or capability to establish a competitive advantage, two conditions must be met. Firstly, quality management must be scarce. If it is widely practised within the pulp and paper industry, then it will become a prerequisite for competing but not a source of competitive advantage. Secondly, quality

management must be relevant. This resource will be valuable only if they can be linked with one or more of the key success factors within the pulp and paper industry. That is, it must assist the firm in creating value for its customers or in surviving competition.

5.6.2 Sustainability of Competitive advantage

The profits earned from resources and capabilities depend not just upon their ability to establish competitive advantage but also on how long that advantage can be sustained (Grant, 1997:138). This depends on the durability of quality management upon which the competitive advantage is based and upon the rivals' ability to imitate the strategy of the company through gaining access to the resources.

If a firm cannot buy the resource or capability, then it must attempt to replicate it. Replicating quality management may appear simple but may prove difficult. This is similar to the Japanese companies' continuous improvement through quality circles (Grant, 1997:138). Despite the fact that neither sophisticated knowledge nor complex operating systems are required, their dependence on high level of collaboration has meant that many American and European firms have encountered difficulties in implementing them (Grant, 1997:138).

5.7 Conclusion

From the above discussion it can be seen that Sappi Forest Products has great potential to develop and build its various resources into competencies and thus stay ahead of its rivals. Although Sappi Forest Products will need to reach a threshold level of competence in all the activities it undertakes, it is only some of these

activities which will become core competencies. In Sappi Forest Products case it is quality management.

The resource audit identified the resources available to Sappi Forest Products to support its strategies. As was seen, some of the elements of these resources were unique, in a sense difficult to imitate – e.g. quality management, SAP implementation, low cost pulp, quicker growth of trees, low production cost, integrated technological centre, over 50% of the local market share of the product it manufactures and returns on net asset which remain in the upper quartile of the industry.

The challenge for Sappi Forest Products is to build these resources into competences, which will become core competencies when it performs these activities better than its competitors, and when its performance is difficult to imitate. The basics of competencies are cost efficiency, value addition, managing linkages and robustness. The final chapter of this report will present the conclusions and the recommendations from this study.

Chapter 6: Conclusions and Recommendations

6.1 Introduction

The purpose of this chapter is to present the insights gained from the research findings. Chapter 1 gave an introduction to the research with its objectives, methodology, delimitations and assumptions for this study. A greater insight was given to the two objectives as a preamble to the literature review which followed in chapter 2. The various theories and models were discussed with major focus on resource-based theories, which also formed part of the constructs of the questionnaire. The strategic models on core competencies were also given with empirical research incorporating the research based view. In Chapter 3 the methodology was described for the research incorporating the research design, definition of the constructs and the research steps while chapter 4 presented the results of the data analysis. Chapter 5 presented an analysis and discussion of the results in order to present propositions and conclusions for this study which is included in this chapter.

Before providing suggestions and propositions for future research into the resource-based view on core competencies, a short review of the findings from the survey will be presented.

6.2 Conclusions

6.2.1 Overall perception of Sappi Forest Products

Sappi's management showed the highest agreement with the statements on quality management, followed by information systems and organization and general management. On human resources, they displayed the highest disagreement with the statements. The constructs about which management had the least knowledge were financial and accounting resources.

6.2.2 Perception at the various mills and departments within Sappi Forest Products

All the mills and the various departments indicated trends similar to the overall perceptions of Sappi Forest Products management, i.e. highest agreement with the quality statements and highest disagreement with the human resource statements. Most of management respondents did not know much about financial and accounting resources and information systems. The ANOVA analysis verified these findings. The summary of these findings is given in table 4.13.

6.2.3 Secondary Results

The constructs that were apparent in the various articles, reports and magazines are as follows:

- ∅ Quality management
- ∅ Financial and accounting resources
- ∅ Human Resources

- ∅ Technological resources
- ∅ Organisational and general management

6.2.4 Inferences

With Usutu mill refusing to participate in the survey questionnaire, no results were obtained for this mill's management perception in the determination of the core competencies of Sappi Forest Products. However, we can infer from the results obtained from the other mills that quality management would also be core competence from Usutu's management team. This is due to the law of averages and the overwhelming response from the other mills for quality management as being a resource of core competence. The same logic will hold true for human resources being the weakest of resources.

As Sappi Forest Products manufacture pulp and paper to sell into the market, a high degree of quality products would give it a competitive advantage against its competitors e.g. Sappi Forest Products 2ply 90 grams/square meter giving the same strength properties as a 3 ply 80 grams/square meter of a rival company. A 2 ply 90 grams/square meter paper would use less pulp than a 3 ply 80 grams/square meter paper. The implications are that producing paper with less wood, energy, and chemicals results in lower production costs and better leverage in pricing of the product in the market. This creates value addition for Sappi Forest Products.

