

**School of Information Systems
Curtin Business School**

**The Influence of Culture and Readiness for Change on
Organisational Change Success In Local Government Offices In
Australia**

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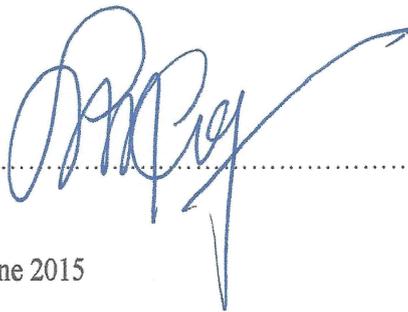
Declaration

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number # HR/IS-12_18.

Signature:

A handwritten signature in blue ink, appearing to be 'D. M. Gray', written over a dotted line. The signature is stylized and includes a long horizontal stroke extending to the right.

Date: June 2015

Abstract

There are differing views among researchers and practitioners about how to achieve successful Organisational Change. Some believe that the success of Organisational Change is determined by the culture of an organisation, while others are convinced that success is dependent on the readiness of an organisation for change. This thesis reports on an investigation that compared the *impact of Organisational Culture* with the *impact of Organisational Readiness for Change* on *Organisational Change Success*. The study aimed to fill the gaps in research in the literature of Organisational Change and to guide future practices in Change Management.

Adopting a positivist approach, the investigation began with an online survey, using a questionnaire developed through an in-depth examination of existing instruments for assessing Culture and Readiness for Change. Respondents to the survey were from various levels in different local government offices within Australia¹. Data collected during the research process (n=231) was screened, analysed and subsequently used for the development of Structural Equation Models for answering four research questions.

Eight key factors relating to Organisational Culture, along with four factors relating to Readiness for Change, were identified in this study as important for achieving success in Organisational Change. The eight factors relating to Organisational Culture were: 1) the presence of pervasive visions, 2) the availability of managerial support, 3) open communications between managers and employees, 4) effective conflict resolution, 5) trust between employees, 6) accurate exchange of information, 7) mutual support between employees and 8) interdepartmental support. The four factors relating to Organisational Readiness for Change were: 1) the need to be informed of the purposes of change, 2) awareness of the benefits of Organisational Change, 3) the availability of skills to support Organisational Change and 4) the presence of strong leadership to make Organisational Change.

While respondents agreed on the influence of these factors on the success of Organisational Change, the meanings and expectations that they attributed to these factors differed, depending on the level at which they were employed within the

¹ Data was collected from local government offices in different cities, towns and shires within Australia.

organisation. Further, while Organisational Culture was shown in this study to be the stronger overall influence on Change Success when compared to Readiness for Change, the presence of interdependencies and high correlations between the factors that make up the two constructs raised doubts as to the appropriateness of treating Organisational Culture as a discrete phenomenon unrelated to Readiness for Change, as some researchers do. Insights developed as a result of this study indicate that the factors relating to Organisational Culture and those relating to Readiness for Change are in fact mutually supportive, which means that the chances of achieving Change Success would be improved if both Culture and Readiness for Change were managed concurrently.

As previously stated, the findings of this research are based on data collected from various local government offices in Australia. As such, said findings are limited in scope. This limitation provides an opportunity for further research to test the results of this investigation within organisations from other industries and within organisations beyond Australia.

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List of Abbreviations and Definitions

Terms	Abb.	Definitions and other uses of the term
Culture	(OCul)	Organisational Culture
Readiness	(OR4C)	Organisational Readiness for Change
Success	OChg Success	Organisational Change Success
Organisational Vision	OV	The vision/visions of an organisation
Value for Employees	VE	The extent to which an organisation values its employees
Employee Commitment	EC	The commitment of employees toward their organisation
Supportive Environment	SE	An environment within an organisation that is supportive of its employees, particularly during change
Open Communication	OC	An environment within an organisation where there is a free flow of information between members of staff and across different levels of the organisation
Need for change	Need	The perception among people within an organisation of a need to engage in change
Capacity for Change	Cap	The perception among people within an organisation of that organisation's capacity to engage in change

1 Introduction

All organisations have to deal with the challenges of change for survival and growth (Burnes 2011, Benn, Dunphy, and Griffiths 2014). While some organisations have proven to be successful in adapting to the changes in the environment, many others that do not risk becoming obsolete (Burke 2008). The ability to adapt to change is widely accepted as being closely related to the viability and sustainability of an organisation. As such, much research has been undertaken with a view to uncovering how organisations might become more successful at dealing with change and examining why so many change initiatives do not deliver on the promised results.

Despite the sustained scholarly interest, it remains confusing as to why some organisations are successful at change while others are not. Some researchers suggest that the success of change is highly influenced by the culture of an organisation (commonly referred to as Organisational Culture (OCul)), while others propose that success is dependent on the level of readiness for change within an organisation (commonly referred to as Organisational Readiness for Change (OR4C)). Information about how OCul and OR4C might be related has not been fully explored despite ongoing research. In particular, there is scant information about how the success of organisational change might be influenced by OCul and OR4C.

An extensive search of the literature indicates that no research has yet compared the direct impact of OCul with the direct impact of OR4C on OChg Success. Further, little guidance is available to inform organisations as to which factors of OCul and OR4C they should manage in order to improve their chances of achieving successful change. These gaps in research are potentially confusing, particularly when leaders are faced with the need to choose where to direct their change management efforts. Additionally, conflicting results from an increasing number of studies in the field of Organisational Change may add to managerial uncertainty over which factors of OCul and OR4C to manage in order to become more effective in dealing with change.

This chapter provides background information on OCul, OR4C and OChg Success to clarify the purposes of the investigation. It also articulates the value that this study seeks to deliver. This is followed by a description of the design of the research and an outline of the structure of this document.

1.1 Background

There are many different views in research that explain why change fails, and suggestions about how organisations might become more successful at implementing OChg. Some researchers assert that the ability to change is determined by the style of leadership in organisations (Appelbaum et al. 2015, van der Voet 2015), and others believe that success is determined by the capacity of an organisation to learn and to remain dynamic in the face of change (Hung et al. 2010, Senge 2014). According to van den Heuvel et al. (2013, 2009), the ability of organisations to change is linked instead to the meanings that people derive from their work and the meaning that they ascribe to the changing conditions within their respective organisations.

There is a growing stream of research in recent years that suggests that success of OChg is strongly influenced by – among other things – the culture of organisations (Klein 2012, 2011, Fleischut et al. 2011). While there is no universally accepted definition of the term ‘culture’, it is commonly used in an organisational context to refer to the patterns of basic assumptions and the sets of beliefs that may be invented, discovered, or developed as organisations learn to cope with the problems of external adaptation and internal integration (Schein 1990). In short, OCul relates to the beliefs, norms and practices that affect the way people in organisations deal with change, which is shown to have significant impact on the outcome of OChg relating to various types of change and in different types of industries.

For example, OCul is shown to influence the pervasiveness of visions among people in organisations and the alignments of organisational activities to chosen goals (Decker et al. 2012b). It is shown to impact on the motivation of employees to adapt to change (Heneman, Fisher, and Dixon 2001) and the degree of politicking among employees as well (Jørgensen and Moløkken-Østvold 2006, Lally 2004). The success (or failure) of many OChg efforts has been reported in the literature as being

the direct result of OCul. For example, OCul was found to affect changes relating to increased levels of organisational innovation (Naranjo, Sanz, and Jimnez 2010, Wyld and Maurin 2009, Wang et al. 2009) and organisational efficiency (Aktaş, Çiçek, and Kıyak 2011, Yilmaz and Ergun 2008). It was shown to impact on the outcomes of changes directly relating to the sustainability of firms (Linnenluecke and Griffiths 2010, Klein 2012) and the overall competitiveness of many organisations (Klein 2012, Klein 2011, Naranjo, Sanz, and Jimnez 2010). In recent years, the influence of OCul on OChg has also become more apparent in different types of industries including healthcare (Fleischut et al. 2011, An, Yom, and Ruggiero 2011, Milne et al. 2010), and government offices (Jones, Jimmieson, and Griffiths 2005, Seng, Jackson, and Philip 2010).

However, despite the growing evidence in the literature that supports OCul as a determining factor of change success, not all researchers are convinced that OCul, in isolation, accounts for the success or failure of OChg. Many believe that the outcome of OChg is in fact dependent on the ability of leaders to bring about a sense of readiness in their organisations for change. Organisational Readiness for Change (OR4C) relates to the degree of commitment among people to change. It is a phenomenon that is driven, in part, by the beliefs people have in the extent to which *change is needed* and in their *personal capacity* (as well as the *capacity of their organisation*) to effect change (Armenakis, Harris, and Mossholder 1993, Jansen 2000, Rafferty and Simons 2006, Bouckennooghe, Devos, and Van den Broeck 2009). OR4C, which is described by Weiner (2009) as the *intentions* of employees to *embrace or resist* change, is shown to be an equally significant influence on the outcome of OChg. A lack of perceived need for change and a lack of confidence in an organisation's ability to deal with OChg have been shown in research to influence the degree of OR4C (Armenakis, Harris, and Mossholder 1993).

Like OCul, OR4C is shown to have a strong impact on the success of various types of change, across different industries. The impact of OR4C on the attitudes of employees and their commitment toward change was observed in the energy industry (Santhidran, Chandran, and Borromeo 2013) and on business process improvements leading to increased levels of efficiency in the public service sector (Claiborne et al. 2013, Cinite, Duxbury, and Higgins 2009). OR4C was also found to have a positive impact on the implementation of Total Quality Management in the manufacturing industry (Haffar, Al-Karaghoul, and Ghoneim 2013) and on the willingness of

employees to be actively involved in the change process, leading to a successful knowledge-transfer project in the telecommunication sector (Nor Shahriza Abdul, Mohamed Jalaldeen Mohamed, and Norshidah 2012). Alas et al. (2012) – who investigated the impact of OR4C on organisational learning in the hotel industry – also found OR4C to be an important consideration in the achievement of OChg Success.

Although OCul and OR4C are well supported in the literature of OChg as constructs that influences the achievement of OChg Success, the conflicting views among researchers as to which of the two constructs exerts a stronger influence on OChg is confusing. This may leave practitioners uncertain as to which of the two constructs to focus on in order to increase their chances of achieving OChg Success.

1.2 The Purpose of This Research

The purpose of this study is to compare the impact of OCul with the impact of OR4C on OChg Success. The aim of the investigation is to determine whether the construct of OCul or the construct of OR4C is the stronger influence on OChg Success. The findings of this study will clarify whether it is more effective to manage OCul or OR4C when pursuing OChg Success. Results of the investigation will be useful in guiding future practices of OChg management and will inform organisations of the factors that most influence OChg Success.

1.3 The Design of the Research

The activities of this study are categorised into four distinct phases, as illustrated in Figure 1-1 (below). The four phases are: 1) Instrument Development, 2) Pilot Testing, 3) Data Collection, and 4) Analysis and Model Development.

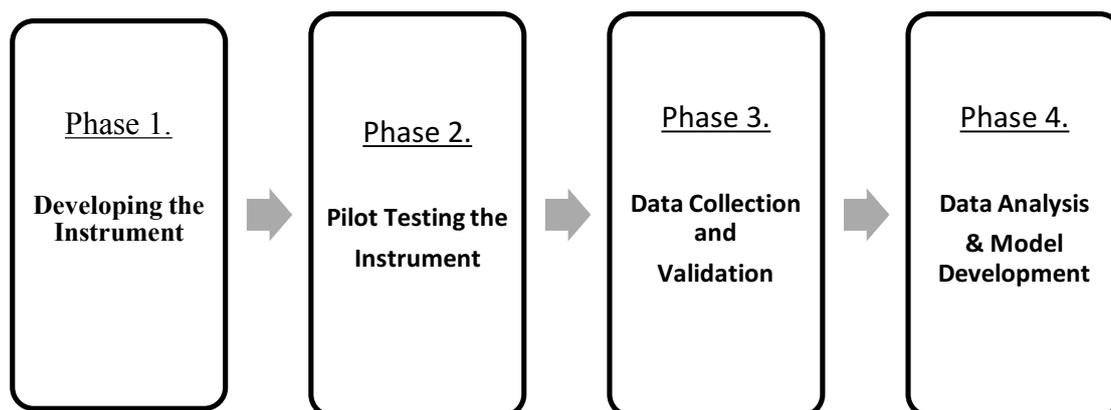


Figure 1-1 Illustration of the 4 phases of the

Phase 1 involves the development of a research instrument in the form of a questionnaire, which is based on an extensive review of the literature on OCul, OR4C and OChg.

