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THE MENTAL MODELS OF MANAGERS IN THE AGRICULTURAL SECTOR

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Christopher Fourie

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Supervisor: Professor J.S. Uys

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Abstract

A qualitative study was conducted utilising the repertory grid technique to identify personal constructs. From the personal constructs mental models emerged which provided an indication of the management paradigm of each participant. The study consisted of eight participants that were based on wine farms in the Western Cape. Following the labour unrest on the wine farms a study was conducted to determine whether the farmers are functioning within the emerging paradigm of management. It is suggested that a new paradigm of management is emerging which is critical for the sustainability of organisations. The paradigm of sustainability consists of three broad areas namely: financial, environmental and social sustainability. These three areas have to be present within the organisation for it to be sustainable. The results of the study indicate that the paradigm within which the farmers manage their farms are not aligned with the emerging paradigm. There are areas that correspond and other critical areas that do not.

Table of Contents

1. Introduction and Problem Statement	4
The Paradigm of Sustainability	8
Paradigms	13
Mental Models	14
Personal Construct Theory	17
A Personal Construct	18
Problem Statement and Research Question	21
2. Research Design	23
2.1 Philosophical Assumptions	23
2.2 Research Methodology	24
Research Strategy	24
Research Setting	24
Participants	25
Data-collection Methods	26
Data Analysis	29
Reporting	29
Quality Assurance	30
Ethical Considerations	30

2.3 From Personal Constructs to Mental Models	31
3. Data and Interpretation	33
Conclusions	66
4. Sense-making	70
Sense-making of Mental Models	71
Mental Models and Paradigms	75
Sustainability	77
5. Conclusion	81
6. Study Value-add	83
7. Bibliography	85



1. INTRODUCTION AND PROBLEM STATEMENT

Since the nineteenth century there have been significant changes in organisations and the management of such organisations. Drucker (1988) stated that there have been two major evolutions in terms of the structure and general understanding of organisations, and he envisaged a third period of change. The first change took place between 1895 and 1905 with the separation of ownership and management. Georg Siemens, the founder and leader of the Deutsche Bank, threatened to terminate the loans to his cousin's organisation if there were no separation between ownership and professional management. The same trend could also be detected with the large-scale restructurings of the United States railroads and industries within more or less the same period. The separation of ownership and management did not take place in Germany alone, the United Kingdom (UK) and the United States of America (USA) experienced this change as well. Thus, the change did not occur in isolation, nor was one particular incident the cause of this change globally.

Following on the first change was the publication of Frederick Taylor's (1911) work *The Principles of Scientific Management*. He (Taylor) was the main proponent of scientific management that viewed organisations as centrally controlled, mechanistic and rational. Organisations were understood in terms of their goals and strategy, the resources utilised to achieve these goals and the manner in which this was managed (Dooley, 2009). Taylor's work advocated a mechanistic view of management where managers were responsible for the effective functioning of their respective duties. The work of Taylor supported the occurrence of the second evolutionary change.

The second evolutionary change took place 20 years after the first. The modern organisation emerged when Pierre S. du Pont restructured his family business. The

redesign of General Motors by Alfred P. Sloan followed a number of years later. This was the dawn of the command-and-control organisation, that placed the emphasis on decentralisation, central-service staffs, personnel management, the apparatus of budgets and controls and the important distinction between policy and operations. At that stage it culminated in the massive reorganisation of General Electric in the early 1950s. This was an action that perfected the model that most big businesses around the world were following (Drucker, 1988).

The third period of change is envisioned as follows by Drucker (1988, p. 53):

“...the shift from the command-and-control organisation, the organisation of departments and divisions, to the information-based organisation, the organisation of knowledge specialists. We can perceive, though perhaps only dimly, what this organisation will look like.”

More than two decades ago Peter Drucker identified underlying streams of events that were indicative of a shift in organisational and management conceptualisation with a specific focus on information-based organisations. The three periods of change envisioned by Drucker can be viewed as shifting paradigms. As can be seen in Figure 1, the current dominating paradigm is the command-and-control organisation. Furthermore, the paradigm that Drucker referred to as The Third Period of Change is currently emerging.

The work of Drucker is history as there are sources that are providing literature of an emerging paradigm. There is evidence to suggest that a shift in paradigm is occurring in the business and organisational context. According to Guastello (2009) the manner in which people think about organisations have evolved in the last century with a new dominant paradigm emerging. Wheatley (2006), states that the

worldviews that people have are in need of change, and that such a shift is a necessity. The shift to the paradigm of sustainability is advocated by authors including Lawler and Worley (2011), Coetzee (2012), Wheatley (2006), the Positive Organisation Scholarship and Dunphy (2003).

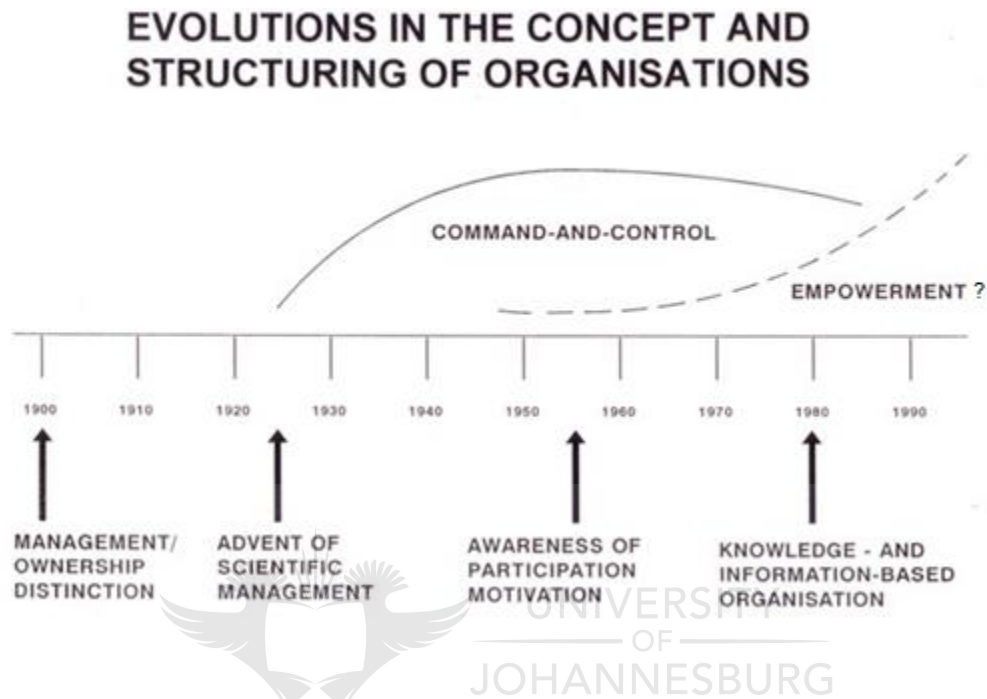


Fig.1 Evolutionary changes in the concept and structuring of organisations (Based on Drucker, 1988)

In a recent publication by Lawler and Worley (2011) a new emerging paradigm was identified. The emerging paradigm is viewed as the last of three management resets that have occurred throughout management history. According to Lawler and Worley (2011), the command-and-control organisation originated from the first management reset. A management reset occurs when a foundational change and rethinking of the organisation’s objectives and the manner in which they are achieved take place. The combination of the rational principles of bureaucracy and the technology of mass production amounts to what is known as the command-and-control organisation. At

present the command-and-control organisation is still dominating the business environment as can be seen in Figure 1.

According to Lawler and Worley (2011), the second management reset that occurred, led to the development of high-involvement organisations. The focus of the second reset was on the people within the organisation, and the way in which they could provide a source of competitive advantage. Self-managing teams, workforce development and participatory decision-making are the key characteristics of a high-involvement organisation. These characteristics led to decreased costs in terms of turnover, absenteeism, worker health problems and a poorly motivated workforce. The success of the high-involvement organisation did not replace the command-and-control organisations as the dominant approach to managing an organisation.

Following the second management reset is the third management reset from Lawler and Worley and the related third period of change from Drucker.

Lawler and Worley (2011) have extended on the view of Drucker, and have identified a third management reset that is currently taking place. The paradigm of management is shifting away from the command-and-control organisation to an organisation which Lawler and Worley (2011) refer to as a “sustainably effective organisation”. Environmental and social issues will be the main focus of the next management reset. The environmental and societal stakeholders will become as important as the owners of the business itself. These external stakeholders will fulfil a dominant role in the way in which the business is managed. As a result, the management approach of the organisation will change. Sustainably effective organisations through sustainable management must create organisations that value change and people, have the ability to implement strategies that produce profit, support the well-being of the society, and improve the environment.

Sustainably effective organisations are influenced by two imperative forces, namely, agility forces and stakeholder forces. Organisations need to be agile to deal with the complexity and change that appear in the form of technology, globalisation and the workforce. Stakeholders are also a major force that has to become part of the organisation's considerations during strategic and organisational developments. The shareholders are no longer the only stakeholders in the organisation. The society and environment have also become important shareholders.

An organisation can no longer function in isolation from these forces, nor can an organisation continue to take advantage of consumers, its employees or the environment. The concept of sustainability, where all these forces are taken into consideration when business decisions are made, is the factor that will allow an organisation to survive in the future business environment. According to Dunphy (2003) sustainable organisations are useful to society, enhance the environment in terms of maintaining and renewing its resources, improve the society's ability to maintain itself and to solve its own problems, and ensure a decent level of well-being for society. Sustainability is an integration of value creation for consumers by attracting the society and the environment and making a profit.

The Paradigm of Sustainability

In addition to the views of Lawler and Worley, two other views are presented on the paradigm of sustainability. The Positive Organisational Scholarship (Smith, Lewis & Tushman, 2012) movement and Coetzee (2012) provide a perspective on organisational sustainability with its own specific foci.

A view from Positive Organisational Scholarship contends that organisational sustainability refers to organisations that achieve optimal performance at present,

while building resources and competencies that allow the organisation to grow in the future (Smith, Lewis & Tushman, 2012). The resources do not only include natural and environmental resources, but also involve human, financial and organisational resources. By striving to become a sustainable organisation strategic paradoxes arise. The following examples illustrate: Ensuring both customer and employee satisfaction, or achieving profits while engaging with the social and environmental dimensions. The challenge arises to create a business environment that accepts apparent inconsistencies and paradoxes as the way of achieving the organisation's goals and conducting business. Thus, to enable an organisation to be sustainably effective its management paradigm (command-and-control or high involvement) needs to be reset.

Sustainability is a paradigm that can (or at a later stage has to) be adopted by people in a business context as well as a broader societal context. The paradigm is not bound to business and managers, but stems from the interaction of the social and ecological environment. Coetzee (2012) refers to this interaction as voices that are speaking of new trends and visions that are needed for the world. These voices are protesting against injustices of the world such as systemic poverty, abuse of power, exploitation of labour and consumers and the pollution and destruction of the environment. Worldwide injustices are created by old paradigms that emphasise power and authority as ideals, producing profit at any cost with shareholders as the only stakeholder and a narrow-minded focus on self-interest.

Coetzee (2012) states that people from around the world have similar values and aspirations. These include an environment characterised by happiness, safety and cleanliness, as well as food, shelter, energy, health, education and economic opportunities. These values and aspirations are inclusive of the sustainability

paradigm. In order to reach the aforementioned values and aspirations people will have to change their paradigms to one of sustainability. The societal, environmental and economical dimensions of sustainability encapsulate the values of people around the world, and are also applicable to the business context. Managers will have to adopt the paradigm of sustainability to ensure the continued existence of their businesses.

For management, the concept of sustainability consists of the societal, environmental and economical dimensions. In the business context, sustainability is an integration of value creation for consumers by attracting the society and the environment and making a profit. The three dimensions of sustainability are integrated to form a holistic business strategy according to which the business can be sustainably effective.

Societal sustainability is achieved by including the communities that have a direct and indirect interest in the business and in the strategy of the business. The well-being and the welfare of the society are also the responsibility of the business.

Therefore, the business has to become involved in the community through social development initiatives, and build relationships with community members. The employees of the business are also included in the societal dimensions, and therefore have to be considered in the business strategy. This, for example, can be done through integrated ownership-sharing initiatives that provide employees the opportunity of becoming part owners of the business in the long term. The business has to take active steps to ensure the quality of work life for the employees that will reduce the traditional negative impact of work such as stress and work-life imbalance.

In the sustainability paradigm the psychological contract that the organisation has with the employees extends to the broader society. Coetzee (2012) refers to this as “the social contract with business”. The organisation no longer functions in isolation from society, as communities have become active stakeholders in organisations. There are various responsibilities that the organisation has towards society including being an organ of society, having the responsibility of being sustainable towards its stakeholders and environment, and creating a healthy society.

