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RESEARCH TITLE

Organisational factors affecting the reliability of human capital: impact on supply chain effectiveness

(MBL REP-P)

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ABSTRACT

One of the most fundamental concepts in supply chain management is the fact that any supply chain consists of a linked network of entities, each with its own operations, and interlinked processes. In the delivery process there are three relevant elements to consider: the equipment and facilities, the processes and the human component. The final reliability of any system is dependent on the reliability of the individual components and is a factor of the design and the operation of these elements. Research into organisational characteristics affecting supply chain effectiveness is therefore indispensable to successful supply chain management. This study further explored the reliability of the human component as a factor of organisational design and the processes that align skills and behaviour to achieve capability at organisational level.

Data was collected quantitatively through a questionnaire sent to the warehousing and distribution operations of Sasko Grain between July and September 2009. The sample size included about 130 employees in the 3 x Distribution Centres of which 53% were analysed, 166 employees in 17 x Depots of which 51% were analysed. The quantitative data was analysed through SPSS and results indicated a negative correlation between internal collaboration supply chain performance.

Semi-structured interviews were conducted as part of a model building exercise on a target 15 middle and senior managers, of which 12 were analysed through thematic analysis. The following propositions were made: (1) A relationship exists between the degree of formalisation of organisational structures and administrative performance, (2) A relationship exists between the degree of formalisation of organisational structures and technological performance, (3) A relationship exists between the degree of centralisation of organisational structures and administrative performance, (4) A relationship exists between the degree of centralisation of organisational structures and technological performance.

Implications of the study drawn from related theories and empirical studies, serves as credible inference in future supply chain management practises.

ACKNOWLEDGEMENTS

This research report would not have been possible without the co-operation and assistance of Pioneer Foods Group Ltd, in particular the management of Sasko Grain who had faith in me to further my career in using them as the subject of this study in partial fulfilment of my Masters in Business Leadership (MBL) degree through the University of South Africa's School of Business Leadership (UNISA SBL). Acknowledgement is also due to my study leader, Dr Neil Barnes, for his guidance and support throughout a rather challenging year.

This report is dedicated to my beloved wife, Vuyokazi Rita, and our 7-month old daughter, Qhayiya, for their unwavering support and patience.

I certify that the report is my own work and all references used have been accurately reported.

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Signed 30 November 2009

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1. CHAPTER 1: ORIENTATION

1.1. Introduction

According to University of South Africa (2009), one of the most fundamental concepts in supply chain management is the fact that any supply chain consists of a linked network of entities, each with its own operations, and interlinked processes. Traditional core processes of supply chain management (SCM) include: planning and forecasting, procurement/purchasing, manufacturing, transportation/logistics, distribution and warehousing, inventory management, location strategies, sales and customer service.

These operations all contain a transformation or delivery process. In the delivery process there are three relevant elements to consider: the equipment and facilities, the processes and the human component. The final reliability of any system is dependent on the reliability of the individual components and is a factor of the design and the operation of these elements (University of South Africa, 2009).

This study further explores the reliability of the human component as a factor of organisational design and the processes that align skills and behaviour to achieve capability at organisational level.

1.2. Purpose and objectives of the study

This research examines organisational design features used by organisations in pursuing their logistics and distribution objectives. It focuses on the need for improving internal service operations to enhance overall service quality which, in turn, reduces cost.

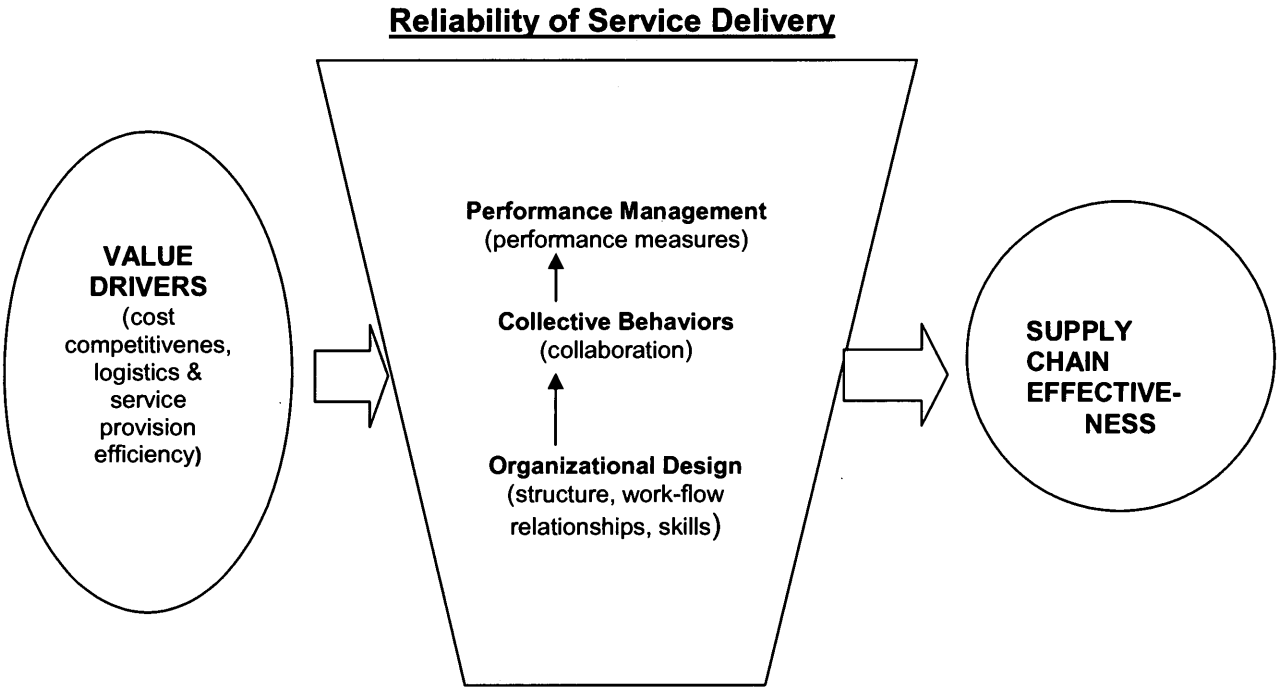
The research will investigate management's and employees' perception of the current performance of the distribution network, as well as the extent to which the current performance is associated with organisational structure, organisational characteristics such as teamwork, communication, workflow processes, and the level of trust influencing collaboration between the different roles in the SCM department.

From this operation's perspective, the study explores how organisational design, availability of skills and collaborative behaviours affect the performance of warehousing and distribution (Distribution Centers (DCs) and Depots/Warehouses) at Sasko Grain, a Division of Pioneer Foods Group Ltd. Pioneer Foods Group is one of the largest food manufacturers in South Africa with leading brands in grain milling, baking, cereals, fruit juices, carbonated soft drinks and other fast-moving consumer goods.

This study also focuses on organisational characteristics, in particular organisational design in warehousing and distribution as the central theme that is investigated in terms of key characteristics as stated in the following objectives:

- **Objective 1:** to investigate the extent to which supply chain effectiveness is attributable to organisational structure and work-flow relationships between various departments, teams and roles.
- **Objective 2:** to investigate the extent to which availability of labour with requisite skills and knowledge impact supply chain performance.
- **Objective 3:** to investigate what forms of collaboration exist within the various elements of the service delivery system and their impact on supply chain performance.

Figure 1: The theoretical model adopted for the study



The results of this study should encourage organisations to address organisational design issues as they relate to internal service operations and overall supply chain effectiveness.

1.3. Statement of the Problem and Sub-Problems

According to the Divisional Operation Manager (also Supply Chain Manager), the optimum performance of the supply chain, particularly warehousing and distribution of products to customers, at Sasko Grain, a division of Pioneer Foods Group Ltd, is hampered by a lack of adequate transparency and reporting systems across the functional areas of the supply chain network. This transparency and reporting refers to the internal service operations and is aimed at matching supply and demand to ensure a reliable supply of products to customers competitively and cost-effectively. From a human capital point of view, this is further exacerbated by relatively high levels of staff turnover across these functions of the supply chain network.

1.3.1. Overview of Sasko Grain

Sasko Grain mainly procures grain in the form of wheat and maze into wheat flour and maize meal products, and distributes them to both industrial and retail customer (Vermeulen, 2009). The company makes R 6.5 Billion Nett Turnover from roughly 1.7 million tons of products per annum per annum made up of:

- **Wheat flour products:** 787 000 tons constituting a 30% Market Share per NCM
- **Maize meal products:** 784 000 tons constituting 30.8% Market Share per NAMM
- **Rice:** 109 000 tons constituting 21.3% Market Share per Synovate
- **Legumes:** 17 000 tons constituting 44.9% Market Share per Synovate

In terms of supply chain management, Sasko Grain's service delivery network is made up of wheat mills (7), maize mills (3), rice and legume plants (2), three major distribution centres (DCs) in Malmesbury, Johannesburg and Durban, and 19 warehouses (Depots) across South Africa serving 721 routes to more than 6000 customers throughout South Africa. Furthermore, it has a 160 vehicle fleet servicing 50% of secondary distribution requirement, a hybrid outsourced model servicing 50% of secondary distribution requirement with 10 national brands in a rapidly growing national retail complement, and a more than 1600 employee complement (Vermeulen, 2009).

Over the past 12 months, the company embarked on a process of optimising the supply chain through identification of value and cost opportunities in the total value chain. The main aim was to achieve cost effective and competitive product and service offering (Vermeulen, 2009). Figure 2 illustrates the analysis that has been conducted.

Figure 2: Incremental change and improvement process

Incremental Change and Improvement to Date?

SC Level	Initiative	Problems Addressed
Customer Level	Order to Dispatch Lead-time from 24HR to 48 HR	• Service Delivery • Fleet Asset Management • Cost Management
	Nominated Delivery Dates at DCs	
	Measure, Monitor and Manage Sub 250kg Deliveries	

SC Level	Initiative	Problems Addressed
Distribution Level	Automated Load and Route Scheduling at DCs - FLO	• Delivery Efficiency • Fleet Asset Management • Fleet Investment Decision • Pilferage • Internal Communication
	Load Staging Areas at DCs	
	Fleet Capital Acquisition through FLO	
	Automatic delivery debriefing with feedback to Sales	
	Active Fleet Management [40% of Fleet] via GPS tracking	

SC Level	Initiative	Problems Addressed
Warehouse Level	Segregation of Warehouse and Distribution Duties	• Pilferage • Warehouse Space • Product Availability • Service Delivery
	Random Warehousing through BIN Software	
	New Return & Rework Practice with PFI	
	Materials Requirement Planning at DCs	
	Performance Measurements • Stock Cover, Stock Turn, Stock Losses, Ect.	

Source: Vermeulen (2009)

According to Vermeulen (2009), future initiatives will be centred on the roll-out, integration and continuation of the initiatives listed in Fig.2 above, a review of the primary service provider process and model, SAP Warehouse Management System at DCs, review of current outsourced hybrid secondary distribution model, optimising supply and demand pairing and internal service level measurements .

1.3.2. Sub-problem 1

From an operations perspective, to what extent is delivery system effectiveness attributable to organisational structure and work-flow relationships between the different departments, teams, and individual roles?

1.3.3. Sub-problem 2

How does staff turnover relate to availability of labour with the right skills and knowledge correlate to performance of the various DCs and Depots?

1.3.4. Sub-problem 3

What forms of collaboration exist within the various elements of the service delivery system (DCs & Depots)?

1.4. Definitions

a) **Supply chain (SC) integration:** this is considered in the context of the development stages of SC integration which states that the process of SC integration would progress from the integration of internal logistics processes to external integration with suppliers and customers. Internal integration is associated with cost minimisation by the centralisation of internal structure with concentrated decision-making, while external integration can influence high quality, flexibility, on-time delivery, customer service, and innovation by information sharing and close coordination through advanced technologies (Kim, 2006).

b) **SC collaboration:** the effect of collaborative practices across supply chain members on SCM performance. Collaborative practises include information sharing of operational data, joint-decision making in the operational context, and the degree to which supply chain members share cost, risk and benefits (Simatupang & Sridharan, 2005).

c) **Reliability of delivery system:** this refers to the probability that a system will perform in a satisfactory manner for a given period when used under specific operating conditions, i.e. in routine circumstances as well as hostile, unexpected circumstances. Reliability depends on inherent characteristics, usage and maintenance (University of South Africa, 2009).

d) **Internal service operations:** Internal operations comprise dimensions that reflect a firm's ability to seamlessly link logistics activities across internal

functional areas (Rodrigues, Stank and Lynch, 2004). Internal service operations are defined as the behind-the-scenes routines, procedures and activities that provide the necessary support to the company's more visible functions. In the context of warehousing and distribution, internal service operations include sales order processing, inventory management, logistics planning, dispatch and receiving, etc. Internal integration is then achieved by linking operations in order to improve performance in meeting customer expectations. This requires the encouragement of front-line managers and employees to pursue their own discretion, within policy guidelines, to make timely decisions. Empowered employees have the authority and information necessary to do a job and they are trusted to perform work without intense over-the-shoulder supervision. Having strong information and measurement systems in place facilitates the initiatives that drive integrated operations (Rodrigues *et al.*, 2004).

e) **Organisational design:** Trent (2004) refers to organisation design as a broad concept referring to the process of assessing and selecting the structure and formal system of communication, division of labour, coordination, control, authority and responsibility required to achieve an organisation's goals. Organisation design features will be considered as they relate to supply chain effectiveness.

f) **Performance measures:** this refers to performance variables that can be influenced more directly by SCM organisational types which are the level of SCM integration, technological and administrative performance (Kim, 2006).

1.5. Delimitations

This research focuses on internal operations in only three areas of supply chain management, which are outbound logistics, distribution and warehousing. Only the human component of such internal operations is the subject of investigation at the expense of equipment/facilities and processes/technologies. Organisational characteristics which influence the reliability of human capital are identified and the extent of correlation between such characteristics is then established.

1.6. Importance of the study

According to Grant (2008), the management systems of most firms devote meticulous attention to the physical and financial assets that are valued on their balance sheets. Much less attention has been paid to the critical intangible and human resources of the firm, and even less the identification and appraisal of organisational capability. Most senior managers are now aware of the importance of their resources and capabilities, but the techniques of identifying, assessing, and developing them are woefully under-developed.

The results of this study should encourage organisations to address organisational design issues as they relate to internal service operations and overall supply chain effectiveness. It will also encourage the appraisal of internal resources and capabilities, particularly human capital, with a review to creating sustainable competitive advantage.

1.7. Acronyms and abbreviations

A list of abbreviations was drawn up to elucidate the terms used in the text.

- MRP: materials requirements planning
- SCM: supply chain management
- KPIs: key performance indicators
- DCs: distribution centres
- NDD: Nominated Delivery Date

1.8. Outline of the research report

The report is organised into six chapters which begin with an introduction to the subject of supply chain management, purpose of the research, statement of the problem for research and its settings, sub-problems, a theoretical model, definitions and delimitations as contained in Chapter 1.

Chapter 2 sketches the theoretical foundation of the research, highlighting its importance, relevance and contribution to the body of knowledge in supply chain management and strategies to improve supply chain effectiveness. In this chapter there is confirmation of a growing need for research into organisational characteristics influencing operations management. Also, the resource-based view model for value-chain analysis and strategy formulation is discussed in-depth in the context of the research problem.

The report continues in Chapter 3 with a discussion and review of related literature in the form of mainly published academic journal articles and books on organisational design, supply chain effectiveness and supply chain integration. This is followed by the research methodologies chosen for the study in Chapter 4, research instruments to be used to collect primary data, sampling, limitations and assumptions to be taken into consideration in conducting the research.