Phase 2 the questionnaire is subsequently subjected to a pilot test that draws on the expert knowledge of five academics and five change management practitioners from various industries. The goals of the pilot test are to evaluate the quality of the questions asked and to establish the ‘content’ and the ‘face-value validity’ of the instrument. The quality of the questions relates to whether they are clear and unambiguous and whether they might elicit biased responses. It is also an evaluation of the adequacy of the factors in explaining the variability of the constructs (OCul, OR4C and OChg Success) for the study.

Phase 3 relates to data collection, which is the process of assembling the data needed to achieve the goals of this study. The questionnaire (developed in phases 1 and 2) is distributed online to individuals working at various levels in different government offices in Australia. The offices of Local Government in Australia are believed to be appropriate for this investigation as they represent a large sector of the Australian economy and they are constantly adapting to political and social changes in the environments within which they operate.

Phase 4 is focused on analysing the data collected in the study and processing them into useful information to fulfil the purpose of this investigation. Much of the data analysis work is carried out using SPSS. Information uncovered during the analysis is subsequently used for the development of Structural Equation Models (using AMOS 10), which are then used to address the questions of this research.

1.4 The Structure of the Document

This document is divided into six chapters. Chapter 1 provides background information on OCul and OR4C, which is useful for describing the purposes of this study and expanding on the research design. Chapter 2 is a review of the literature on OChg, OCul and OR4C. The review develops a synopsis of extant knowledge in these fields, which leads to an identification of the gaps in research and the questions that this research seeks to answer. Various methods of research and the research design for this study are discussed in Chapter 3. This is followed by a detailed description of the findings of this study in Chapter 4 and an in-depth discussion of the meanings and implications of the findings in Chapter 5. Conclusions are drawn in Chapter 6, which is followed by a bibliographical outline of all the works cited in this document together with a copy of the updated research question in the appendix. A number of terms and abbreviations are used interchangeably in this document to avoid unnecessary repetition. The corresponding meanings of these terms and abbreviations are listed in the table of abbreviation at the beginning of this document.

2 Literature Review

Chapter 2 is divided into five sections, which examines issues related to the three variables investigated in this study. Section 2.1 focuses on issues relating to OChg Success, shown as the dependent variable in Figure 2-1 (below)². The discussions in sections 2.2 and 2.3 are about issues relating to -OCul- and -OR4C- respectively, shown in Figure 2-1 as independent variables.³ A summary of the review is presented in Section 2.4, which identifies the gaps in research. Section 2.5 introduces the research questions asked in this study and articulates the value that the study delivers.

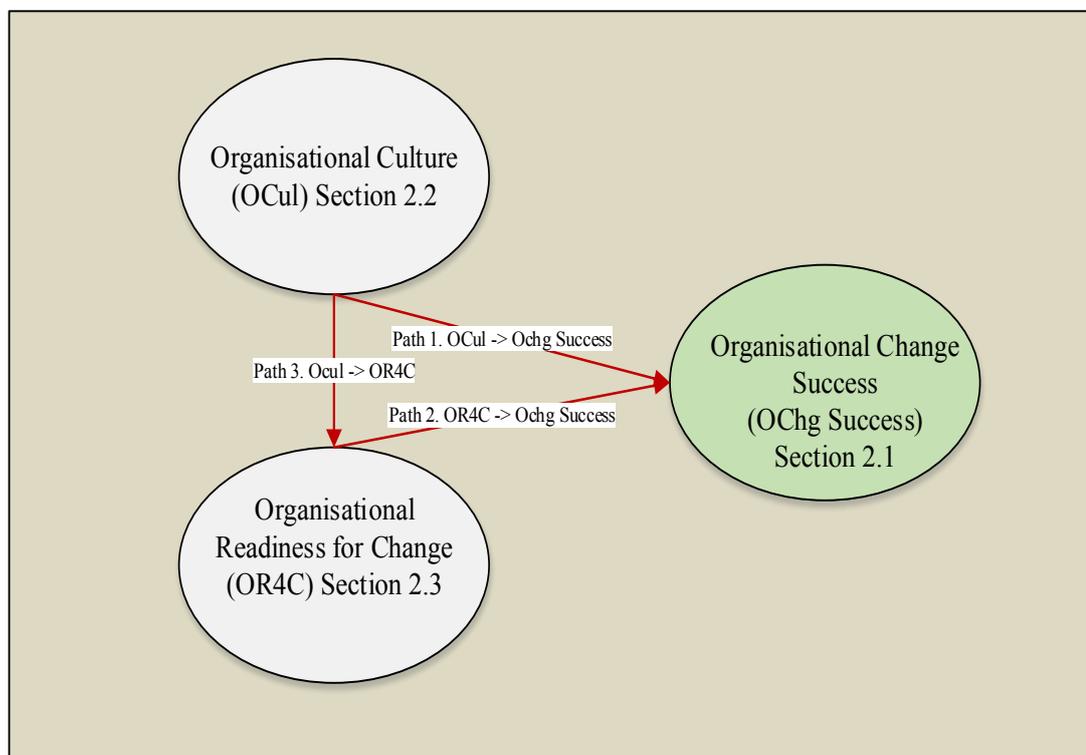


Figure 2-1 Illustration of the sections covered in the literature review

² Dependent variable: a variable whose value is influenced by other variables named in the study.

³ Independent variable: a variable whose value is not influenced by other variables named in the study.

2.1 Organisational Change Success

(Dependent variable in Figure 2-1)

Organisations face various types of change, which affect them in different ways. While some changes are driven by factors from within an organisation, others are triggered by shifts in external factors, including fluctuations in political, economic and social conditions. Many changes in organisations are brought on by new demands driven by shifts in market conditions, or simply as a result of new customer demands for more innovative products. The arrival of new competitors, the availability of new technologies that improve efficiency of production and the imposition of new legal requirements relating to how organisations should operate are examples of changes that drive the continuing need in organisations to remain adaptable.

Despite the ongoing efforts of scholars and practitioners to improve the chances of achieving OChg Success, the number of OChg failures are reported to be high (Decker et al. 2012a). This indicates that OChg is still a challenging undertaking in many organisations, which might be the reason for the sustained interest in research aimed at determining the causes of OChg failures and making OChg Success more achievable.

2.1.1 Definitions of Organisational Change and Organisational Change Success

OChg has been referred to in the literature as activities that result in the modification of the composition, structure and behavior of organisations (Bowditch and Buono 2001, Weiner, Amick, and Lee 2008a, Choi 2011).

Aligned to this definition of OChg, OChg Success refers to the expedient and effective modification of the composition, structure and behavior of organisations. OChg Success differs broadly depending on the focus and the goals a change initiative. For example, those in the strategic management tradition might consider OChg as being successful when strategies for improving the values delivered by an organisation are effectively implemented. This is in contrast to those in organisational development tradition, who hold strongly to the view that OChg

Success is achieved when the potentials of an organisation's resources are optimised and enhanced through OChg. The success of OChg has also been assessed by other researchers on the basis of some specific downstream outcomes of change such as employee commitment, organisational sustainability and improvements in financial performance (e.g. Persson 2014, Benn, Dunphy, and Griffiths 2014, Chatman 2014). But despite the differences in views as to what OChg Success is, there is however no deviation in the understandings of what constitutes OChg Failure. In this regard, there is broad consensus that OChg Failure is simply the failure of an OChg initiative to bring about the expected change (Decker et al. 2012b).

OChg is defined in this study as as a collection of activities in organisations that lead to changes in composition, structures and the behaviours of its members, while OChg Success is defined as the effective and expedient implementation of change.

Organisations adopt different ways to deal with change and their approaches varies depending on the type of change that they are faced with. Section 2.1.2 below discusses some of the theories used in practice to describe the types of changes facing organisations today.

2.1.2 Types of Organisational Change

There are many different theories describing the different types of change that organisations are faced with. In general, they are categorised according to whether they are thought of as a one-off event (episodic change), or a continuous flow of ongoing occurrences (continuous change). They may also be conceived as being prearranged (planned change) or spontaneous events (unplanned change) that affect organisations to varying extents (Burke 2008).

According to Weick and Quinn (1999), OChg may be thought of either as an episodic event or as streams of continuous organisational activity. Episodic change includes one-off events, which are commonly planned. They typically take place in stages described by Lewin as 'unfreeze', 'transition', and 'refreeze' (Lewin 1951).

According to Lewin (1951), the process of 'unfreezing', which involves the status quo being dismantled, must occur before any change can take place. It is only during the 'transition' stage that the actual process of change is implemented. At the

conclusion of the 'transition' phase, 'refreezing' must take place. During 'refreezing', steps are taken to ensure that new practices are entrenched and become established as the current and updated state of being.

Continuous change is the exact opposite of episodic change. Instead of conceptualising change as comprised of sequential steps taken by organisations to adjust to discrete changes in the environment, scholars who view change as a continuous occurrence assume that variation in the environment is constant flow. They argue that if variations in the environment are continuous, then, changes in organisations must also be a constant, emergent and uninterrupted progression without end.

OChg is also differentiated by others along the dimensions of being planned and unplanned (Porras and Robertson 1992). Planned changes include those that are developmental in nature, where the changes are usually small and take place incrementally. Other forms of planned changes might be transformational in scope, affecting many parts of an organisation simultaneously. Planned transformational changes are usually taken on a larger-scale basis. They frequently lead to changes in organisational structures and may even total redefinitions of what organisations are about.

As previously stated, organisations may also undergo changes that are unplanned. Changes that are unplanned may either be evolutionary or revolutionary in nature. Unplanned evolutionary changes refer to the small incremental adjustments that organisations undergo as they adapt to variations within or outside of the organisation. However, the choice to adapt and evolve incrementally is not always an available option. When changing conditions are drastic, organisations might be faced with unplanned changes that are revolutionary in nature. Changing conditions within and outside of an organisation may also bring on unplanned revolutionary changes, which are commonly larger in scale than evolutionary changes (Burke 2008).

Organisations are not always affected by change in the same way. As such, some researchers describe change in terms of the impact it has on an organisation (Rafferty and Simons 2006). At times, this impact might be negligible; on other occasions, it might be extreme. Some changes are large, while others are small. Large-scale organisational changes are those that affect the entire organisation. They may take the form of mergers, acquisitions, buy-outs, downsizing, corporate

restructuring and even outsourcing of major organisational activities. Small-scale OChg only affects parts of an organisation at a time and may, for example, be related to departmental re-organisation, localised installation of new technology and changes in operations and processes in select parts of an organisation.

2.1.3 Factors Affecting Perceptions of and Responses to Change

The manner in which employees perceive change influences their attitudes toward OChg and their intentions to either embrace or resist it. OChg Success is often conditional upon the receptiveness of employees to change (Miller, Johnson, and Grau 1994, Wanberg and Banas 2000b) and the degree of cynicism they have toward the need to adapt (Bernerth et al. 2007, Bommer, Rich, and Rubin 2005). Therefore, understanding the factors that determine the way that employees perceive change may explain change failure and make OChg Success more achievable (Chrusciel and Field 2006).

A number of factors have been established as having significant impact on the perceptions and attitudes of employees as they relate to OChg. The discussions below will expand on how these perceptions and attitudes are affected by past experiences employees have had with change, as well as the benefits they believe they will derive from the process. Perceptions of change and attitudes of employees are also influenced by the degree to which changes are aligned to the visions of their organisations, the level of information sharing among employees and the relationships between employees and their managers. Other factors that influence perceptions and attitudes of employees in relation to change include the level of participation by employees in the change process, leadership effectiveness and the personal beliefs of employees in their ability to deal with the impending change.