Environmental sustainability is the second dimension of the sustainability paradigm. Organisations within the new emerging paradigm will consider the consequences of its actions on the environment. Preserving the environment is crucial to a sustainable management organisation. Environmental groups can place a great amount of pressure on organisations that are harming the environment, more so if there is an alternative to current practices. Organisations are pressured to adopt processes that are environmentally friendly. Within the new paradigm organisations have a direct responsibility towards the environment to ensure it is not harmed.

Economic sustainability is the third dimension of the sustainability paradigm. The financial success is of great importance to the organisation as it is the key indicator of its success. If the organisation does not produce a profit it cannot exist. Even though the organisation has a great responsibility to society and the environment it is not a charity which means that the profit of the organisation is of critical importance. However, the profit motive does not provide the organisation with free reign to do anything in its power to make money. Organisations have to act in a responsible manner that will serve as an example to other organisations. These actions have to be free of corporate crimes such as corruption and fraud. The economic sustainability of an organisation also has a responsibility to its stakeholders. A

financial demise will not only have negative consequences for the owners but also for the other stakeholders who are dependent on the financial success of the organisation. Therefore the organisation has an economic responsibility to the other stakeholders to ensure it has an enduring financial capacity.

Accordingly, organisations will no longer have the option of whether they want to accept the new paradigm. It has become inevitable that the new paradigm be accepted to enable the survival and continued existence of the organisation. The reset has to take place in management thought and practice with an imperative focus on organisational sustainability.

The shifting paradigm is depicted in Figure 1, where command-and-control is the current paradigm, whilst a new paradigm has begun to develop and is gradually becoming the dominant one. The new paradigm, labelled “empowerment” is indicated with a dotted line reflecting that it is still emerging and not the presiding paradigm. Numerous occurring events are indicative of an emerging paradigm. A strong focus on sustainability, as well as new challenges arising for organisations, can be seen as the main drivers of the emerging paradigm.

The aim of the study is to explore the emerging organisation paradigms within a specific context. The aforementioned organisation paradigms provide a theoretical background upon which the study can be operationalised.

In order to understand the paradigms from a specific context it is important to determine the mental models of the participants within the various organisations. The mental models of the participants will provide insight into the paradigms that the participants subscribe to in terms of the management of an organisation. The concept of mental models is complex, and as such the manner in which it is

identified requires a specific underpinning. In this study it is argued that personal constructs are at the core of mental models.

The Personal Constructs Theory has emerged from the work of George Kelly (1969). This postulates the measurable constructs of people that involve explaining capacity for each individual. Constructs are small building blocks through which an individual makes sense of the world.

Thus, by measuring the personal constructs of an individual it is possible to identify the mental models of that specific person. The mental models of the individual will be indicative of the paradigm within which management is approached. It will be possible to identify whether the shifts in paradigm are occurring in line with the aforementioned literature.

Paradigms



According to Guba and Lincoln (1994) a paradigm:

“...may be viewed as a set of basic beliefs (or metaphysics) that deals with ultimates or first principles. It represents a worldview that defines, for its holder, the nature of the world, the individual’s place in it, and the range of possible relationships to that world and its parts” (p. 107).

Paradigms are constantly shifting, and not everyone has the ability to adapt or develop their paradigms that will challenge the current paradigm. Barker (1992, p.140) states that “when a paradigm shifts, everyone goes back to zero.”

Furthermore, not everyone realises that paradigms are changing. Consequently this means that they are left behind to function with the old paradigm. Incongruence and dissonance will follow, where an individual will not be able to function within the new

paradigm and the environment it dictates. Barker (1992) adds that they have the ability to change their paradigms, but they firstly have to be aware of their own paradigm.

Mental Models

The concepts of paradigms and mental models are related, and have great bearing on each other. The understanding of mental models is important in order to gain clarity of the way in which paradigms are interpreted (Newell, 1991). Why can two individuals observe the same event, and describe it differently? The answer lies in the mental models that the two individuals hold. Mental models are similar to the psychological construct of schemata. A schema is a structure that contains knowledge, and is embedded in an individual's memory (Jones, Ross, Lynam, Perez & Leitch, 2011). Schemata and mental models are in essence the same concept (Guastello, 2009). Thus, a mental model is a schema in conjunction with cognitive processes that modify the knowledge that is stored in the schema (Schnotz & Bannert, 2003).

The concept of mental models stems from Plato's parable of the cave (Senge, 2006). Peter Senge developed the theory of mental models to be applied in the business context. By drawing on the discipline of psychology the concept of schema can be linked to an acceptable and understandable concept of mental models for the business world within which it was envisioned to be applied.

Mental models are the "images, assumptions and stories" that we carry in our minds of ourselves, other people, institutions and every aspect of the world (Senge, Roberts, Ross, Smith & Kleiner, 2006, p. 235)." Senge's view is substantiated by the work of Meadows, Behrens III, Meadows, Naill and Zahn (1974) who describe a

mental model as an abstraction of all an individual's perceptions and experiences in the world which are used to guide decisions. The essence of mental models is that it shapes the way in which individuals act as they serve as a pair of glasses through which one views the world (Senge, 2006). Mental models influence an individual's behaviour as a result of the pair of glasses that an individual is wearing. This means that mental models affect what the individual sees.

Mental models are tacit, which means that an individual is unaware of an existing mental model that influences his or her behaviour. Although an individual may become aware of his or her personal mental models if it is actively sought it is not commonly the case (Senge et al., 2006). One of the most important characteristics of mental models is that they can be altered and adjusted. The most effective way of altering mental models is to enable the individual to become aware of them. As long as individuals are unaware of their mental models these models will remain unchanged. The importance of being aware of one's mental models and being able to change them are critical to individuals. As the world changes, a gap is created between an individual's mental models and reality. This gap leads to increasingly counterproductive behaviour (Senge, 2006).

The misfit between reality and mental models can also occur on an industry level (Senge, 2006). The role players of an industry are susceptible to the standards that are followed by one another. Therefore, the standards and best practices are determined and followed by the same role players in the industry. Thus, even as the reality of the industry is changing the mental models of the role players in the industry do not. This could lead to behaviour that is not in the best interests of the industry.

An individual's mental models can be compared to theories that the individual uses to navigate the world. A popular occurrence amongst people is that they do not always behave in accordance with what they say. This is as a result of two phenomena in action called "espoused theories and theories-in-use" (Senge, 2006). Espoused theories are the things that individuals say they are going to do such as behavioural actions to be taken, values and beliefs. Theories-in-use are the mental models of individuals that truly direct the behaviour of an individual.

According to Frantz and Carley (2009), a mental model is a structure of information that can be recalled for utilisation in a certain context. An individual has various mental models about themselves such as others, objects and the world. Mental models can be simple generalisations or complex theories that determine the way in which an individual solves a problem, makes decisions and forms perceptions about other's decisions (Senge, 2006; Frantz & Carley, 2009). The power of mental models in terms of an individual's actions lies, in part, in that it affects what an individual sees. An individual can only react to what he or she can see, and thus mental models can be a severe limiting factor in a management context as well as in the awareness of an emerging paradigm.

In order to elicit mental models, personal constructs were used. The concept of personal constructs was developed by George Kelly in his Personal Construct Theory. There is an established manner of identifying personal constructs. This is the repertory grid technique that provides a strong foundation from which the mental models can emerge. Furthermore, through the process of subsuming another person's personal constructs (Fransella, 2005), the researcher can develop the personal constructs into mental models.

Personal Construct Theory

Kelly referred to individuals as personal scientists who seek to predict and control events by forming theories, testing hypotheses and considering experimental evidence (Fransella, 1989). Fransella, Bell and Bannister (2004) describe the scientist process as individuals that derive expectations (hypotheses) from their personal construing (theories). The scientist takes a chance with the expectation by testing it behaviourally and observing its outcome. Accordingly the outcome is the result with which one lives, and subsequently the personal constructions can be modified to accommodate the outcome. Thus, people can be seen as scientists who are constantly experimenting with their personal definitions of existence (Pope, 1982).

The philosophical premise upon which Kelly's Personal Construct Theory is based is that "whatever exists can be reconstrued" (Kelly, 1977, p. 358). This is the manner in which individuals portray reality. By embracing a constructive alternativism philosophical assumption inherently means that no single person's construction of reality is perfect, and none is final. Pope (1982) elaborates by stating that the main emphasis of Kelly was on the uniqueness of each individual's construction of the world, as well as on the construct systems of an individual, that evolves continuously to enable the individual to impose meaning on the experiences. To understand the nature of the Personal Construct Theory the manner in which reality is construed is of paramount importance.

Kelly states that "a person lives his life by reaching out for what comes next, and the only channels he has for reaching are the personal constructions he is able to place upon what may actually be happening" (1977, p. 359). Individuals understand the

world around them by developing a personally organised system of interpretation based on experiences (Tan & Hunter, 2002). Therefore, a person lives his or her life through personal constructs that provide an individual with certainty of how to make sense of the events that are unfolding before him or her. Personal constructs make it possible for an individual to interpret the current situation and to anticipate future events.

A Personal Construct

There are various ways in which a construct can be described that provides it with different definitions emphasising certain of its aspects (Fransella, 1989; Fransella, Bell & Bannister, 2004). According to Pope (1982) constructs are utilised by an individual to describe past experiences, forecast future events, and assess the accuracy of previous forecasts after the event has occurred. A construct is something that is created by an individual (Fransella, 1989). An individual creates a construct personally, which means that it is unique in meaning to that particular individual. This does not mean that one individual cannot relate to another; an individual understands another by construing the constructions of that person (Kelly, 1977).

The single most important characteristic of a construct is its bi-polarity (Fransella, Bell & Bannister, 2004). It is a way of discriminating between things, events and people (Fransella, 1989). Constructs are the way in which things are seen to be the same as others, as well as the way in which they differ from others. Hinkle (1965) referred to this characteristic as dichotomy. According to Hinkle the dichotomous nature of a construct is its only unchangeable quality.

As a result of the polarity and relations of constructs a hierarchy is formed.

Constructs have different positions within a hierarchy (Fransella, 1989). With the exception of the top and bottom constructs, all the constructs within the hierarchy are subordinate or superordinate in nature (Kelly, 1977). Within the relationship between constructs, one construct will imply polarity on the other construct (Hinkle, 1965).

The construct that implies polarity on the other construct is called the subordinate construct. Conversely, the construct whose polarity is implied by the other construct is referred to as the super-ordinate construct. Therefore, each construct has a range of implication.

It should be noted that each construct has a range of implication and a range of convenience (Hinkle, 1965). The range of implication refers to the extent to which the super-ordinate constructs have implications on the subordinate constructs. The context has an influence on whether the construct is subordinate or super-ordinate. Thus the hierarchy of the individual's construct system can be influenced by the context. Furthermore, the number of implications in the range of implications provides an indication of the meaningfulness of the construct.

The range of convenience refers to all the contexts within which the individual finds the application of the construct useful (Kelly, 1977). This is important in determining the hierarchy of the individual's construct system as well as understanding the importance of the specific construct as to whether it is a subordinate or a super-ordinate construct. The construct hierarchy forms the individual's construct system that allows the researcher to understand the manner in which the individual thinks, and attaches meaning to the world (Fransella, Bell & Bannister, 2004).

The basic function of a construct is anticipation (Hinkle, 1965). Constructs form the basis of anticipation and prediction for individuals within differing events (Fransella, 1989). By successfully testing the hypothesis (personal construct) an individual can make future predictions during a similar event (Tan & Hunter, 2002). Therefore, by making accurate predictions and having the predictions validated allows an individual a sense of control over his or her personal world.

Individuals anticipate and predict a specific event that directs the behaviour, as well as feelings, accordingly (Fransella, 1989). Construct theory assumes that an individual will always choose the constructions which he or she anticipates will lead to a maximisation of the total number of anticipations within his or her Personal Construct System (Hinkle, 1965). The behaviour that is displayed by an individual is the manner in which the prediction is tested. When one's predictions are invalidated one can re-construct to make sense of the situation which will subsequently change one's behaviour (Fransella, Bell & Bannister, 2004).

Constructs form the basis of choice that an individual exerts (Fransella, 1989). According to Fransella (2005) the Choice Corollary leads an individual to think that the essence of living is to grow and develop, thus to continuously define and extend one's construing of the world. Therefore, by selecting a particular pole of the construct it will lead to one's making increased sense of the world.

Kelly (1969, p. 293) provides the following description of a construct:

A construct is like a reference axis. A basic dimension of appraisal, often unverballed, frequently unsymbolised, and occasionally unsignified in any manner except by the elemental process it governs. Behaviourally it can be regarded as an open channel of movement, and the system of

constructs provides each man his own personal network of action pathways, serving both to limit his movements and to open up to passages of freedom which otherwise would be psychologically non-existent.