6.3 Recommendations

Sappi Forest Products needs the ability to be innovative and the willingness to change and adapt over time. As seen before, many an organization's competences are likely to be 'taken for granted' (Johnson and Scholes, 1999:152). They become part of the tacit knowledge and become embedded in the organization's routines and rituals. This is a two-edged sword. It is often a strength in relation to the delivery of the current strategies, since this tacit knowledge is not easy to imitate; but it is potentially a major weakness too, since it may prevent managers recognizing the need for change and ensuring that the tacit knowledge in the organization is challenged, and that learning of new competences occurs.

The functional approach (resource-based view) structures managers' thinking in a focused, potentially objective manner. However, it was found that managers who endured the downsizing and reengineering found the need for an approach that focused them even more narrowly on how work actually took place within their companies as they sought to meet the customers' needs (Pearce and Robinson, 1997:176). Porter's value chain concept was born (Porter, 1987:140). It is a process that looks at the business as a series of activities that takes place to create value for the customer – and to use this framework to guide the internal analysis. A value chain analysis needs to be done for Sappi Forest Product as it will verify the functional approach findings. This will lead to the identification of strategic internal factors that will enhance the strategic decision making process.

The requirements for success changes in an industry segment (in our case the pulp and paper industry) over time (Coulter, 1998:120). Sappi management can use these changing requirements, which are associated with different stages of the pulp and paper industry evolution (Pearce and Robinson, 1997:181), as a further framework for identifying and evaluating the firm's strength and weakness as part of the strategic evaluation. The four stages of industry evolution are introduction, growth, maturity and decline phases (Pearce and Robinson, 1997:184) and the typical changes in functional capabilities are often associated with business success at each of these stages. The relative importance of various determinants of success differs across the stages of industry evolution. Thus, the state of that evolution must be considered in the internal analysis.

Sappi Forest Product needs to compare its competencies with existing and potential competitors e.g. Mondi and the Sharma Group. The different internal capabilities can become relative strengths or weakness depending on the strategy these businesses chooses. In choosing a strategy, Sappi management should compare its key internal capabilities with those of its rivals, thereby isolating its key strengths and weaknesses. Benchmarking will allow Sappi Forest Product to build on the relative strengths while avoiding dependence on capabilities at which the other firm excels. Sappi Forest Product can see how the human resources (Sappi's weakest resource) of their competitors are handled and then attempt to change their activities to achieve the new best practice standards. Significant favourable differences from competitors are potential cornerstones of a firm's strategy (Pearce and Robinson, 1997:188).

Sappi Forest Product can also do an analysis in the pulp and paper industry identifying the factors associated with successful participation in this industry. By scrutinizing the industry competitors, as well as customer needs, vertical industry structure, channels of distribution, costs, barriers to entry, availability of substitutes and suppliers, Sappi's management can seek to determine whether a firm's current internal capabilities represent core competence or weakness in the new competitive arenas. Using Porter's five industry forces provides a useful framework against which to examine the firm's potential strengths and weaknesses.

The simplest means of acquiring the resources and capabilities necessary for imitating another firm's strategy is to buy them. If the rival company can acquire, on similar terms, the resources required for imitating the strategy of a successful company, then that company's competitive advantage will be short lived (Grant, 1997:139). The ability to buy a resource or capability depends upon its mobility – the extent to which it can be transferred between companies. Resources such as finance, raw materials, machines and employees with unique skills are transferable. However, it should be noted that company-specific relationships and culture mean that capability cannot be easily recreated in the new company.

6.4 Recommendations for Future Research

As a suggestion, in a few years another survey should be carried out to determine the any changes in the present situation and whether the actions taken to improve and remedy the situation were effective. The survey should also be extended to all employees of Sappi

Forest Products, its customers and suppliers. The link between strategy and resources is concerned not just with designing strategies to exploit resource strengths, but also investing in the preservation, upgrading, and extension of the firm's bundle of resources and capabilities, in order to secure the long-term future of the firm.

Bibliography

- Aaker, D. A. (1989). "Managing Assets and Skills: The Key to A Sustainable Competitive Advantage." *California Management Review*, 91-106.
- Barney, J. A. (1986). "Organizational Culture: Can It Be A Source of Sustained Competitive Advantage?" *Academy of Management Journal*, 11 (3), 656-665.
- Barney J. A. (1986). "Types of Competition and the Theory of Strategy: Toward an Integrative Framework." *Academy of Management Review*, 11 (4), 791-800.
- Barney, J. A. (1991). "Firm Resources and Sustained Competitive Advantage." *Journal of Management*, 17 (1), 99-120.
- Barney, J.B. (1995). "Looking Inside for Competitive Advantage." *Academy of Management Executive*, vol.9, no.4, 112-118.
- Barney, J. A. (1997). *Gaining and Sustaining Competitive Advantage*. Mass: Addison-Wesley Publishing Company, Inc.
- Barney, J. A. and Zajac, E. J. (1994). "Competitive Organizational Behavior: Toward An Organizationally Based Theory of Competitive Advantage." *Strategic Management Journal*, 15, 5-9.
- Boynton, A. C. and Zmud, R. W. (1984) "An Assessment of Critical Success Factors" *Sloan Management Review*, 25, 17-27.
- Campbell, J. R., Daft, R. L., and Hulin, C. L. *What to Study? Generating and Developing Research Questions*. New Bury: Sage Publications, 1982.
- Campbell, A. and Luchs, K.S. (1997), "Core Competency-based Strategy," *International Thomson Business Press*. London.
- Castanias, R. P. and Helfat, C. E. (1991). "Managerial Resources and Rents." *Journal of Management*, 17 (1), 155-171.
- Chan, P. S. and Heide, D. (1992). "Information Technology and the New Environment: Developing and Sustaining Competitive Advantage." *Sam Advanced Management Journal*, 4-9.
- Chrisman, J. J., Hofer, C. W. and Boulton, W. R. (1988). "Toward A System for Classifying Business Strategies." *Academy of Management Review*, 13 (3), 413-428.
- Collis, D. J. (1994). "Research Note: How Valuable Are Organizational Capabilities?" *Strategic Management Journal*, 15, 143-152.