The alignment of change with the visions of an organisation

The degree to which OChg is aligned with the visions of an organisation bears a strong influence on the perceptions and the attitudes of employees in relation to change. An organisation's vision represents the idealised state of the organisation at a future point in time. It is a combination of ideas, descriptions and mental images of what an organisation aims to be and plans to achieve in the long run (O'Connell,

Hickerson, and Pillutla 2011). The vision of an organisation functions as an important source of inspiration for its members (James and Lahti 2011) that serves to encourage positive beliefs and attachment to the organisation (Zaccaro and Banks 2004). Hence, OChg that is aligned with the vision of an organisation is likely to be perceived positively by its employees and will probably gain their support.

The influence of information-sharing on employees' perceptions of change

The available quality information during OChg influences the perceptions and the attitudes of employees as they relate to change. The sharing of quality information during change provides organisational members with the sense of being valued in the change process, which encourages further participation (Wanberg and Banas 2000a, Stanley, Meyer, and Topolnytsky 2005). Other types of information have also been shown to encourage different types of behaviour among members in an organisation. For example, information about the purpose of change is shown to help members appreciate the need for change and to evaluate why they should support a change initiative (Coch and French 1948, Armenakis and Harris 2002). Additionally, information about the scope of change has been shown to be vital in helping members assess the skills needed to make a change work, which in turn helps them determine if they have the skills necessary to support change (Weiner 2009). This is important because research has shown that people are likely to exhibit supportive behaviour for change that they feel competent enough to engage in it (Bandura 2003). Conversely, they are also more likely to resist a change that they feel ill-equipped to engage in. Hence, information-sharing - which affects the availability of quality information in organisations during OChg - is vital in influencing the attitudes of people in organisations and the ways that they perceive change.

The influence of managerial and employee relationships on employees' perceptions of change

A healthy manager-employee relationship nurtures positive attitudes among employees and encourages them to perceive change as being positive. A healthy manager-employee relationship nurtures trust (Devos, Buelens, and Bouckenoghe 2007) and encourages the development of a mutually supportive work environment, in which leaders and managers may become most effective at providing members with necessary support (Shum, Bove, and Auh 2008). Healthy manager-employee

relationships generate and nurture positive attitudes among employees toward OChg (Parish, Cadwallader, and Busch 2008, Michaelis, Stegmaier, and Sonntag 2010) and reduces cynicism toward change (Stanley, Meyer, and Topolnytsky 2005).

Employees who trust and are confident of the support of their managers are more likely to view change positively and be more willing to support OChg.

The influence of employees' participation on their perception of change

Eliciting employee participation is a complex issue that warrants serious consideration. The strong correlation between employees' participation and OChg Success is well recognised in the literature of OChg (Lines and Selart 2013, Basinger and Peterson 2008). Despite its importance as a means of overcoming employee resistance to change, the ability of organisations to motivate employee participation ranges widely in practice (Arnstein 1969, Hideg, Michela, and Ferris 2011). In some organisations, the level of employee participation in OChg is virtually non-existent. Top management decides on the details of all change initiatives and employees are almost manipulated into change with little or no consultation. In others, the degree of employees' participation is at the high end of the scale, such that the involvement of employees in change brings on a sense of partnership and an implicit level of control.

In general, the minimum level of employee participation sufficient to inspire positive attitudes toward change involves consultation and the provision of information. In particular, employees are more likely to be inspired to participate in change if they feel that their contributions are taken seriously and the organisation they are working for is sincere. People who feel recognised by their organisations as contributing members of the change process develops a sense of ownership and the pride of self-autonomy (Parish, Cadwallader, and Busch 2008). Employee participation in OChg is also associated with reduced levels of cynicism (Brown and Cregan 2008) and higher levels of commitment to change (Neubert and Cady 2001). Employee participation is also found to relate positively to sense-making during change and is known to provide for a better understanding of change (Basinger and Peterson 2008, Stensaker, Falkenberg, and Grønhaug 2008). Therefore, the ability of organisations to encourage active employee participation in OChg is vital in bringing about positive perceptions and supportive attitudes of employees in relation to change.

The influence of leadership on employee perceptions of change

Leaders exert both direct and indirect influence on the perceptions and attitudes of employees in relation to change. The presence of strong leadership has been found to inspire trust among employees (Ertürk 2008, Devos, Buelens, and Bouckennooghe 2007) and to bring about the support of employees, which is necessary for OChg Success (Bommer, Rich, and Rubin 2005). The presence of strong leadership is needed to develop clear and pervasive organisational visions, which is vital for inspiring confidence and gaining the support of its members (Morden 1997). Additionally, leadership is shown to encourage the belief of self-efficacy among its members, nurture group cohesiveness; and motivate commitment (Pillai and Williams 2004). Strong leadership is known to reduce the level of cynicism in organisations (Reichers, Wanous, and Austin 1997, Bommer, Rich, and Rubin 2005) and increase the degree of openness among its members to OChg (Hinduan et al. 2009). As such, the presence of strong leadership strongly affects the way change is perceived in organisations and the attitudes of employees toward change.

The influence of employees' beliefs in their personal efficacy to deal with change

The perceptions and attitudes of employees in relation to change are strongly influenced by the level of confidence in their own capacity to successfully engage in change (Kwahk and Lee 2008). According to Bandura (1982), employees, in general, are more willing to commit to change if they are confident of their ability to be successful. Reames and Spencer (1998) concur, empirically validating a positive relationship between the level of perceived efficacy and the level of commitment. Personal efficacy is an important dimension that employees consider when making the decision to resist or commit to change (Cunningham et al. 2002, Rafferty and Simons 2006). Employees' perceptions of change and their attitudes toward change are therefore strongly influenced by their personal feeling of efficacy in relation to change.

The influence of potential benefits of change on employees' perception of change

The way that employees perceive OChg is shown to be strongly influenced by the benefits that they might derive from engaging in the change process (Weiner 2009). Although financial and material gains are thought to be the primary benefits that employees might come to expect, there are other forms of benefits that employees might derive from change. For example, change might be seen by employees as beneficial if it brought about improvements in work processes or in conditions in the work environment (Devos, Buelens, and Bouckenooghe 2007, Fedor, Caldwell, and Herold 2006). Improvements in work processes might benefit employees by making their work easier or helping them to become more effective and productive in the work they do. Changes in the work environment might benefit employees by improving the ambience in the office or bringing about safer and less stressful work conditions. Therefore, the potential for deriving benefits from engaging in OChg affects the perceptions and attitudes of employees in relation to change (Choi 2011).

The influence of past change experiences on employees' perception of change

The way that employees perceive and respond to change is strongly influenced by their history of experiences with OChg. The level of confidence that employees may have in dealing with change is known to be strongly determined by their past experiences. As such, employees are more likely to embrace change and be in support of new change initiatives if they have had a history of success in dealing with change in their organisations or have experienced positive personal encounters in previous change initiatives (Devos, Buelens, and Bouckenooghe 2007, Wanous, Reichers, and Austin 2000). Hence, experience of past change initiatives is a strong influence on how new change proposals will be perceived by employees and on how they might respond.

2.1.4 Organisational Change Failure

Successful change eludes many organisations. In the absence of broadly accepted ways to determine the rate of OChg failure, many researchers estimate it occur 60% to 90% of the time (Burnes 2009, 2011). Most change projects in organisations are

known to be abandoned part way through implementation about 30% of the time, and a similar percentage do not deliver on their promises of financial returns (Cândido and Santos 2011). About 61% of all joint ventures fall apart and about 55% to 70% of change initiatives that have been implemented to reduce business costs and make improvements in the earnings of organisations fail to achieve their promised results (Senturia, Flees, and Maceda 2008, Smith 2002, 2003). Making reference to specific types of change, Hammer and Champy (1993) reported a failure rate of 70% for Business Process Redesign, while Bessant and Haywood (1985) estimated a failure rate of 60% in changes related to the implementation of new technology.

However, not all researchers in the field of change management are convinced of the reliability of the aforementioned high rates of OChg failure. Burnes (2011) identifies three problematic areas within the research claiming such high rates. Firstly, he identifies Hammer and Champy (1993), Kotter (1996), Beer and Nohria (2000) as examples of studies, which had tendered evidence that was not well-validated; in support the high rates of change failure that they claimed. Secondly, he notes that Smith (2002), (2003) and Burnes (2009) make similar claims about the high rates of change failure based on literature of OChg, but demonstrate little regard to the context, the limitations and the possibility that the sources of their citations might be suspect. Lastly, he disputes the claims of researchers who fail to establish the adequacy of their empirical evidence. Burnes (2011) identifies the work of Senturia, Flees, and Maceda (2008), Rogers, Meehan, and Tanner (2006), Tarokh, Sharifi, and Nazemi (2008) as examples of research studies in which empirical support for the claimed high rates of OChg failure were inadequate.

Although the exact rate of OChg failures is still disputed, various other forms of knowledge in the literature of OChg are still useful to the managers of organisations undergoing change. Information about factors that impact strongly on the effectiveness of OChg helps organisations focus on what is important and directs the change management efforts toward those areas that most improve their chances of achieving OChg Success. A number of factors that affects the way that people in organisations perceive and response to change were introduced in Section 2.1.3. Many of these factors are related to OCul, OR4C or both. The discussions that follow will deliberate on issues pertaining to OCul (2.2) and OR4C (2.3), which leads to the research questions of this study.

2.2 Organisational Culture

(Independent variable in Figure 2-1)

Culture is a controversial subject in research and in practice (Jarnagin and Slocum Jr 2007). Despite the widespread use of the term, there appears to be little agreement among researchers as to what it means. More than 164 unique definitions were uncovered in an extensive review of the literature by Kroeber and Kluckhohn (1952) more than sixty years ago. They indicated in their report that the number of definitions would have been closer to 300, had the definitions with identical meanings not been excluded from their review. The broad range of meanings in the use of ‘culture’ has not reduced over time. In fact, a correspondingly high variation in the meaning was also noted by Ott (1989), who identified 74 distinct definitions of ‘culture’ within the organisational context. More than 100 dimensions associated with the notion of OCul in the management literature were presented by Van der Post et al. (1997).

Despite the wide-ranging views among researchers as to the exact meaning of ‘culture’, the term commonly refers to patterns of basic assumptions, norms and practices that may be invented, discovered, or developed by organisations as they learn to cope with their problems of external adaptation and internal integration (Schein 1990). Additionally, it is the way things are done in an organisation and the ‘thing’ within an organisation that influences the perceptions, thoughts and behaviours of employees (Meyerson and Martin 1987).

2.2.1 Definitions of Organisational Culture

OCul has been defined as sets of shared beliefs that guide the perception of social realities within organisations, beliefs which are revealed through norms, symbols and meanings derived from social interactions (Geertz 1973, Kostova 1999). Other scholars define it as the glue that holds organisations together through shared orientations of beliefs, values, norms and behaviours (van den Berg and Wilderom 2004, Sathe 1985). According to Pettigrew (1979) and Smircich (1983), OCul relates to the way that people think about their lives in organisations; more specifically, it is the context within which people make sense of what is going on in the organisational environment (Rosso, Dekas, and Wrzesniewski 2010). Alvesson (2011) expanded on

these views by describing OCul as the values, beliefs and meanings that reside inside the heads of people within organisations, as well as the rules, customs, norms, behaviours and structures that are developed when people interact with one another in an organisational context.

OCul is also defined by Schein (2010, p.18) as “ the pattern of shared basic assumptions learned by group as it solve its problems of adaption and internal integration, which has worked well enough to be considered valid and therefore to be taught to new members as the correct ways to perceive, think and feel in relation to those problems”. The definition of OCul expressed by Schein (2010) is the view adopted in this study⁴. This definition is adopted in this study because it provides sufficient latitude for the investigation to focus on the common assumptions that are shared by people in organisations in dealing with OChg.