An individual has various theories that are formed about a realm of events (Fransella, Bell & Bannister, 2004). These theories are also known as Personal Constructs. The smaller theories of an individual are linked into the overall theory of an individual which is referred to as a Personal Construct System (Fransella, 2005). The Personal Construct System of an individual consists of hierarchically linked sets of bi-polar constructs that refer to the individual's stance towards the world (Kelly, 1997). The individual's Personal Construct System is a network of meaning through which one sees and deals with the world within which one lives.

Personal constructs form the building blocks of the mental models. By identifying personal constructs it is possible to derive their mental models. An individual's mental model provides the opportunity to gain an understanding of the person's worldview in terms of management practices. The mental models that are elicited allow one to determine the paradigm within which the individual is functioning.

Therefore, the aim of the study is to explore the emerging management paradigm in a specific context.

Problem Statement and Research Question

The view of organisational sustainability and its importance is emphasised by Coetzee (2012) as a result of a changing environment with growing and developing challenges. One such a challenge is systemic, escalating poverty where the poor people become poorer as the wealthy become even wealthier. When the events that occurred at the Lonmin mine at Marikana were analysed, one of the underlying

problems that led to the death of 37 miners was a power struggle between trade unions. The trade unions were competing vigorously for membership amongst the workers as membership to trade unions, not only in the mining sector, was decreasing. There has to be a reason for the occurrence of events such as the above-mentioned. It provides additional evidence that novel challenges are arising that affects the organisation. The labour unrest in the Western Cape wine lands was caused by great dissatisfaction of the employees who believed that wine farmers were not looking after their interests at a level that reached beyond the wage structure (Metelerkamp, 2012: 1). These events substantiated the indicative reality of an emerging paradigm.

The events of Marikana could serve as a precursor to the situation in the Western Cape that provided motivation for a study to be conducted in that specific environment. Recent developments in the labour and political environments surrounding the wine industry in the Western Cape specifically, serve as motivation to attempt to gain an understanding of management practices. The environment of the Western Cape, as well as that of Marikana, may be indicative of a shifting paradigm, and the need for the leaders to put into place a paradigm that is aligned with the presiding paradigm in each case. In the light of the evidence that a shift in paradigm is occurring, as well as the events that have occurred within the broader South African context that has a link to the sustainability of the organisation, a specific focus will be placed on the wine industry of the Western Cape in South Africa. The research problem that I am faced with can be encapsulated in the following: To what extent can the mental models of farm owners be aligned with the new emerging paradigm? Thus, my research question is: What are the mental models of farm owners in the Western Cape?

2. RESEARCH DESIGN

To answer the research question a qualitative research design and a case-study approach were utilised. The term “quality” implies an emphasis on the qualities of an object as opposed to the experimental nature of quantity referring to amount, intensity or frequency. Furthermore, qualitative research emphasises the importance of the socially constructed nature of reality, the intimate relationship between the researcher and the subject of the study, and the situational constraints that shape the inquiry (Denzin & Lincoln, 2005). An important assumption of qualitative research is that qualitative researchers can get closer to the subject’s perspective through detailed interviewing and observation.

2.1 Philosophical Assumptions

My ontology in this study is constructivist in nature as reality is created by the environment in which all individuals are socialised over time. Constructivism assumes multiple, sometimes conflicting social realities, that are created through the human mind which can change as the individual becomes more informed about the different aspects in life (Guba & Lincoln, 1994). Thus, the participants in the study had a different view of reality from each other as well as from me, the researcher.

In order to fulfil the purpose of the research study an interpretivist perspective was required. The epistemological assumptions of this study include the meanings that people assign to phenomena as considered facts, and that social rules and human artefacts constitute data (Hatch, 2006). All the participants had different mental models which meant that all of them viewed the business context differently.

Therefore, the data yielded multiple interpretations of the context within which the study was based. I had to be sensitive to the language which was used by the

participants as this was the means through which they expressed their views of reality. To gain access to the participants' reality it was imperative to understand that reality was created through social constructions such as language, and shared meanings that people assigned to phenomena (Myers, 2009). It was also important to take the context of the participant into consideration as the meanings that participants attached to phenomena were a function of the context as well.

2.2 Research Methodology

Research Strategy

A case-study research method was adopted for this particular research study. The purpose of a case study is to contribute to the knowledge in a particular field (Myers, 2009). More specifically multiple interpretive case studies were used in an exploratory manner to discover the mental models of farm owners of wine farms in the Western Cape with a focus on organisational sustainability.

Research Setting

The research setting was located on the farms in the Western Cape. Participants were selected on the basis of availability. The farms on which the study was conducted produced different wines for different segments of the market, and were not a limiting factor within the study. The farm owners were interviewed on their respective farms where the appointments were scheduled.

Gaining entry into the research setting was done by contacting the potential participants telephonically. An appointment was made to conduct the interview. The role of the researcher was to conduct the interview by following a strict process.

Furthermore, before and after each interview the researcher had the opportunity to gain information by means of informal questioning and conversation.

Participants

The participants of the research study were a homogenous group from the Western Cape that were the owners of their respective wine farms. The criteria for selecting a participant were based on the individual's position, which had to be the owner of the organisation. It is important to note that the farm owner is also referred to as the participant, farmer to improve the readability of the study. The demographic details of the participants can be viewed in Table 1.

Eight participants were selected – the number of participants of the research study was selected arbitrarily. The snow-balling method was used to acquire participants for the study. Once a potential participant was contacted, the researcher enquired for other contact possibilities, and utilised the person as a reference.

Table 1: Demographic Information of Participants

Participant	Population Group	Gender	Age
Participant A	White	Male	65
Participant B	White	Female	52
Participant C	White	Male	57
Participant D	White	Male	66
Participant E	White	Male	56
Participant F	White	Male	58
Participant G	White	Male	59
Participant H	White	Male	55

Data-collection Methods

The Repertory Grid technique for measuring personal constructs, designed by George Kelly, was utilised as the data-collection technique. It was developed to explore the subjective and personal world in which a person lived. This refers to the structure and contents of the implicit theories (personal constructs) that people are continuously forming (Fransella, Bell & Bannister, 2004). A construct is something that is created personally by an individual (Fransella, 1989). Furthermore, constructs are pathways of movement through which an individual makes sense of the world. Decisions are also based upon these constructs.

This technique, which took the form of a structured process, allowed for the discovery and analysis of the participants' mental models (De Beer & Uys, 2005). The purpose of the grid is to bring forth the ways in which an individual's construct system is evolving, as well as its limitations and possibilities. There are various ways in which this technique can be applied (see Neimeyer, 1985b; Ryle & Lunghi, 1970; Shaw & McKnight, 1981). The specific repertory grid technique that was utilised in this study consisted of a blank matrix, elements, an illustration of the force-field analysis model and a specifically designed question. In order to reveal the elements the following single question was asked to the participant: "Name three specific factors that lead to the success, and two specific factors that impede the success of the viticulture industry in the Western Cape".

A crucial aspect of the repertory grid was the identification of elements that were utilised in the repertory grid process. Elements constituted the material which the grid used, and elicited the underlying constructs of the participant as determined by the particular purpose of the repertory grid.

A blank matrix was designed to routinely compare three elements at a time with each other. Firstly, the participants were presented with a model of the force-field analysis as a graphic illustration and aid in understanding the question that followed. The participant was asked to present five decisions, events or occurrences based on a single question that served as the elements in the repertory grid. The question was: "Name three specific factors that lead to the success and two specific factors that impede the success of the viticulture industry in the Western Cape". The participant was then asked: "In which way are two of these elements similar but differ from the third?" The participant had to state a commonality between two elements, and indicate the way in which those two elements differed from the third.

Following the repertory grid process through combinations of the five elements, the participant's personal constructs were identified. Before and after the interview important field notes were made as well as general questions asked, that supported the processing of the data in the following phase. According to Fransella (2005) the researcher should have specific skills in order to effectively conduct the interview and elicit the personal constructs of the participant. Through subsuming the personal constructs were developed into mental models.

Skills for Personal Constructs

A researcher requires certain skills during the interview and interpretation phase in determining the individual's Personal Construct System (Fransella, 2005). These skills include the ability to subsume another's construing, suspending personal values and reflexivity.

The ability to subsume another individual's construing system is critical to the researcher (Fransella, 2005). Within psychotherapy, counselling or interview

sessions the practitioner or researcher subsumes the participant's construct system.

This allows the researcher to see the world through the eyes of the participant.

Subsuming not only involves seeing the world through the eyes of the participant but also experiencing some of the emotions within the context of the participant whilst at the same time maintaining a sense of oneself as being apart from the other.

Subsuming the construct system of the participant does not mean that one is seeking commonality with the participant. Rather, the researcher is viewing the world through the eyes of the participant and gaining an understanding of the manner in which the individual thinks (Kelly, 1977).

Supporting the researcher in an interview session is the ability to suspend personal values (Fransella, 2005). Suspending personal values allows the researcher to view the participant more objectively without filtering the participant's construing through the researcher's values. The researcher's ability to suspend his or her values supports the ability to subsume the participant's construct system. A researcher must suspend his or her values to allow an accurate view and understanding of the participant's constructs as well as being able to view the world through the eyes of the participant.

The skill of reflexivity allows the researcher to take the concept of the researcher and the participant into account, as well as the impact between the two during a contact session (Fransella, 2005). During an interview the researcher and the participant have an impact on one another. Within intersubjective reflection researchers explore mutual meanings emerging from the relationship between the researcher and the participant (Finlay, 2002). The nature of the relationship is of importance as the researcher seeks to understand the participant at a deeper level than what is being discussed in the interview.

Hertz (1997) emphasises that reflexivity is as much about what the researcher knows as it is about how the researcher knows about it. The data gathered by the researcher is notably important, but in a qualitative research situation the manner in which the data is gathered and constructed into knowledge is a vital part of the research process. The reflexive process has both external and internal features upon which the reflexive processes can be based (Rosenberg, 1990). The external features include those that are visible to the public such as physical characteristics and social identity. The internal features include cognitions, emotions, sensations and wishes. These are features that are not visible to others, but which are made observable by means of reflexivity. The researcher utilises reflexivity and the other aforementioned skills in order to identify the participant's personal constructs.

Data Analysis

Personal constructs were identified by means of the analysis of the data from the repertory grid. Data analysis was conducted through a thematic analysis of the data to extract the common themes that arose from the participants' constructs.

Furthermore, through subsuming (Fransella, 2005) the personal constructs were developed into mental models.

Reporting

The manner in which data is reported can vary in accordance with the style of the author. According to Sparkes (2002), there are various manners in which qualitative data can be reported. The reporting styles include scientific tales, realist tales, confessional tales, autoethnography, poetic representations, ethnodrama and fictional representations. A realist tale was utilised to convey the data of the research.

A realist tale, according to Sparkes (2002), is characterised by an almost complete absence of the author. It is a descriptive narrative that decreases the prominence and perceived role of the author to the audience. This allows the audience to view the text as less subjective by only noticing the author within the methodology section. The views of the participants are strongly emphasised and utilised as evidence throughout the text.

Quality Assurance

The quality of the research study complied with the applicable criteria set by Lincoln and Guba (1985). The criteria included credibility, transferability, dependability and confirmability. Credibility was assured by strictly adhering to the format and process of the repertory grid, as well as taking additional field notes, to ensure that the views of the research participants were accurately captured by the researcher in the reconstruction and representation thereof.

Transferability refers to the applicability of the findings outside of the research context (Guba, 1981). The findings of the study are applicable to other contexts which ensure the quality of the study.

The dependability and confirmability of the research study were ensured by means of an internal auditor, who, in this instance was the study supervisor.

Ethical Considerations

The ethical issues that were present and arose were taken into consideration throughout the research study. The first step in this research was to send a memorandum to the owners of the wine farms requesting permission to interview them. The contents of this memorandum explained the purpose of my study. This

allowed the owners to make an informed decision in terms of participating in the research study. Informed consent was gained from owners before the interviews were conducted. Confidentiality was maintained at all times in terms of the data gathered during the interviews. Anonymity of the participants' names and the particular wine farms was ensured.

2.3 From Personal Constructs to Mental Models

The research process that was utilised to obtain the mental models of managers of the wine farms will be discussed in this section. This is a multi-step process that began with personal constructs and ended with the completed mental models. I began with the Personal Construct Theory of George Kelly as the theoretical underpinning and basis. From this basis interviews were conducted with the participants. In the interviews the repertory grid technique was used to elicit personal constructs of the participants. Combining the data gained from the repertory grid and field notes, subsuming was used to transform the data into mental models. The participants' mental models served as the central focus of the study which was based on Kelly's Personal Construct Theory.