Chapter 5 focuses on capturing and presentation of research results. It describes all tables, figures, diagrams and graphs and interprets them. It begins with a biographical profile of respondents and more detailed data analysis through correlation test and thematic analysis. This is followed with discussion of the results, conclusions and recommendations or managerial implications in Chapter 6.

2. CHAPTER 2: ORGANISATIONAL CHARACTERISTICS AND OPERATIONS MANAGEMENT – AN EMPIRICAL MISSING LINK

The International Journal of Production Economics (2007) published a special issue focusing on operations management issues relating to organisational structure and culture in which it states the general belief that initiation, implementation, and employment of various operations' management-related processes, practices, and technologies are predicated on supporting organisational characteristics. This journal further states that case studies and anecdotal evidence have indicated that many firms do not realise the purported benefits of the implementation of a given "innovation", be it a new process, practice or technology. The evidence suggests that most of the time the encountered problems are not technical in nature, but they are usually "soft" issues. These include having an organisational culture that is not implicitly or explicitly supportive or an organisational structure that may not have a fit with the innovation that is to be implemented.

The special issue of the International Journal of Production Economics (2007) includes eight articles related to the title of this Chapter and two of them are worth mentioning, *viz*:

- The article by Kim (2006:324) derives organisation types for supply chain management (SCM) according to the formalisation and centralisation levels of an independent department responsible for SCM activities, and the hierarchical relationship with regard to the organisational position and operational responsibility between the SCM department and other functional departments. The article identifies organisational characteristics that have a significant influence on SCM performance by investigating the differences in performance across the proposed organisational types.
- Cheng (2007:74) and Lai (2004:322) examine the relationships amongst a set of organisational culture and structure variables, and how they are related to the practice of pull production, and firm performance. The authors hypothesise that customer orientation affects espoused values with regards to beliefs on management control, working with others, and making decisions that are global. They argue that espoused values will influence organisational structure

with respect to locus of decision making, number of layers in the hierarchy, level of horizontal integration, and the nature of formalisation in organisations. The level of communication, the pull production practice, and ultimately the performance of a firm are affected by the organisational structure of the firm.

This study follows this trend by investigating organisational design factors affecting the reliability of human capital and their impact on supply chain effectiveness.

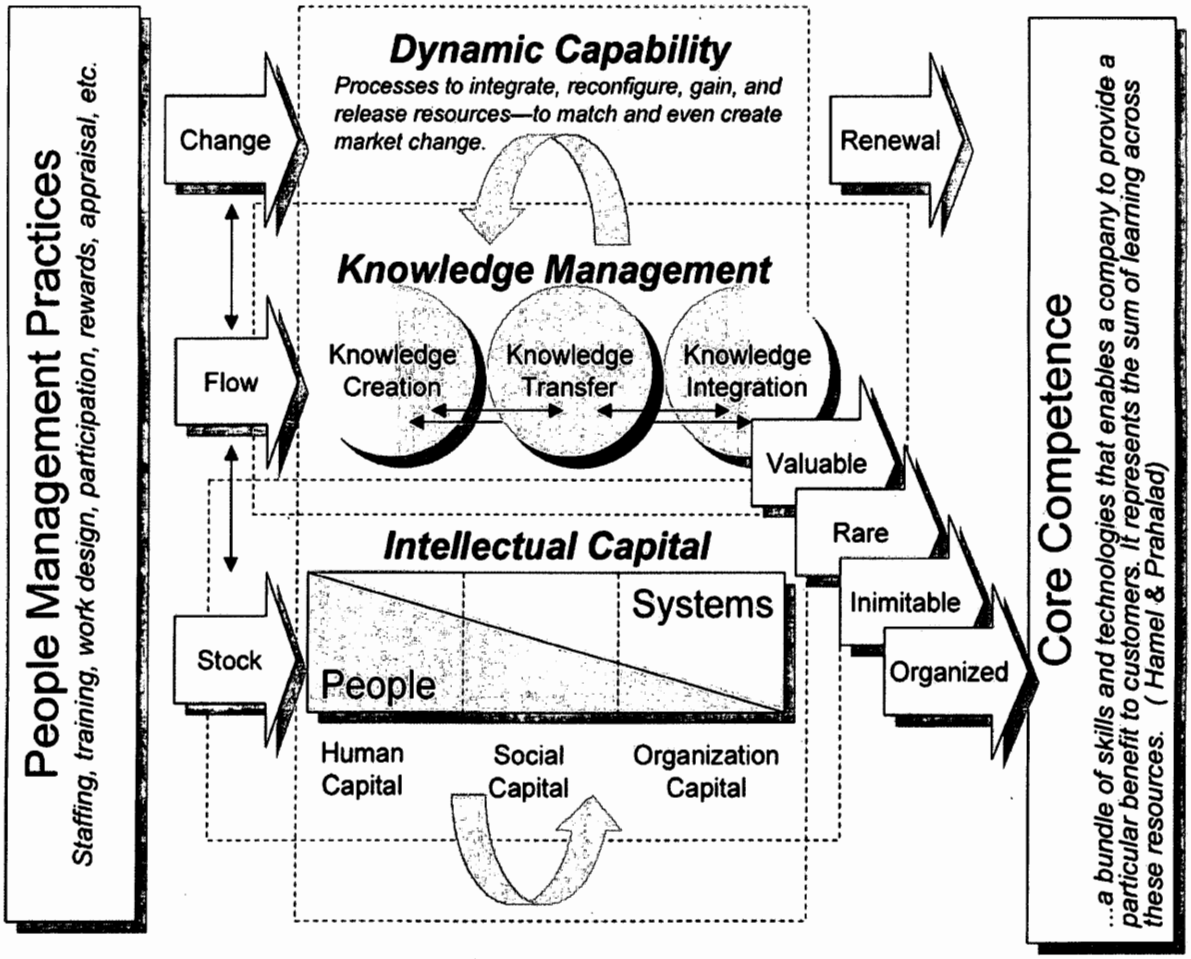
One of the most widely-used and accepted organisational design frameworks is Jay Galbraith's Star Model (Corporate Leadership Board, 2009). This model relies on the on the following five categories of organisational design policies: strategy, structure, processes, rewards and people. The categories determine the direction of the organisation, the location of decision-making power, the flow of information, the motivation of people to perform, and employee mindset and skills. This means that strategy drives structure, processes are based on structure, and structures and processes define the implementation of reward systems and people policies (Galbraith, 2005).

According to Grant (2008), supply chain management needs to be seen in the context of a firm's competitive strategy where value-chain analysis is conducted to identify the firm's primary activities and secondary activities and how such activities deliver a cost or differentiation advantage. The focus on value creation can be through dialogue aimed at developing a roadmap to identify, assess and deliver value, agreement on practical paths to increase sustainable shareholder value, and understanding how human capital, in particular, can help enhance shareholder value.

The resource-based view model (RBV) has emerged as a key influence in the field of strategy management. RBV has shifted emphasis in the strategy literature away from external factors (such as industry position) towards internal firm resources or competencies as sources of competitive advantage. Resources and competencies as a stable concept can be identified at a point in time and will endure over time (Wright *et al.*, 2001).

The argument goes that when firms have bundles of resources that are valuable, rare, inimitable and non-substitutable, they can implement value creating strategies not easily duplicated by competing firms (Wright *et al.*, 2001). However, recent attention has focused on the need for many organisations to constantly develop new capabilities or competencies in a dynamic environment (Wright *et al.*, 2001). Such capabilities are referred to as "dynamic capabilities defined as the organisational and strategic routines by which firms achieve new resource reconfigurations as markets emerge, collide, split, evolve and die." (Eisenhardt & Martin, 2000). Such dynamic capabilities require that organisations establish processes that enable them to change their routines, services, products, and even markets over time (Wright *et al.*, 2001).

Figure 3: A model for integrating RBV and strategic HRM



(Adopted from Wright *et al.*, 2001)

As depicted in Fig.3, strategists who embrace the RBV point out that competitive advantage core competence comes from aligning skills, motives and so forth with organisational systems, structures and processes that achieve capabilities at the organisational level (Wright *et al.*, 2001). They suggest that the "skill" concept might be expanded to consider the stock of intellectual capital in the firm, embedded in both people and systems. The stock of human capital consists of human (the knowledge, skills and abilities of people), social (the valuable relationships among people), and organisational (the structure, processes and routines within the firm). This internal focus has also provided the traditionally non-theoretical field of strategic human resource management (HRM) with a theoretical foundation from which it can begin exploring the strategic role of people and HR functions can play in organisations ((Wright *et al.*, 2001).

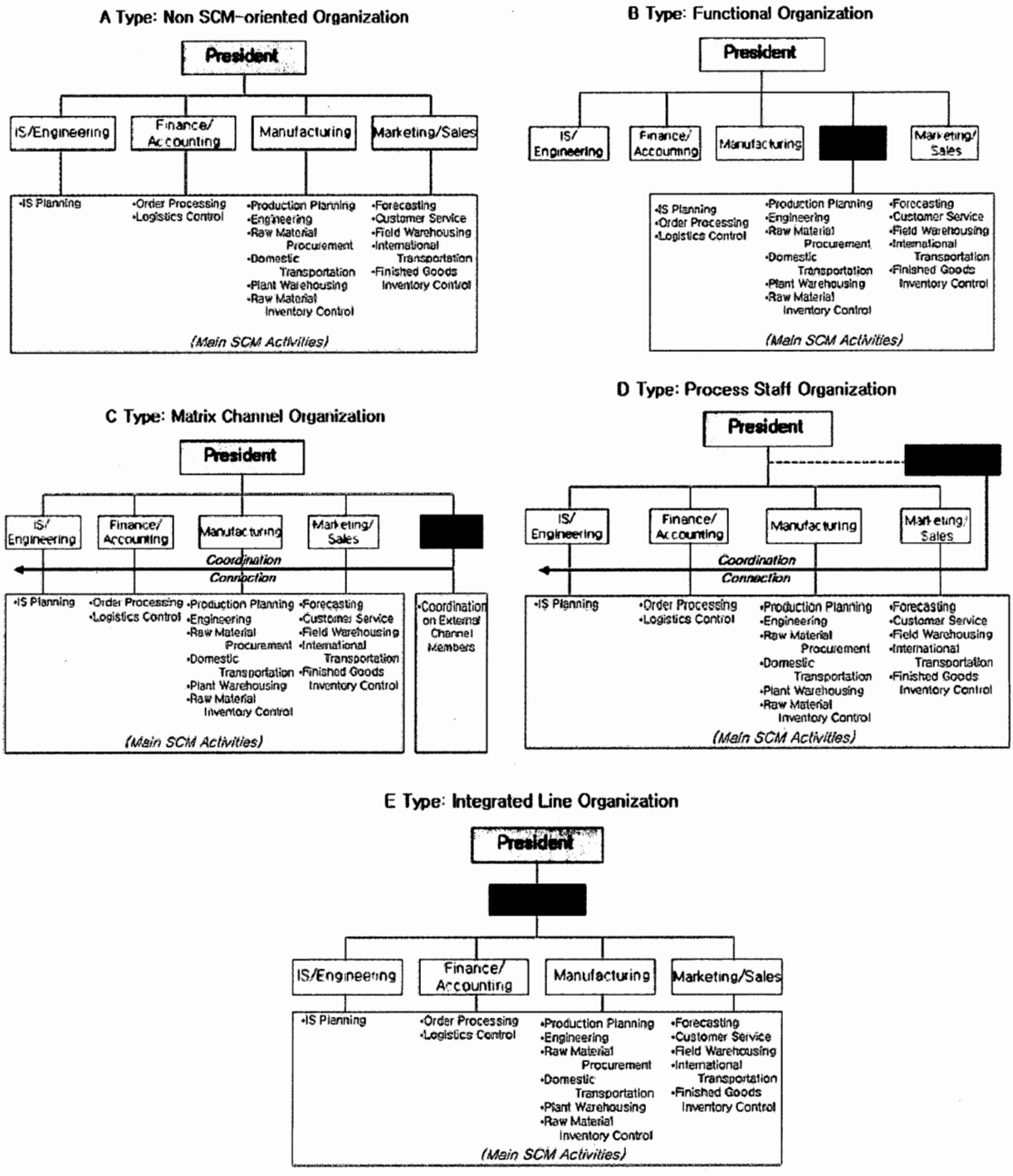
According to Grant (2008), the management systems of most firms devote meticulous attention to the physical and financial assets that are valued on their balance sheets. Much less attention has been paid to the critical intangible and human resources of the firm, and even less the identification and appraisal of organisational capability. Most senior managers are now aware of the importance of their resources and capabilities, but the techniques of identifying, assessing, and developing them are woefully under-developed.

3. LITERATURE REVIEW

3.1. The relationship between organisational structure and SCM performance

Kim (2006:323) identifies organisational characteristics, which have significant influences on SCM performance by investigating the difference in performance across five organisational types. These characteristics are the extent of formalisation, centralisation, and hierarchical relationship between the various functions comprising SCM department within a firm. The organisational types are classified as: *Non SCM-oriented Organisation, Functional Organisation, Matrix Channel Organisation, Process Staff Organisation and Integrated Line Organisation* as depicted in Figure 4.

Figure 4: SCM organisational type:



Adopted from Kim (2006)

In the study by Kim (2006:325), formalisation was measured by the degree to which goals, rules, policies and procedures for logistics activities are precisely and explicitly formulated the extent that roles and role relations are prescribed independently of the personal attributes of individuals occupying positions in the structure, and the participation level of SCM managers in strategic planning process. The degree of

centralisation was measured in terms of: the extent to which the power to make logistics decisions is centralised in the organisation, the number of subordinates who report to a single superior, and the degree to which logistics activities are grouped together in the same organisation or organisation sub-unit. The hierarchical position of SCM departments was measured by three items: the extent to which decisions are made at relatively high levels in the organisation, the hierarchical distance between logistics decision-makers, and senior executives who make decisions on an organisation-wide basis (Chow, Heaver & Henriksson, 1995).

The performance variables that can be influenced more directly by SCM organisational type were the level of SCM integration, technological and administrative performance. Previous studies (Bitici, Suwingjo and Carrie 2001; Yen and Sheu, 2004) on the technological performance of SCM identify four perspectives that are frequently addressed: cost leadership, customer service, innovative marketing, technology and differentiation.

The administrative performance measures can be summarised as follows: the degree of management's awareness of SCM, the systemisation level of an SCM plan, the procurement and training of SCM experts and specialists, the ability of performance measure and control over SCM, the participation level of field managers and trading companies for SCM system development, and the investment capability and experience in developing SCM system (Kim, 2006).

The results of this study by Kim (2006) support his two suggested hypotheses which are:

H1: Highly formalised and centralised organisational structure will be higher in administrative performance relative to technological performance.

H2: Less formalised and centralised organisational structure will be higher in technological performance relative to administrative performance (Kim, 2006).

Further findings of that research reveal that firms tend to adopt an organisation type with high level of formalisation for internal SC integration. This shows that

coordination and control through formalisation and enhanced position of the SCM department are imperative for effective internal SC integration (Kim, 2006).

Pfeffer (1991:790) argues that organisational structure, defined as the patterning of relationships among task-relevant roles, is one, but only one source of structure, and a source of role differentiation and differential association that has effects through processes of social comparison, interaction, and physical propinquity. Structural effects represent the influence of an individual's position in social space on that person because of the constraints and opportunities for interaction and social comparison that derive from structural realities. Studies by Pfeffer (1991) further indicated how a concern with structural effects can enrich the analysis of even individual-level outcomes such as job satisfaction, turnover, performance, and salary.