2.2.2 Challenges of OCul Management

Many issues remain unresolved in the field of OCul, despite sustained interest and ongoing research. Firstly, it is unclear if OCul is a predominant characteristic and quality of an organisation, or if OCul is a composition of variables embedded within organisations that might be effectively measured and managed. Secondly, understanding of the extent and the ways in which culture is disseminated among its members remains widely debated. Thirdly, despite being a strong driving force for sustained interest in the study of OCul, the links between OCul and the performance of organisations are ill-defined. Fourth and finally, determination of the aspects of culture that might be effectively managed in order to improve the performance of organisations is imprecise. Nonetheless, a list of factors of OCul that impact on the ability of an organisation to achieve OChg success was compiled based on a review of the literature and are shown in Table 4-3.

2.2.3 The Nature of Organisational Culture: Root Metaphor or Variables?

There are two opposing view about the nature of OCul. One argues that OCul is a root metaphor that results from the interactions between the different parts of an organisation. When scholars describe OCul as a root metaphor, they theorise OCul as

⁴ A list of the factors that make up the OCul construct is provided in Table 4-3

something that an organisation *is*. This is in contrast, to the mechanistic view, where OCul is theorised as an organisational and described as something that an organisation *has* (Smircich 1983). Those who theorise OCul as a variable assume that it is amenable to change as other non-cultural variable are (e.g., capital, leadership, location of an organisation), and is thus tractable through management efforts.

As a root metaphor, OCul cannot be divided into neat manageable variables. The thinking of OCul as a root metaphor is based on the assumption that culture is a ‘non-concrete’ phenomenon, which leads to the perception of organisations as being a particular form of human expression. OCul in this case becomes the underlying driver that pervades every aspect and layer of an organisation. It is the cause and result of what organisational members believe to be the appropriate way to behave, which indirectly affects ‘the way things are done in an organisation’ (Schein 2004).

In contrast to being conceptualised as a variable, OCul is less susceptible to the influence of managerial intervention when viewed as a root metaphor. Some organisations believe that they are managing their OCul just because they have been successful at altering some behavioural aspects of their members and were efficacious in altering other marginal manifestations of OCul. Some researchers view this as a delusion. They argue that successfully changing some behaviour in organisations and modifying some marginal expressions of culture can hardly be considered as management of OCul. They believe strongly that OCul is deeply embedded in the psyche and values of people in organisations, which remain unchanged despite modifications of behaviour and some expressions of culture (Buchanan 1997).

This view corresponds with the argument of Smircich (1983) that organisations exist fundamentally as patterns of symbolic relationships; in which meanings are established and sustained through continuing processes of human interaction. Therefore, conceptualising OCul as a root metaphor presents an alternative theoretical framework that captures cultural aspects of organisations that are beyond the scope of economic and material terms (see Figure 2-2).

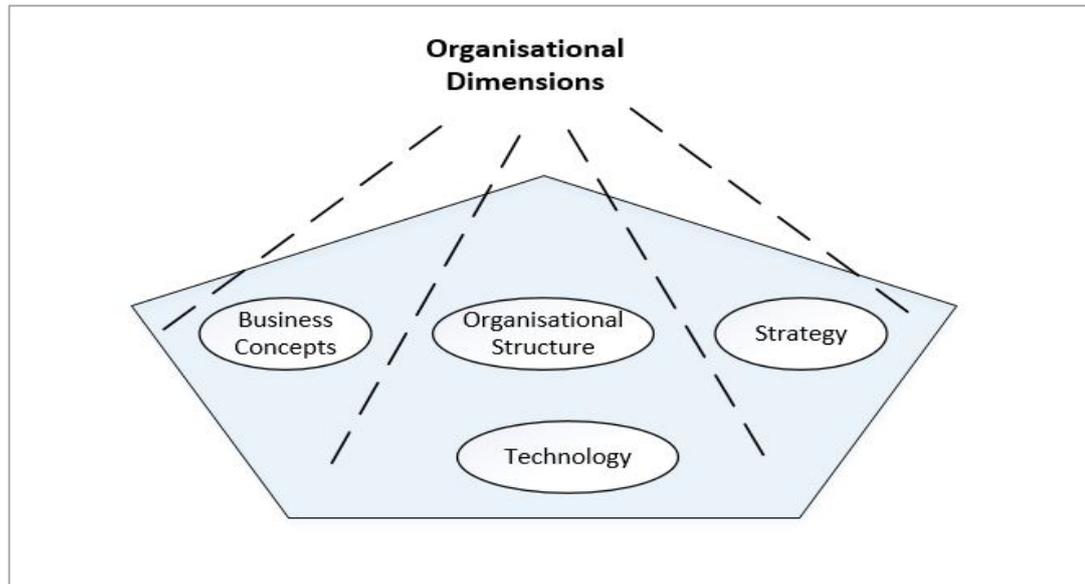


Figure 2-2 Culture As Root Metaphor (Adapted from Alvesson (2002))

In contrast, OCul is assumed to be divisible into component parts by those who view it as an organisational variable. They maintain that the culture of an organisation – like any other organisational variables – is susceptible to change through effective management efforts.

Smircich (1983) suggests that those who subscribe to the view of OCul as a variable commonly believe that four key purposes are fulfilled by the presence of a positive OCul. The four purposes are: 1) to provide members of an organisation with a sense of identity, 2) to facilitate commitment among organisational members to a larger whole, 3) to enhance social stability within an organisational system, and 4) to serve as a mechanism that assists in the sense-making process, which guides and shapes the behaviour of its members. From this perspective OCul is treated as any other organisational variable that can be managed strategically to influence and direct the course of an organisation.

Thinking about OCul as a manageable variable brings to the forefront two important issues (Smircich 1983). Firstly, how should organisations go about shaping their culture in ways that are deemed appropriate by management? Secondly, what variables of culture should organisations manage in order to become successful at changing in ways consistent with the purposes of the organisation? Addressing the two questions leads to a third, to what extent can OCul be disseminated through

processes of social negotiations and interactions within the organisational setting?

Figure 2-3 is an illustration of the concept of OCul as an organisational variable.

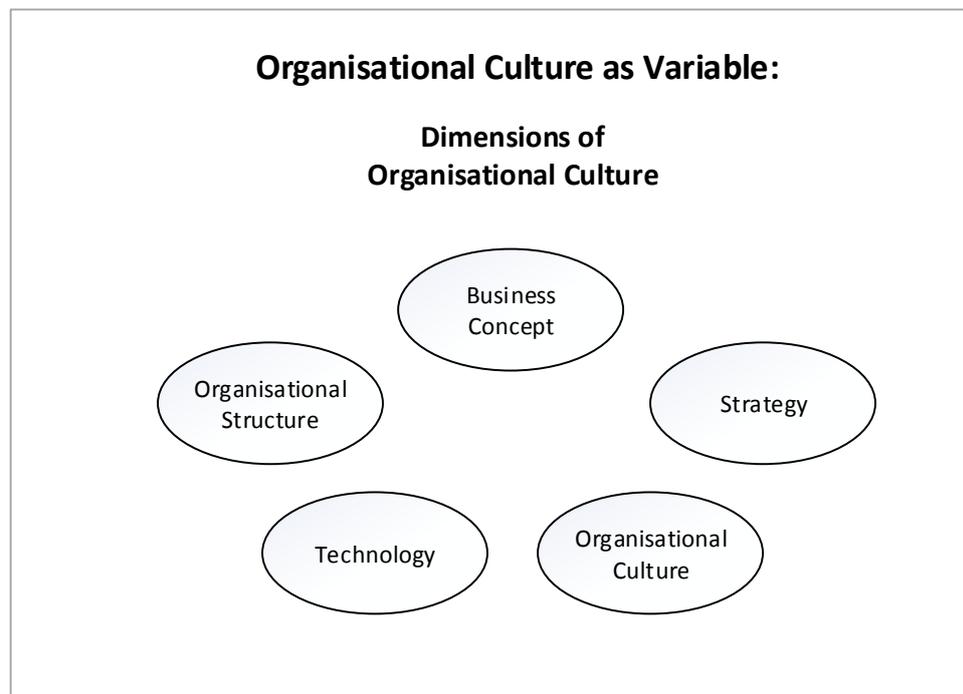


Figure 2-3 Culture as variables (Adapted from Alvesson (2002))

2.2.4 Is Organisational Culture A Shared Phenomenon?

According to Peters and Waterman (1982), the presence of a dominant and coherent OCul is the hallmark of excellent companies. They further suggest that it is upon the strength of an organisation's culture that its performance often depends. The stronger the culture is, the less need there will be for policy manuals, detailed procedures and rules. For this reason, OCul is widely used as an instrument of management for shaping and controlling the shared beliefs, norms and behaviours of employees.

The impact of OCul on various aspects of organisational life has been widely investigated. Some have reported on the influence of OCul on the degree of job satisfaction among employees (Lund 2003) and on the quality of life for the people in the work environment (An, Yom, and Ruggiero 2011). OCul has been reported to have a profound impact on the effectiveness of leadership (Steers and Shim 2013), organisational efficiency and the success of many organisations in general (Su, Yang, and Yang 2012, Klein 2012, Murphy, Cooke, and Lopez 2013, Aktaş, Çiçek, and

Kiyak 2011). According to Klein (2011), having positive cultural traits is a competitive advantage in many organisations that is difficult to replicate. In the fast-moving business environment, OCul is found to be a critical component that impacts on the successful adoption of new technology (Seng, Jackson, and Philip 2010, Walsh 2010) and on the overall ability of organisations to remain amenable to change (Chiloane-Tsoka 2013, Schneider, Brief, and Guzzo 1996) in order to ensure their long-term sustainability (Linnenluecke and Griffiths 2010).

Many researchers are convinced that the performance of an organisation is depends on the strength and coherence of its culture (Peters and Waterman 1982, Klein 2012, 2011). However, this link between OCul and performance draws heavily on the definition of culture as a ‘shared’ phenomenon (Sathe 1985, Louis 1985, Davis 1984, Feldman 1991), which implies cultural homogeneity, which may; or may not exist. To date, there is still widespread disagreement in the literature of OCul, regarding the degree of cultural uniformity in organisations. Some researchers believe that OCul is a phenomenon that is far from being uniform or coherent within the organisational context (Meyerson and Martin 1987, Scott et al. 2003).

While some aspects of culture might be seen as organisation-wide phenomena, others may be less prominent, existing only within some subgroups. For example, OCul may be observed only within different departments, occupational groups or levels of an organisation. Often, these groups may differentiate themselves through physical displays of artifacts, or by behaving in a certain manner to demonstrate the distinct values to which they subscribe. For example, they may dress in a distinctive way, or arrange their work environment in a manner that is slightly different for the rest of the organisation. At a more subtle level, some of these groups might subscribe to a different view regarding the power structure and about the dynamics that influence how things are done in the organisation. Scott et al.(2003) identified other subgroups and cultural layers that have been brought on by diversity of ethnicity, religion, class, occupation, technology, gender and leadership. Therefore, it is useful to perceive OCul as a structure of interwoven subcultures that combines individual and aggregate cultural properties (Jaskyte and Dressler 2004). There are different views in the literature of OCul relating to how subcultures are interwoven and how individual and cultural properties are aggregated in organisations. However, the Three-Perspective View of OCul is the most influential theory that provides insights

into how culture is commonly disseminated in organisations (Meyerson and Martin 1987, Martin 2002).

2.2.5 The Three-Perspective View of OCul

The Three-Perspective View of organisational culture explains the manner in which culture is ‘shared’ by the members in organisations (Meyerson and Martin 1987, Martin 2002). The term ‘shared’ when used in the context of OCul, relates to the ‘state’ in which culture is ‘distributed’ among its members. This is distinct from ‘sharing’, which is used to refer to the ‘act’ of distributing. Integration, differentiation and fragmentation are the three states used by Meyerson and Martin (1987) to describe the different degrees to which people in organisations share OCul.