In order to arrive at the mental models of the participants the process of subsuming was used. Through subsuming the researcher viewed the world through the eyes of the participant and gained an understanding of the manner in which that individual was thinking. Furthermore, one could move by leaps of abstraction to arrive at the bedrock of an individual's thinking. The researcher delved through all the thoughts, words, actions and assumptions of the participants to reach the bottom of their minds and determine the mental models.

Throughout the data-analysis process it was important to note that the researcher subsumed the personal constructs of the individual as well as the contextual factors that were present at the time of the interview. A clear understanding of what the participant was thinking, as well as the contextual factors that had influenced the participant, was gained. By gaining a clear understanding of the participant's personal constructs, mental models emerged. In the following chapter these mental models will be discussed.

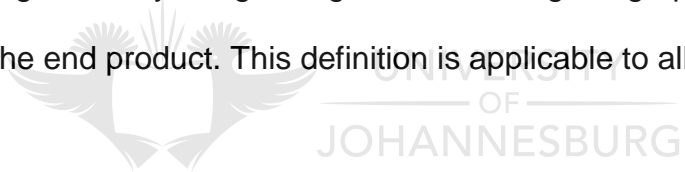


3. DATA AND INTERPRETATION

In this section I will discuss the mental models of the managers of the wine farms. The research process I followed determined the number of mental models that emerged in the case of each participant.

I provided each participant with a code name in order to assure their anonymity. They will be chosen arbitrarily from Participant A to Participant H. The data is presented per participant. The mental models of each participant are discussed in order to form a perspective of the participant's view of management. A consolidated view in the form of a thematic analysis will follow in the preceding section.

When reference is made to the production process of the wine farm it denotes the process of preparing the vineyard, growing and harvesting the grapes, producing the wine and bottling the end product. This definition is applicable to all eight participants of the study.



Participant A

The analysis and interpretation of Participant A's data elicited six mental models. Each model varied in complexity, from simple models that made broad generalisations to complex models that contained substantial relevance and explaining power.

Mental Model 1: A Rational Business Focus

The mental model of a rational business focus refers to the farm owner being exclusively focussed on doing business. Therefore, the motive for doing business is making maximal profit from the wine farm. The owner is motivated by the prospect of

potential profit that can be accrued through the process of producing and selling the wine of the business.

The owner refers to the farm as a business that has to make profit like any other professional private-sector company does. For the owner viticulture is not a lifestyle, and emotion must be left out of all aspects relating to the farm. While making specific reference to other farmers who are farming out of passion and view farming as a calling, his personal perspective is that a successful wine farm is managed like a business. This particular mental model emphasises pure business principles when managing a wine farm. There are thus, according to this farmer, no alternative approaches to managing a successful wine farm.

The owner has a clear view of his business and understands the various elements that are in need of management to maintain a successful farm. The various elements of his business, as in the parable of a game of chess, are managed with efficiency and without emotion. Each element of the business is a chess piece that has a certain function and a certain value. As in the game of chess, each piece has no more or no less value than is ascribed to it, and its functionality, combined with its contribution, reflects its value.

Mental Model 2: Financial Sustainability

The next mental model, financial sustainability, supports the mental model of a rational business focus and systemic integration. Financial sustainability captures the farmer's financial focus towards the business which forms a prominent element of the wine farm. Financial sustainability brought forth his relentless drive for profit. It was clearly stated that the main objective of the farm was to maximise profit in a financially sustainable way.

Being driven by the profit motive, the expectation arises that the farmer will take advantage of labour and the environment. With specific reference to the labour of the farm, the owner views this as a production factor. By viewing the workers as a production factor it does not include the view of taking advantage of the workers nor exclude their critical importance. The workers are paid well in excess of the minimum wage which suggests he has a stance of fair treatment to all in accordance with their contribution. The parable of the game of chess is further illustrated in terms of the workers. Farm workers are seen as a production factor that has no more or no less value than its functionality and the contribution it can make toward the business. The cost of production factors such as labour is in line with a single bottom-line orientation.

Mental Model 3: World Reputation and Branding

World reputation and branding constitute the third mental model that was elicited from the personal constructs. Building a successful reputation of the owner, the wine farm and the wine product are key focus points of the wine farm. By focusing on the international market as the client base, the farm's products are concentrated in the top two percent of world wine consumers. To be successful in this niche market uncompromising product quality is striven for. For the farmer, possessing a world reputation and a strong brand is another chess piece that will lead to increased profit. The mental model of world reputation and branding is supported by the following two mental models: "Strive for product quality" and "production philosophy: total process focus".

Striving for product quality is the differentiating focus of the business. Producing wine for the top two percent of world wine consumers requires an entrenched mental

model of striving for product quality. The product quality will determine whether the wine products will be sold on the international market, and according to what price this will be done. Therefore, to maximise profit there must be an uncompromising product quality.

Mental Model 4: Production Philosophy – A Total Process Focus

In order to produce quality wine the farmer is dependent on the production process, which is one of the determining factors for success of the wine farm. I elicited the mental model “production philosophy: total process focus” from the farmer’s personal constructs. The assumption that is made in terms of the production process is that the quality of the wine can be ensured. Therefore, there is a reliance on world-class technology to ensure that the production process is market leading and constantly improved. A large amount of capital is invested into production technology to ensure that market-leading processes are implemented.

The inclusion of novel technology into the production process is one aspect of the actions taken by the farmer to ensure quality wine. With specific reference to the production process, the farmer’s management style is to work together with nature. The mental model work with nature was elicited from the data. For example, working in harmony with the natural environment allows for a natural product that is of better quality as it is pesticide free. Environmentally sustainable production processes are implemented to ensure that no harm is done to the environment. Producing wine in harmony with the environment is an additional aspect to his production philosophy. Wine is produced in an environmentally friendly manner to ensure the quality of the grapes being harvested which, in turn, leads to quality wine.

Mental Model 5: To Meet Consumers' Needs

The last mental model that was elicited from the data of the farm owner was “to meet consumers’ needs”. He is striving to satisfy exclusive world consumers in the marketplace. When the wine that is produced meets the consumers’ needs it will ensure an increase in exports to the international market that will increase the profit that the farm generates.

In conclusion, a rational business focus is the dominant mental model of this farmer whilst the other mental models fulfil a supporting role. All the mental models of the farmer are integrated from a coherent management approach. The engrained mental models allow the farmer to follow a rational business approach that ensures the business is financially sustainable with an evident single bottom-line focus. Furthermore, the external circumstances allow him to successfully increase the profits of the business by ensuring quality wine products that meet consumers’ needs whilst building a world reputation and consumer brand.

When the farmer’s mental models are considered, the concept of systemic thinking can be identified. The farmer approaches his business with a systemic focus by being aware of the external contextual factors that influence the wine farm. The example of producing wine for the world market illustrates the systemic focus; there are numerous factors that have to be considered before one produces for international clientele. The farmer has the ability to take all the variables into account, and manage a successful wine farm.

Participant B

Through the data analysis process four mental models of Participant B were elicited. These mental models include: an input-process-quality output, an environmentally sustainable production process, financial sustainability and the belief in human potential and development.

Mental Model 1: Input-process-quality Output

Input-process-quality output is the mental model of the farmer containing her assumptions regarding the production process and specifically its output. The wine products that generate revenue are the farm's livelihood which emphasises the importance of the production process. A basic production model that consists of a simplified approach to producing the final product is implemented on the wine farm. The final output of the production process is not about the mass production of wine but rather a quality product that can be sold at a competitive price.

Mental Model 2: Environmentally Sustainable Production Process

The second mental model, environmentally sustainable production process, supports the input-process-quality output mental model through the active consideration of the environment. Working in harmony with the environment and ensuring that the production process does not negatively impact on the environment is a major focus of this wine farm. The mental model entails the reasoning that producing wine according to environmentally friendly practices is both beneficial to the environment and to the wine farm. By implementing an environmentally friendly production process the quality of the wine will improve, and in the longer term costs will

decrease. For example, costs in terms of soil preparation will decrease as a result of environmentally friendly processes.

Mental Model 3: Financial Sustainability

The third mental model of this farmer that came to the fore was financial sustainability. Profit drives this female farmer in terms of management as it ensures the fundamental existence of the wine farm. The drive for the financial sustainability of the wine farm will lead to certain behavioural patterns from the farmer as can be witnessed in the effort to reduce overhead costs. Throughout the production process the input costs are reduced and the quality of the output is improved to ensure the financial sustainability of the wine farm.

Mental Model 4: The Belief In Human Potential And Development

The belief in human potential and development is the last mental model that will be discussed. This mental model is a complex theory that came to the fore from the personal constructs. The theory of the farmer's mental model of the belief in human potential and development postulates that humans have the potential for growth and development on a personal level, as well as on a work level. The farmer's mental model suggests a caring nature toward people which is not limited to her personal life, but includes the work context. For this lady, people have the innate potential for growth and development that allows the human element to be integrated into the management approach of the wine farm. The farm workers are included in the management approach. When decisions are made the workers are considered in terms of the contribution that they can make toward achieving the objectives of the farm.

The focus of the human element in business is important to this participant. By possessing this specific mental model she provides the farm workers with development opportunities. The farm workers are afforded the opportunities to develop themselves on a personal and work-related level. On a work level, the workers are developed in terms of skills that are needed to work on the farm. The workers are also exposed to opportunities that develop them on a personal level. For example, they are taken on short day tours to the surrounding towns.

Various development opportunities have been initiated, not only for the farm workers, but also for the broader community. A small sport club has been established for the children of the farm workers with sports such as canoeing being offered. Additionally, a small school was built that could be attended by a number of the local residents' children, who were unable to travel to school.

The mental model of the belief in human potential and development suggests that this farmer attaches value to people. By providing development opportunities she can find greater personal meaning and fulfilment. On this basis the mental model of the farmer is ensuring the work skills of the farm workers are constantly improving and ensuring an increase in efficiency of the farm workers.

In conclusion, there is not a single mental model that is overarching in terms of the other models. The management approach focuses on financial sustainability of the wine farm through the production process while simultaneously conducting environmentally friendly practices and incorporating the human element into the success of the wine farm. The integrated focus of the farmer provides evidence of systemic thinking. By considering the various elements that are needed to achieve management success the farmer is thinking on a systemic level. It is not only the

internal elements to the farm that are taken into consideration in management but also the broader societal environment and economic conditions that are impacting on the farm.

Participant C

The third participant to be discussed yielded four mental models from the data-analysis phase. This participant's mental models are highly integrated, and should be viewed as such.

Mental Model 1: Viticulture Is Primarily Founded On An International, Purist French Wine Tradition

The mental model: "Viticulture is primarily founded on an international, purist French wine tradition" provides the fundamental basis for managing the farm. There is a resolute belief that wine farmers should produce wine according to the French tradition. This mental model provides the basis for all actions of the farmer as this particular wine farm was established in the French viticulture tradition. Therefore, all decisions that are made regarding the management of the wine farm will be based upon the French tradition in order to uphold the tradition of wine making. The most important aspect of the wine farm is to produce quality wine in accordance with tradition. Aspects such as profit, labour and management are secondary priorities to the production of quality wine.

Mental Model 2: Total Production Process Focus to Ensure Quality Of Wine In Line With French Tradition

Quality wine is dependent on the production process implemented by the farm owner. The second mental model: "Total production process focus to ensure quality

of wine in line with French tradition” allows the farmer to produce quality wine. It is important that the French tradition is continued by building forth on the history and background of the production process of the wine farm. The production process is the core of the wine farm with all other aspects of business characterised as supporting elements. All decisions that are made on the wine farm will be based on the production process and the alignment with French tradition.

Mental Model 3: Farm Workers’ Behaviour Is Greatly Determined By External Intimidation

A critical mental model of the farmer arose that, to a large extent, clearly supported the aforementioned mental models. The farmer’s third mental model is: “Farm workers’ behaviour is greatly determined by external intimidation”. The mental model is a theory of the nature of the relationship between the owner and the farm workers.



The farm workers’ background, development levels and personal circumstances are an assumption that is made about the broader community’s socio-economic and historical past. Owing to the farm workers’ background they have poor educational and development levels which influence their personal circumstances, and in turn their circumstances place them at a disadvantage in terms of financial security which again affects them and their children’s background and development levels.

Therefore a continuous spiral is created that will keep the community trapped in poor personal circumstances.