This study, therefore, seeks to further investigate organisational structure in the study of the human factors affecting SCM effectiveness. To this effect the following propositions are formulated:

- **Proposition 1:** A relationship exists between the degree of formalisation of organisational structures and administrative performance
- **Proposition 2:** A relationship exists between the degree of formalisation of organisational structures and technological performance
- **Proposition 3:** A relationship exists between the degree of centralisation of organisational structures and administrative performance
- **Proposition 4:** A relationship exists between the degree of centralisation of organisational structures and technological performance

3.2. The relationship between availability of skills and SCM performance

Wright, Bunford & Snelle (2001:703) argue that firms may have access to valuable human capital, but either through the poor design of work or mismanagement of people, may not adequately deploy it to achieve strategic impact. The human capital pool refers to the stock of skills that exists within a firm at any given point in time. Theorists focus on the need to develop a pool of human capital that has either higher levels of skills (general and/or firm specific), or achieving a better alignment between

the skills represented in the firm and those required by its strategic intent. They further contend that the actual stock of human capital can and does change over time, and must constantly be monitored for its match with strategic needs of the firm.

According to Fawcett, Ellram & Ogden (2007), companies such as Southwest Airlines and Wal-Mart have achieved perennial success derived from their ability to harness the learning and passion of the workforce. Workers are trained as cross-functional workers, empowered to serve customers, and then expected to come up with ideas to improve day-to-day operations and the organisation's business model. The keys to building a cross-functional workforce for collaborative supply chain strategies are:

1. view workers as integral part of the value-added system,
2. invest time and money in worker training;
3. delegate to workers diverse responsibility and real authority; and
4. change the nature of the manager/worker relationship to give workers the opportunities to use their cross-functional experience and skills.

Jahns, Hartmann & Forstl (2009:4) argue that in order to improve supply chain integration and in response to the broad trends towards greater supplier collaboration and networking, supply management professionals, both those already in the field and new recruits, must develop the requisite skills set to network with and contribute to the other functional areas. This can be achieved through training, mentorship and assignment rotation at varying intensities for different workforce segments - transaction-oriented (operative) buyers on the one hand and network-capable (strategic) buyers on the other hand. The following proposition is made:

- **Proposition 5: The availability of minimum skills is positively correlated to SCM performance**

3.3. Level of collaboration and SCM performance

Ferrin, Michelle & Jeffrey (2008:162) observe that at the heart of collaboration is trust and many researchers have long recognised that trust and cooperation influence each other. They further argue that mutual trust is a determinant and an outcome of cooperation and has long been associated with a range of cooperative outcomes

such as helping employees work together more effectively. It is considered an important dimension of leader-member exchange which is associated with organisational citizenship behaviour and performance and it has been associated with knowledge-sharing between departments inter-firm cooperation and organisational survival and growth.

These studies by Ferrin *et al.* (2008) provide theoretical and empirical evidence that perceived trustworthiness and cooperation are intricately related in a complex dance that spirals over time and is fundamentally affected by the partners' initial moves. They advise that managers need to shape the work context so that employees have plentiful opportunities, not only to infer trustworthiness from others' cooperative behaviours, but also to act on their trust by cooperating in return.

Studies by Chenet, Tynan & Mooney (1999) offered a better understanding of the concept of the service performance gap in relationship marketing, which occurs when a service is not performed according to the standards set by management, building on the original SERQUAL model of Parasumaran, Zeithmal, and Barry. They justified the need to focus research on the possible impact of trust, commitment and cooperation on service performance, factors that were not assessed in the original study Parasumaran, Zeithmal, and Barry (Chenet *et al.,* 1999).

They argue that internal service quality is based on tangible (workplace design, job design, employee selection, rewards and tools) and intangible elements (recognition, support, and development). When properly enforced, internal service quality leads to employees' satisfaction, loyalty, and improved productivity.

The research by Chenet *et al.* (1999) developed a theoretical framework which proposes that a service performance gap is first a function of trust, commitment and cooperation. The underlying critical factors influencing these three major antecedent constructs of the service performance gap were postulated to be personal factors (employee-job fit, perceived control, and shared values), organisational factors (supervisory control systems and technology-job fit), and interpersonal factors (role ambiguity and role conflict). They further contend that because research has focused

on the customer side of issues, little research has been done on the organisational side.

Jahns, Hartmann & Forstl (2009:4), in an article for the Supply Chain Management Review, assert that supply managers today face multiple challenges such as cost and performance pressure, scarcity of raw materials, rising prices for commodities, and increased global environmental and social regulation. They explain that often the cause for the most worry, at least psychologically, is the lack of acceptance and involvement in their enterprise. Supply management's absence at the decision-making table and their lack of interaction with other key corporate functions does more than cause the supply manager a lot of mental anguish. The article presents empirical evidence that supply management's ability to prove its relevance and impact on corporate performance depends on its degree of integration. This is enhanced by networking more effectively internally with their peers in other parts of the organisation (Jahns *et al.*, 2009).

Although this research does not test the conceptual model of the service performance gap per se, it will contribute to the understanding of the organisational side of it. The following assumption is therefore made:

Hypothesis 6: The level of collaboration is positively correlated to SCM performance

4. CHAPTER 4: RESEARCH METHODOLOGY

4.1. Qualitative research

4.1.1. Research methodology

Qualitative research involved studying phenomena in the natural world in "all their complexity" (Leedy & Ormrod, 2005). In this research, the qualitative study was used to reach an in-depth understanding of the phenomenon of supply chain effectiveness and the relationship between organisational structure and supply chain management (SCM) performance.

This is a complex matter as it is informed by a firm's chosen strategy to gain and sustain competitive advantage (Grant, 2008), and the organisational characteristics that have a significant influence on SCM performance in different organisational types (Kim, 2006).

This phase of the research was confined to senior management including the Divisional Operations Manager (also Supply Chain Manager) to which DC managers report, the Divisional Sales Manager (to which depot managers report) and the three DC managers which are responsible for supplying major retailers in the Western Cape, Gauteng and KwaZulu-Natal. The 15 respondents for the qualitative research were senior managers and middle managers from Sasko Grain.

Given the strategic focus of this phase of the study, the focus was on senior managers and executives as they are actively involved in tracking, understanding, and assessing the logistical service achieved by the firm compared to their competitors (Rodrigues, Stank and Lynch, 2004). Such competence and awareness suggested that the perceived evaluations of senior logistics and supply chain executives were reasonably credible.

Moreover, Chen (2007:73) used a similar approach when investigating relationships among service orientation, job satisfaction, and organisational commitment in the international tourist hotel industry. At the beginning of the research process, the researcher conducted interviews with five senior managers who have been working

in five international tourist hotels for at least 10 years. The aim of these interviews was to gain some insights and a better understanding of related concepts in organisational commitment. These interviews, together with discussion with three academic professors, ensured content validity and reliability of the questionnaire and the research procedure through their professional competence and input (Chen, 2007).

The sample size was fairly small and the language of reporting was characterised by a very detailed description of the phenomenon and the environment within which it occurred. The researcher interacted closely with the participants and observations and conclusions of the researcher form an integral part of the research report where common themes observed by the researcher are reported. The research will, therefore, be context specific.

A questionnaire with open-ended questions was developed and used to conduct individual face-to-face semi-structured interviews with the identified senior managers. The aim was to find balance between encouraging a free-flowing conversation and directed conversation (Lee, 1999). Essentially, the main thrust of this qualitative research was to build a model from insights gained from the interviews into the way various aspects of collaboration, organisational structure, and performance management relate to each other and SCM effectiveness.

4.1.2. Limitations and ethical issues

The primary disadvantage of interviews is that the researcher receives information from different people and may not be able to make comparisons amongst the interviewees (Leedy & Ormrod, 2005).

This could have been overcome by conducting a focus group with all the identified participants and significant benefits would have been added to the qualitative research. However, the focus group would have been much more time consuming and one was also sensitive to the hierarchy within the organisation and some sensitivity that exists in the debate on positioning of supply chain management.

4.1.3. Analytical techniques used

The qualitative research material was collected through semi-structured interviews and captured onto an audio-recording device to be transcribed into text form by a research assistant/typist. The full transcripts, as outputs of this stage of qualitative analysis, formed the basis for analysis and determine the overall quality of the research.

Since the interview questionnaire already had a list of questions on SCM organisational structures, characteristics and SCM performance, content analysis included meaning condensation/unitisation of the transcripts into thought units/themes linked to the organisational characteristics (Srnka & Koeszegi, 2007).

4.1.4. Analytical methodology used

A process of thematic analysis, as proposed by Braun and Clark (2006:87-93), used to extract detailed, rich, and complex data accounts was used as a precursor or core method for reflecting the qualitative data. Thematic analysis involved identifying, analysing and reporting patterns or themes within the data using a deductive approach according to a semi-structured interview and inductive approach by allowing themes to emerge from the data (Braun & Clark, 2006),

4.2. Quantitative research

4.2.1. Research methodology

A quantitative study was used to explore the possible correlation between organisational characteristics and performance of the warehousing and distribution system, with specific reference to teamwork, communication, workflow policies and procedures, customer orientation, and the level of trust between the various roles within the DC & Depot structures.

Since the objective of the quantitative study was not to determine the causal relationships but to examine the situation in its current state (Leedy and Ormrod 2005), primary data was collected by means of a questionnaire. The survey was conducted within the limitations of survey research as defined by Leedy and Ormrod (2005).

The data was collected by means of a questionnaire that was sent to participants from the warehousing and distribution components of a Business Unit within a large, vertically-integrated firm. The sample size included about 130 employees in the 3 x DCs, 166 employees in 17 x Depots at Sasko Grain. This was part of a company-wide Workplace Satisfaction Survey targeting at least 8 000 employees across the Pioneer Foods Group. The face validity was tested with a pilot of peers who are HR Managers. A stratified random sampling technique was employed on a total population of all employees including the 3 x DCs and 17 Depots at all levels. This is a generally homogeneous group of employees from one job family and the assumption is made that each DC and Depot has a similar number of employees per level.

An initial letter to the sample of employees requesting them to participate in the study made it clear that their responses would be dealt with in the strictest of confidence in order to ensure that they respond truthfully to the questions. The questionnaire was sent to all permanent salaried employees, contract workers, drivers and other wages staff in the form of an address franked envelope in which it was returned. One week after the questionnaires were sent out, a reminder note via e-mail and flyer was sent weekly to the sample, repeating the due date and location of the sealed box in which the completed questionnaires must be deposited.

4.2.2. Limitations and ethical issues

The biggest limitation of a survey questionnaire was the inability of the researcher to ensure a sufficiently rate of return of questionnaires where a rate of n < 10 per

operating unit was regarded as insignificant. This may impact on the relevance of the research findings.

The research focused on two functions of the supply chain network, warehousing and distribution as represented by the DCs and Depots only. Analysis of the respondent scores for each of the 12 workplace measurement dimensions was possible for 16 Depots with the exception of one set of results in the Depot structure which was classified as an operating unit for the purposes of this study. There are only three DCs which are, however, responsible for moving 36% - 37% of Sasko Grain's volumes and only two DCs had a response rate of 10 or more, which was regarded as significant. This presented a challenge with regards to statistical analysis of the DC results. However, the DC results can best be analysed from a qualitative angle.

Further investigation into other functions such as manufacturing, purchasing and in-bound logistics was needed to extend focus to more complex supply chain relationships. While none of the organisational characteristics identified in the research were truly new or novel, there is limited research done on them in the South African context (University of South Africa, 2009). The results of the survey can, at most be generalised to this specific company and not to other companies.

4.2.3. Analytical methodology used

Correlations

It is important to note that correlation does not imply causality. In other words, correlation cannot be justifiably used to infer a causal relationship between two or more variables. As a result, establishing a correlation between two variables is not a sufficient condition to establish a causal relationship (in either direction). This does not mean that correlations can never indicate causal relations. Intuitively, variables may be considered to have a causal relationship, however, the causes underlying the correlation, if any, may be indirect and unknown (Leedy & Ormrod, 2005).

The test was to compare the organisational climate survey results gathered quantitatively against the actual reported SCM performance to determine the relationship and the effect organisational climate has on SCM performance. Of particular relevance to the research question were the dimensions that were together classified as internal collaboration:

- **Question 4 - Teamwork:** the people in my work team work well together
- **Question 5 – Relationship & Trust:** there is mutual trust between managers and employees.
- **Question 6 – Policies & Procedures:** the company makes sufficient effort to ensure that everyone understands its policies and procedures
- **Question 8 – Communication:** I have access to sufficient information to allow me to plan and carry out my tasks effectively.
- **Question 9 – Customer orientation:** I rate my unit's customer orientation as excellent

It must also be noted that KPIs for 17 x Depots and 2 x DistrCnt (DCs) are largely different. SCM performance was confined to the overall results of the Depots benchmarking exercise for performance measures for the 2008/09 financial year wherein the overall score refers to all KPIs per Depot or per DC. Scores are weighted according to clusters based on size and complexity of operation. The following KPIs were measured similarly for the Depots and DCs and were the subject of analysis:

- Volume or unit sales
- Total pallet costs (R/ton)
- Stock loss (as % of Nett Sales)
- Total rework loss (as % of total)
- Stock cover > 30 days

These variables were represented graphically in the form of a scatter plot. The Spearman's rank order correlation coefficient, r, was used to measure the direction and strength of the relationship between any two variables. Spearman's r ranges from -1 to +1, with values closer to zero indicating little or no association between the variables concerned. If $r>0$, the relationship is increasing (positive) and if $r<0$, the relationship is decreasing (negative) (Diamantopoulos & Schlegelmilch, 2000). If $r = 0$, there is no correlation and moderate correlations will have $0.4 < r < 0.8$.

Generic hypothesis

- Null hypothesis, H_0: There is no correlation between DC/Depot performance and each of the internal collaboration variables.
- Alternative hypothesis, H_1: There is a correlation between DC/Depot performance and each of the internal collaboration variables.
- Rejection criterion: Reject the null hypothesis if p-value ≤ 0.05.

4.2.4. Reliability

Figure 5: Cronbach alpha for internal collaboration variables

	Summary for scale: Mean=14.1878 Std.Dv.=2.82506 Valic Cronbach alpha: .702016 Standardized alpha: .699391 Average inter-item corr.: .323009				
variable	Mean if deleted	Var. if deleted	StDv. if deleted	Itm-Totl Correl.	Alpha if deleted
question 4	11.24027	5.288012	2.299568	0.450409	0.657299
question 5	11.45178	4.935774	2.221660	0.571287	0.601793
question 6	11.24873	5.781900	2.404558	0.385657	0.681918
question 8	11.51607	5.233386	2.287659	0.530888	0.622197
question 9	11.29442	6.063348	2.462387	0.356074	0.691496

As the Cronbach alpha approaches it indicates increased reliability with 0.7 used as guideline for acceptable reliability.

Figure 6: Cronbach alpha all Workplace Satisfaction Variables

Summary for scale: Mean=35.3901 Std.Dv.=5.85332 Valid N:182 (Spreadsheet2) Cronbach alpha: .829719 Standardised alpha: .831463 Average inter-item corr.: .296460					
	Mean if - deleted	**Var. if - deleted**	**StDv. if - deleted**	**Itm-Totl - Correl.**	**Alpha if - deleted**
1	32.46154	28.57819	5.345857	0.513508	0.814772
2	31.96154	30.90512	5.559237	0.394427	0.823829
3	32.69231	29.52071	5.433296	0.363242	0.828446
4	32.47253	29.06243	5.390958	0.428174	0.822372
5	32.68132	28.15119	5.305769	0.544640	0.812055
6	32.44505	29.36786	5.419212	0.461119	0.819021
7	32.29670	29.57131	5.437951	0.436534	0.820946
8	32.73077	28.29564	5.319365	0.566244	0.810387
9	32.47802	29.08468	5.393022	0.539791	0.813198
10	32.38462	29.66526	5.446582	0.493767	0.816855

11	32.06044	30.26558	5.501416	0.483853	0.818322
12	32.62637	26.42084	5.140121	0.645153	0.802181

As the Cronbach alpha approaches it indicates increased reliability with 0.7 used as guideline for acceptable reliability. In this case the value of 0.82 reflects an acceptable reliability.