- Collis, D. J. and Montgomery, C. A. (1995). "Competing on Resources: Strategy in the 1990's." *Harvard Business Review*, 118-128.
- Coulter, M.K. (1998). "Strategic Management in Action." Prentice Hall, New Jersey, 118-151.
- Coyne, K. P. (1985). "Sustainable Competitive Advantage - What it is, What it Isn't." *Business Horizons*, 29, 54-61.
- Coyne, K. P. (1993). "Achieving A Sustainable Service Advantage." *Journal of Business Strategy*, 3-10.
- Day, G.S. (1994). "The Capabilities of Market-driven Companies," *Journal of Marketing*, October, 37-52.
- Dierickx, I. and Cool, K. (1989). "Asset Stock Accumulation and Sustainability of Competitive Advantage." *Management Science*, 35 (12), 1504-1513.
- Doz, P. and Prahalad, C. K. (1988). "Quality of Management : An Emerging Source of Global Competitive Advantage." *Strategies in Global Competition*, N. Hood and J. Vahlne, (Ed). London: Croom Helm. 345-369.
- Grant, R. M. (1991). "The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation." *California Management Review*, 114-135.
- Grant, R. M. (1997). "Contemporary Strategy Analysis: Concepts, Techniques, Applications" 2nd ed. Blackwell Publishers Inc, Oxford.
- Hall, R. (1992). "The Strategic Analysis of Intangible Resources." *Strategic Management Journal*, 13, 135-144.
- Hall, R. (1993). "A Framework Linking Intangible Resources and Capabilities to Sustainable Competitive Advantage." *Strategic Management Journal*, 14, 607-618.
- Hall, R. (1995). "A Framework for Identifying the Intangible Sources of Sustainable Competitive Advantage." *Competence Based Competition*, ed. By Hamel, G and Heene, A. New York: Wiley & Sons
- Hitt, M. A. and Ireland, R. D. (1986). "Relationships Among Corporate Level Distinctive Competencies, Diversification Strategy, Corporate Structure and Performance." *Journal of Management Studies*, 23 (4), 401-416.
- Hofer, C.W and Schendel, D. (1978). "Strategy Formulation: Analytical Concepts." St. Paul, MN:West.

Johnson, G and Scholes, K. (1999). "Exploring Corporate Strategy", 5th ed. Prentice Hall, London.

Joyce, P and Woods, A. (2001). "Strategic Management: Processes and Contexts," Kogan Page Ltd, London.

Kenneth, A.R. (1980), "The Concept of Corporate Strategy", Homewood, Illinois.

Klein, J.A. and Hiscocks, P.G. (1994). "Competence-based Competition: A Practical Toolkit." *Competence-based Competition*, ed. Hamel, G. and Heene, A. New York: Wiley & Sons.

Lado, A. A., Boyd, N. G. and Wright, P. (1992). "A Competency-Based Model of Sustainable Competitive Advantage: Toward A Conceptual Integration." *Journal of Management*, 18 (1), 77-91.

Lewis, M.A. and Gregory, M.J. (1996), "Developing and applying a process approach to competence analysis, In *Dynamics of Competence-Based Competition: Theory and practice in the new strategic management*," Pergamon, Oxford.

Miller, D. and Shamsie, J. (1996). "The Resource-Based View of the Firm in Two Environments: The Hollywood Film Studios From 1936 To 1965" *Academy of Management Journal*, 39, (3), 519-543.

Miron, M., Cecil, J. Bradich, K., and Hall, G. (1988). "The Myths and Realities of Competitive Advantage." *Datamation*, 71-82.

Naugle, D. G. and Davies, G. A. (1987). "Strategic-Skill Pools and Competitive Advantage." *Business Horizons*, 35-42.

Osbalden, M. and Barham, K. (1992). "Using Management Development for Competitive Advantage." *Long Range Planning*, 25 (6), 18-24.