As a result of the downward spiral and poor personal circumstances farm workers are vulnerable to political gamesmanship. These people are used as political tools to advance political motives in this particular geographical landscape. The political

actions that are taken by organised labour negatively impact on the livelihood of the owner's wine farm. Labour strikes and intimidation of farm workers lead to production disturbances, and inevitably places the owner under financial pressure. Political agendas have a determining influence on the relationship between the owner and the farm workers.

As a direct result of the labour unrest in the Western Cape and the increase in the minimum wage of farm workers the owner has changed the compensation system. The farm workers used to receive a wage which was above the previous minimum wage. They also had paid housing, water and electricity, and the school fees of their children. After the labour unrest and increased minimum wage, the owner of the farm was financially pressurised into changing the compensation system. The farm workers currently only receive the minimum wage and the housing and have to pay for the water and electricity, and school fees of their children.

Apart from the financial reasons for changing the compensation system, the farmer experienced the labour unrest as a betrayal of the trust between himself and the workers. Therefore he believes that he should not go out of his way to provide benefits for the workers if they were willing to betray him. It could seem as though the owner emerged victorious after the labour unrest but in the end the employment relationship has sustained damage which also negatively affects the owner. Aspects of the relationship, such as goodwill and trust, have been lost and this places strain on the relationship.

Trust-based problems arose within the relationship between the owner and the farm workers. This created doubt about the dependability of the workers who did not consider the systemic implications of their actions. A dependable workforce is

required for the production process and schedule as these are sensitive to delays. Delays in the production process will directly influence the quality of the wine which is the main focus of the wine farm.

Mental Model 4: The Decisive Importance Of Marketing To Ensure Market Share And Expansion In Business Success

The last mental model that was elicited from the personal constructs was: “The decisive importance of marketing to ensure market share and expansion in business success”. Marketing has a central focus within management practices of the wine farm. The owner markets with the sole purpose of building the brand of the wine and the wine farm that will ensure financial gain. Successful marketing will assist the wine farm in expanding its market share that will increase the income and provide financial sustainability. Without the financial sustainability the French tradition of the wine farm cannot ensure its continuation.

With an integrated view of the owner’s mental models the upholding of the French tradition on the wine farm remains the golden thread throughout. The production process is based on the French tradition which is inevitably the core of the wine farm. All other aspects of the farm, such as labour relations and marketing, will be approached predetermined by the restricted view of financial conditions. It is clear that the farmer does not think in a systemic manner, and is primarily concerned with the internal management of his farm. The farmer did not view external events as possible threats or management problems, and ultimately the labour unrest in the Western Cape negatively impacted on the management of the farm.

Participant D

By way of the data-analysis process the mental models of Participant D emerged.

The mental models that were extracted from the data included: A historically-based work ethos and culture that were maintained over three generations, established management practices, financial sustainability, an ordered and ready work unit and the mental model of a healthy body containing a healthy mind.

Mental Model 1: A Historically-Based Work Ethos And Culture That Were Maintained Over Three Generations

The most defining mental model that was elicited from the farmer was that of: "A historically-based work ethos and culture that were maintained over three generations". This mental model contains substantial explaining power in terms of managing the farm. A complex theory demonstrates this mental model that fulfils a dominant role in the farmer's management approach. The mental model: "A historically-based work ethos and culture" refers to an established set of values, culture and tradition according to which the farmer manages the farm. The participant is a third-generation farmer on a family farm who holds a firm belief in tradition. There is an established way of managing the farm that provides him with certainty and stability in terms of the management practices. The values and tradition that were passed down from the previous generation provide the guiding light in accordance with which the decisions of the farm are predominantly based.

Mental Model 2: Established Management Practices

Established management practices are the second mental model of the farmer. Managing the farm with efficiency allows the farm to achieve its aims in a cost-

effective manner. A practical example is the following: Water on the farm is pumped down a slope instead of up a slope to save electricity costs. This illustrates the efficiency that is striven for. In terms of this mental model it is the concept efficiency that is managed. Taking decisions that will decrease costs by increasing efficiency allows the farmer to increase profit.

Mental Model 3: Financial Sustainability

Efficiency allows the farmer to reduce costs and increase profits, and supports the following mental model: “Financial sustainability”. The mental model of financial sustainability directs the actions and behaviour of the farmer to increase profit with each decision that is made. Return on investment is the financial basis for making decisions on the farm. Potential decisions that need to be taken will be based on the financial return that will be made in the long term. Financial return signifies profit, which in turn signifies the livelihood of the farm.

The profit of the farm is determined by a simple formula: Costs deducted from income equals profit. It is important to note that labour costs are included in the formula. Stated differently, labour is seen as an expenditure that decreases profit.

Mental Model 4: An Ordered and Ready Work Unit

The mental model “ordered and ready work unit” was elicited from the data which illustrated that the farmer worked with the assumption that labour was an overhead cost. Mechanisation was strongly considered by the farmer to replace workers. According to the farmer, machines did not have the weaknesses of workers such as dependability or motivation. Furthermore, implementing machinery would decrease costs and increase efficiency in the longer term. Therefore, the farmer assumed that

farm workers should be ordered and ready to dutifully fulfil their responsibilities. The relationship between the owner and the farm workers was characterised by the mental model: The conditions of employment and the psychological contract between the owner and the farm workers.

The “basic conditions of employment” refers to the salary and working hours of the workers. In this particular case, the basic conditions of employment are standardised for all workers with a basic salary received. Furthermore, workers receive no benefits in addition to their basic wage.

The psychological contract between the farmer and the farm workers is based on financial gain for both the farmer and the farm workers. A minimum wage is received by the farm workers, and in return the work on the wine farm can be done effectively and efficiently which provides the farmer with a return on investment. The farmer expects the farm workers to be motivated to work and be loyal towards the wine farm in return for a basic wage. The two characteristics of the relationship between the owner and the farm workers allude to a traditional business-focussed relationship between management and “workers”.

When this particular mental model of the farm workers is held, it provides an understanding of the approach that is followed by the farmer in terms of farm workers. The farmer is at the top of the hierarchy with the farm workers at the bottom level. This puts a great social and psychological distance between the owner and the workers. The distance between the owner and the farm workers creates power dynamics that further dictates the nature of the relationship. As a result of the power dynamics within the relationship the mental model of a historically-based work ethos, and culture is reinforced. The assumption that past success (with regard to labour

relations) provides evidence for future actions to be taken strengthens, and becomes entrenched within the farmer.

Mental Model 5: A Healthy Body Contains a Healthy Mind

The last mental model of the farmer is a “healthy body contains a healthy mind”. For the farmer it is critically important to have a healthy mind to ensure that proper decisions are made on the farm. Following a healthy diet and keeping physically active allow the farmer to keep a healthy body that will lead to a healthy mind.

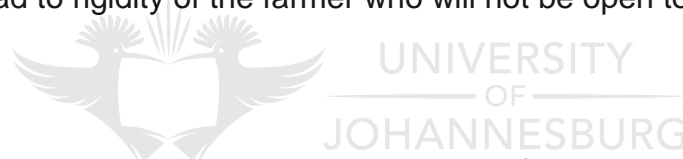
A healthy lifestyle is advocated by the farmer not only personally, but also regarding the farm workers. In a society where binge drinking has harmful consequences in the work context, as well as the broader societal context, the farmer promotes a healthy lifestyle. Farm workers have to be physically able to do the hard labour expected of them. This will allow the farm to operate efficiently and be productive in order to realise the return on investment.

The farm workers will also personally benefit from leading a healthy lifestyle as it will guard against dismissal from their jobs. In their personal lives, farm workers will also enjoy improved health and save financially in terms of medical costs as well as reduced alcohol expenditure. Therefore, in the mind of the farmer, this mental model fulfils a prominent role.

In conclusion - the discussion with the farmer allows for reflection and an integrated view of the mental models. The farmer is a firm believer in tradition which provides a basis for making decisions in terms of the management approach that will be followed on the farm. A historical approach to management is displayed by the farmer. This bears resemblance to the previous generations' management approach.

There is a firm focus on managing efficiently to ensure that activities and processes are carried out effectively and efficiently. By managing efficiently, costs can be reduced that will lead to a higher return on investment and ultimately to profit.

In viewing the particular mental model of “historically-based work ethos and culture over three generations”, one can speculate about its implications for the farmer’s management practices as well as the relationship with the workers. Over three generations the wine farm has served as the smelting pot of tradition, values and culture which have survived to the present day. As a result of the tradition that has been carried over for three generations a set way of managing the farm has come into existence. The farmer was passed down a fixed way of managing the farm from the previous generation that means that the present farmer is not likely to change his views. This will lead to rigidity of the farmer who will not be open to change at a systemic level.



Lack of change at a systemic level will consequently influence the wine farm as the farm does not function in isolation of its environment. As a result of being fixed to tradition, the belief arise that management practices and the broader environment will stay the same. Therefore, this farmer will not always be open to change that may occur within the broader environment. This could have negative consequences for his farm in the form of more severe labour unrest or community influence on his farm as the indications of systemic level issues are not identified by the farmer.

Participant E

The mental models that were elicited from Participant E’s personal constructs were: cost-saving production process, international quality, management by control, continuation of the family farm and healthy relationships.

Mental Model 1: Cost-Saving Production Process

Producing wine with a cost-saving production process is the major focus of the owner in the current economic and financial context. The owner is aware of the financial difficulties that are currently prevailing on the international markets. On an international level it has become a challenge for the farmer to find buyers of his wine. Reducing costs is a strategy that is employed by the farmer to ensure access to the international markets. By producing wine at a reduced cost it can be sold at a more competitive price.

Mental Model 2: International Quality

To produce wine for the international market has always been the aim of the wine farm. The farmer strives to produce wine that is of international quality that fulfils the needs of the consumers. Therefore, the mental model of international quality of the farmer is based on the assumption that the international market requires the best wine products in the world. Whilst continuously reducing the cost of production to ensure competitive prices a balance has to be found with the quality of the wine. The challenge of balancing cost and quality requires the owner of the wine farm to enforce strict control measures.

Mental Model 3: Management By Control

A critical mental model in terms of the management practices of the farm was identified as “management by control”. Management by control determines the actions of the owner as well as the actions of the owner’s children. Strict measures of control are implemented to ensure that the production process is followed according to the plan. It is important to follow the production plan as measures have

been developed to continuously decrease costs throughout the process. The balance between cost and quality is controlled by the implementation and supervision of control measures.

The control measures affect all aspects of the production process, including the farm workers. Farm workers are under direct supervision during the growing and harvesting of the grapes. This ensures that the grapes are of satisfactory quality to produce wine for the international market. By reducing the autonomy of farm workers and increasing the supervision by management the growing of quality grapes can be maintained. For example, it is the responsibility of one of the managers to inspect the vineyards twice a week. The inspection entails assessing the vineyards for weeds and guaranteeing that the farm workers do their jobs properly.

Mental Model 4: Continuation Of The Family Farm

The fourth mental model of the farmer, namely, continuation of the family farm, contains the assumption of the farmer in terms of the future management of the farm. For the owner it is important that the ownership of the farm remains within the family, and that it is managed by the next generation. The current transition between the owner and the next generation influences the manner in which the farm is managed at present. There is a focus on ensuring that the next generation is competent and capable of managing the farm. The owner will provide his children with increasingly greater autonomy to manage the farm on their own. Furthermore, the farmer is fostering the passion for farming within his children. The following generation will thus have the competence and the passion to manage the wine farm successfully.

By systematically handing over the authority to the following generation his presence within the management of the farm decreases. The implications of the management transition can only be speculated on.

Managing by control could have unwanted implications for the relationship between management and the farm workers. Direct supervision could be symptomatic of a lack of trust in the workers to do their jobs. It could also be a lack of trust in the capabilities of the workers to properly do the job at hand. Despite the close control and supervision of the activities on the farm by management a key focus is fostering healthy relationships.

Mental Model 5: Healthy Relationships

The mental model of healthy relationships was identified from the personal constructs of the owner. Fostering healthy relationships between all the people on the farm, including family members, farm workers and clients, is emphasised by the owner. The direction of the relationship, namely, farm worker and family member or family member and family member is not of concern. For the owner of the farm it is important that healthy relationships exist in order to understand and ensure that work can be done in a supportive manner.

Thus, the mental models of the farmer are interlinked in a supportive way. Firstly, a balance has to be found between cost-saving strategies and producing wine of international quality. There will be constant strain in reducing cost and producing quality. However, the mental model of management by control could ensure that the balance between cost and quality is achieved. By imposing control measures on the processes of the farm the owner can ensure that the strategies for cost and quality are followed punctually. These strategies have a long-term focus which means that

the following generation will also enforce them. The continuation of the family farm mental model serves to guide the current focus of the farmer as he is in the act of transitioning the management of his farm to the next generation. Lastly, the owner is fostering healthy relationships between all individuals on the farm. It is an important aspect of the owner's management approach to successfully manage his business. In terms of the systemic thinking of the farmer it is evidenced that he thinks of the broader economic environment when making decisions.