5. CHAPTER 5 : ANALYSIS OF RESEARCH RESULTS

5.1. Biographical profile of respondents: qualitative research

Job Title	Job category/TASK Grade	Area of Responsibility	Experience in current position (no. of years)
1. General Manager	Executive/EXCEVAL	Sasko Grain	2
2. National Operations Manager/SCM	Executive/EXCEVAL	Sasko Grain	2
3. National Sales Manager	Executive/EXCEVAL	Sasko Grain	1.5
4. Human Resource Manager	Executive/EXCEVAL	Sasko Grain	1.5
5. National DC Manager	Senior Management/TASK 15	3 x DCs, SCM projects nationally	2
6. National Transport Manager	Senior Management/TASK 15	3 x DCs, acting DC Manager: Durban	3
7. DC Manager	Middle Management	Malmesbury DC	1.5
8. DC Manager	Middle Management	Gauteng DC	1
9. National Key Accounts Manager	Middle Management	National Sales (key national clients, trade agreements) & Depots	12
10. Regional Sales Manager	Middle Management	Western Cape - Depots	12,5
11. Regional Sales Manager	Middle Management	Western Cape – Key Accounts	Cancelled
12. Depot Manager	Middle Management	Van Rhynsdorp	Cancelled
13. Regional Operations Manager	Senior Management	Coastal Mills	0.25
14. Regional Operations Manager	Senior Management	Inland Mills	5
15. Mill Manager	Middle Management	Malmesbury Mill	3

The interviews for respondents 11 and 12 were cancelled due to non-availability of the interviewees.

5.2. Qualitative research findings

The thematic analysis was conducted to generate codes and themes as outlined through the following process:

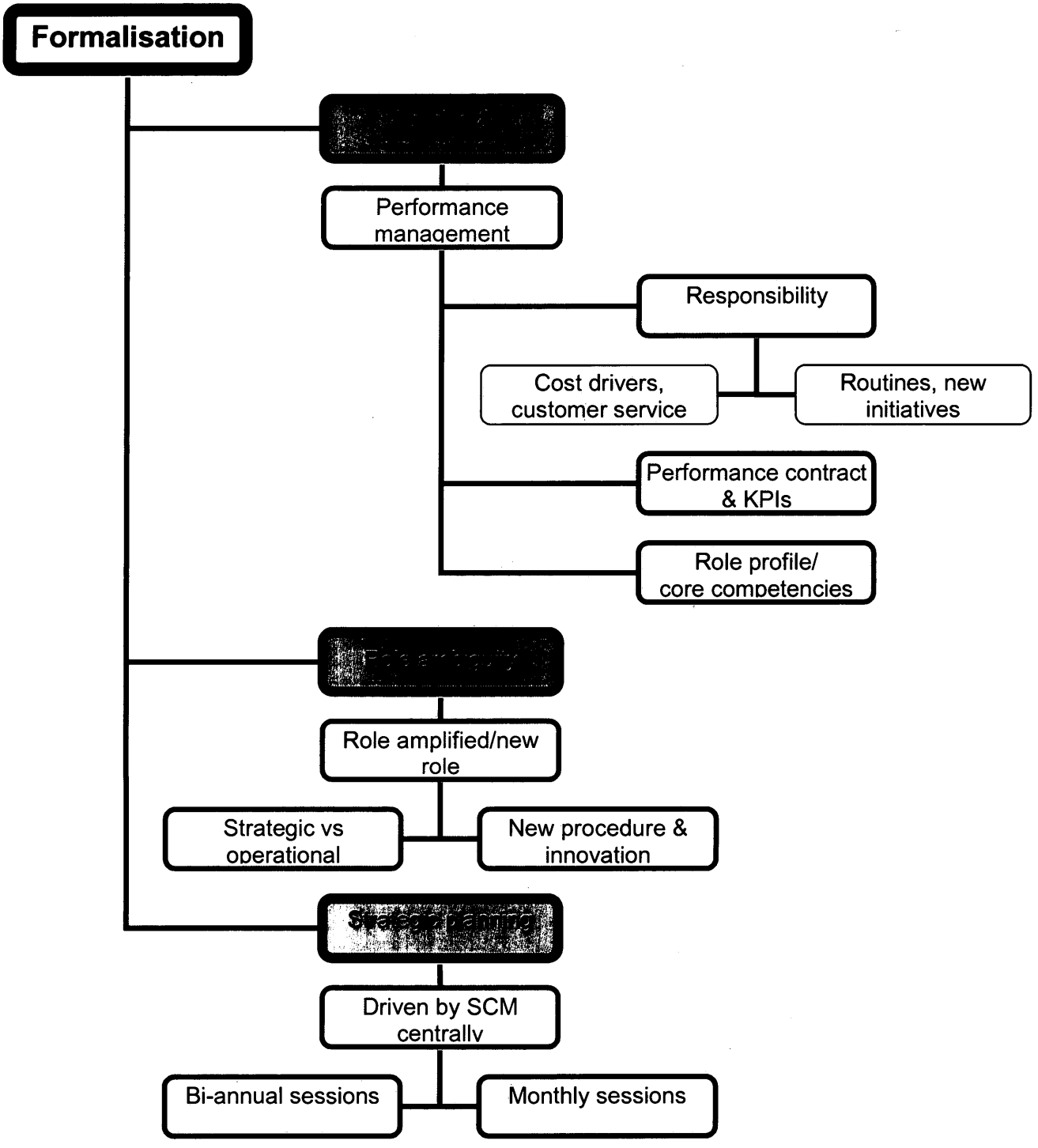
- **Phase 1: Familiarising oneself with the data**
  This phase involved reading and re-reading written transcripts from the recorded semi-structured interviews, occasionally listening to the actual recording that was copied on the researcher's personal computer. This exercise was an initial search for patterns and meanings that could be recorded and revised for later use.
- **Phase 2: Generating initial codes**
  Codes are defined as a unique aspect of the data that makes it meaningful, some were literal and others interpreted by the researcher.
- **Phase 3: Searching for themes**
  Figures 7 – 9 illustrates an abundance of codes that have been collapsed into themes. A total of 23 codes and 25 themes were generated from the 13 interviews and transcripts gathered.
- **Phase 4: Reviewing themes**
  The 25 themes were further refined into 16 sub-themes linked to 9 main themes.
- **Phase 5: Defining and naming themes**
  The themes generated were defined and linked to three main categories of organisational characteristics (Appendix 8.5) in line with the research question as follows:
    - Formalisation: Policies & Procedures, Role Ambiguity, and Strategic Planning as main themes.
    - Centralisation and SCM hierarchy: Decision-making, Grouping of Logistic Activities, and Number of Subordinates as main themes.
    - SCM performance

- **Phase 6: Producing the report**

  The themes were then related to each other in a narrative, using interesting and representative data from the text.

The process of thematic analysis was therefore used as a broad framework or set of tools for foundation data analysis while preserving the iterative and flexible characteristics of qualitative research.

Figure 7: Relationship between codes and themes for formalisation



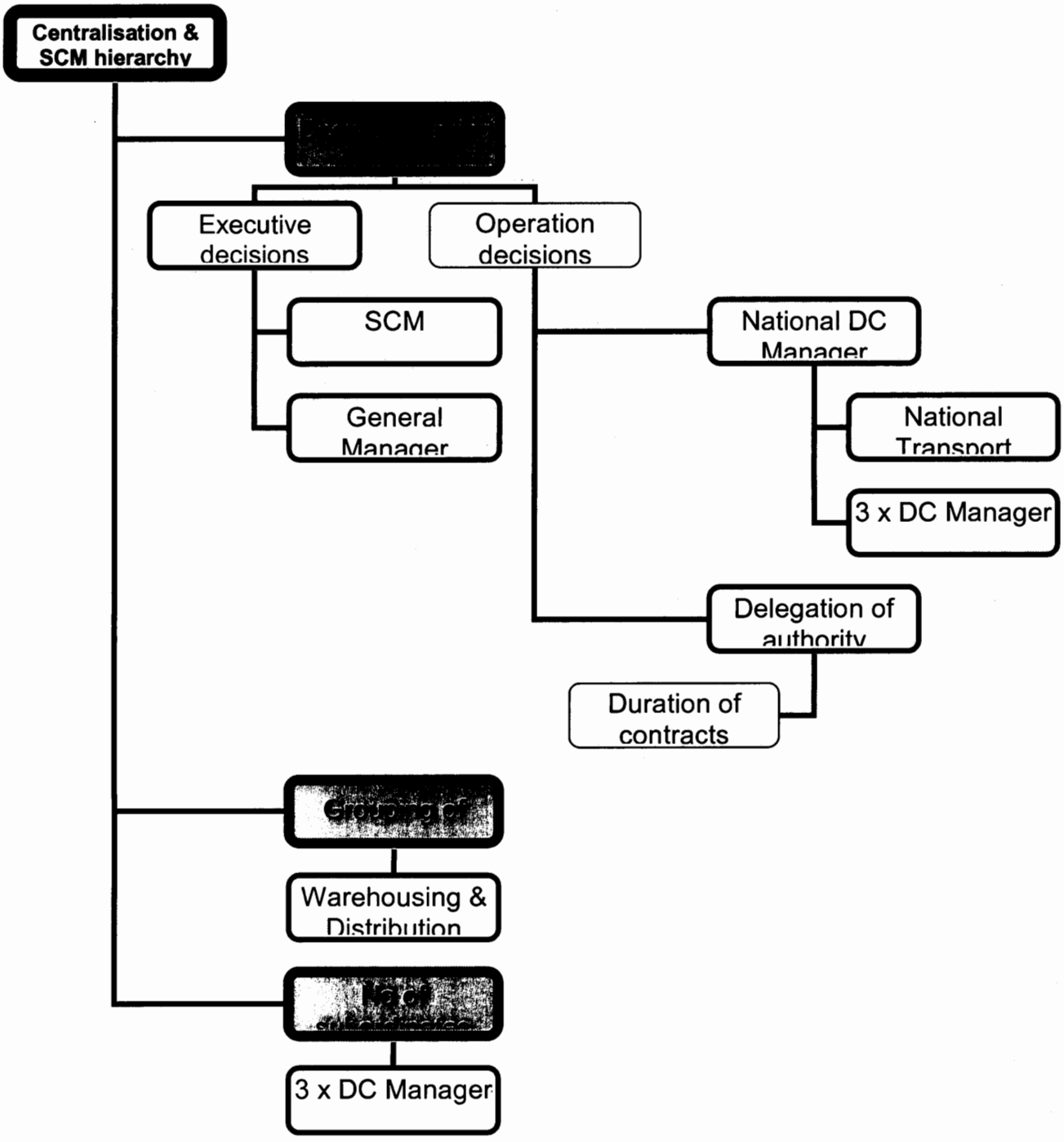
5.2.1. Formalisation of organisational structures

Under formalisation of organisational structures as the main category, three main themes emerged from the data. These were, firstly, existence of policies and procedures in the management of the logistics in the DCs and Depots at Sasko Grain. An example highlighted by one respondent was the performance management process where role profiles stating responsibilities, core competencies and KPIs are defined and organised into a performance contract for each role. Responsibility was described as focus on cost drivers and customer service, routine operations versus new innovations constituting "what do we expect of a DC, what should be measured" (Barnard, 2009).

Secondly, role ambiguity related to a question in the semi-structured interview, "To what extent are roles and role relations prescribed independently of individuals occupying positions in your structure?". Most of the senior managers conceded that some key roles were informed by the incumbent's skills and attributes with statements such as "In some instances and during restructuring, certain positions such as National Key Accounts Manager were informed by the incumbent's attributes, skills and experience." (Grobler, 2009), "When the position of Operations Manager became vacant, a decision was taken to merge the two largely because of the skills, knowledge and competencies of the incumbent SC Manager. Had this not been the case, there would have been a SC Manager and Operations Manager on the Sasko Grain Management structure" (Heyl, 2009). The roles were either amplified or re-configured into new roles characterised by a shift from operational focus to strategic emphasis, new procedures and innovations (Barnard, 2009).

Thirdly, the strategic planning theme emanated from asking the extent of involvement of SC managers in strategic planning where all confirmed that the Supply Chain Manager drives the SCM strategic in conjunction with the General Manager (GM) for Sasko Grain offering overall direction on business strategy.

Figure 8: Relationship between codes and themes for centralisation



5.2.2. Centralisation of organisation structures & hierarchical position of SCM

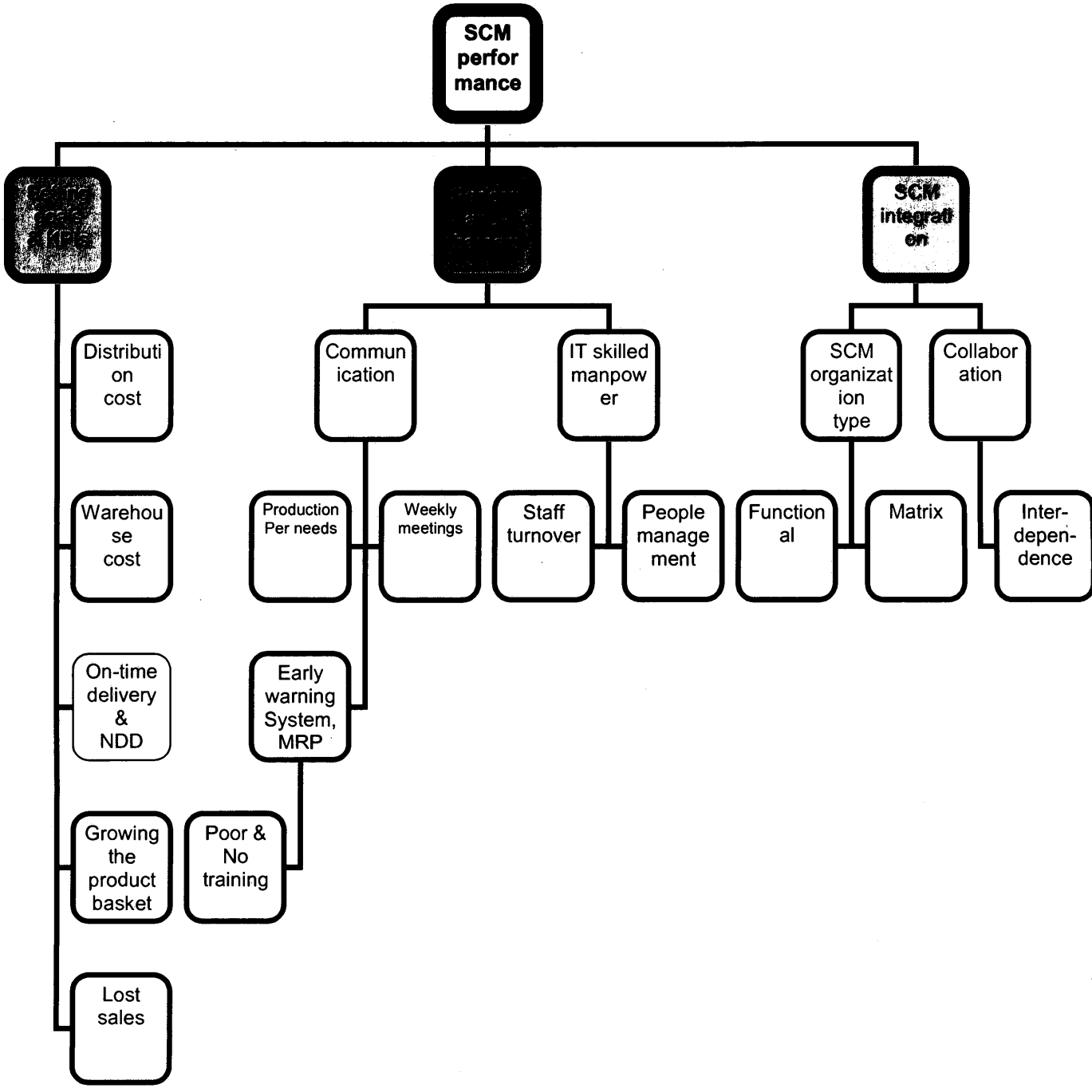
Under centralisation of organisational structures as the main category, three main themes emerged from the data.