The *integration perspective* assumes the presence of cultural consensus within an organisation. It assumes that values, norms and practices are held consistently across the organisation and that OCul is to a great extent homogeneous. For example, an organisation seeking to be on the forefront of technology might choose to focus on the need to build an integrated culture, which supports the use of technology throughout the organisation (Cabrera, Cabrera, and Barajas 2001). This is based on the premise that the stronger the shared values, the stronger the organisation’s position will be to successfully adopt technology (Ruppel and Harrington 2001).

In contrast, the *differentiation perspective* recognises that OCul is neither shared, nor ‘distributed’ in equal proportions among the members of an organisation. Unlike the integration perspective, the differentiation perspective considers values, norms and practices to be varied. Agreement on various aspects of OCul may at best be observed in relation to group level, which causes the formation of numerous sub-cultures in an organisation. According to the proponents of the integration perspective, OCul is neither shared throughout an organisation nor equally distributed among its members. Instead, when viewed from the integration perspective, OCul is formed as a result of constant negotiation of the values, norms and practices shared by groups and sub-groups as they interact within the organisational context. While the integration perspective focuses on the cultural attributes that are shared by all members of an organisation, the differentiation perspective emphasises the inconsistencies of cultural attributes between groups.

The *fragmentation perspective* moves beyond the clear and consistent demarcations noted by the integration perspective and the clear inconsistencies focused on by the differentiation viewpoint. It is more focused on ambiguity as normal, salient and inescapable part of organisational functioning in the contemporary world (Martin 2002). The objectives of researchers who subscribe to the fragmentation perspective of OCul are to untangle and make sense of the complexities that result from the interplay of values, norms and practices that make up OCul. The fragmentation perspective is identical to the differentiation perspective in the sense that OCul is conceptualised by both as resulting from the ambiguity, irony and paradox that exist in an organisation. However, the fragmentation view of OCul is markedly different -from the integration and differentiation perspectives- in its recognition of the total lack of consistency as to where individual members might stand, in regard to the different issues relating to their lives within an organisation (Schultz 1995).

2.2.6 Level of Analysis

In addition to the Three-Perspective View of OCul discussed in the preceding section (Section 2.2.5), researchers have also underscored the importance of considering issues relating to the level of analysis when conducting studies in OCul. To improve rigor, the level of an organisation that is to be targeted for research in OCul must be clearly specified (Yammarino and Dansereau 2011). OCul is by nature a multilevel construct and it is believed to have different meanings when considered by people working at different levels of an organisation. Further, OCul may mean one thing when analysed at the individual level, and take on a totally different connotation when considered in the context of a group-team environment. Meanings of OCul are shown to be different at an organisational level and between organisations operating in diverse countries and in dissimilar societies (Ashkanasy, Broadfoot, and Falkus 2000). Different levels of analysis have been developed to reflect the complex nature of OCul. To develop a comprehensive understanding of culture, Ashkanasy, Wilderom, and Peterson (2000) proposed that it should be investigated at the individual level, at the group-team level, at the organisational level and at the country and society level.

Investigating OCul at different levels provides a wealth of useful information for understanding the phenomenon. Research aimed at analysing OCul at the individual level is typically focused on the differences in perceptions of OCul that are held by the individual members within the organisation (Leung 1989, James, Joyce, and Slocum 1988). In contrast, studies aimed at the group level would analyse OCul as a phenomenon that is the result of the perceptions of a collection of individuals. A common factor is usually present to bind individuals and provides a reason for the existence of the grouping. For example, individuals may become part of a group because of the type of work they perform (e.g., accounting department, sales department, customer service department) or the location of the office they are working at (e.g., head office, branch office). They may also be grouped on the basis of the level of their employment within an organisation (e.g., management, supervisors or employees) (Chao 2000, Glick 1985). Some researchers suggest that the norms, values and practices of the various groups within an organisation may be aggregated to provide the sense of how the culture of an organisation is like at the organisational level (Chao 2000, Glick 1985). On that basis, OCul is believed to be the aggregate of the sum total of norms, values and practices of all the sub-groups that makes up an organisation. Others have also suggested that the cultures of organisations may be further aggregated and analysed at the country and society level to reflect the collective perceptions of individuals, groups and organisations (Hofstede 1980, Chandrakumara, De Zoysa, and Manawaduge 2009).

2.2.7 Models for Conceptualising OCul

The difficulty of determining what is (as opposed to what is not) culture is a major barrier that inhibits the effective management of culture in organisations. In practice, much of that, which is commonly considered as the culture of an organisation is beyond the range of events and things that can be directly observed, or measured (Buch and Wetzel 2001). This leads to confusion about how OCul should be conceptualised for management purposes and to the challenge of identifying aspects of an organisation that might need management, in order to develop a positive OCul.

Consequently, researchers have developed a range of models to help address these difficulties. These models are designed to function as practical frameworks, useful in guiding the thinking in organisations about their cultures. Schein's three

level model of OCul and Johnson’s cultural web – discussed below – are examples of two commonly used models in the literature of OCul.

2.2.8 Schein’s Three-Level Model of Organisational Culture

Schein’s three-level model of OCul is a common used to guide the way that culture is conceptualised in organisation (Schein 1990). In this model, OCul is theorised by Schein (1990) as being comprised of three distinct but interrelated levels, as illustrated in Figure 2-4.

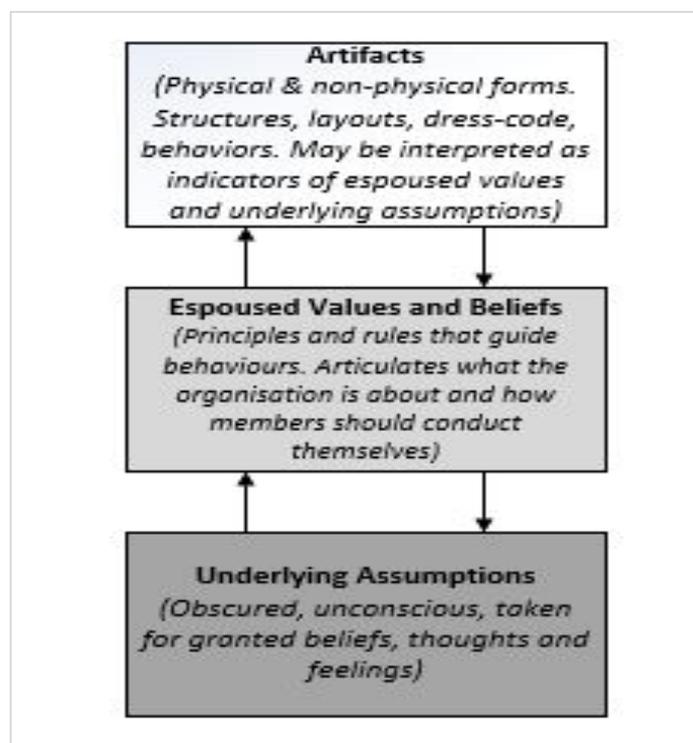


Figure 2-4 Levels of Organisational Culture (Schein, 1990)

The first level is comprised of *underlying assumptions* that are taken for granted about human nature, the organisational environment and the way that things are done in an organisation. These assumptions are almost law-like in nature and are accepted by members of an organisation without question. Once accepted, such beliefs and assumptions become the yardstick against which values are compared. These beliefs might be something that employees are aware of and subscribe to at a conscious level, or merely standards that operate in their sub-conscious minds to influence their

decisions. Often, these assumptions are so deeply embedded that employees are not even aware of their existence, yet behave in a manner that is consistent with them.

The second level consists of *espoused values*, which are the principles and rules that guide the behaviour of members within organisations. Espoused values determine what is acceptable conduct within an organisation and what is not (Rokeach 1973). The vision and mission statements of an organisation are examples of espoused values. These statements often outline what an organisation is about and what it considers to be of value for its members to pursue. Further examples are business policies regarding how to deal with suppliers and customers, as well as protocol and governance that guide professional conduct within organisations.

The third level of OCul relates to the *artifacts*, which include what one sees, hears and feels within an organisation. They may take the form of physical objects, such as office layouts, or simply the way people dress in an organisation. Artifacts may take on a non-physical, intangible or symbolic form, such as company structures, stories, logos and decorations, and may also include the ‘language’ used by people in an organisation. According to Schein (1990), the physical and non-physical forms of artifacts provide the medium through which leaders express and reinforce their views on how an organisation functions. He refers to the artifacts of an organisation as being the ‘tip of the cultural iceberg’ as they may be interpreted as indicators of the espoused values and underlying assumptions that make up the less evident part of OCul. An interesting feature of Schein (1990) model is presence of the directional arrows. They illustrate that while the espoused values and artifacts are the manifestations and derivatives of the underlying assumptions held in organisations, it is also true that the artifacts and values of organisations could, over time, influence and change the underlying assumptions.

2.2.9 Johnson’s Cultural Web

Johnson’s cultural web (1992) assumes the existence of a central *paradigm*, around which, highly complex networks of assumptions and values are developed. Although these assumptions and values are commonly accepted without question and are implicitly understood by many (if not all) of the people in an organisation, they are very difficult to articulate and specify (Johnson 1993).

In Johnson's model, the *paradigm* forms the centre around which six types of cultural artifacts are nestled. They are: Power Structures, Organisational Structures, Control Systems, Rituals/Routines, Stories/Myths and Symbols. The model is depicted in Figure 2-5 and described in Table 2-1 that follows.

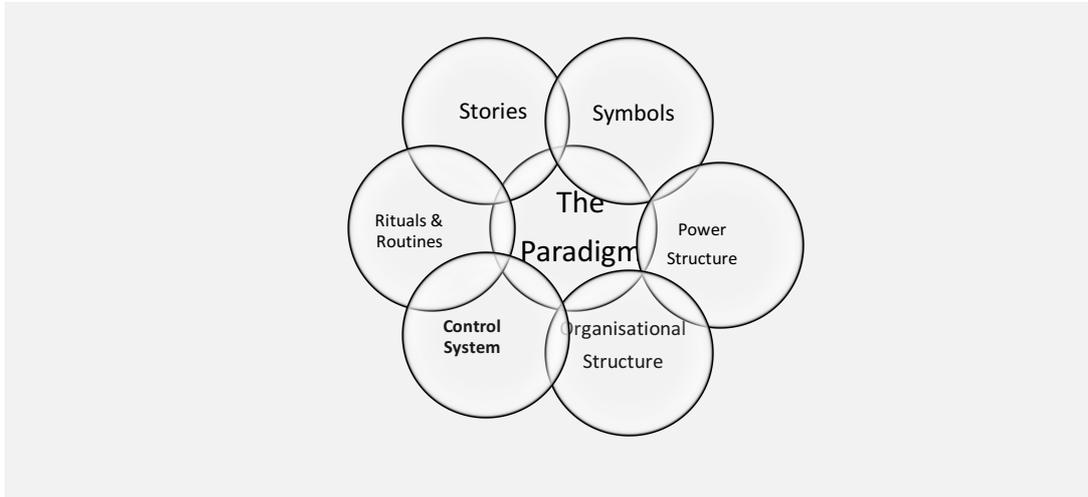


Figure 2-5 Johnson (1992) Cultural Web

Table 2-1 Characteristics of Artifacts in Johnson's Cultural Web

Cultural Artifacts	Purposes	Characteristics
Power Structure	Conveys information about the way in which power to influence is wielded in organisations.	<p>May be highly formal or informal, hierarchical or diffused.</p> <p>Relates to whether power is concentration in the hands of a few (e.g., chairman, chief executive officer, chief operating officer) or is highly diffused throughout the organisation (shared by line managers, supervisors and long-staying staff members)</p>
Organisational Structure	Outline of the way that organisations are put together.	<p>Organisations may have vertical structures that are highly compartmentalised and regulated. Alternatively, they may have a flat organisational structure in which decision-making is highly collaborative, lightly regulated and loosely controlled.</p>
Control System	Defines where the decision-making power is concentrated in an organisation and outlines how governance is maintained.	<p>The decision-making power in an organisation with a vertical structure is concentrated at the top (among senior executives).</p> <p>Stringent control systems have to be in place to support the top-down decision-making process.</p>

		Control systems are likely to be more lenient in instances where decision-making power is distributed across organisations.
Rituals and Routines	To exert influence on the way organisations go about their businesses, which is representative of what are considered accepted practices and what are not.	Rituals and routines are the norms and common practices found in organisations.
Stories	Provide people in organisations with a sense of tradition.	Stories may be factual or fictional. Usually relate to some triumphant event or occurrence and are aimed to inspire commitment.
Symbols	Organisational inspiration.	Closely related to stories to inspire sense of membership.