Participant F

From the personal constructs of Participant F four mental models were identified. Each of the mental models will be discussed and interpreted. The mental models of the farmer are the following: Environmentally sustainable production, financial sustainability, healthy labour relations and management improvement.

Mental Model 1: Environmentally Sustainable Production

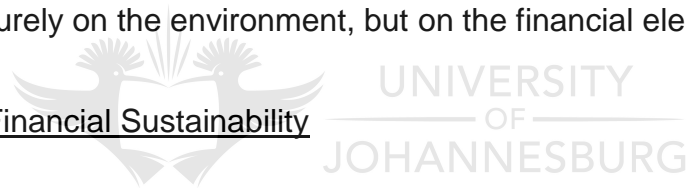
The mental model of environmentally sustainable production refers to producing in accordance with a process that does the least harm to the environment. A quote from the farmer illustrates the approach that is taken toward wine production on the farm: "I want to do as little harm as possible to the environment". The environmentally sustainable production process forms the central focus of the farm. There are two beneficial reasons for producing wine in an environmentally friendly manner: Firstly, the environment harm is decreased, and, secondly there are financial benefits attached to environmentally sustainable production.

Producing wine in an environmentally sustainable manner ensures that there is less harm done to the environment. Practical examples of environmentally sustainable

production include re-using wine barrels that decreases the amount of wood needed to produce new wine barrels. Another example is utilising thinner glass bottles for the bottling of the wine. Thinner wine bottles have an improved biodegradability and use less input material in production. Apart from the environmental benefits that arise from this approach to production there are also financial benefits for the farmer.

Environmentally sustainable production of wine has significant financial implications for the farmer. Implementing environmentally sustainable practices save costs in the production process. Continuing from the aforementioned examples, re-using wine barrels reduce expenditure on new wine barrels. Furthermore, costs are saved by purchasing thinner glass bottles as compared to the normal bottles that were purchased. Thus, the benefits that arise from environmentally sustainable practices are not focused purely on the environment, but on the financial element as well.

Mental Model 2: Financial Sustainability



The mental model of financial sustainability was elicited from the farmer's personal constructs. It is important for the farmer to ensure the viability of the farm. Financial success in terms of the profit that is made ensures the livelihood of the wine farm. Apart from ensuring the continued existence of the farm the owner's personal livelihood is dependent on the financial success of the farm. Therefore, the owner views the farm as a business. It has to be successful in order to remain viable. The financial sustainability of the farm is the key driver of the owner in terms of managing the farm.

Numerous strategies are implemented to ensure the financial sustainability of the wine farm. The farmer refers to these as cost-saving strategies that are implemented to reduce costs on every possible activity. By implementing the cost-saving

strategies the farmer can increase the profits that are made. The importance of financial sustainability was emphasised: “I want to minimise my risks. This is an extremely difficult environment to operate in”. The farmer’s words provide evidence that he wants to reduce the risks that could affect his financial sustainability. The following example illustrates the cost-saving strategies: the farmer outsources his vineyards to a contract farmer. The contract farmer grows the grapes and harvests it, and then sells it back to the farmer (Participant F). By outsourcing his vineyards he minimises risks of poor harvests and labour issues. In essence the farmer is outsourcing his risk to the contractor. Furthermore, the farmer also reduces costs in terms of farming equipment and labour needed to harvest the grapes. The only farm workers that are employed on the farm work in the cellar where the wine is produced.

Mental Model 3: Healthy Labour Relations

“Healthy labour relations” is a mental model that is directed toward the workers of the farm’s cellar. The mental model of the farmer illustrates that it is important to foster healthy relationships at work. There is only a small contingent of farm workers, and the farmer has close relationships with them. Within the relationships at work, formal and informal characteristics exist. The formalised aspect of the relationship refers to the compensation of the workers. The wages and benefits that the farm workers receive suggest that the owner views his employees as important to himself and the business. Farm workers are paid in excess of the minimum wage and receive housing, paid water and electricity as fringe benefits.

The informal aspects of the relationship include the interaction between the farmer and the workers and the working relationship that is fostered on a daily basis. The

farmer is directly involved in the production of the wine in the cellar and does the same work as his workers. He forms a close bond with his workers by actively being involved in working with them, doing the same job that is required of them. Even though the positions are clear in terms of the owner and the farm workers, it is not a strict delineation of structure and hierarchy. An informal relationship exists between the farmer and his workers. It is as if the owner is attempting to show the workers that there is no difference between them and him. By working on the same level as the farm workers the importance of their work is emphasised. This could serve as a motivator to ensure the work is carried out at an acceptable standard.

The close involvement of the farmer in the production process is an indication of his passion for wine-making. It would seem contrary to the cost-saving production process mental model where it is attempted to curb costs in all aspects of the business, but the farmer has been a wine maker for a large part of his career. This provides a possible explanation for the passion of wine-making and being involved in the production process. The farmer has had decades of wine-making experience. This could explain his close involvement with the production process.

Mental Model 4: Management Improvement

Management improvement is the last mental model that was elicited from the farmer's personal constructs. The owner is striving to continuously improve his management practices. He believes there is always room for improvement that can potentially save costs. Improvement of decision-making in the short term as well as in the long term can exponentially increase management effectiveness according to the farmer. The improved management of the farm will increase the financial sustainability of the business.

The farmer is striving to constantly improve his management skills. These skills include decision-making skills, interpersonal skills and analytical skills. By improving these skills management effectiveness will increase, and this will lead to improved management success of the business.

In conclusion, the farmer is striving to attain sustainability in terms of the environment as well as the financial position of the wine farm. It is important for the farmer to preserve the environment that will ensure the production of quality wine that will lead to financial sustainability. The farm is the owner's livelihood, and therefore he is dependent on the financial success of the business. Another element in the success of the enterprise is the healthy labour relations that are fostered with the farm workers. By ensuring healthy labour relations the farmer has certainty and stability throughout his production process. Lastly, the owner is striving towards constantly improving his personal management practices. By improving the various skills that are-needed in management he can ensure the future success of the farm. Thus, it is clear that the farmer is focusing solely on his farm and not on the external environment. The external environment is not viewed by him as having a substantial impact on his management approach. No systemic thinking was elicited from the farmer's mental model.

Participant G

Only a limited number of mental models could be identified from the farmer's personal constructs. The following three mental models were elicited: Family-orientated management, environmentally conscious practices and financial success.

Mental Model 1: Family-Orientated Management

This particular farmer identified the mental model of “family-orientated management” as the prominent mental model. There is a strong focus on managing the farm with the aim of keeping the farm in the ownership of the family and retaining the family in management. By managing the farm with a family- orientated approach the owner is placing his focus on the family members who are going to take over control of the farm once he vacates the position.

At present both the first and second generation of the family are working on the farm. All family members are in management positions with the owner still being the head of the farm. The transition from first generation to second generation is currently in affect. It is a gradual process that occurs over a number of years, and which will still take a further number of years for the transition to be completed.

By transitioning from first-generation to the second-generation management numerous learning experiences arise. Through these learning experiences the owner provides guidance and advice to ensure that his children make competent decisions. Furthermore, as the learning experiences continue, the autonomy and responsibility that are entrusted to the second generation are increased. This allows the second generation to become accustomed to managing the wine farm.

There is no attempt by the owner to provide a fixed solution to every problem, and force the younger generation to adopt his solution and way of doing things. The owner prefers to provide advice to ensure that his children will be able to competently face the challenges that await them in the years to come. The owner and the management of the farm have a long-term vision that is not bound to the

current context. This means that one cannot have fixed solutions for a changing context.

Mental Model 2: Environmentally Conscious Practices

The mental model of environmentally conscious practices was elicited from the farmer's personal constructs. Environmentally conscious practices refer to the execution of the activities on the farm whilst simultaneously considering the environment. The environmental focus of the wine farm could have a two-pronged motive, the first being that the environment needs to be preserved in order to continue the existence of the farm. Secondly, financial benefits are attached to environmentally friendly practices.

The possible reasons for the environmental focus are illustrated by two examples. Firstly, the wine farm has begun bottling the wine in thinner glass bottles. These wine bottles use fewer raw materials to be produced, and the speed of biodegradability is increased. This reduces the negative impact on the environment. Furthermore, the procurement cost of wine bottles decreases as it is less costly to purchase the thinner bottles.

In addition, the farm has a restaurant that serves a wide range of clients. It is a relatively large restaurant, and as a result it produces large quantities of waste. The waste is recycled and converted into fertiliser that is used in the preparation of the soil in the vineyards. This reduces cost in purchasing fertiliser for the vineyards, and has reduced adverse impact on the environment. It is clear that a two-pronged intention could exist in explaining the farmer's mental model of environmentally conscious practices.

Mental Model 3: Financial Success

The last mental model that emerged from this participant was financial success. Financial success refers to the yearly financial position of the wine farm after the harvest of the vineyard and the sale of its wine. An important goal of the farm is to remain financially viable as this not only ensures the continuation of the farm, but also the livelihood of the owner and his family.

To make a financial success of the farm cost-cutting measures have to be implemented throughout the production process. The aforementioned examples are practical measures that are implemented to reduce costs. Firstly, there is only a small contingent of permanent farm workers. This reduces expenditure as only the necessary number of workers is employed. During the harvesting period the owner utilises seasonal labour to ensure that all the work is carried out.

The financial success of the wine farm is imperative for the owner as it is the livelihood of his business as well as himself. Furthermore, the financial success of the farm is important to the owner as his children's future livelihood is also dependent on the success of the farm. Resultant are the cost-saving measures that are implemented, as well as the environmentally conscious practices that reduce costs and improve the quality of the wine. The mental model of family-orientated management is connected with the mental model of success. It is important for the owner to ensure the financial success of the farm as it is his children's inheritance. Lastly, the farmer views the various elements that have to be managed in order to be successful as integrated to a certain extent. The international economic environment is considered in the management approach of the farmer, and this influences the financial position of the farm as well as the manner in which the farm is managed.

Therefore, the farmer thinks systemically about what external risks may impact on his farm. These external influences are effectively managed, and this ensures the success of the farm.

Participant H

Through the personal constructs of Participant H five mental models emerged. The mental models are the following: Innovation, environmental sustainability, building relationships, fair treatment of people and motivating employees through compensation.

Mental Model 1: Innovation

The mental model of innovation is one of the main drivers of the owner's management approach. An attempt to establish a culture of innovation on the wine farm determines the decision-making of the owner. Establishing a culture of innovation is not solely the focus of the owner, but has also become the focus of the employees on the farm. The employees are striving for continuous change and improvement of the activities of the farm.

All the employees are encouraged to suggest new ideas even if they are not related to the farm. Creative sessions are held where the employees can freely express ideas. The main objective of the sessions is to find "better ways of doing things" as the owner stated. There are numerous possible reasons for the farmer to promote the culture of innovation.

The possible reasons for building a culture of innovation include efficiency, financial gain, change, reputation, creativity and fostering open-mindedness of employees. By finding better ways of doing things, the efficiency of the farm will increase because

there will be a constant flow of new ideas leading to an improvement of current processes and procedures. More efficient production practices will decrease costs that will increase the financial gain of the farm. Furthermore, new products could be created such as the organic wine that is currently produced. Through innovation the farm produces an organic wine that taps a new market of consumers. The new product will also increase the financial gain of the farm.

Another reason for the drive to innovate is the change that results from it. The farmer embraces change, and actively seeks it through new ideas that can be implemented. Creativity is fostered within the work environment to encourage new ways of doing things. The creativity will lead to change that will provide opportunities to improve the farm.

Mental Model 2: Environmental Sustainability

The second mental model of the farmer is environmental sustainability. It is important for the farmer to preserve the natural environment on a personal level. This personal drive of the farmer manifests in the management of the farm as the production process of the farm is constantly improved to ensure that less harm is done to the environment. The production process is one of the main environmentally sustainable focus areas. Other focus areas include new construction on the wine farm, as well as a small game reserve located on the farm.

The production process is the core focus of the wine farm as it entails all activities that lead to the end product. Through environmentally sustainable production the quality of the wine is improved. The production process is based on environmentally friendly practices to minimise the impact of the winery on the environment.

Mental Model 3: Building Relationships

Thirdly, the mental model of building relationships was identified by the farmer. Strong emphasis is placed on building relationships with all stakeholders of the wine farm, specifically employees and clients. The human element of business is important to the farmer as people form an integral part of his wine farm in terms of employees that work on the farm and clients that purchase the products.