Firstly, decision-making referred to the extent to which power to make decisions on logistics activities is centralised in the organisation. What emerged is that decisions are either executive or operational, where the latter is delegated to middle management such as the National DC Manager and the former is centralised with the Supply Chain Manager. A delegation of authority framework was used to govern activities that carry lots of risks, such as signing of contracts with duration of more than 2 years being the responsibility of senior management irrespective of monetary value. There was a strong view from the middle managers that the delegation of authority framework needs to be reviewed to align contract period with monetary value of specific contracts.

Secondly, logistics activities were grouped together into warehousing and distribution, the "walls and wheels". The walls referred to the actual warehouses, DCs and Depot whilst the wheels depicted the vehicles, drivers and the whole transportation of products to customers.

Thirdly, the number of subordinates reporting to a single superior differed according to the DC structure and Depot structure but both indicated that the Supply Chain Manager and the National Sales Manager, who are both responsible for these structures respectively, serve at the highest management structure of the organisation. "The Supply Chain Manager drives the strategies and tactics for optimising the supply chain, working closely with the Sales Manager." (Heyl, 2009).

Figure 8: Relationship between codes and themes for centralisation



5.2.3. SCM performance

SCM performance as the main category reflected three main themes: setting goals and KPIs, performance barriers and SCM integration.

KPIs included DC measurements such as distribution costs, warehouse costs, NDDs and on-time delivery, operating costs and lost sales. Depot measurement included volumes, stock cover, stock losses, pallet costs, returns and rework loss and selling the product basket. SCM performance measures and annual figures were also shared with the researcher. Managers seemed to spend a lot of their time managing efficiencies and cost drivers that are tied to set performance target for each DC or Depots. Although most managers emphasised the amount of time spent on people issues, there were no specific KPIs on people management.

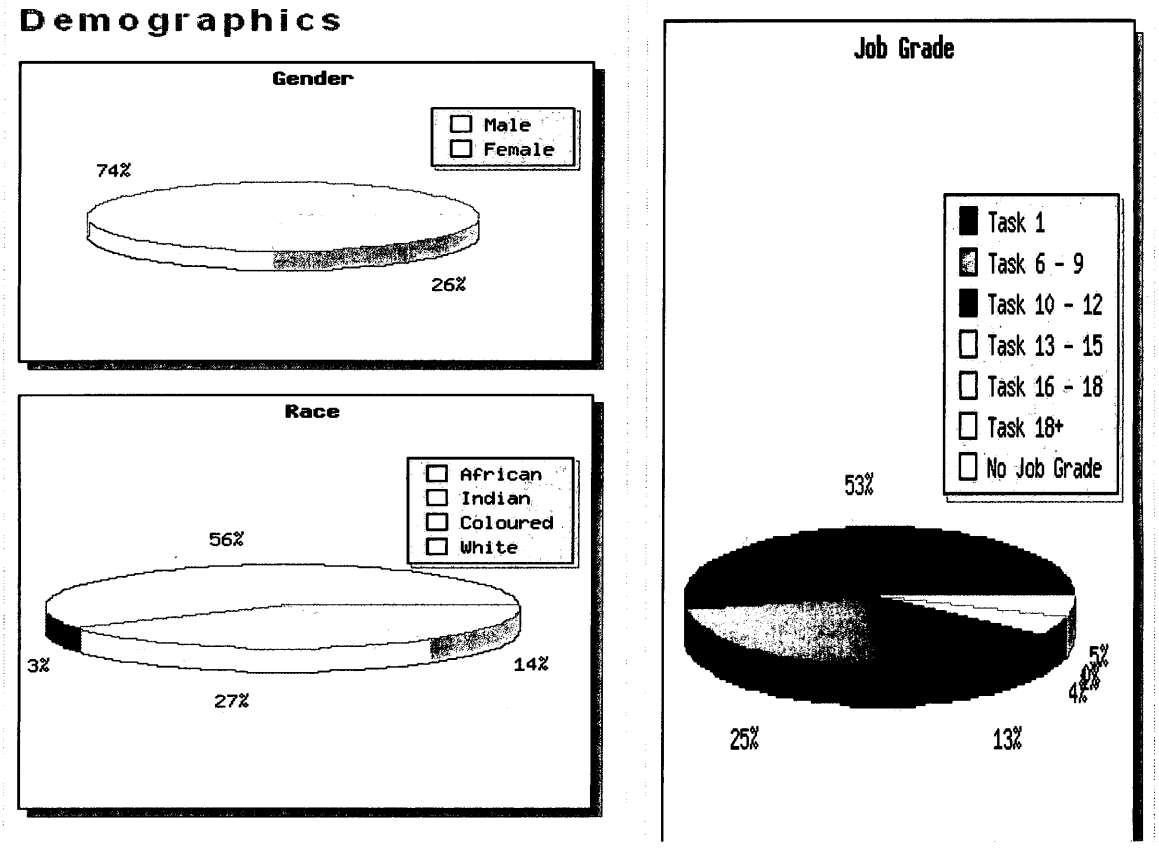
On performance barriers, issues raised were mainly communication and skilled personnel, particularly computer literacy and SAP end-user proficiency. The National Sales Manager, the Supply Chain Manager, the National DC Manager and the National Transport Manager highlighted staff turnover at middle management levels including Sales Managers (four new managers with 18 months) and the Durban DC Manager position (where 3 people were appointed and left with 18 months) where a search for fourth person was under way. Some of the reasons for high staff turnover were given as managing diversity (the Indian and Zulu-speaking factor at Durban DC); fear of tighter KPI measurement at the Depots and location factors (Malmesbury DC unable to attract talent from Cape Town to the more 'platteland' area). People management skills were emphasised quite strongly by the Human Resource Manager both middle and junior management levels (Van Wyk, 2009).

SCM integration referred to perceptions on what type of SCM-oriented organisation Sasko Grain is and the level of internal collaboration between individuals, teams and department with the DC and Depot structure. Most respondents chose a description fitting a functional organisational structure whilst the Supply Chain Manager favoured a matrix organisational type.

5.3. Biographical profile of respondents: quantitative research

The gender, race and job grade of respondents are the main demographic descriptions used as outline in the figure below. Jobs grades are classified in terms of the Tuned Assessment of Skills and Knowledge (TASK) grading system with higher levels such as T13-14 depicting junior management, T15 – 16 senior management, EXCEVAL for executive management.

Figure 10: Demographical profile of respondents

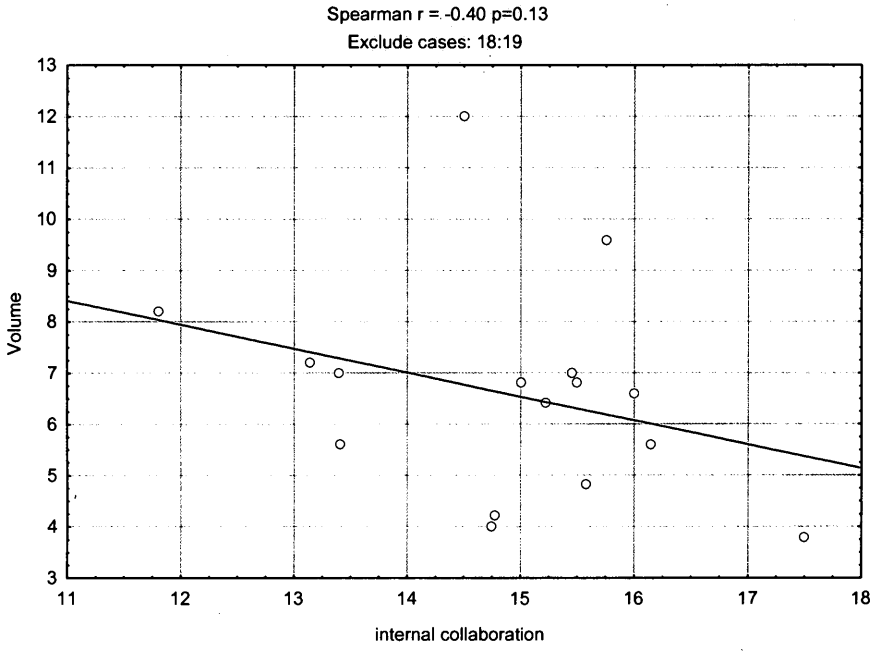


(Source: Pioneer Foods Group (2009))

5.4. Quantitative research findings

5.4.1. Internal collaboration *vs* volume

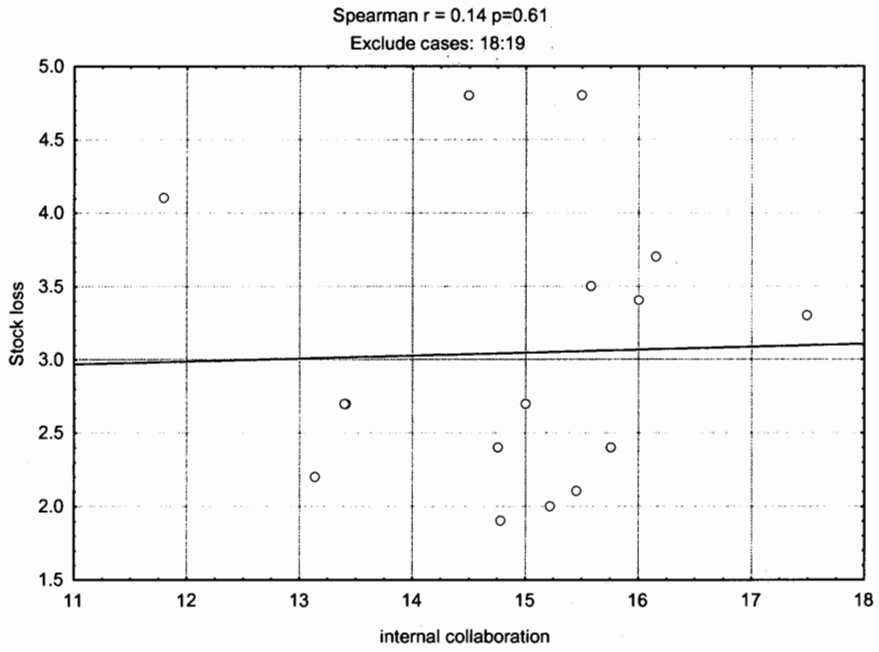
Figure 11: Scatter Plot of Internal collaboration vs volume



Since r = -0.40, there is a decreasing but weak correlation between volume and internal collaboration and with p = 0.13 the null hypothesis is accepted. The correlation between volume and internal collaboration cannot be deemed significant.

5.4.2. Internal collaboration vs stock loss

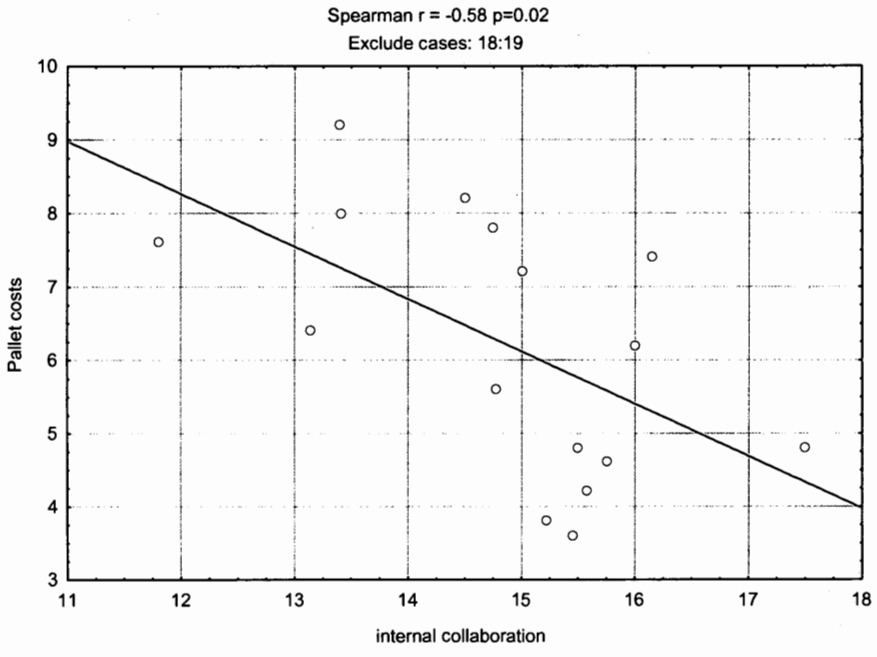
Figure 12: Scatter Plot of Internal Collaboration vs Stock Loss



In this case, r = 0.14 indicating a weak correlation between stock loss and internal collaboration and it is not statistically significant as p = 0.61. The null hypothesis that there is no correlation between stock loss and internal collaboration is, therefore, accepted.

5.4.3. Internal collaboration vs pallet cost

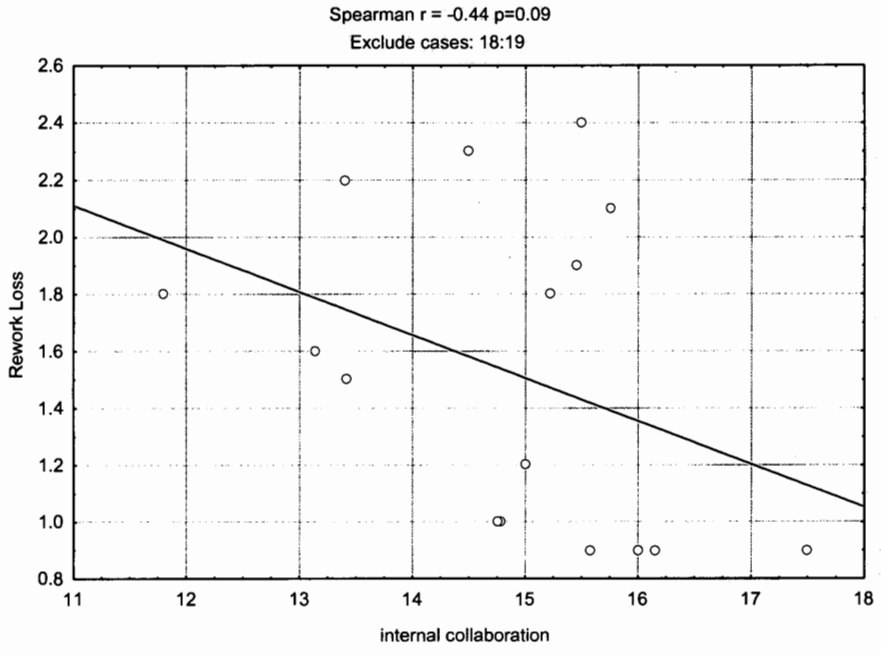
Figure 13: Scatter Plot of Internal Collaboration vs Pallet Cost



Since r = -0.58, there is a decreasing but moderate correlation between pallet costs and internal collaboration and with p = 0.02 the null hypothesis is rejected. Therefore, there exists a significant correlation between pallet costs and internal collaboration meaning that, as the level of internal collaboration increases, pallet costs decrease.