Schein's three-level model of OCul (1990) and Johnson's cultural web (1992) are discussed above as examples of ways that culture may be theorised in an organisation. While these models share the common belief that OCul is derived from sets of underlying philosophies and attitudes, they differ in their use of terminology. For example, what Schein (1990) names the *underlying assumptions* of OCul, Johnson (1992) refers to as the '*Paradigm*'.

Additionally, the two models contrast markedly in their views on how artifacts relate to underlying assumptions and paradigms. Schein's three-level model of OCul (1990) is a useful representation of culture because it helps organisations to differentiate the parts of culture that are easier to change (e.g., norms, practices and artifacts) from those that are more challenging to transform (e.g., underlying assumptions). In contrast, Johnson's cultural web model (1992) is successful in capturing the dynamism of the present-day business environment, where parts of the cultural artifacts of organisations are constantly exposed to the external environment and are perpetually undergoing some form of change as a result. Embedded in the configuration of Johnson's cultural web model (1992) is the noteworthy implication that changes in the artifacts are strongly influenced by changes in the *paradigm*. The stronger the conflict is, the less likely it is that the change will take place. Hence, a change that is closely aligned with the paradigm is more likely to succeed and last.

Schein's three-level model of OCul (1990) and Johnson's cultural web model (1992) are two distinct examples of models used to conceptualise OCul. One is not better than the other and the effectiveness of each depends on the purpose of its use and the type of organisation within which it is being implemented.

2.3 Organisational Readiness for Change

(Independent variable in Figure 2-1)

OR4C is commonly used to refer to the shared beliefs among members of an organisation in their collective ability to implement and engage in successful change. It is also used to refer to the commitment and resolve of people in organisations to respond positively to change (Weiner 2009).

OR4C is accepted among researchers as a vital precursor to Change Success (Oreg, Vakola, and Armenakis 2011, Hicks and McCracken 2011, Choi and Ruona 2011). Many change initiatives in organisations are known to encounter resistance and fail to deliver on promised benefits due to a lack of OR4C. However, despite the strong influence of OR4C on the success of OChg, a number of important issues remain unresolved and are the subjects of ongoing discussion.

For example, widespread disagreement over the meaning of OR4C and the ongoing dispute over how it actually functions in practice are issues of concern among researchers. Researchers have used OR4C interchangeably with other terms like change acceptance, change commitment, attitude toward change and the willingness to embrace change, which may be confusing. Although these terms are closely related and each reflects certain aspects OR4C, the vagueness in definition does become problematic when it comes to the measurement and management of the construct. Particularly, researchers and practitioners are divided over the factors that make up OR4C. This leads to disagreements over what factors to measure in order to gain an accurate assessment of an organisation's readiness for change and – importantly – what factors organisations should manage in order to increase OR4C (Holt et al. 2006).

The broad range of meanings attributed to OR4C has resulted in the proliferation of many instruments, with each professing to measure the OR4C construct. Further, because instruments are inclined to focus only on what they are designed to measure, determining which of the instruments are in fact measuring OR4C is challenging. As previously mentioned, variations in the instruments for measuring OR4C are the result of the different ways that the construct is conceptualised. While some instruments have proven to be theoretically sound and sufficiently robust, others have not. Weiner, Amick, and Lee (2008b) believe that the first step toward the efficient management of OR4C is to strengthen the consensus among researchers on how to conceptualise OR4C. This, in their view, would lead to more efficient ways to measure the OR4C construct and more effective management.

2.3.1 Definitions of Organisational Readiness for Change

OR4C is defined as the resolve and commitment among members of an organisation to implement change successfully, combined with their shared beliefs in their collective ability (Weiner 2009). It is also commonly referred to as the mindset and the belief of the members that change is needed (Armenakis, Harris, and Mossholder 1993, Jansen 2000, Rafferty and Simons 2006, Bouckenoghe, Devos, and Van den Broeck 2009). While OR4C is considered by some to be the psychological predictor of intentions to engage in change-supportive behavior (Jimmieson, White, and

Zajdlewicz 2009, Peach, Jimmieson, and White 2005), others believe it to be simply the overall willingness of employees to commit to change (Jaros 2010), brought on by their realisation that change is likely to have a positive impact on them and possibly on their organisation as well (Jones, Jimmieson, and Griffiths 2005, Kwahk and Kim 2008, Kwahk and Lee 2008).

In this study, OR4C is defined as the willingness among employees to embrace change, driven by a perception of a need for change and a collective belief in their personal and organisational capabilities to implement and engage in change successfully (Weiner 2009, Armenakis, Harris, and Mossholder 1993). This definition of OR4C was chosen because it describes adequately the phenomenon of readiness in a way that is aligned to common usage of the term in research and – more importantly – because it is representative of the assumptions about OR4C made in this investigation.

2.3.2 Multi-level Analysis of OR4C

Some researchers have described OR4C as a multi-level construct, which means that the assessment of readiness based on input from people at one level of an organisation (e.g., managers and leaders) is expected to be different if it is administered at another level (supervisors and staff) of the same organisation. However, it is noteworthy that not all researchers agree with the view that collecting data from different levels of an organisation is the best way for establishing the level of OR4C. Some are of the opinion that measuring readiness at the individual level is the most appropriate way to assess OR4C. They argue that because all changes are ultimately implemented at the individual level, it is the ‘readiness’ among the individuals within an organisation that investigators should be concerned about when measuring OR4C (Judge et al. 1999, Jones, Jimmieson, and Griffiths 2005, Weeks et al. 2004).

Although it remains unclear as to which of the two approaches mentioned above is most appropriate, there is an inclination among researchers to measure OR4C on the basis of data collected from individuals or selected groups within organisations (Bouckenooghe 2010). The discussions that follow expand on the reasons for assessing OR4C at the multi-group and organisational level in this investigation and evaluate the reasons for assessing OR4C at the individual level.

There are a number of reasons to support the assessment of OR4C at the multi-group or organisational level. For example, Caldwell et al. (2009) suggests that because most changes in organisations today are expedited through the involvement of employees from various parts and levels of an organisation, multi-level consideration renders an assessment of OR4C valid and reliable. Ostroff (1993) expresses his concerns about making claims about organisational readiness on the basis of individual readiness. He argues strongly that the relationships that hold true at one level of analysis might not accurately represent the true relationship for all levels within an organisation. Rafferty, Jimmieson, and Armenakis (2013) concur with the view of Ostroff (1993), having established empirically in their investigation that the levels of OR4C were drastically different from one level of the organisation they studied to another. In line with this reasoning, many researchers are of the opinion that OR4C is most appropriately established using data from different levels of an organisation instead of focusing on the readiness of individual employees (Holt and Vardaman 2013, Vakola 2013).

In contrast, there are others who are committed to the idea that assessing the inclinations of individuals in organisations is the most accurate measurement of OR4C. They maintain that because changes in an organisation can only be implemented through the effort of its individual members, an assessment of the willingness and ability of employees to engage in change will, provide an accurate assessment of OR4C (Jones, Jimmieson, and Griffiths 2005, Meyer et al. 2007, Weeks et al. 2004). Many attempts at OChg have failed as a result of having underestimated the impact of individuals and the critical role they play in determining the level of readiness for change in organisations. As such, it is believed to be appropriate for organisations to focus on individual employees to determine their level of OR4C (Armenakis, Harris, and Mossholder 1993, George and Jones 2001, Greenhalgh et al. 2004).

In many cases, it is believed that success of OChg is dependent on the ability of leaders to determine the beliefs of employees and their attitudes toward change (Klein and Sorra 1996, Kotter 1995, Schein 1987, 1999). Interestingly, the dimensions that are being measured for each of the levels of analysis are different. While individual analysis focuses on aspects like change-supportive behaviors, performances and job attitudes, work groups and organisational-level analyses are concerned with change capabilities, collective performance and group attitudes (Rafferty, Jimmieson, and Armenakis 2013).

Holt and Vardaman (2013) concur that OR4C should be assessed at the individual level, along with an organisational-level component. But in their views, assessment of readiness for change at an individual level should measure the levels of confidence that individuals have in being able to successfully implement change, their perception of the appropriateness of the change, and their beliefs in the availability of support.

Additionally, at an organisational level, the assessment of the degree of readiness for change should measure the level of collective trust and the presence of a supportive climate and facilitation strategies. Collective trust is the shared belief among employees that leaders will act in the best interests of the stakeholders and are able to create a supportive climate. Supportive climate relates to the availability of resources and reward systems, and the availability of a set of clearly articulated goals that are supported by a detailed implementation plan. Having clearly defined roles and responsibilities and a system of performance measurements are the other indicators of a supportive climate. These, along with the other assessments for measuring individual readiness, are the dimensions proposed by Holt and Vardaman (2013) for assessing OR4C.

Vakola (2013) disputes the views of Holt and Vardaman (2013) and argues that it is inappropriate to determine the readiness for change at an organisational level on the basis of data collected from members at an individual level. She asserts that the approach is inadequate in capturing the dynamics that exist when people from different levels of an organisation interact. According to Vakola (2013), the lack of differentiation between individual readiness and readiness for change at an organisational level leads to further confusion in the definition and conceptualisation of the OR4C construct.

Individuals are found to resist changes in organisations that are not supported by group norms and expectations (Cummings 2004). While this observation might strongly suggest the influence of readiness at an individual level on readiness at an organisational level, and vice versa, it does not necessarily mean that OR4C can be appropriately measured by combining the two (Vakola 2013). Readiness, according to Vakola (2013), should be assessed at macro, meso and micro levels of analysis. The macro level relates to an organisation's capability to implement change, while the meso level refers to the capacity and intentions of groups to support change. At the micro level, individuals' perceptions of OChg are observed (Oreg 2003, Vakola and Nikolaou 2005).

OR4C remains an important area of research relating to OChg. There are a number of difficulties in conducting research on OR4C and two key challenges have been discussed in the preceding sections (Sections 2.3.1 and 2.3.2). What constitutes OR4C, and what is the appropriate level of analysis for assessing OR4C, remain areas of controversy and ongoing discussion. Although there are, to date, no universally accepted ways of assessing OR4C, the discussions in the following section (Section 2.3.3) will outline some of the common ways that OR4C is theorised and measured in research.

2.3.3 Theorising and Assessing Organisational Readiness for Change

Choosing the dimensions for assessing OR4C is as important as determining the appropriate level at which to assess OR4C. Organisations are often faced with various types of changes at any one time and, as such, determining which factors to consider for an accurate assessment of OR4C is challenging. Often, the 'one-size-fits-all' approach in theorising and measuring OR4C may not be appropriate.

There are many theories in the literature of OR4C that explain how the construct should be conceptualised and measured. Four common approaches are discussed in greater detail below. The Lay of The Land technique (Burke, Coruzzi, and Church 1996), which draws on the practices of quality management, assesses OR4C on the basis of the quality of leadership in organisations, and the pervasiveness of a positive culture. The Organisational Readiness Scale (Jones and Bearley 1996) assesses OR4C along five dimensions: Structural, Technological,

Climatic, Systemic and People, which is different from the Readiness for Change Scale (Armenakis, Harris, and Mossholder 1993), where Specific Efficacy, Appropriateness of Change, Management Support and the presence of Personal and Organisation Benefits are measured to determine the level readiness for change in organisations. Lastly, OR4C is assessed as the outcome of the level of commitment among employees to change (Herscovitch and Meyer 2002).