Relationships are established with the employees on a personal level which suggests that the authoritarian distance between the owner and the employees is diminished. The farmer attempts to foster close relationships with his employees as they are a critical part of the success of the business.

Building relationships is important for the business, and is a key part of the marketing strategy. The owner focuses on establishing and fostering relationships with clients that extend beyond the business level to the personal level. The following practical example illustrates the extent of this particular mental model. The owner has established a wine club that offers exclusive membership and other benefits. This allows the farmer to build personal relationships with his clients.

Mental Model 4: Fair Treatment Of People

The mental model “fair treatment of people” is the fourth mental model that emerged from the personal constructs of this participant. This mental model is specifically focussed on the farmer’s core belief and trust in people. It makes the assumption that all people should be treated in a fair, respectful and dignified manner with no reference to or exclusion of a particular group of employees or society.

Within the work context the farmer provides opportunities that develop the employees' specific work skills and their lives on a personal level. The aim of the development is to benefit the employees directly even though the farmer will also benefit from an improved skilled labour force. It is not only on a developmental level that the farmer cares for his people but also for their safety and well-being.

During the time of the labour unrest in the Western Cape it was unsafe for farm workers to continue working if they did not participate in the strike actions against the farmers. The farmer wanted to ensure the safety of his workers during the dangerous period and rented transport for the workers to travel to and from work. When this also became unsafe, he told his employees to stay at home until the unrest subsided. This example provides evidence of the mental model of the farmer.

Fair treatment of people as a mental model of the farmer is not limited to the employees of the farm but extends to the broader societal context. The farmer is concerned with the well-being of the people of the society and strives to provide opportunities for the farm workers' children as well as people not affiliated with the wine farm. An example illustrates the societal involvement of the farmer: the farmer built a pre-primary school for the children of the community. In this way the farmer ensured that the children received the necessary schooling for development that was so critical at their young age.

Mental Model 5: Motivate Employees Through Compensation

The mental model: "Motivate employees through compensation" refers to a particular means of motivating employees of the wine farm. He believes that money serves as a motivator for employees to perform. It should be noted that money is not viewed as the sole motivator of people. In terms of the farm workers, the owner pays well in

excess of the minimum wage which proves firstly that the farmer believes that the higher wage will motivate farm workers to increase their performance. People should be rewarded for the work that they are doing, and therefore the compensation system provides bonuses and fringe benefits. The compensation structure provides evidence that people are an integral part of the wine farm.

Secondly, this participant does not view labour as exploitable. As mentioned in the previous mental model, he believes in the fair treatment of all people. Therefore, he pays above the minimum wage as he believes people should be compensated fairly.

In conclusion, the mental models of this farmer provide a holistic view of the approach that he has toward the management of his wine farm. The most prominent mental model is innovation which is the main driver of the farmer's management approach. There is a constant drive towards new and creative ideas that will benefit the wine farm as a whole. As a result the production process of the wine farm has been improved to be more environmentally friendly. The mental model of environmental sustainability provides the basis for the design of the production process. Furthermore, this mental model ensures that the adverse impact of the wine farm on the environment is reduced. The human element is an integral part of the business with the relationships that are fostered between people as the core of this mental model. Supporting this mental model is the belief that the farmer has in people. People should be treated fairly under all circumstances. The main assumption that is made in terms of people is that all are equal. This is a strong motivator for the farmer to reach out to his employees as well as the broader society. Thus, the farmer is thinking in a systemic manner as he is not only thinking of the internal elements to management. The broader environment is also considered as important to the farmer in terms of management success.

The mental models of the participants have various commonalities that can be identified. The following section is a thematic analysis of the commonalities of these mental models. By ordering the mental models into themes a holistic understanding of the participants can be gained.

Conclusions

When I analysed the completed mental models of the eight participants I found various commonalities that I ordered into themes. From the eight participants the following common themes emerged: Environmental sustainability, financial sustainability, production process and product quality focus, people perspectives, marketing and branding, family focus and systemic thinking.

One of the most prominent themes that emerged from the mental models was environmental sustainability. There is a definite focus within the farming community to produce wine in an environmentally friendly manner. It is almost as if green production has become a trend with which the farmers have to keep up. The possible reasons for producing in an environmentally sustainable manner include financial savings, the knowledge that the future of the wine farm is dependent on the preservation of the natural environment and altruistic beliefs. Irrespective of the reasons or motives for the environmentally sustainable practices the farmers are incorporating it into their production processes.

For the participants the success of the farm is largely determined by the vineyards. Therefore, the farmer has to prioritise the growth of a healthy crop. Through environmentally sustainable production methods the farmers are ensuring better quality harvests that can be used during the wine-making process. The farmers are

employing methods that will ensure the quality of the end product as well as the livelihood of their farms and businesses.

The theme of financial sustainability that was identified was also a significant. For the participants their respective wine farms are either a business or a lifestyle. They are dependent on the financial sustainability of their wine farms as this determines their livelihood. A strong emphasis is placed on reducing costs and improving sales since this will ensure the financial success of the wine farm.

Production processes and product quality are the third theme that emerged from the participants' mental models. The production process forms the core of the wine farm which includes: the preparation of the vineyards, the harvesting of the grapes, the production of the wine and the bottling of the final product. Even though the production philosophies differ amongst the farmers, the importance of production is not understated. All the participants are striving to produce quality wine from the production process. The quality of the wine in turn determines the financial success of the wine farm because this makes the production process and the quality of wine critical factors in the mental models of the wine farmers.

The theme of people perspectives that emerged provided a multi-perspective on the farmers' belief and trust in people. The beliefs varied from the employees of the farm to the broader community. The farmers' beliefs with regard to people included the following: People as production factors, people as an integral element to the farm's strategy that has value-adding potential, or people as individuals with whom a personal relationship could be fostered. Notwithstanding the various beliefs of the farmers, the people element was influential in the farmers' management approach. A

number of farmers viewed people as a weakness for the farm whereas many others viewed employees as an integral part of its success strategy.

From the mental models of the farmers it is clear that the majority realise that people are an invaluable part of the organisation that should be respected as human beings, and not as assets or liabilities. The relationships that are fostered and the projects that are established in the communities are evidence of a caring perspective of people who should be provided with opportunities and treated fairly.

The marketing and branding theme that emerged provided evidence that a number of the wine farms were managed like business concerns. For these farmers an important aspect of management was the marketing and branding of the product.

Creating a brand that has a strong reputation amongst consumers is an important part of the farmers' strategy for success. The marketing of the wine product supports the strategy of creating a reputable brand.

A family focus was the following theme that emerged from the participants' mental models. The focus of the participants illustrated the importance of the farm to the owner. It was important to the farmers to keep the ownership and the management of the farm in the family. This particular theme provided relevant explanations for the management decisions and actions of the farmers. It provided a basis for reasoning in a particular manner as it has been carried over from one generation to the next. The family members and the farm itself were the priority of the farmer since these directed the focus of the farmer towards them. The ownership of the farm and its heritage has to remain within the family. Therefore, external factors to the farm (for example economic or labour challenges) were mostly seen as a direct threat towards the continued ownership of the farm. The occurrence of such a perceived threat

would lead to the farmer demonstrating defensive actions and management practices.

The last theme that emerged from the mental models of the farmers was systemic thinking. This theme was not identified as a mental model from the data, but could be inferred based upon the analysis of the data and the completed mental models. The farmers' level of systemic thinking varied in terms of its prevalence. A number of the farmers did not think on a systemic level in terms of the successful management of their farms. These farmers were internally focussed, and participants were only concerned with direct challenges to the farm. The farmers who were thinking on a systemic level took the external environment into consideration. Within the external environment factors such as the international economic environment, labour challenges, broader societal challenges and political environment formed part of the considerations for the successful management of the various wine farms.

As the reader progressed through the mental models of a particular participant the interrelation between the various mental models should have become evident. The mental models that were elicited from the participants did not necessarily function in isolation. Each participant's mental models must be understood in an integrated manner. All the mental models of these farmers were integrated into a dynamic management approach. The mental models that were elicited provided an integrated view of the management approach that was ingrained within this participant. In the following chapter the interpretations will be taken a step further by discussing relevant literature and implications of the farmers' mental models.

4. Sense-making

Karl Weick (1979) developed the sense-making theory that is based on the social construction of reality. According to this theory, organisations are created and manifested within the minds of the members. These organisations take the form of mental maps or images of various aspects of experience. Through a process labelled by Weick as re-ification, people bring organisations to reality. The reality that is created through people serves as objective facts even though it has been constructed subjectively and through inter-subjectivity. Organisations are socially constructed by their members who attempt to make sense of what is occurring at present as well as what has happened in the past, and then acting upon this understanding.

Weick (1995) describes sense-making as the manner in which an individual establishes interpretations of occurrences and links these with his or her own actions. Thus, sense-making is the experience of an occurrence and the creation of certain explanations for that. This experience is then linked to the actions and beliefs about what is happening (Myers, Hulks & Wiggins, 2012).

The sense-making theory of Weick provides the basis by way of which I as the researcher will create explanations that are linked to beliefs about the data that has been gathered from the research setting. This is also applicable to the farmers who themselves are making sense of their farms in unique ways which manifest within the personal constructs that were elicited from the interviews. Each farmer has a unique social construction of reality as well as of their respective farms.

Sense-making of Mental Models

Through a process of sense-making the main themes of the mental models will be discussed with the focus on successful management practices. The people perspective, environmental sustainability, financial sustainability and systemic thinking will be emphasised in the following section.

Every participant had individual mental models of society and people that determined the inclusion of the societal dimension in their strategies or in the absence of strategies. This mental model includes the people from the broader society as well as the employees of the farm. Some farmers viewed the broader society, specifically the farm workers' communities, as a non-influential environment that had no impact on the farm. The farmers believed they had no responsibility towards the community, and that such a responsibility was not to be considered for the successful management of the wine farm. Other farmers believed the communities and the challenges that existed within them were beyond their control; even to the extent that the communities themselves did not want to be helped.

In some cases the farmers' mental models illustrated that they were proactive in assisting the communities. The farmers were aware that there was an urgent need for basic facilities such as schools and sports centres for the youth. On an individual and collective basis the farmers initiated projects that provided opportunities for the youth in an attempt to alleviate the hardships of the communities. Thus, the actions of the farmers were an attempt to establish broader societal sustainability that which was included in their business strategies.

Within the new emerging paradigm within the workplace the farmers should also strive towards societal sustainability. The societal sustainability of the farmer's

workforce is influenced by the social and psychological contract between the farmer and the farm workers. Recent labour unrest in the Western Cape provided evidence that there was a mismatch between the expectations of the farmer and the workers. The social and psychological contracts that existed between the farmer and the farm workers were not aligned. Collective labour leaders were dissatisfied with the farmers, and held the belief that they did not act in the best interests of the farm workers (Van Rooyen, 2012: 1). The farm workers contended that the farmers were exploiting the unskilled labour and did not allow them to live a basic healthy life. Furthermore, it was alleged that the farmers did not care about the development of their employees, and were suppressing them to lead struggling, poor lives. The situation culminated into an ungovernable unrest where vineyards were destroyed and all work on wine farms was halted owing to strike action.

The outcomes were an increased minimum wage for farm workers with negative collateral consequences. The relationship between farmers and farm workers was damaged, future compensation structures were altered, and vineyards and crops were destroyed. Ultimately, the farmer's financial position was harmed as his mental model did not allow him to be aware of the threats that were posed. The mental model contained blind spots that were detrimental to the farmer.

On the other hand, the imminent threat of the labour unrest compelled some farmers to take proactive steps in diffusing the situation. The farmers with mental models of viewing labour and people as an integral part of the farm and its strategy took the initiative to avert the threat. As a result of the presiding mental models and the proactive action of the farmers, the relationships between them and their farm workers were strengthened. Furthermore, the farmers reduced the negative financial

impact of the industry-wide labour unrest. Thus, it has become imperative that farmers consider the societal sustainability dimension in their business strategies.

The theme of environmental sustainability that emerged from the farmers' mental models was prominent within the farmers' strategies for successful management of their farms. They included the environmental dimension in their strategies as the environment was a direct stakeholder in wine farms. The farmers were aware that they could not produce wine at the expense of the environment. Some of the farmers realised that there were external stakeholders who had to be considered, and adapted their strategies accordingly.

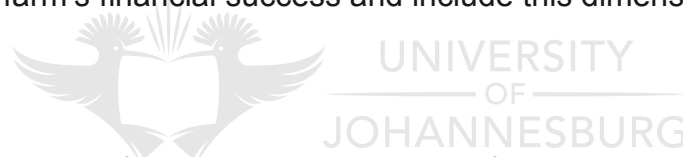
The vineyards of the farmers are dependent on a healthy environment to ensure proper crops for harvesting. If the farmers do not preserve the environment the livelihood of their farms and of them personally are at risk in the long term. The majority of the farmers' mental models are focused on environmentally sustainable production. Farmers are aware of the importance of the environment for themselves as well as for the surrounding communities that are also dependent on the wine farms.