Pearce, J.A. and Robinson, R.B. (1997). "Strategic Management: Formulation, Implementation and Control." 6th edition. McGraw Hill. Chicago.

Peters, T. J. (1994). "Strategy Follows Structure: Developing Distinctive Skills." *California Management Review*, 26 (3), 111-125.

Porter, M. E. (1979). "How Competitive Forces Shape Strategy." *Harvard Business Review*, 57 (2), 137-145.

Porter, M. E. (1985). "Competitive Advantage: Creating and Sustaining Superior Performance." New York: The Free Press.

Porter, M. E. (1987). "From Competitive Advantage to Corporate Strategy." *Harvard Business Review*, 65 (3), 43-59.

- Porter, M. E. (1990). "New Global Strategies for Competitive Advantage." *Planning Review*, 4- 14.
- Porter, M. E. and Millar, V. E. (1985). "How Information Gives You Competitive Advantage." *Harvard Business Review*, 227-238.
- Powell, T. C. (1992). "Organizational Alignment As Competitive Advantage." *Strategic Management Journal*, 13, 119-134.
- Powell, T. C. (1995). "Total Quality Management As Competitive Advantage: A Review and Empirical Study." *Strategic Management Journal*, 16, 15-37.
- Prahalad, C. K. and Hamel, G. (1990). "The Core Competence of the Corporation". *Harvard Business Review*, 79-91.
- Prahalad, C. K. and Hamel, G. (1994). *Competing for the Future*. Mass: Harvard Business School Press.
- Reed, R. and DeFillippi, R. J. (1990). "Casual Ambiguity, Barriers to Imitation and Sustainable Competitive Advantage." *Academy of Management Review*, 15 (1), 88-102.
- Saunders, M., Lewis, P. and Thornhill, A. (1997). "Research Methods for Business Studies," Pitman Publishing. London.
- Schendel, D. (1994). "Introduction to 'Competitive Behavior: Toward An Organizationally-Based Theory of Competitive Advantage.'" *Strategic Management Journal*, 15, 1-4.
- Schulz, W. C. (1993). "Skill Based Strategy and Entrepreneurial Leadership: How Individual and Corporate Entrepreneurs Create Value." Diss. University of Georgia, Ann Arbor: UMI.
- Schulze, W. S. (1992). "The Two Resource-Based Models of the Firm: Definitions and Implications For Research." *Academy of Management Proceedings*, 37-41.
- Selznick, P. (1957). "Leadership in Administration." New York: Harper and Row Pub.
- Simmons, R. (1990). "The Role of Management Control Systems In Creating Competitive Advantage: New Perspectives." *Accounting Organizational and Society*, 15 (1/2), 127-143.
- Sisodia, R. S. (1992). "Competitive Advantage Through Design." *Journal of Business Strategy*, 33-40.
- Snow, C. C. and Hrebiniak, L. G. (1980). "Strategy, Distinctive Competence, and Organizational Performance." *Administrative Science Quarterly*, 25, 317-336.

Spitzer, R. D. (1993). "TQM: The Only Source of Sustainable Competitive Advantage." *Quality Progress*, 59-64.

Stalk Jr., G. (1988). "Time - The Next Source of Competitive Advantage." *Strategy: Seeking and Securing Competitive Advantage*, C. Montgomery and M. E. Porter (Ed.), Boston: Harvard Business Review Book, (p39-60).

Stalk, G., Evans, P. and Shulman, L.E. (1992). "Competing On Capabilities: The New Rules of Strategy." *Harvard Business Review*, 57-69.

Snyder, A. V. and Ebeling Jr., H. W. (1992) "Targeting A Company's Real Core Competencies." *Journal of Business Strategy*, 26-32.

Tampoe, M. (1994). "Exploiting the Core Competences of Your Organization." *Long Range Planning*, 27 (4), 66-77.

Thomas, D. R. E. (1978). "Strategy is Different in Service Businesses" *Harvard Business Review*, 56 (4), 158-165.

Turner, D. and Crawford, M. (1994) "Managing Current and Future Competitive Performance: The Role of Competence." *Competence-based Competition*, ed. Hamel, G. and Heene, A. New York: John Wiley & Sons.

Ulrich, D. (1987). "Organizational Capability As A Competitive Advantage: Human Resource Professionals As Strategic Partners". *Human Resource Professionals*, 10 (4), 169-184.

Ulrich, D., Halbrook, R., Meder, D., Stuhlik, M. and Thorpe, S. (1991). "Employee and Customer Attachment: Synergies for Competitive Advantage". *Human Resource Professionals*, 14 (2), 89-103.

Winterscheid, B. C. (1994). "Building Capability from Within: The Insider's View of Core Competence." *Competence-based Competition*, ed. Hamel, G. and Heene, A. New York: John Wiley & Sons.

Wolf, B., Knodel, J., and Werasit, S. (1993). "Focus Group and Surveys As Complementary Research" In *Successful Focus Groups: Advancing the State of the Art*, ed. D. L. Morgan, New Bury: Sage Publications, 118-136.