5.4.4. Internal collaboration vs rework loss

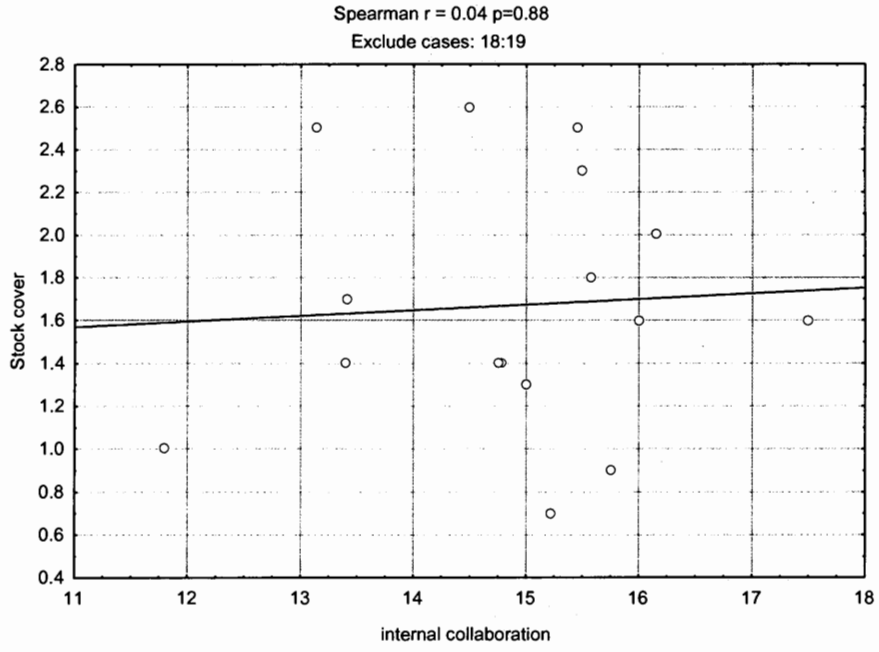
Figure 14: Scatter Plot of Internal Collaboration vs Rework Loss



In this case, r = -0.44 indicating a decreasing but weak correlation between stock loss and internal collaboration and it is not statistically significant as p = 0.09. The null hypothesis that there is no significant correlation between rework loss and internal collaboration is, therefore, accepted. However, there is a noticeable trend here in line with negative correlation.

5.4.5. Internal collaboration vs stock cover

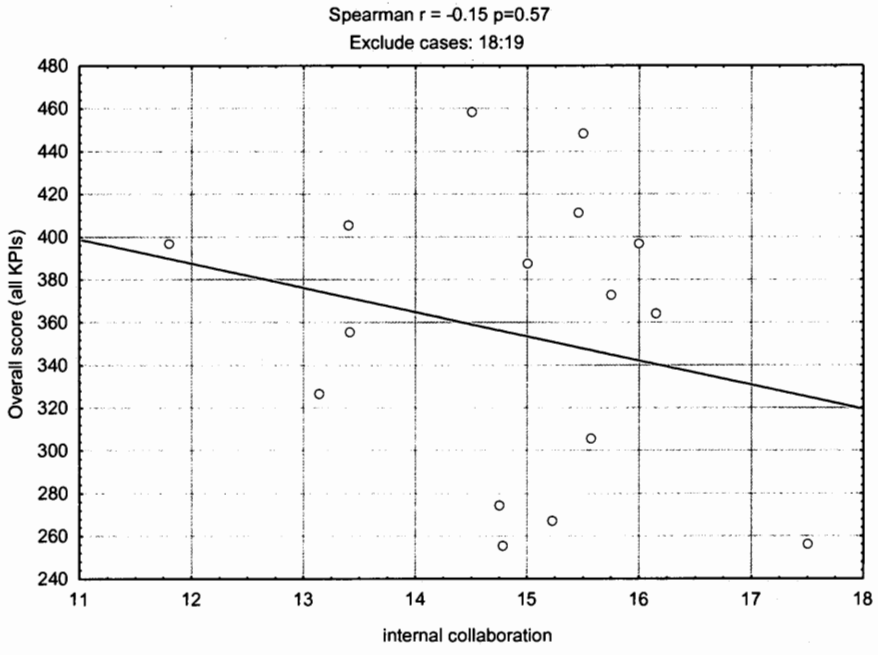
Figure 15: Scatter Plot of Internal Collaboration vs Stock Cover



Since r = 0.04, there is an increasing but weak correlation between stock cover and internal collaboration and with p = 0.88, the null hypothesis is accepted. Therefore, there is no significant correlation between stock cover and internal collaboration.

5.4.6. Internal collaboration vs overall KPIs

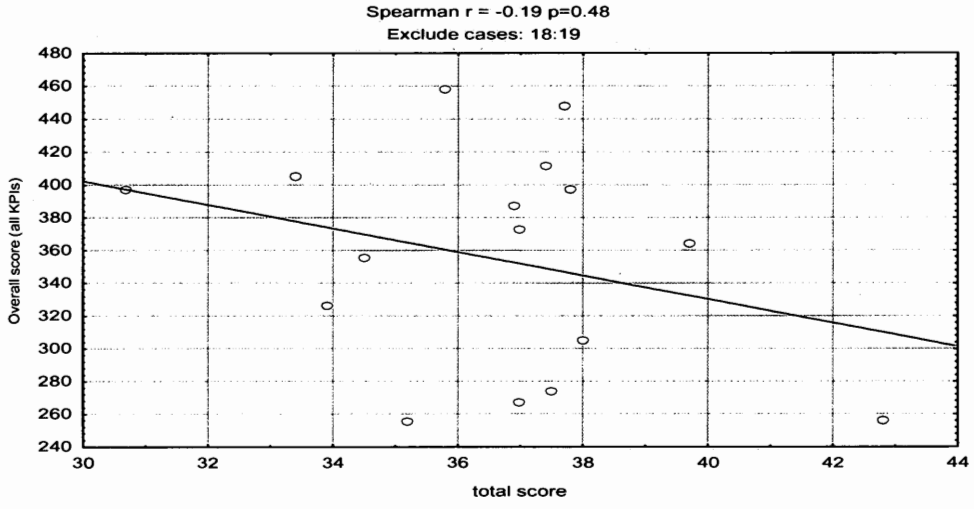
Figure 16: Scatter Plot for Internal Collaboration vs Overall KPIs



In this case, r = -0.15 indicating a decreasing but weak correlation between overall KPIs and internal collaboration and it is not statistically significant as p = 0.57. The null hypothesis that there is no significant correlation between overall KPIs and internal collaboration is, therefore, accepted.

5.4.7. Workplace Satisfaction Variables vs Overall Score (all KPIs)

Figure 17: Scatter Plot for Workplace Satisfaction vs Overall Score KPIs



Considering all the 12 variables against the overall score for all KPIs, the results show r = -0, 19 indicating a decreasing weak correlation and with a p = 0.48, the null hypothesis that there is no significant correlation between workplace satisfaction and Depot performance indicators grouped together is accepted.

5.4.8. All variables vs Depot performance

Figure 18: Statistically significant or close to significant correlations

Spreadsheet3 in results.stw Exclude list: 18:19					
	variable 1	**variable 2**	**Spearman**	**Spearman p-val**	**# cases**
3	question 1	Pallet costs	-0.55	0.03	16
17	question 3	Pallet costs	-0.60	0.01	16
25	question 4	Rework Loss	-0.51	0.05	16
31	question 5	Pallet costs	-0.48	0.06	16
38	question 6	Pallet costs	-0.58	0.02	16
43	question 7	Volume	-0.64	<0.01	16
46	question 7	Rework Loss	-0.68	<0.01	16
48	question 7	Overall score (all KPIs)	-0.48	0.06	16
61	question 9	Stock cover	0.68	<0.01	16
64	question 10	Volume	-0.48	0.06	16
71	question 11	Volume	-0.66	<0.01	16
77	question 11	Weighted overall score (all KPIs)	-0.50	0.05	16
78	question 12	Volume	-0.58	0.02	16

The variable under Question 7, Workplace Conditions, indicates a decreasing moderate correlation with pallets costs, rework loss and overall score on all KPIs. The p-values for pallet costs and rework loss and volume are far less than 0.01 indicating a very high statistical significance of the correlation. The null hypothesis is, therefore, rejected as the results show that as workplace conditions deteriorate the performance of the Depots decreases.

6. CHAPTER 6: DISCUSSION, CONCLUSION & RECOMMENDATIONS

6.1. Discussion and conclusion

6.1.1. The relationship between organisational structure and SCM performance

The results of the qualitative study reveal that Sasko Grain has a strong focus on identification and management of key cost drivers such as distribution costs, pallet cost, stock losses, customer service in terms of on-time delivery, NDDs and lost sales due to inability to supply product requested by customers outside normal orders. The performance measures for Depots include the extent to which sales cover the entire product basket of the organisation as opposed to one dominant product, reflecting differentiation. Over the past 12 months, the company embarked on a process of optimising the supply chain through identification of value and cost opportunities in the total value chain. The main aim was to achieve cost effective and competitive product and service offering (Vermeulen, 2009).

According to Kim (2006), previous studies (Bitici *et al.*, 2001; Yen and Sheu, 2004) on the technological performance of SCM identify four perspectives that are frequently addressed: cost leadership, customer service, innovative marketing, technology and differentiation. Three of these perspectives, save for innovative marketing technology, are evident in the results from the qualitative part of the research.

On administrative performance, the results indicate a degree of awareness on SCM by management at all levels and within the DC and Depot structures. The key performance indicators and control measures over SCM are explicitly defined and implemented through performance management of the operating unit and performance contracting with managers. However, other administrative performance measures such as the procurement and training of SCM experts still remains an issue, experience in developing SCM system (Kim, 2006) is still low as evidenced by recent introduction NDDs whilst implementation of Warehouse Management System and MRP system is still at infancy stages.

The qualitative research results also reveal a high degree of formalisation as evidenced by confirmation by all respondents that rules, policies and procedures governing logistics activities are explicitly and precisely formulated. Whilst most critical roles are not prescribed independently, personal attributes of the incumbents, the Supply Chain Manager (DCs) and the National Sales Manager (Depots) develop and direct SCM strategy and participate in the strategic planning processes of the business. This also reflects the hierarchical position of the SCM department. Decision making is centralised with the Supply Chain Manager (DCs) and the National Sales Manager (Depots) and all logistics activities are grouped together under the SCM department, reflecting a high degree of centralisation.

SCM integration is reflected in the perceptions of interdependence as a key theme, depicting a perceived high degree of collaboration. Collaboration was further tested during the quantitative survey and will be discussed in the next sessions. Sasko Grain follows a functional organisational structure in which the main SCM activities such as forecasting, product planning, order processing, logistical control, warehousing, transportation, etc. fall under the Supply Chain Manager, reporting to the General Manager. Also, findings of other research reveal that firms tend to adopt an organisation type with high level of formalisation for internal SC integration. This shows that coordination and control through formalisation and enhanced position of the SCM department are imperative for effective internal SC integration (Kim, 2006).

6.1.2. Availability of skills and SCM performance

Sasko Grain has experienced staff turnover, particularly at key middle management levels and senior managers decry the difficulty in finding replacements with the requisite skills.

Wright *et al.* (2001) argue for the need to develop human capital that has either higher levels of skills (general or firm specific), or achieving better alignment between the skills represented in the firm and those required by its strategic intent. There exists no evidence of what strategies are in place either to develop or acquire higher levels skills to support the SCM optimisation initiative.

The organisational climate survey conducted will hopefully reveal some of the possible contributors to staff turnover which will need to be further explored. Although the scores for the Malmesbury DC and Durban DC for the workplace satisfaction variables were not subjected to statistical analysis, it is important to record that the following variables received low scores: relationship and trust, policies and procedures, workplace conditions, communication and customer orientation. Both DCs were reported to have relatively high staff turnover and experiencing difficulty in finding suitable replacements.

6.1.3. Level of collaboration and SCM performance

Ferrin *et al.* (2008) observe that at the heart of collaboration is trust and many researchers have long recognised that trust and cooperation influence each other. They further argue that mutual trust is a determinant and an outcome of cooperation and has long been associated with a range of cooperative outcomes such as helping employees work together more effectively. It is considered an important dimension of leader-member exchange which is associated with organisational citizenship behaviour and performance (Liden, Sparrow & Wayne, 1997); and it has been associated with knowledge-sharing between departments, inter-firm cooperation (Parkhe, 1993) and organisational survival and growth (Whitener *et al.*,1998).

Of particular relevance to the research question were the dimensions that were together classified as internal collaboration:

- **Question 4 - Teamwork:** the people in my work team work well together
- **Question 5 – Relationship & Trust:** there is mutual trust between managers and employees.
- **Question 6 – Policies & Procedures:** the company makes sufficient effort to ensure that everyone understands its policies and procedures.
- **Question 8 – Communication:** I have access to sufficient information to allow me to plan and carry out my tasks effectively.
- **Question 9 – Customer orientation:** I rate my unit's customer orientation as excellent.

A significant correlation is only observed between pallet costs and internal collaboration, meaning that as the level of internal collaboration increases, pallet costs decrease. The main hypothesis proposed for the research question on collaboration was: the level of collaboration is positively correlated to SCM performance. The results indicate that this is clearly not the case when these variables are clustered and correlated similarly.

However, considered individually, Teamwork has a decreasing moderate correlation with Rework Loss, meaning that when people in a team work well together, the amount of returns and rework is likely to decrease. Relationship & Trust has a decreasing moderate correlation with Pallet Costs, depicting that as the mutual trust between managers and employees decreases, pallet costs increase. Customer Orientation has a positive and more stronger correlation with Stock Cover.

It is also important to note that Workplace Conditions have a negative but stronger correlation with volume and stock loss. It can be inferred that, as the workers feel that the company cares and ensures that the physical work environment is safe, has the requisite equipment and technology, volumes increase and stock loss decreases. The results reflect a similar correlation for all depot KPIs.

It can, therefore, be concluded that there is a negative correlation between collaboration and performance. Collaboration should be considered as individual dimensions that promote it, such as relationship & trust, teamwork, customer orientation and policies and procedures.

6.2. Recommendations for future research

Firstly, an empirical research study needs to be conducted on the organisational factors impacting supply chain effectiveness within the Pioneer Foods Group and the food supply chain in South Africa. Issues of organisational structure, strategy, processes and human capital in supply chain can be quite different and challenging as organisations strive to develop capabilities to compete locally and grow globally.

Secondly, the dimensions that defines internal collaboration, particularly those relating to human capital, and their impact on SCM performance to improve internal service operations, need to be defined through relevant empirical studies. Subsequent research can focus on such constructs.

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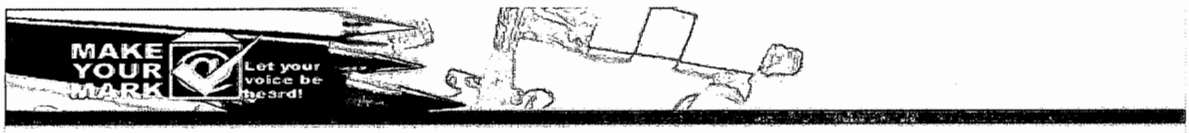
8. APPENDICES

8.1. Quantitative Research Variables

Workplace Measurement Dimensions
1. Leadership I have confidence in my immediate manager's/supervisor's leadership ability.
2. Job Satisfaction I like my job, and the kind of work I do.
3. Training and Development The training I receive is relevant to my work.
4. Teamwork The people in my work team work well together.
5. Relationships & Trust In my unit, there is mutual trust between managers and employees.
6. Policies & Procedures The company makes sufficient effort to ensure that everyone understands its policies and procedures.
7. Workplace Conditions The company ensures that physical working conditions are acceptable (safety, equipment, lighting, ventilation, technology, etc.).
8. Communication I have access to sufficient information to allow me to plan and carry out my tasks effectively.
9. Customer Orientation I rate my unit's customer orientation as excellent.
10. Resources I have sufficient resources to do my job well.
11. Quality In my unit we deliver quality work.
12. Transformation The company makes sufficient effort to create an environment that supports the transformation of my workplace.