There is a constant attempt by farmers to reduce the harmful impact of production and to achieve environmental sustainability. Environmentally sustainable production is an integral part in the strategies of the majority of the farmers. Therefore, in terms of the broader production process the farmers have a strong focus on preserving the environment which means the latter stages in the production process are to be adapted to incorporate the new strategy.

The mental model of financial sustainability has a definitive part in the farmers' strategies for successful management of their farms. The management of wine farms

strive for financial sustainability. For various farmers financial survival is the only dimension of the business strategy. Their mental models do not allow for the other dimensions of sustainability to be considered in the strategy. In this case the farmer is implementing a cost-saving strategy to minimise costs and increase profit that will ensure the livelihood of his concern. Aspects such as the environment or the broader society are not considered in the successful management of these wine farms.

Conversely, there are farmers who are striving for financial sustainability that forms part of an integrated strategy including the environment, the employees and the broader society. Various stakeholders, including the farmers themselves, the employees and the broader society are dependent on the financial success of the wine farms. The mental models subscribed by these farmers allow them to see the importance of the farm's financial success and include this dimension firmly in the farm's strategy.



Lastly, the mental model of systemic thinking is significant in terms of the degree of its presence within the farmers' thinking. A number of the farmers do not approach management with systemic thinking. For these farmers the various aspects of the farm function independently from the external environment. As a result they do not anticipate the impact of events such as the labour unrest in the Western Cape. The farmers are only focused on the internal functioning of their farms.

Systemic thinking in management allows farmers to focus on both the internal and external environment of the farm, and to the extent in which these elements are interlinked. The farmers who think systemically have a multi-focused approach to management to ensure its success. For the farmers it is important to be aware of the interaction between internal and external forces. By having an awareness of these

forces the farmers are enabled to function more effectively within the industry. Therefore, by understanding the inter-relationship between the financial, environmental and social aspects as well as elements such as marketing and branding and the production processes on an internal and external level the farmers are enabled to effectively manage their farms.

Thus, the mental models of each farmer function as an integrated whole that constitutes the farmer's approach to the management of the wine farm. With an understanding of the most prominent themes of the mental models, it can be compared to the literature as discussed in Chapter 1.

Mental Models and Paradigms

The dominant themes of the mental models will be compared with the three prominent management paradigms, namely, command-and-control, high involvement and sustainability. The paradigms within which the farmers in the Western Cape are managing the wine farms will become apparent from this comparison. All three management paradigms are currently found within the broader business environment. The following section will discuss to what extent the mental models of the farmers and the literature converge.

Mental models of farmers emerged where profit was the sole focus of the wine farm and internal control was of utmost importance. These farmers did not focus on the farm workers, and rather viewed them as production factors that could be utilised to achieve profit, the farm's primary objective. It also became clear that farmers viewed themselves as the knowledge-bearers of the wine farm, and they were therefore solely responsible for the decision-making on the farm. The farmers possessed the knowledge of what had to be done and the manner in which it had to be done. The

farm workers were told what to do, and had to follow orders obediently. There was a strong emphasis on internal control of the farm. The farmers had the power in the employment relationship which did not leave the employee with any autonomy within the workplace.

As a result of managing the farm with this particular paradigm, various consequences could arise. Farmers had a strict focus on ensuring that profit was achieved. Thus the sole purpose of the farm was financial sustainability that neglected the environment as well as the social aspects of the farm workers. Furthermore, the psychological contract between the farmer and the employees was outdated, and did not necessarily meet the needs of both parties. This can lead to decreased satisfaction and motivation amongst employees. Turnley and Feldman (1999) stated that when implicit promises were broken it could lead to deterioration of the employment relationship. The farmers who were functioning within a command-and-control paradigm were not aware of the external influences that had a potential impact on the farm.

From the mental models that emerged it could be evidenced that a number of the farmers were focussed on their employees. This was in line with the high involvement organisation paradigm. These farmers realised the importance of developing their employees in order to increase productivity. Many farmers were developing the skills of their workers so that they could carry out their current work more effectively. Furthermore, the farmers were still driven to increase profits and decrease costs. The employees were still seen as assets that could be managed to achieve profit.

Sustainability

Lastly, there were mental models that were focussed on the financial sustainability of the farm. These farmers realised that it was not just their own livelihood that was dependent on the financial success of the farm but in some cases that of their children as well as that of the employees and their families within the broader society. The farmers managed their farms to be financially sustainable in order to provide profit and a source of income to for the farmers themselves as well as to their employees. This was in line with the sustainability paradigm that had a strong focus on the financial aspects of an organisation. In this case the focus of an organisation should continue to be its financial success.

To some extent the mental models of these farmers were also focussed on the employees and the development of their skills on a personal and work level. The lower-level employees were up-skilled to become more efficient, and, in some cases to become junior managers. There was no evidence of non-family employees being provided the opportunity of sharing in the ownership of the farm, even though they did form an integral part of the success of the farm. Within the broader society farmers were assisting the poor communities by providing facilities such as schools and sports grounds where the youth could have access to improved opportunities. There was thus a pertinent focus on the specific society where the farm workers came from to provide assistance on a continuous basis for the improvement of the communities. In terms of the communities being directly involved in the business aspect of the wine farms it extended to the financial sustainability of the farm to ensure that the families of the farm workers also had a source of income.

There were no specific indications that the farmers were aware of problematic challenges that were arising in the form of systemic poverty in the broader social environment. This was a cause for concern as the impact of labour unrest resulted from societal problems. The mining industry is currently experiencing problems as a result of societal dissatisfaction that is also evidenced in the Western Cape. From a social sustainability perspective the farmers were not impacted on to such a great extent by the actions of the labour unions. Farmers have not adjusted their views of society and its importance in terms of managing their farms.

The theme of environmental sustainability emerged prominently from the mental models of these farmers. At the core of farming, farmers are dependent on the environment for its success. The environment provides the raw materials with which the final product is produced for the consumer. Therefore, it is critically important to the farmer to ensure the long-term sustainability of the soil and the vineyards. Farmers are increasingly implementing environmentally friendly methods that ensure the sustainability of the crops. A number of farmers are attempting to manage from the paradigm of environmental sustainability.

According to Dunphy (2003), organisations move through certain phases as they progress towards the paradigm of sustainability. The six phases are the following: Rejection, non-responsiveness, compliance, efficiency, strategic pro-activity and the sustaining corporation. Individually, the mental models of the farmers can be placed within one of the six phases of sustainability.

Some farmers reject the paradigm of sustainability by exploiting the society and the environment in order to make a profit. This can be an active rejection of sustainability by acting in an irresponsible manner towards the society and the environment.

Various farmers are also non-responsive towards sustainability by viewing it as irrelevant to business. The focus of these farmers is on the short-term profitability of the business.

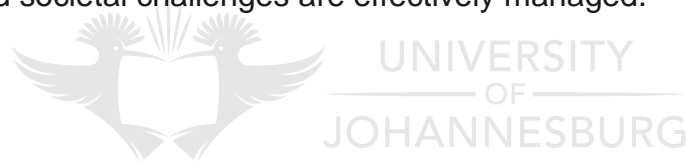
Compliance is the third phase where the organisation has to comply with legislation that requires it to act in a sustainable manner. A number of farmers view the environmental legislation as obstacles that need to be complied with in order to produce wine. In the efficiency phase organisations pursue opportunities that arise from sustainability. Farmers have realised the opportunities that arise from environmentally sustainable production in terms of costs that are safe as well as the long-term benefits to the vineyards. Other farmers have seen the possible opportunities within the societal sustainability.

Within the strategic pro-activity phase, managers incorporated sustainability in the core of the business strategy. Only one farmer incorporated sustainability in the farm's core strategy. By incorporating sustainability in the farm's strategy it allowed the farmer to gain a competitive advantage over the competitors. By focusing on the three areas of sustainability the wine farm is provided with a competitive advantage in the long term that ensures a sense of stability for the future of the farm.

The last phase of sustainability is the sustaining corporation that embeds sustainability as an ideological commitment of the organisation. This type of organisation strives for profit as a traditional business focus, but goes further by actively promoting ecological values and practices in the industry and society. The farmer that functions as a sustaining corporation ingrains sustainability in the culture of the farm. By doing this the farm actively pursues profit, as well as preserving the environment and developing the society. All three areas of sustainability form a core

part of the farm. The owner has shifted to a sustainability paradigm to effectively manage the farm.

Clear indications exist that farmers are combining the financial, social and environmental dimensions of the paradigm in managing their wine farms. These wine farms are successful within the industry, and experienced little disruption during the labour unrest. In a purist form of the third management reset, the farmers have not yet undergone this to become effectively sustainable organisations. A number of farmers are not aware of the emerging management paradigm, which is encountering unforeseen challenges. The challenges are in the form of societal disruptions that are directly impacting on the various wine farms. Conversely, in the case of farmers who are attempting to embrace the emerging paradigm financial, environmental and societal challenges are effectively managed.



5. Conclusion

Two established management paradigms currently exist in business practice with a third paradigm, namely, sustainability emerging. Evidence is found in literature that the existing paradigms do not provide organisations with the capability of functioning effectively in the current environment. Events such as at Marikana and the labour unrest in the Western Cape provide challenges within the present environment with which the old paradigms cannot deal effectively. Thus the research problem arose from which the research question emerged.

The research problem that I was faced with was the following: To what extent can the paradigms of farm owners be aligned with the new emerging paradigm, namely, sustainability? Therefore, I posed the following research question: What are the mental models of farm owners in the Western Cape? In an attempt to answer the research question I conducted semi-structured interviews by means of a repertory grid technique to gain personal constructs. Through a process of subsuming and my field notes I elicited mental models.

The farmers' mental models provided a unique insight into their management approaches that were utilised to ensure the success of their wine farms. Although the various approaches to management were identified there was a degree of commonality amongst them. By analysing the farmers' mental models common themes emerged. These common themes can explain the thoughts and actions of the farmers and provide possible consequences for the various management paradigms that are followed on the respective wine farms.

With the changing of the paradigm to sustainability it became evident that the majority of farmers were still managing by means of an outdated management

paradigm. A number of the farmers are clinging to the first two prominent management paradigms that either strives for profit only, or for profit by means of gaining a competitive advantage through the development of employees. There was no evidence of the emerging paradigm within the owners' management paradigm. The new emerging paradigm has not yet been adopted. By means of a general observation of the South African context it is likely that these management paradigms are not sufficient in ensuring the livelihood of the wine farms.

The labour unrest in the Western Cape serves as a signal that the focus has to shift from a single bottom-line approach to an integrated approach that involves the employees, the broader community and the environment. Sustainably effective organisations have to emerge within the wine industry that will create value for consumers by engaging with the broader society and environment in an effort to attain a profit. A paradigm shift for the owners and managers of the wine farms is required in order to transform the existing farm into a sustainably effective organisation that can effectively overcome the challenges in the present South African context.

6. Study Value-add

The purpose of this research study was to determine the mental models of the farm owners of the wine farms in the Western Cape. Gaining insight into the manner in which these farmers think about management, as well as the extent to which they identify any possible shifts in their internal and external environment, was crucial for determining whether they were aware of the shift in management paradigm that was occurring.

Incumbent owners were asked how they experienced the management crisis as well as the labour unrest in the wine industry. Furthermore, their interpretation and perspectives of the labour unrest were also sought. The research was conducted within the context of a new environment and in a post-labour unrest. This environment was rich with data as well as perspectives and ways of thinking within the viticulture industry of the Western Cape.

The awareness of the environment, along with the demands and challenges it poses, is of great importance to managers as it will inevitably lead to the support or hindrance of the success of the organisation. If the managers are not aware of these changes, namely the emerging paradigm, they will not be sufficiently equipped or prepared to effectively and proactively deal with the challenges posed by the environment.

A broad perspective on the wine industry after the labour unrest has been gained from this study. After the recent labour turmoil that was experienced in the wine lands, possible changes in the way of approaching management and the view of the industry as a whole could come into effect. Furthermore, a shift in emphasis on

management towards a more inclusive focus on the employees and the surrounding society has become evident.

Lastly, the technique that was utilised to identify the mental models of the participants provided the opportunity for future research to be conducted in a similar manner. By using the repertory grid technique to identify personal constructs followed by the process of subsuming and incorporation of field notes, it was possible to elicit the mental models of the participants. The mental models provided insight into the paradigms within which the participants were functioning. Thus, the method allowed for the achievement of the aim of the study.



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