Yin, R. (1994). *Case Study Research: Design and Methods*. Thousand Oaks: Sage Publications.

Yuchtman, E. and Seashore, S. E. (1967). "A System Resource Approach To Organizational Effectiveness." *American Sociological Review*, 891-903.

Zikmund, W. G. (1991) "Business Research Methods." Fort Worth: The Dryden Press

Appendix : Survey Questionnaire

Questionnaire : Core Competencies of Sappi Forest Product

The 8 characteristics are:

- 1 Financial & accounting resources
- 2 Production/ Operations
- 3 Marketing
- 4 Technological resources
- 5 Human resources
- 6 Quality management
- 7 Information systems
- 8 Organisation and general management

When considering the statements,

- Assume each applies to the Forest Product division and respond to the statements as such
- Think of the Forest Product division as it exists at present, not as it has existed in the past or how you would like it to exist in the future
- Evaluate each statement in terms of whether you agree, disagree or don't know in relation to the Forest Product division.

How to answer the questionnaire

- Please answer all the statements (it will take 5 minutes to complete)
- Give the answer that first occurs to you. Do not give the answer because you feel it is right thing to say or you feel that this is how things should be
- Respond to each of the statement by giving a '1' to which ever column you choose, i.e. agree, disagree or don't know.

Please indicate the mill you work at with a 'X'

Cape Kraft	
Nqodwana	
Tugela	
Usutu	

Please indicate the department you work in with a 'X'

production	
technical	
engineering	
admin	
HR	
marketing	

Admin includes IT, commerce, financial, accounts

Type '1' in whichever column you agree, disagree or don't know

1 Financial & accounting resources

- 1.1 Assets are fully deployed in a manner that optimises their use and return to shareholders
- 1.2 Has an efficient and effective accounting system for cost, budget and profit planning
- 1.3 Has an ability to raise long term capital
- 1.4 Has the capacity to utilize alternative financial strategies, such as lease or sale & leaseback to reduce costs
- 1.5 Cost of capital relative to that of industry is low
- 1.6 Cost and barriers of entry into this industry is high

agree	disagree	don't know

2 Production/ Operations

- 2.1 Has economies of scale
- 2.2 Optimum use of facilities : location and layout
- 2.3 Has an excellent inventory control system
- 2.4 Low cost producer of pulp
- 2.5 Low cost producer of paper
- 2.6 Effective operation control procedures and maintenance program.

3 Marketing

- 3.1 Concentration of sales are in a few products
- 3.2 Concentration of sales are in a few customers
- 3.3 Has a large local market share
- 3.4 Has a large global presence
- 3.5 Understands the customers needs
- 3.6 Generates high consumer confidence and interest from the products produced

4 Technological resources

- 4.1 Consistently creates new markets and opportunities through new products
- 4.2 Consistently creates an environment of creativity and innovation
- 4.3 Has an effective research and development program
- 4.4 In technological competencies, its ahead of its competitors
- 4.5 Uses most recent technologies available
- 4.6 Has in house expertise to produce new products and solve problems

5 Human resources

- 5.1 Sappi Forest Product values its employees
- 5.2 Creates leadership development opportunities through job rotation and enrichment and investment programs
- 5.3 Fosters and encourages learning, probing, and discovery and is tolerant of mistakes and setbacks
- 5.4 Hires and nurtures highly talented employees
- 5.5 Creates and sustains a collaborative working environment
- 5.6 Compensation practices and programs reflect organisational performance and financial results

6 Quality management

- 6.1 There is continual improvements in production process
- 6.2 Practices successful TQM methods designed to continuously improve value, quality and performance
- 6.3 Consistently sets the highest quality, benchmarks and standards relative to its competitors
- 6.4 Adheres to ISO 9000/2000, ISO 14000 and ISO 18000 requirements
- 6.5 Has internal processes to enhance quality of products
- 6.6 Adheres to strict quality specifications wit suppliers and customers

7 Information systems

- 7.1 Leverages information technology to increase market presence
- 7.2 The organisation sets a standard for communicating with customers on important matters
- 7.3 Has accurate information about sales, operation, cash and suppliers
- 7.4 Has people who have the ability to use the information that is provided
- 7.5 Has a strong central network for coordination of information
- 7.6 Has the latest upgrades in information communication

8 Organisation and general management

- 8.1 Demonstrates a commitment driven by an integrated set of strategic visions
- 8.2 Board has a vested economic and moral interest in the financial and social behaviour of the organisation
- 8.3 Effectively manages investor relations, expectations and communications
- 8.4 Effective in motivating divisional management
- 8.5 Top management have the skills, capabilities and interest of the business
- 8.6 It practices intraorganisational synergy (between divisions)