(Source: Pioneer Foods Group (2009))

8.2. Questionnaire: Quantitative Research



2. Workplace Satisfaction Evaluation

There are **12** items to be evaluated. Please rate all of the items. Please read each measurement dimension carefully, and then indicate your level of satisfaction on the rating scale provided on the right hand side of the table. Please mark your rating with an **X** in the appropriate box: For example, an extremely satisfied response will be:

Workplace Measurement Dimensions	Extremely Dissatisfied	Dissatisfied	Satisfied	Extremely Satisfied
1. Leadership I have confidence in my immediate manager's/ supervisor' leadership ability.	☐	☐	☐	☐
2. Job Satisfaction I like my job and the kind of work I do.	☐	☐	☐	☐
3. Training and Development The training I receive is relevant to my job.	☐	☐	☐	☐
4. Teamwork The people in my work team work well together.	☐	☐	☐	☐
5. Relationships & Trust In my work area there is mutual trust between managers and employees.	☐	☐	☐	☐
6. Policies & Procedures Employees are well informed about the company policies and procedures.	☐	☐	☐	☐
7. Workplace Conditions My workplace in generally a safe working environment (equipment, lighting, ventilation, technology, etc.)	☐	☐	☐	☐
8. Communication The workplace/ briefing meetings are effective in terms of communication in my work area.	☐	☐	☐	☐
9. Customer Orientation I am satisfied with the service I receive from other departments/ divisions within the company.	☐	☐	☐	☐
10. Resources I have sufficient resources to do my job well.	☐	☐	☐	☐
11. Quality In my unit we deliver quality work according to set standards.	☐	☐	☐	☐
12. Transformation In my company people are recognised and respected regardless of their age, race and gender, etc.	☐	☐	☐	☐

2. Other Comments

Please use the space provided below to make any additional comments about working for Pioneer Foods, and in particular about the things that are important for ensuring that you remain motivated and committed to your job and the company.:

PIONEERFOODS
SINCE 1920

MAKE YOUR MARK Let your voice be heard!

(Source: Pioneer Foods Group (2009))

8.3. Correlations per Workplace Satisfaction Variable

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	variable 1	variable 2	Spearman	Spearman p-val	# cases
1	question 1	Volume	-0.15	0.58	16
2	question 1	Stock loss	-0.12	0.67	16
3	question 1	Pallet costs	-0.55	0.03	16
4	question 1	Rework Loss	-0.22	0.42	16
5	question 1	Stock cover	-0.21	0.44	16
6	question 1	Overall score (all KPIs)	-0.05	0.86	16
7	question 1	Weighted overall score (all KPIs)	-0.16	0.55	16
8	question 2	Volume	-0.36	0.17	16
9	question 2	Stock loss	0.08	0.78	16
10	question 2	Pallet costs	-0.11	0.68	16
11	question 2	Rework Loss	-0.45	0.08	16
12	question 2	Stock cover	0.40	0.13	16
13	question 2	Overall score (all KPIs)	-0.09	0.74	16
14	question 2	Weighted overall score (all KPIs)	-0.20	0.46	16
15	question 3	Volume	-0.04	0.90	16
16	question 3	Stock loss	0.06	0.82	16
17	question 3	Pallet costs	-0.60	0.01	16
18	question 3	Rework Loss	-0.01	0.97	16
19	question 3	Stock cover	0.17	0.54	16
20	question 3	Overall score (all KPIs)	-0.13	0.63	16
21	question 3	Weighted overall score (all KPIs)	-0.26	0.33	16
22	question 4	Volume	-0.45	0.08	16
23	question 4	Stock loss	-0.04	0.88	16
24	question 4	Pallet costs	-0.40	0.13	16
25	question 4	Rework Loss	-0.51	0.05	16
26	question 4	Stock cover	0.42	0.11	16
27	question 4	Overall score (all KPIs)	-0.27	0.32	16
28	question 4	Weighted overall score (all KPIs)	-0.43	0.10	16
29	question 5	Volume	-0.45	0.08	16
30	question 5	Stock loss	0.07	0.80	16
31	question 5	Pallet costs	-0.48	0.06	16
32	question 5	Rework Loss	-0.45	0.08	16
33	question 5	Stock cover	-0.11	0.68	16
34	question 5	Overall score (all KPIs)	-0.24	0.38	16
35	question 5	Weighted overall score (all KPIs)	-0.33	0.21	16
36	question 6	Volume	-0.32	0.22	16
37	question 6	Stock loss	0.06	0.82	16
38	question 6	Pallet costs	-0.58	0.02	16
39	question 6	Rework Loss	-0.40	0.12	16
40	question 6	Stock cover	-0.05	0.86	16
41	question 6	Overall score (all KPIs)	-0.15	0.59	16
42	question 6	Weighted overall score (all KPIs)	-0.29	0.28	16
43	question 7	Volume	-0.64	<0.01	16
44	question 7	Stock loss	0.23	0.40	16
45	question 7	Pallet costs	-0.00	0.99	16
46	question 7	Rework Loss	-0.68	<0.01	16

47	question 7	Stock cover	0.21	0.44	16
48	question 7	Overall score (all KPIs)	-0.48	0.06	16
49	question 7	Weighted overall score (all KPIs)	-0.46	0.07	16
50	question 8	Volume	0.00	0.99	16
51	question 8	Stock loss	0.03	0.93	16
52	question 8	Pallet costs	-0.41	0.12	16
53	question 8	Rework Loss	-0.14	0.60	16
54	question 8	Stock cover	-0.14	0.60	16
55	question 8	Overall score (all KPIs)	-0.01	0.98	16
56	question 8	Weighted overall score (all KPIs)	-0.09	0.74	16
57	question 9	Volume	-0.28	0.29	16
58	question 9	Stock loss	0.30	0.26	16
59	question 9	Pallet costs	-0.15	0.57	16
60	question 9	Rework Loss	-0.02	0.96	16
61	question 9	Stock cover	0.68	<0.01	16
62	question 9	Overall score (all KPIs)	0.00	0.99	16
63	question 9	Weighted overall score (all KPIs)	-0.14	0.60	16
64	question 10	Volume	-0.48	0.06	16
65	question 10	Stock loss	0.02	0.93	16
66	question 10	Pallet costs	0.16	0.56	16
67	question 10	Rework Loss	-0.36	0.17	16
68	question 10	Stock cover	0.32	0.22	16
69	question 10	Overall score (all KPIs)	-0.44	0.09	16
70	question 10	Weighted overall score (all KPIs)	-0.42	0.11	16
71	question 11	Volume	-0.66	<0.01	16
72	question 11	Stock loss	0.11	0.68	16
73	question 11	Pallet costs	-0.17	0.52	16
74	question 11	Rework Loss	-0.42	0.11	16
75	question 11	Stock cover	0.27	0.30	16
76	question 11	Overall score (all KPIs)	-0.41	0.11	16
77	question 11	Weighted overall score (all KPIs)	-0.50	0.05	16
78	question 12	Volume	-0.58	0.02	16
79	question 12	Stock loss	0.17	0.52	16
80	question 12	Pallet costs	-0.04	0.87	16
81	question 12	Rework Loss	-0.33	0.22	16
82	question 12	Stock cover	-0.03	0.93	16
83	question 12	Overall score (all KPIs)	-0.16	0.55	16
84	question 12	Weighted overall score (all KPIs)	-0.27	0.32	16

8.4. Questionnaire: Qualitative Research

QUALITATIVE RESEARCH

SECTION A: ABOUT YOURSELF

This section is aimed at obtaining background information about you. The sensitivity of the information is acknowledged. Once again, be assured that all information will be treated as confidential and that it will only be used in summary format and to gain some insights and a better understanding of organisational design characteristics and their influence on supply chain performance at Sasko Grain. Your professional competence and input will help ensure content validity and the proposed theoretical model for the research report.

Please confirm the following about your role:

Job Title:	
Job Category:	
Area of Responsibility:	
Number of years experience in current position:	

The following interview will take approximately 45 minutes and will be conducted by myself as the interviewer at a time and place most convenient to both parties.

SECTION B: INDIVIDUAL STRUCTURED INTERVIEWS

The characteristics of the various organisation types are drawn from the SCM Organisational Type Model adopted by Kim (2006).

Formalisation is measured by the degree to which goals, rules, policies and procedures for logistics activities are precisely and explicitly formulated, the extent that roles and role relations are prescribed independently of the personal attributes of individuals occupying positions in the structure, and the participation level of SCM managers in strategic planning process.

The degree of centralisation was measured in terms of: the extent to which the power to make logistics decisions is centralised in the organisation, the number of subordinates who report to a single superior, and the degree to which logistics activities are grouped together in the same organisation or organisation sub-unit.

The hierarchical position of the SCM department is measured by three items: the extent to which decisions are made at relatively high levels in the organisation, the hierarchical distance between logistics decision-makers and senior executives who make decisions on an organisation-wide basis

Organisational structure and supply chain performance (SCM)

1. Could you please describe your typical day at work?

2. What are your main responsibilities?

3. What is the extent to which roles, policies, and procedures for logistics activities are precisely and explicitly formulated?

4. To what extent are the roles and role relations prescribed independently of the personal attributes of individuals occupying positions in your structure?

5. Describe the level of participation of SCM managers in strategic planning processes at Sasko Grain.

6. Who makes the ultimate SCM decisions an organisation-wide basis?

7. In the light of what we have discussed, what is the level of SCM orientation at Sasko Grain?

8. What are the key performance measures for your DC/Depots?

9. What are the barriers to achieving your performance goals?

10. What activities do you spend most of your time on?

11. How does the performance of your DCs/Depots compare to your competitors?

Availability of labour with requisite skills

1. Do you experience staff turnover?

2. In your opinion, what are the main factors contributing to level of staff turnover?

3. If no significant staff turnover, what are the main factors contributing to level of staff retention or stability?

4. If staff do leave, are you able to find replacements with the requisite knowledge & skills?

5. Describe the ways in which labour with requisite skills contribute to performance of your DCs/Depots?

The level of internal collaboration

1. What is the level of cooperation between individuals within your department?

2. How does cooperation or lack thereof amongst individuals and teams affect performance?

8.5. Example of meaning categorisation of a full transcript

Table 1: Phase 3: Searching for themes

Main category/themes	Codes and themes
Interviewee background Legend: Theme = bright green Code = yellow	Ja, Before that I was a DC manager for Malmesbury and two years before that I was **financial manager.** ***Q: How did you find the....shift?*** The transition, ag very easy actually because supply chains are very logistical, you know you just have think analytical and you get through it, but obviously you need to get to know the process first, **you need to know stock availability, supply chain terminology and those kind of things**, but you catch up very quickly. ***Q: Your background is it finance?*** **Finance,** ja, basically I was involved in the **procurement, central procurement and the creditors** , but I come from the operational side I come from all round and about, Centurion previously, Bethlehem, and Klerksdorp. **What helped me a lot was the whole operational experience I had within SASKO.**
Main responsibilities	***Q: Just to go into these questions, your typical day at work?*** It's something of everything, there's a certain amount of **routine work**, stuff like measurements, once a week I would extract stock over and once a week I will extract lost sales and certain things I feel that is important that I need to keep my finger on, so that is the kind of routine things I get involved with and then a part of my day **new initiatives**, new investigations, currently we are busy with creating a new document for instance for our distribution tender document that we send out to all our transporters that we are busy changing and creating a new one,. We are not a very experienced department and there are a lot of new things that we are constantly investigating according to what our demands and needs that we have. Then a certain part of the day is what I would call crisis management. You get a customer calling and yes we have his stock or we have a crisis situation where we have run out of SPEKKO and we have to make alternative plans, trucks breaking down, buying of new trucks , so there is something of everything. **A bit of crisis management and a bit of strategic planning and goals.**

	Q: So basically most of the times you sit in your office behind your PC? Actually most of the days I am out of the office, I am about two to three days at the DC's and then two or three days a week, especially this time of the month in the office doing my **month end reports and extracting my stats.** ***Q: That is a lot of travelling...*** Yes I travel at least twice a week, I would go to either Durban or Gauteng and then I would also go to other places like mills and other units where we are involved as well. The people reporting to me at this stage we are basically involved with all the units, stuff we do is we **roll out MRP I am rolling out NDD's** for instance for the Western Cape depots so I will spend time in George, Springbok, Upington or De Aar. ***Q: What does NDD stand for if I may ask?*** It stands for **Nominated Delivery Date**, it is something we try and create with our customers, so instead of our customers ordering every day or whenever he likes, you try and force him to order on a specific date so that you can evenly distribute your resources for distribution purposes ***Q: What would you say are your main responsibilities?*** Also three things I would say, obviously **cost drivers,** getting the costs down as far as possible and then very important is **customer service delivery**, managing the perception of the customer and them **managing assets**, stuff like our stocks our vehicles, people etc. So those are the three most important drivers I have. ***Q: In terms of your customers, who are your major customers, top three perhaps?*** SPAR, Pick & Pay & Checkers, those are the most important customers.
Formalisation of rules, policies & procedures	***Q: The roles, the policies, procedures with regards to in particular logistics, are they specifically defined and formulated?*** Basically what we do twice a year is create the [redacted] **document**, what we did previously is we said **what do we expect of a DC, what should be measured** what the objectives should be and what is long term solutions. According to the performance document we created the profile of the person that should be managing the DC, what core competencies should he

	have what qualifications he should have etc. And then when we appoint the DC managers we would appoint them according to those criteria. We tried to get the person that would fit our objectives, whether he is able to reach or manage those objectives, obviously the people that was in the system at that stage we tried to do behavioural change with and try and get them to focus on things they have not been focusing on ***Q: So for example this year you used the current new developed performance management documentation, how do you find it, is it user friendly?*** It was tough to get used to it, we've always used it, the only thing that was new was the profile where you did the profile measurements. Performance document is very important to me. Can I show you examples? So on a monthly basis we would identify the best DC based on these objectives. We give a cup to the best DC. We have set objectives. There are your KPI's, we would **measure each KPI and compare it between the three DC's and identify the best DC.** So the guys are kept on their toes.
Independence of roles from personal attributes of the incumbents	***Q: The role relations between yourself & Marius and the roles between yourself and your subordinates to what extend are they build around you and the competencies that you have as compared to typically as any manager?*** In the country Marius is the National Operations Manager, he previously was the supply chain manager. His focus is much less now to our department and that is where [redacted] and I became more involved in supply chain where there used to be only a responsibility with the three DC's there is a national responsibility. I would say [redacted], I have an operational role and a DC role, [redacted] is more the day to day management of the business, my strategic role is constant improvement, finding new solutions to problems, finding new ways to improve customer service, finding new ways to get return on investment of our assets, those are my constant challenges and Marius is more overseeing the process and giving us more [redacted] ***Q: Should your role have been like that from the very onset?*** I think my role grew because it was a new role, there never was a role like previously so.....(interruption by interviewer)Interviewer " the role grew with you" Candidate: you are now the new strategic