The Lay of the Land Survey

The Lay of the Land Survey (Burke, Coruzzi, and Church 1996) is based on the assumption that OR4C is dependent on the quality of management practices in organisations, which is closely related to the presence of strong leadership and the pervasiveness of a positive culture. The best management practices are demonstrated by the ability of managers to match job skills to the work task and to motivate employees to perform at a level that delivers on the organisation's vision. Leadership is assessed on the basis of whether the leaders of an organisation are thought to be trustworthy in their dealings and whether their actions are consistent with what they say. As a part of the survey, employees were asked whether the attitudes of the people that they are working with were generally positive toward change, or if they were constantly expecting problems to develop. The staff members were also asked to gauge the performances of their managers and to determine whether people in the organisation felt empowered to take action when necessary. Employees were also asked to determine the extent to which they felt that their skills were appropriate for the jobs they had, and if they felt a sense of pride in their position. They were also asked whether they felt that their organisations were productive and profitable in their industry.

The Organisational Readiness Scale

In contrast, the Organisational Readiness Scale (Jones and Bearley 1996) assesses OR4C along five dimensions: Structural Readiness, Technological Readiness, Climatic Readiness, Systemic Readiness and People Readiness. Structural Readiness measures the capacity of an organisation to implement and institutionalise change, while Technological Readiness measures the willingness and effectiveness of leaders

to invest in the development of new technologies. Climatic Readiness relates to an organisation's level of commitment to 'excellence', while Systemic Readiness is associated with the effectiveness of information exchange and the quality of communication across the span of an organisation. People Readiness measures the degree to which all employees in the organisation are empowered to be in the business of 'marketing'.

The Readiness for Change Scale

The Readiness for Change Scale by Armenakis, Harris, and Mossholder (1993) conceptualised OR4C as being related to the capacity of organisational members to engage in change successfully. Readiness is also based on perceptions of a need for change and the potential benefits that an organisation and its members may receive from making the change. On the basis of this definition, four dimensions are measured: Change Specific Efficacy, Appropriateness of Change, Management Support and the presence of Personal and Organisation Benefits.

Change-Specific Efficacy relates to the beliefs that members have in their ability to engage in change successfully. People are more willing to commit to challenges if they are convinced that they are equipped for the encounter and are likely to emerge successful (Bandura 1982).

Appropriateness of change relates to the beliefs that members have regarding the suitability of a change. Members are more likely to support a change effort if they are convinced that the proposed change will bring about a resolution to an impending problem. Conversely, they are likely to resist change if they believe that it will not deliver a solution or address the issues at hand as promised.

Management Support is the level of help that members of an organisation are confident of receiving from their superiors should the need arise. In general, people are more willing to engage change if they were sure that help was available to them if needed. Lacking the support of their superiors, people are likely to shy away from the challenge of change, or may even resist any proposed variation from status quo.

Personal Benefits arising from change is based on the premise that people are more likely to commit to and support change if they are confident that their organisation will benefit from it. While financial gains may be thought of as a good incentive, there are in fact many other forms of benefits that may be equally enticing, for example, a simplified work process, making a job easier and more efficient. Some changes may improve a work environment or result in a better quality of life within an organisation.

Commitment to change as a measure of OR4C

According to Herscovitch and Meyer (2002), the level of readiness for change in organisations corresponds to the level of commitment that their people have toward change. The quality of commitment varies widely within an organisation, and is dependent on the source from which it is derived. The level of OR4C is determined by assessing the commitment of the people within an organisation to change, which is measured along three dimensions: Continuance Commitment, Normative Commitment and Affective Commitment.

Continuance commitment is present when people in organisations feel compelled to commit to a change because they feel pressured to go along with it. In such cases, they perceive being non-committal as the costlier option than committing to change. In contrast, normative commitment is brought on when people in organisations feel that it is their responsibility to commit to change out of a sense of duty. Lastly, affective commitment occurs when people commit to OChg because they see the value of doing so.

Although affective commitment is the strongest of the three types of commitment to change, it is the overall commitment of the people in an organisation to change that determines the level of OR4C (Herscovitch and Meyer 2002). It is immaterial whether the people have committed to the change because they thought it was costlier for them not to, because they felt that it was their duty, or simply because they wanted to.

2.4 Synthesis and Summary of the Literature Review

Many issues relating to OChg, OCul and OR4C have been discussed in Chapter 2. In particular, the chapter provides an overview of the broad range of views regarding how OChg should be dealt with and how organisations might become responsive to changes in the environment. Despite the substantial amount of information available in research, the task of dealing with change remains challenging for many organisations. Characterised by a high rate of change failure, many change initiatives do not deliver on promised results.

While the debate on the actual rate of OChg failure is ongoing (Section 2.1.4), the challenges of dealing with OChg are escalating exponentially, driven largely by an increased volatility in the business environment today (Burke 2008). Apart from having to deal with a number of issues relating to the frequency of change, organisations are also faced with many different types of change as well (Section 2.1.2). With a vast amount of input from researchers and practitioners on how to deal with change, leaders of organisations are hard-pressed to choose appropriate ways to conceptualise and manage their change initiatives effectively from a wide range of competing theories, tools and techniques found in the literature of OChg. Some scholars have even begun to describe the task of dealing with the different types of changes as a process that is “highly fuzzy and deeply ambiguous” (Grant et al. 2005).

Although there is some concurrence in research that employees’ perception and their attitudes toward change are strongly influenced by a narrow range of factors (Section 2.1.3), there are divergent views as to what those factors are and which of them are most significant in influencing the outcome of OChg. More importantly, many of the discrete factors that exert a direct impact on the outcome of OChg are also found to be part of large constructs like OCul and OR4C, which adds to the confusion.

Many researchers are convinced that OCul is the underlying driver of OChg Success (Inseong et al. 2007, Ke and Wei 2008, Kwahk and Kim 2008, Seng, Jackson, and Philip 2010), despite the presence of unresolved issues in OCul literature (Sections 2.2.2, 2.2.3 and 2.2.4) and the challenges of managing OCul (Sections 2.2.5 and 2.2.6). They strongly believe that the perceptions of employees and their attitudes toward change are affected by the underlying assumptions that drive organisations, as well as by the espoused values and beliefs that are commonly

shared, to varying degrees, by the members of an organisation (Section 2.2.8). Other factors, such as power structure, control systems, rituals, stories and symbols (Section 2.2.9) are also believed to be important parts of OCul that affect the perceptions of employees and their attitudes toward change.

In contrast, other researchers are convinced that OChg Success is intricately linked to the ability of organisations to create a high level of readiness for change among their employees (Weiner, Amick, and Lee 2008b, Armenakis, Harris, and Mossholder 1993, Jones, Jimmieson, and Griffiths 2005). Many aspects of the OR4C construct were highlighted in the review of the literature in Section 2.3. Despite being criticised by some as a construct that is ill-defined (Section 2.3.1), OR4C is still considered a strong influence on OChg Success in the literature. In particular, the influence of OR4C on OChg Success is demonstrated in many different industries, including health care (Wise et al. 2011), education (Jafari and Kalanaki 2012) and hospitality as assessed in hotels (Alas et al. 2012). It is also evident in changes taking place in government departments (Claiborne et al. 2013) and in the telecommunications industry (Nor Shahriza Abdul, Mohamed Jalaldeen Mohamed, and Norshidah 2012). The impact of OR4C on OChg Success is also apparent in many different types of change, including the implementation of new technology (Kwahk and Lee 2008), process re-engineering projects (Abdolvand, Albadvi, and Ferdowsi 2008), information systems change (Lai and Ong 2010) and change programs linked to organisational innovation (McCrae et al. 2014), organisational learning (Alas et al. 2012) and knowledge management (Nor Shahriza Abdul, Mohamed Jalaldeen Mohamed, and Norshidah 2012).

A number of factors that affect the perception and responses to OChg were introduced and discussed in Section 2.1.3. Some of the factors were clearly issues that are related to OCul (i.e. Vision, Information Sharing, Managerial and Employees' Relationship and Employees' Participation), while others are related to OR4C (Benefits from Change, Leadership and Beliefs in Personal Efficacy to Deal With Change) or both OCul and OR4C (Past Change Experience). However, a search of the literature of OChg, OCul and OR4C revealed that no study has yet compared the concurrent impact of OCul and OR4C on OChg Success. The lack of information as to whether OCul or OR4C is the stronger influence on OChg Success is a gap in the research. It is confusing for organisations as to whether they should focus their management efforts on OCul or OR4C in order to improve their chances of

achieving OChg Success. Further, it is important for organisations to be informed of the factors to manage in order to become successful at implementing change.

2.5 Research Questions

The aim of this study is to bridge the gaps in research by investigating how OCul and OR4C operate independently and in combination to influence OChg Success. At the same time, this study will seek to determine the factors of OCul and OR4C that are most influential on the success of OChg. The four (4) questions asked in this study address the gaps in research that have been identified. The questions are listed below and illustrated in Figure 2-6.

- RQ 1. Is OCul or OR4C the stronger influence on OChg Success?
(Compare the impact of Path 1 to Path 2)

- RQ 1a. How strong is the **direct influence** of OCul on OChg Success?
(Path 1)
- RQ 1b. How Strong is the **direct influence** of OR4C on OChg Success? *(Path 2)*
- RQ 1c. How strong is the **direct influence** of OCul on OR4C?
(Path 3)
- RQ 1d. What was the total strength of OCul (*direct* and indirect influence) on OChg Success? *(Path 1 + Path 3)*

- RQ 2. What OCul factors **most significantly influence** OChg Success? *(Content of bubble label OCul)*

- RQ 3. What OR4C factors **most significantly influence** OChg Success? *(Content of bubble label OR4C)*

- RQ 4. Would managing OCul **or** OR4C increase the chances of achieving OChg Success?
(Compare the impact of Path 1 + 3 to Path 2)

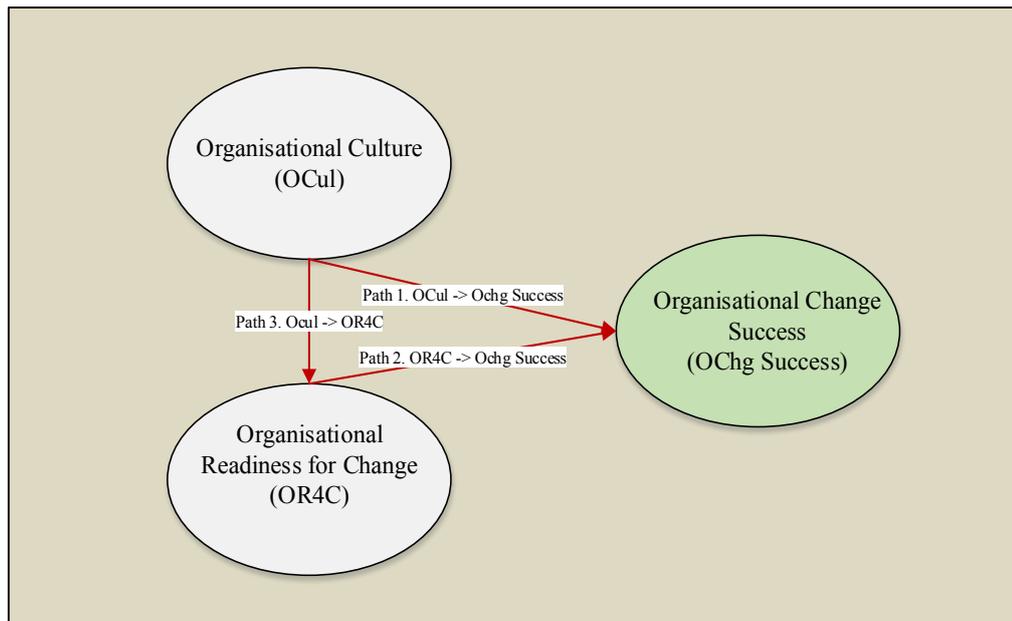


Figure 2-6 A conceptual outline of the constructs investigated in this study

2.6 Value of the Research

Knowing of whether OCul or OR4C is the stronger influence on OChg Success will be useful to researchers and practitioners. The research findings illuminate where change management efforts might be focused to make OChg Success more achievable. They further contribute to the literature of OChg by identifying – on the basis of empirical data – the factors of OCul and OR4C that would increase an organisation’s chances of achieving OChg Success if they were effectively managed.