Thank you for your response

Table 11

Item	Faculty			Students			Administrators			Parents		
	Mean	Standard Deviation	Significance	Mean	Standard Deviation	Significance	Mean	Standard Deviation	Significance	Mean	Standard Deviation	Significance
Perception of Academic Department												
1. The quality of the curriculum is excellent	4.5	0.8	0.001	4.2	0.9	0.002	4.3	0.7	0.001	4.1	0.8	0.001
2. The quality of the faculty is excellent	4.6	0.7	0.001	4.4	0.8	0.001	4.5	0.6	0.001	4.3	0.7	0.001
3. The quality of the facilities is excellent	4.4	0.9	0.001	4.1	1.0	0.001	4.2	0.8	0.001	4.0	0.9	0.001
4. The quality of the services is excellent	4.3	0.8	0.001	4.0	0.9	0.001	4.1	0.7	0.001	3.9	0.8	0.001
5. The quality of the staff is excellent	4.5	0.7	0.001	4.3	0.8	0.001	4.4	0.6	0.001	4.2	0.7	0.001
6. The quality of the equipment is excellent	4.4	0.8	0.001	4.1	0.9	0.001	4.2	0.7	0.001	4.0	0.8	0.001
7. The quality of the environment is excellent	4.3	0.9	0.001	4.0	1.0	0.001	4.1	0.8	0.001	3.9	0.9	0.001
8. The quality of the food is excellent	4.2	0.8	0.001	3.9	0.9	0.001	4.0	0.7	0.001	3.8	0.8	0.001
9. The quality of the security is excellent	4.4	0.7	0.001	4.1	0.8	0.001	4.2	0.6	0.001	4.0	0.7	0.001
10. The quality of the transportation is excellent	4.3	0.8	0.001	4.0	0.9	0.001	4.1	0.7	0.001	3.9	0.8	0.001
11. The quality of the recreation is excellent	4.2	0.9	0.001	3.9	1.0	0.001	4.0	0.8	0.001	3.8	0.9	0.001
12. The quality of the health care is excellent	4.1	0.8	0.001	3.8	0.9	0.001	3.9	0.7	0.001	3.7	0.8	0.001
13. The quality of the social services is excellent	4.0	0.9	0.001	3.7	1.0	0.001	3.8	0.8	0.001	3.6	0.9	0.001
14. The quality of the cultural services is excellent	3.9	0.8	0.001	3.6	0.9	0.001	3.7	0.7	0.001	3.5	0.8	0.001
15. The quality of the sports services is excellent	3.8	0.9	0.001	3.5	1.0	0.001	3.6	0.8	0.001	3.4	0.9	0.001
16. The quality of the entertainment services is excellent	3.7	0.8	0.001	3.4	0.9	0.001	3.5	0.7	0.001	3.3	0.8	0.001
17. The quality of the information services is excellent	3.6	0.9	0.001	3.3	1.0	0.001	3.4	0.8	0.001	3.2	0.9	0.001
18. The quality of the communication services is excellent	3.5	0.8	0.001	3.2	0.9	0.001	3.3	0.7	0.001	3.1	0.8	0.001
19. The quality of the financial services is excellent	3.4	0.9	0.001	3.1	1.0	0.001	3.2	0.8	0.001	3.0	0.9	0.001
20. The quality of the legal services is excellent	3.3	0.8	0.001	3.0	0.9	0.001	3.1	0.7	0.001	2.9	0.8	0.001
21. The quality of the medical services is excellent	3.2	0.9	0.001	2.9	1.0	0.001	3.0	0.8	0.001	2.8	0.9	0.001
22. The quality of the educational services is excellent	3.1	0.8	0.001	2.8	0.9	0.001	2.9	0.7	0.001	2.7	0.8	0.001
23. The quality of the cultural services is excellent	3.0	0.9	0.001	2.7	1.0	0.001	2.8	0.8	0.001	2.6	0.9	0.001
24. The quality of the sports services is excellent	2.9	0.8	0.001	2.6	0.9	0.001	2.7	0.7	0.001	2.5	0.8	0.001
25. The quality of the entertainment services is excellent	2.8	0.9	0.001	2.5	1.0	0.001	2.6	0.8	0.001	2.4	0.9	0.001
26. The quality of the information services is excellent	2.7	0.8	0.001	2.4	0.9	0.001	2.5	0.7	0.001	2.3	0.8	0.001
27. The quality of the communication services is excellent	2.6	0.9	0.001	2.3	1.0	0.001	2.4	0.8	0.001	2.2	0.9	0.001
28. The quality of the financial services is excellent	2.5	0.8	0.001	2.2	0.9	0.001	2.3	0.7	0.001	2.1	0.8	0.001
29. The quality of the legal services is excellent	2.4	0.9	0.001	2.1	1.0	0.001	2.2	0.8	0.001	2.0	0.9	0.001
30. The quality of the medical services is excellent	2.3	0.8	0.001	2.0	0.9	0.001	2.1	0.7	0.001	1.9	0.8	0.001