	guy .....and it is still growing, there are constantly things being added to my profile ***Q: Would you say it is an ideal role for someone who is a national DC manager, at this stage is it an ideal profile, and ideal role for ....?*** ja, I think so, the reason they created the profile was because between those three DC's we are moving 36% - 37% of our volumes, so they are massive compared to the rest of our business. Now the reason why we were only looking at three is we're implementing constant new procedures to these three DC's and testing the procedures and as they become successful we role them out to the rest of the business, so it is not something you change and you change right through the business, first test it and role with it for a while, so we are more like leading on new innovations
Participation in strategic planning	***Q: In terms of the strategic plans at SASKO Grain, to what extend to you get involved?*** We have our planning meeting **with Riaan with his strategic meeting**, where the whole business is involved, the RSM's , the supply chain side, the operational units the sales units and we get together and we have a look at his strategic decision making, I would'nt say that we're that involved, it is more a communication session, I think Marius is more [illegible] strategic phase but Marius obviously includes us and then we have a monthly meeting between him and the two operational managers and myself and then from there it goes to the general manager. ***Q: And are you satisfied at that level?*** As I've said, I have a lot of operational challenges at this stage to become more involved in strategic management we are setting the base now for our operational side, because the operational side runs independently, you can become much more strategically involved, but we're basically covering the basics now.
Decision making power	I think you have **certain executive decisions to be made and that is Marius' responsibility** and then you have operational decision making so **ultimate decisions lies with Riaan** so that Marius does not take it all on his shoulders and also discusses it with Riaan first and then decisions are made from there. So we have a certain decision making model were tell us where

	responsible decisions lie. And from there it roles over to Marius or Riaan. ***Q: Could you explain a bit more about that decision making model?*** Ja, so it is basically if you look at contracts I'm suppose to sign a certain contract, for instance my responsibility would be up to a twelve month contract, I wouldn't be able to sign anything longer than a twelve month contract, that would be signed by Riaan, for instance stuff like capital and approvals is done by Tertius Carstens, so that's the executive decision making model there, buying of a truck for instance, after the capital is approved by Tertius Carstens there would be a final decision only from Marius or from Riaan, what kind of truck, what size, basically we make the operational decisions, we just go with a presentation to Marius and say we think we should be buying 10 8ton truck and not 10 13ton trucks, for this and this reason and that we basically present to Marius, so although he makes the decision we normally we would give the evidence for him to make the decision. ***Q: In terms of these twelve month contracts that you mentioned, is there a monetary threshold that is put as well?*** No, no monetary threshold, its twelve months and its a hundred Rand then Riaan signs it. That's mainly the short coming within our, and it's not our decision it is basically an executive decision, so it's something Andre needs to change, we have mentioned before that it does not make sense, for instance on monetary value we're spending millions of Rands on distribution which is not approved by General management, but when we spend something like a Hundred Rand on a two year contract then that needs to be approved by executives. Doesn't make a lot of sense but that's the way it is.
[redacted]	3 X DC Managers, Distribution Manager
[redacted]	***It is you reporting to Marius and your other DC managers below you?*** It is the National Distribution Manger reports to me, which is a [redacted] Let me give you the previous picture of how this happened. When Marius was still supply chain manager he had two people reporting to him, the one was the National Distribution Manager and myself who was the National DC manager. Now the difference between us was, he was responsible for the wheels and

	I was responsible for the walls. Now, what changed when Marius became the National Operations Manager, the Distribution Manager was reporting to myself, so where I was previously just responsible for the walls I am now responsible for the wheels and walls.
Level of SCM orientation/SCM organization type	***Q: In light of all of this Tertius what would you say is, at what stage is SASKO GRAIN in terms of a supply chain integrated organization?*** I don't know, you need to compare it to industry I would say, as soon as we start to comparing well to industry if we start comparing ourselves to Tongaat Food Distributors to major warehousing companies I would say that we would be at that point, but as I say we are still in our children's years, we're not even, look basically there **are certain industry standards which we compare well** to I would say our variable distribution cost, on stock over and those kind of things we compare well, but other things like picking rates there's just a another whole batch of industry norms and standards that we don't even know of that we're not comparing to yet we don't have the systems in place for that yet so we still have a long way I think before we can really start comparing or competing to industry giants.
Awareness of key performance measures	Basically customer service is our biggest drive and the way we measure that is we look at **on time delivery** so we would measure form the time the customer placed the order until the time we deliver and deliver according to the customer's perception, **lost sales** is a big drive for us, Lost sales is basically where the customer ordered stock and he didn't get it say we were out of stock or we had constraints so that's also a big measurement, **Stock cover** is a measurement where we measure the efficiency of the stock that we keep for sales purposes, identifying stuff slow moving stock, expired stock, dead stock that kind of thing, then **operating costs** is a big driver and obviously we try to get our variable cost we don't measure the cost we look at variable cost so that's a big drive what we do is we have categorized our expenses we look at **warehouse costs** individually we look at **distribution costs** we look at pellet cost we look at administration cost and then we look at a total per operational unit and then **NDD's** is a big drive at this stage, because it affects your debt utilization so the better

	your NDD the more you get out of your assets and vehicles, you can **deliver more volume per vehicle** for instance. ***Q: Are you satisfied with your current performance?*** Ag No not always there's a lot of room for improvement but there's only so much you have control over there a lot of things we do not have control over things like capacity you only have so much white stuff you can sell so if you've efficiently done your procurement on WHITE stuff and efficiently handled your stock availability you delivered efficiently and you still have **lost sales and then that's your capacity constraint** and then its just a mould that can't producing up. Then that's out of your hands then its operational unit that needs to go and make capital requirements and improve their capacity.
Barriers to achieving performance goals	Obviously we will report it and will go on a monthly basis and divide in exceptional high and loss sales, volume, and I would report it and basically say the reason for this was; **there were no stock; there was no packing material.** Basically the communication that we get from the operational unit, but they normally know about it, because our communication during the month where you start talking with each other and that goes to management and management addresses that on their strategic sessions. ***Q: What can be done to improve that, to improve the communication between you and Bennie, for example?*** Ag look the more you meet obviously the better the communication would be, uhm basically at this stage, I don't get too involved with that, because I am the DC manager, there is a bigger role to play with the communication, the operational unit. So they would at least sit once a week and talk to each other, and obviously as soon as they reach a problem area where they physically edit out stock, or when he sees for instance he out of stock on something he foresees the problem come- he would talk to the DC manager, and then the DC manager would then obviously talk to RSM and start making plans to start and get either the demand lower, stop promotions for instance, whatever, to alleviate the situation. Ja basically it is your **loss sales**, you loss sales report that's sent out daily...and everybody... Uh ja, we have a statistical department that extract the loss sales on a daily basis, and I would say that is your first trigger to identify a problem. Uhm obviously I am basically implementing **MRP** as

	well that's a required planning. That I would say is your **early warning system. So as soon as your safety stocks goes below a certain percentage...** that's your first warning, but then you could still, lets say your safety stocks are two weeks stocks over, that will still give you a two week time to solve the problem. As soon as they don't solve it in the two weeks, it start showing on your sales report, then the problem is in your face. And then it becomes obviously much more critical. So our first line of defense is, we report that the safety stock below a 100% of the safety stock, secondly the loss of sales is a trigger and that's basically, which causes the guys to start talking to each other. And then they start making plans, for instance Bennie would say that he doesn't have enough cake flour, and then he would start talking to another mill, Paul or Bethlehem or Polokwane; do you have extra cake flour? Maybe extract stock from you. And then we start doing the mathematics and what's the extra distribution cost, for instance from Bethelehem to stock here. It will cost much more, uhm, and it is affecting their supply as well, so those are the kind of decisions you start making. ***Q: So you say the MRP are still in its infancy stages?*** Ja it is still very very new. We started with it about a year ago, but the support around it is very **very poor, because there is not a lot of training on it, there is no definite way of running a MRP**, it is still very experimental, so we were running it three sides and three sides is running it completely different to each other. We still feeling it out, trying to find the best environment of running MRP and basically re-implement it. The three DC's are basically running the MRP. But what makes it tough now are the MRP influences your production unit, and **you need to get the buying of your production unit**, and you'll see Bennie, when you talk to him about the MRP, he still doesn't have the trust in the system yet, for another reason, so that's something you need to get your production guys by for MRP to work even better.
Activities on which most time is spent	Basically what I just mentioned now is that you look at a weekly basis, at your loss sales, uhm, your stock cover, your NDD's, that's something on a weekly basis to look at, but look yeah, about a **third of my time goes into performance** and a **third goes into**

	day-to-day functions and a **third I would say goes into customer, or constant improvement** looking at new ideas to solve problems that you encounter.
[illegible] competitors	: its basically what I mentioned just now, basically you look at industry standards, variable costs and distribution costs, and compare well, **what we don't compare well is service levels and stock availability and obviously presentation of delivery vehicles and stuff.** No, No we're focusing on that constantly, for instance, our drivers had standardizing uniforms, we improving our vehicles all over, the stickers on our vehicles we're standardizing, we painting our vehicles, we replacing the sales on the sides. We really had a problem with the sales being cut by the public in the tough areas, so we constantly trying to get a better impression of our delivery fleet of our drivers.
Staff turnover	Malmesbury has **a high turnover**, and there is a specific reason for that. It's a small town, only a limited supply of stock, so basically what happens is, we would at the DC employ somebody that would basically come out of matric with very little skills and we would employ him as a picker and as the guy grows in the picking field he would start to get to know the products and we start sending him for forklift driving, start sending him for code 14 license on vehicles, we involve him in the sales admin, sales clerk, admin clerk. As soon as his set skills start improving, his computer literacy improving, they start promoting them to the divisional office; the divisional office will employ him as a creditor's clerk, debtor's clerk or assistant accountant or whatever you know. So there is a constant succession plan, well the natural selection between the DC and the divisional office, and pasta, and suikerbekkie. So they do a lot of headhunting from the DC and that's normal. So that's basically a natural phenomena at Malmesbury. In Gauteng and Durban not that high, basically there is nothing else, the people with Pioneer are happy. So ja, that's it!
Difficulties in replacement of skilled labour	In the past two years, **we promoted quite a lot of pickers to sales or order clerks,** especially in Malmesbury I can think of **ten to fifteen people** that was promoted this way. In a staff compliment of about eighty, fifteen over eighty, about **15%** is quite high, which is basically the staff turnover, so you need to have plans in place, **you need to do training on par**, as soon as the news guys are employed, immediately start training him for forklift, previously you

	would have do that over a two/three year period. Get your guys qualified as soon as possible. And secondly the growth of our business, we will constantly growing our staff compliment, so you will constantly employ new drivers, employ new sales clerks. So the levels are straight on training your staff. We had a critical error here and there, I don't know if you know the **Durban DC problem.** We had an appointment of a DC Manager there, which left, and we appointed a lady about two years ago or year and half ago which didn't work out very nicely, so she has left, and we employed a guy now who lasted three weeks and he left, so we currently trying to get a new DC manager there. So specifically there we have a problem. Basically it is the environment, It is not a harsh, but competitive environment they working in between the black and the brown drivers, or black and Indian drivers in Durban and I wouldn't say it is a mistake we made. The first manager was an Indian manager, and the rumors we heard was that the Indian drivers get better loads than the black drivers, then we appointed an Indian lady and we still had the same problem. So then we appointed a white guy to see if that couldn't create a neutral effect between the black drivers and Indian drivers, which is currently working well. The guy is just helping out at this stage. He is doing a grand job at this you know. So it is a bit of discrimination, it's not a white and black discrimination, looks like it is Indian and black discrimination at this stage and it is a very sensitive situation to find a solution for. It was actually tough for Malmesbury and Durban, about two years ago we also sourced a DC Manager for Malmesbury and it's tough to find people from Cape Town to relocate to Malmesbury. Most of the guys rather stay in Cape Town and drive to Malmesbury. They don't want to move to Malmesbury. Malmesbury is a very conservative Afrikaans town.
[redacted]	***What are the three basic skills you need for a DC Manager?*** **People Skills**, you need to relate to people very well, that's an important skill, then for Durban I would say you need **distribution skills, customer relations skills**, you need to alleviate stress between the customer and the business, and then you need somebody with logistical skills that's needs to make a plan that needs to find solutions for problems. Yeah I think so, uhm, look definitely Malmesbury, we have the ideal

	manager, he is a very , he gets a long with the staff, he knows how to make plans, and slowly but surely finds his feet, he is **still very young and inexperienced, but has a lot of theoretical knowledge** which he uses in the business world, to getting to learn use it practically, so I would say he is the most successful manager at this stage, and the manager in Gauteng is a lady, so she is obviously, you know, we have an out contract signed there. The distribution is out contracted to Sugar Group, so she is not that involved with the distribution side, but she is very involved with the administration side and customer service side and she is very good at it, so she is also ideal there. And then Durban, strictly we need a **very strong logistical guy I would say, somebody to run the floor, not somebody to sit in the office.** He needs to build a very strong relationship with the staff and secondly he needs to organize the warehouse and the distribution side, so that's where the logistical side comes in. we still looking there, so we will see if we find somebody that is qualified. ***Generally, the levels below the DC Manager, in terms of skills. What would you want, if you are to get somebody off the street, what skills do you want from that person?*** I would say the **ability to learn, the ability to adapt.** That's always the most important skill to me. Attitude basically. If you get somebody with an attitude you can teach him to fit the position, 'cause don't ever find the perfect person externally, because you normally looking for set skills, looking for warehouse management skills, looking for MRP skills, you don't find this things in the market. You find people with theoretical knowledge but they can't practice it. So rather get somebody with an attitude that doesn't know these things and rather teach him.
Level of internal collaboration	**There is a lot of collaboration.** Basically your departments are inter-dependent on each other, you have four departments within a DC; you have your Distribution department, Dispatch department, your warehouse and then your admin or sales admin. Basically the order to flow, the order to sell, the order to cash file, the orders comes into the sales order dept. Then hey record it onto the system, if they record it incorrectly, the whole process falls flat. If they say the delivery date is Tuesday and the customer actually wanted it on Monday, then immediately the perception of the customer is that the order is late. So that's critical that the order is

	placed onto the system correctly. That then causes your picking so that the order then Is sent to the warehouse dept where the stock is then accumulated, as the order is placed on the system, it obviously creates then a demand, management side, so the guy is sourcing the program, make sure that there is available stock, so once again if the order is not placed correctly onto the system it affects the demand planning side. The stock is available in the warehouse, he picks it and sends it to the dispatch area, and the dispatch needs to load it onto the truck. If anything goes wrong there. The customer service is affected. From there the distribution department delivers it to the customer, picks up returns and comes back here. **So it's imperative for the sales people to talk to warehouse people, to warn them of exceptional big orders for instance, or short delivery cycle**, or product that we don't normally keep in stock, or anything that happens that is exceptional to our normal business it's imperative for warehouse side to communicate with the distribution side for instance about exceptional high volumes so the distribution side can make plans for bigger vehicles. ***Currently how do they talk, how do they communicate?*** They need to do it on a daily basis, **so every morning they get together** and they would discuss the daily execution. Anything that falls flat between those 4 departments... so basically if you look at loss sales and customer service delivery when I measure the DC's and the DC Managers **measure the HMV's**, those are two measurements that influences everybody, because everybody has got a part to play in either sales or service delivery.
Effect of lack of cooperation	Obviously the four departments has four different objectives, so you find a lot that the warehouse guy doesn't do his job for instance, no stock availability, and that affects the Distribution manager. Because I am measuring the Distribution manager on customer service, he will go immediately go to the warehouse manager and say look, listen you are affecting my job, you need to sort your problem out, and they will help each other, can I help you, why did you have enough stock, then they go to the RSM and find out why there was exceptional high orders in the fastest period, or whatever. So people **don't manage their department in silo's, they cross borders**, and they try to sort out the problem at the origin so that it doesn't affect them at their department. So if there

	is a problem we sort it out very quickly and it actually sorts itself out and it is not even necessary for me to become involved. It is something a DC manager should manage. If it becomes a constant problem, then we would start addressing the individual and try to change his behavior.

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