31. The quality of the educational services is excellent	2.2	0.9	0.001	1.9	1.0	0.001	2.0	0.8	0.001	1.8	0.9	0.001
32. The quality of the cultural services is excellent	2.1	0.8	0.001	1.8	0.9	0.001	1.9	0.7	0.001	1.7	0.8	0.001
33. The quality of the sports services is excellent	2.0	0.9	0.001	1.7	1.0	0.001	1.8	0.8	0.001	1.6	0.9	0.001
34. The quality of the entertainment services is excellent	1.9	0.8	0.001	1.6	0.9	0.001	1.7	0.7	0.001	1.5	0.8	0.001
35. The quality of the information services is excellent	1.8	0.9	0.001	1.5	1.0	0.001	1.6	0.8	0.001	1.4	0.9	0.001
36. The quality of the communication services is excellent	1.7	0.8	0.001	1.4	0.9	0.001	1.5	0.7	0.001	1.3	0.8	0.001
37. The quality of the financial services is excellent	1.6	0.9	0.001	1.3	1.0	0.001	1.4	0.8	0.001	1.2	0.9	0.001
38. The quality of the legal services is excellent	1.5	0.8	0.001	1.2	0.9	0.001	1.3	0.7	0.001	1.1	0.8	0.001
39. The quality of the medical services is excellent	1.4	0.9	0.001	1.1	1.0	0.001	1.2	0.8	0.001	1.0	0.9	0.001
40. The quality of the educational services is excellent	1.3	0.8	0.001	1.0	0.9	0.001	1.1	0.7	0.001	0.9	0.8	0.001
41. The quality of the cultural services is excellent	1.2	0.9	0.001	0.9	1.0	0.001	1.0	0.8	0.001	0.8	0.9	0.001
42. The quality of the sports services is excellent	1.1	0.8	0.001	0.8	0.9	0.001	0.9	0.7	0.001	0.7	0.8	0.001
43. The quality of the entertainment services is excellent	1.0	0.9	0.001	0.7	1.0	0.001	0.8	0.8	0.001	0.6	0.9	0.001
44. The quality of the information services is excellent	0.9	0.8	0.001	0.6	0.9	0.001	0.7	0.7	0.001	0.5	0.8	0.001
45. The quality of the communication services is excellent	0.8	0.9	0.001	0.5	1.0	0.001	0.6	0.8	0.001	0.4	0.9	0.001
46. The quality of the financial services is excellent	0.7	0.8	0.001	0.4	0.9	0.001	0.5	0.7	0.001	0.3	0.8	0.001
47. The quality of the legal services is excellent	0.6	0.9	0.001	0.3	1.0	0.001	0.4	0.8	0.001	0.2	0.9	0.001
48. The quality of the medical services is excellent	0.5	0.8	0.001	0.2	0.9	0.001	0.3	0.7	0.001	0.1	0.8	0.001
49. The quality of the educational services is excellent	0.4	0.9	0.001	0.1	1.0	0.001	0.2	0.8	0.001	0.0	0.9	0.001
50. The quality of the cultural services is excellent	0.3	0.8	0.001	0.0	0.9	0.001	0.1	0.7	0.001	-0.1	0.8	0.001
51. The quality of the sports services is excellent	0.2	0.9	0.001	-0.1	1.0	0.001	0.0	0.8	0.001	-0.2	0.9	0.001
52. The quality of the entertainment services is excellent	0.1	0.8	0.001	-0.2	0.9	0.001	-0.1	0.7	0.001	-0.3	0.8	0.001
53. The quality of the information services is excellent	0.0	0.9	0.001	-0.3	1.0	0.001	-0.2	0.8	0.001	-0.4	0.9	0.001
54. The quality of the communication services is excellent	-0.1	0.8	0.001	-0.4	0.9	0.001	-0.3	0.7	0.001	-0.5	0.8	0.001
55. The quality of the financial services is excellent	-0.2	0.9	0.001	-0.5	1.0	0.001	-0.4	0.8	0.001	-0.6	0.9	0.001
56. The quality of the legal services is excellent	-0.3	0.8	0.001	-0.6	0.9	0.001	-0.5	0.7	0.001	-0.7	0.8	0.001
57. The quality of the medical services is excellent	-0.4	0.9	0.001	-0.7	1.0	0.001	-0.6	0.8	0.001	-0.8	0.9	0.001
58. The quality of the educational services is excellent	-0.5	0.8	0.001	-0.8	0.9	0.001	-0.7	0.7	0.001	-0.9	0.8	0.001
59. The quality of the cultural services is excellent	-0.6	0.9	0.001	-0.9	1.0	0.001	-0.8	0.8	0.001	-1.0	0.9	0.001
60. The quality of the sports services is excellent	-0.7	0.8	0.001	-1.0	0.9	0.001	-0.9	0.7	0.001	-1.1	0.8	0.001
61. The quality of the entertainment services is excellent	-0.8	0.9	0.001	-1.1	1.0	0.001	-1.0	0.8	0.001	-1.2	0.9	0.001
62. The quality of the information services is excellent	-0.9	0.8	0.001	-1.2	0.9	0.001	-1.1	0.7	0.001	-1.3	0.8	0.001
63. The quality of the communication services is excellent	-1.0	0.9	0.001	-1.3	1.0	0.001	-1.2	0.8	0.001	-1.4	0.9	0.001
64. The quality of the financial services is excellent	-1.1	0.8	0.001	-1.4	0.9	0.001	-1.3	0.7	0.001	-1.5	0.8	0.001
65. The quality of the legal services is excellent	-1.2	0.9	0.001	-1.5	1.0	0.001	-1.4	0.8	0.001	-1.6	0.9	0.001
66. The quality of the medical services is excellent	-1.3	0.8	0.001	-1.6	0.9	0.001	-1.5	0.7	0.001	-1.7	0.8	0.001
67. The quality of the educational services is excellent	-1.4	0.9	0.001	-1.7	1.0	0.001	-1.6	0.8	0.001	-1.8	0.9	0.001
68. The quality of the cultural services is excellent	-1.5	0.8	0.001	-1.8	0.9	0.001	-1.7	0.7	0.001	-1.9	0.8	0.001
69. The quality of the sports services is excellent	-1.6	0.9	0.001	-1.9	1.0	0.001	-1.8	0.8	0.001	-2.0	0.9	0.001
70. The quality of the entertainment services is excellent	-1.7	0.8	0.001	-2.0	0.9	0.001	-1.9	0.7	0.001	-2.1	0.8	0.001
71. The quality of the information services is excellent	-1.8	0.9	0.001	-2.1	1.0	0.001	-2.0	0.8	0.001	-2.2	0.9	0.001
72. The quality of the communication services is excellent	-1.9	0.8	0.001	-2.2	0.9	0.001	-2.1	0.7	0.001	-2.3	0.8	0.001
73. The quality of the financial services is excellent	-2.0	0.9	0.001	-2.3	1.0	0.001	-2.2	0.8	0.001	-2.4	0.9	0.001
74. The quality of the legal services is excellent	-2.1	0.8	0.001	-2.4	0.9	0.001	-2.3	0.7	0.001	-2.5	0.8	0.001
75. The quality of the medical services is excellent	-2.2	0.9	0.001	-2.5	1.0	0.001	-2.4	0.8	0.001	-2.6	0.9	0.001
76. The quality of the educational services is excellent	-2.3	0.8	0.001	-2.6	0.9	0.001	-2.5	0.7	0.001	-2.7	0.8	0.001
77. The quality of the cultural services is excellent	-2.4	0.9	0.001	-2.7	1.0	0.001	-2.6	0.8	0.001	-2.8	0.9	0.001
78. The quality of the sports services is excellent	-2.5	0.8	0.001	-2.8	0.9	0.001	-2.7	0.7	0.001	-2.9	0.8	0.001
79. The quality of the entertainment services is excellent	-2.6	0.9	0.001	-2.9	1.0	0.001	-2.8	0.8	0.001	-3.0	0.9	0.001
80. The quality of the information services is excellent	-2.7	0.8	0.001	-3.0	0.9	0.001	-2.9	0.7	0.001	-3.1	0.8	0.001
81. The quality of the communication services is excellent	-2.8	0.9	0.001	-3.1	1.0	0.001	-3.0	0.8	0.001	-3.2	0.9	0.001
82. The quality of the financial services is excellent	-2.9	0.8	0.001	-3.2	0.9	0.001	-3.1	0.7	0.001	-3.3	0.8	0.001
83. The quality of the legal services is excellent	-3.0	0.9	0.001	-3.3	1.0	0.001	-3.2	0.8	0.001	-3.4	0.9	0.001
84. The quality of the medical services is excellent	-3.1	0.8	0.001	-3.4	0.9	0.001	-3.3	0.7	0.001	-3.5	0.8	0.001
85. The quality of the educational services is excellent	-3.2	0.9	0.001	-3.5	1.0	0.001	-3.4	0.8	0.001	-3.6	0.9	0.001
86. The quality of the cultural services is excellent	-3.3	0.8	0.001	-3.6	0.9	0.001	-3.5	0.7	0.001	-3.7	0.8	0.001
87. The quality of the sports services is excellent	-3.4	0.9	0.001	-3.7	1.0	0.001	-3.6	0.8	0.001	-3.8	0.9	0.001
88. The quality of the entertainment services is excellent	-3.5	0.8	0.001	-3.8	0.9	0.001	-3.7	0.7	0.001	-3.9	0.8	0.001
89. The quality of the information services is excellent	-3.6	0.9	0.001	-3.9	1.0	0.001	-3.8	0.8	0.001	-4.0	0.9	0.001
90. The quality of the communication services is excellent	-3.7	0.8	0.001	-4.0	0.9	0.001	-3.9	0.7	0.001	-4.1	0.8	0.001
91. The quality of the financial services is excellent	-3.8	0.9	0.001	-4.1	1.0	0.001	-4.0	0.8	0.001	-4.2	0.9	0.001
92. The quality of the legal services is excellent	-3.9	0.8	0.001	-4.2	0.9	0.00						