3 The Research Method

Chapter 3 discusses issues that were considered when determining the appropriate design for this study. It articulates the philosophy chosen for the research, which leads to a description of the steps taken to arrive at the research findings.

3.1 Issues Considered in the Research Design

The different philosophies of research were carefully considered when determining the design of this study. The discussions that follow will show that choosing the appropriate philosophy of research for the study is important as it influences the research process along four different dimensions: Ontologically, Epistemologically, the axiology of the research and Methodologically.

Philosophy of research

Philosophy of research relates to the worldviews and the beliefs about the nature of 'truth' and how it might be established (Saunders, Lewis, and Thornhill 2009). Although many different names are used interchangeably in practice to describe what are commonly thought of as different philosophies, there are, according to Hussey and Hussey (1997) two primary types of research philosophies: Positivism and Interpretivism. While the primary difference between positivist and interpretivist philosophies lies in their perceptions of reality, the implications of the chosen philosophy exerts a far-reaching influence along the Ontological, Epistemological, Axiological and Methodological dimensions in research (Creswell 2009).

Ontology, Epistemology, Axiology and Methodology

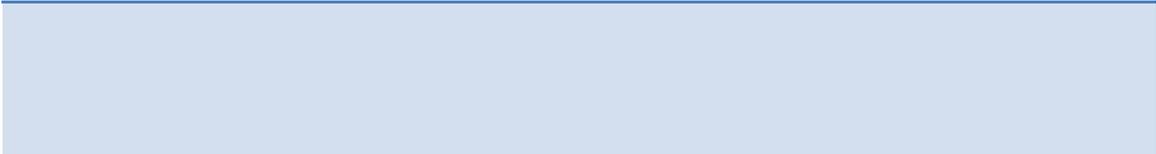
The differences along these four dimensions relate to the assumptions made in research about the nature of reality, how knowledge about reality is established, type of data needed in research and how they might be collected. Ontology is concerned with the nature of reality and considers the assumptions about how the world operates. Epistemology relates to knowledge and is concerned with what is

considered valid knowledge about reality and about how knowledge is established. Axiology assesses the role of values in research projects, which examines how findings in research might be influenced and biased by the personal values of a researcher. Lastly, methodology relates to the process of the research, which is guided by the assumptions made in regard to ontology, epistemology and axiology. The choice of methodology relates to issues like the types of data needed to achieve the goals of the research and the appropriate ways available for collecting the required data for the study.

Table 3-1 Outlines the two philosophies of research and their implications along the four dimensions (Ontological, Epistemological, Axiological and Methodological dimensions). It is a synopsis of the factors that were considered when determining the design of this study.

Table 3-1 Assumptions of the Positivist and Interpretivist Philosophy of Research

	Relating to:	Positivist Philosophy	Interpretivist Philosophy
Ontology	What is the nature of the world?	Reality is conceptualised as an objective phenomenon, which is independent of the perception of the researcher.	Reality is conceptualised as subjective and influenced by the perceptions of the researcher. Reality exists within the mind of the researcher.
Epistemology	The study of knowledge and what is accepted as being valid knowledge.	The Positivist believes that valid knowledge is grounded in objective observations and measurements.	Interpretivist believes that valid knowledge is founded in the understanding of subjective perceptions of social processes (including values, norms, symbols, etc.). Interpreting the multiple perspectives of them is how knowledge is derived..
Axiology	What is the role of the value of the researcher in the investigation?	The research findings are assumed to be value-free and unbiased by the personal proclivities of the researcher.	The research findings are assumed to be value-laden and highly influenced to varying degrees by the views of the researcher.



Methodology

What is the appropriate process of research?

Deductive process investigating causes and effects.

Inductive process mutual and simultaneous shaping of factors.

Static in design – categories established before investigation.

Emerging designs where categories are established as research progresses.

Generalisation of findings leading to predictions, explanations and understanding of that which is investigated.

Context bound, where patterns and theories are developed for understanding.



3.1.1 Research Philosophy for This Study

This study subscribes to the positivist philosophy of research. This philosophy was chosen because it represents the fundamental assumptions that OCul and OR4C are reducible into discrete factors, whose impact on OChg Success (as perceived by the people in organisations) are considered to be measurable on a scale. Additionally, the reliance of this study on numerical data to answer the key research questions indicates that this investigation is aligned with the principles of the positivist philosophy of research (see Section **Error! Reference source not found.**).

The choice to adopt the positivist philosophy of research for this study is also supported by the knowledge that this approach has been successfully applied in earlier investigations of OCul and OR4C for comparable purposes. For example, it was adopted in a study by Chiloane-Tsoka (2013), who investigated the relationship between OCul and OChg. It was also adopted in a study of the effect of OCul on performance by Murphy, Cooke and Lopez (2013), which – like this investigation – used Structural Equation Modeling for data analysis. Additionally, the positivist philosophy has been successfully adopted in OR4C research to date. It was used in an investigation by Santhidran, Chandran and Borromeo (2013) that measured the impact of OR4C on commitment to change and analysed data using Partial Least Square, a statistical analysis software. Helfrich et al. (2011) applied the positivist philosophy in a study that investigated the impact of OR4C on successful implementation of change.

Hence, based on the success of prior OCul and OR4C studies that have adopted the positivist philosophy, the positivist philosophy is appropriate for this investigation. Aligned with the assumptions of the positivist tradition, this study accepts the existence of an objective reality, independent of the experience of OCul, OR4C and OChg Success. It assumes that there is an identifiable reality created by individuals interacting within an organisation, even though the individuals may have different personal views regarding the culture that exists in their organisations, their personal readiness for change and the level of success they have experienced with respect to change in the past.

While OCul, OR4C and OChg Success might not be easily measured or readily quantified, the elements of feelings, perceptions and ideas about them *in the minds* of individuals and *between the minds* of individuals can be appraised on a scale (e.g., a Likert scale) and analysed objectively using statistical tools and numerical procedures.

Although the interpretivist philosophy was also considered as a potential research philosophy for this study, its assumptions and premises of the approach were found to be ill-fitting with the key assumptions and objectives of this study. An interpretivist approach would have been more fitting had the purpose of the study been to develop an understanding of *why* people in organisations felt the way they did about relationships between OCul, OR4C and OChg Success. Primarily, the interpretivist philosophy was not adopted in this study because it would not have delivered on the major objectives of the investigation. For example, an interpretivist approach would not have generated the necessary data and information needed to answer the research question: “*Is OCul or OR4C the stronger influence on OChg Success?*”, nor would it have been able to determine: “*How strong is the direct influence of OCul (path 1) on OChg Success?*” Therefore, the positivist philosophy is the appropriate choice to guide this study.

3.1.2 Paradigm for This Study

Aligned with the positivist philosophy chosen for this study, a quantitative method of research was adopted. The quantitative method has been suggested by Remenyi et al. (1998) to be an effective way of investigating social realities when the goal of the investigation is to generate law-like generalisation similar to those produced by physical and natural scientists.

3.1.3 Data Collection Method for This Study

A large-scale numerical survey was implemented for data collection. This approach was chosen because of a survey’s low demand on time and because it is an effective way to collect the quantitative data needed to address the research questions of the study. A questionnaire comprising closed-ended questions was used in the process, asking respondents to express the strength of their feelings, perceptions and ideas

about aspects of OCul, OR4C and OChg Success on a Likert scale ranging between 0 and 7.

3.2 The Research Design, Analysis and Methods for This Study

While Section 3.4 deliberated on the philosophy, the paradigm and the method of data collection for this study, Section 3.5 is a detailed description of the research design, which relates to the steps taken in the research process. For clarity, the steps taken in the research process are categorised into four *phases*, illustrated in Figure 3-1. Each phase is, in turn, sub-divided into a *series of steps*, described in detail in the respective sub-sections.

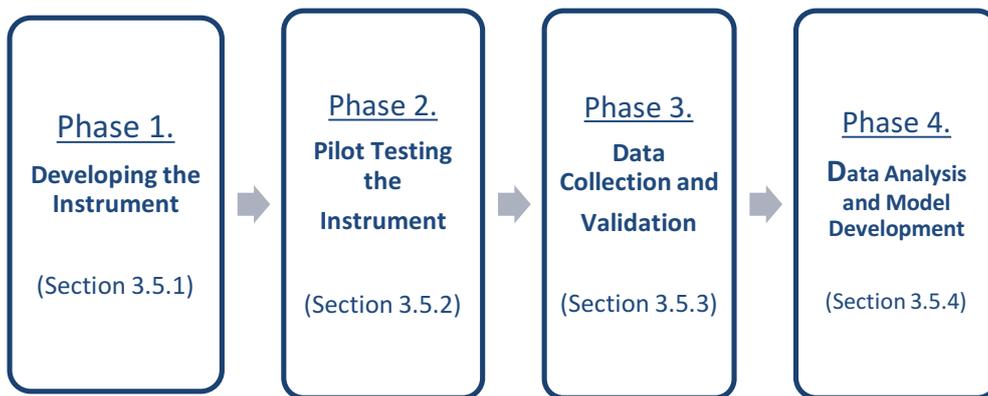


Figure 3-1 Illustration of the phases of the research process

The process of developing the instrument (questionnaire) is describe in Phase 1 (see Section 3.2.1), followed by an account of the iterative steps taken during pilot testing in Phase 2 (see Section 3.2.2). The process of data collection is expanded upon in Phase 3 (see Section 3.2.3). The validation, data analysis and use of the data for model development are described in detail in Phase 4 (see Section 3.2.4).

3.2.1 Phase 1: Developing the Instrument

The aim of Phase 1 is to develop a survey instrument that is fitting to the purposes of this investigation. Although there are many OCul and OR4C instruments in the literature, none was found to be appropriate for use in this study, nor were the existing instruments suitable for collecting the data needed to address the research

questions. A new instrument had to be developed. The instrument (questionnaire) used in this study was developed in a three-step process:

Step 1) Extensive search of the literature

Step 2) Identifying factors of OCul and OR4C

Step 3) Choosing the questions for the research questionnaire

Step 1. Extensive search of the literature

The first step in developing the instrument involved an extensive search of the literature for existing instruments used for measuring OCul and OR4C. As a result of the search, the work of Jung et al (2009) was found to be a dependable source for instruments used for measuring OCul. The findings of Jung et al (2009) were thought to be reliable because of the extensiveness of review conducted in the study (based on 12,375 relevant references) and the rigour of the evaluation process undertaken in the study. Hence, the seventy commonly available OCul instruments (Jung et al. 2009) represented a good starting point in the search for instruments for assessing OCul. But on closer examination, only twenty-two of the seventy instruments provided reports on the psychometric examinations of the questionnaires. These twenty-two instruments were carefully examined and considered appropriate for use in the study, with the exception of two: The Inventory of Polychromic Value Questionnaire and the Nurses Medication Questionnaire.

The Inventory of Polychromic Value Questionnaire measured how receptive people in organisations were to working on many different tasks at a time, while the Nurses Medication Questionnaire measured the practices among medical professionals dispensing medication. Although both questionnaires measured aspects of OCul that might be appropriate for other purposes, they were found to be unsuitable for this study and were thus set aside. Questions from the remaining twenty questionnaires were extracted and compiled into a single list of 892 items.

A similar process was undertaken to identify instruments for measuring OR4C. A range of OR4C questionnaire was considered and six were found to be most representative of the other instruments for measuring OR4C. A list of 131 questions about the different dimensions of OR4C was compiled as a result of the process.

Step 2. Identifying factors of OCul and OR4C

The NVIVO 10 data management software was used to group questions with identical meanings into categories. This method of item generation was proposed by Hinkin (1995) and described as an inductive method of “classification from below”. Using this method, the 892 questions that had been extracted from the twenty instruments for assessing OCul described in Step 1 were grouped into twenty-four different categories. Further analysis of the twenty-four categories revealed that they were highly related and could be grouped into five unique factors.

Similarly, the 131 questions relating to OR4C were further analysed for their meanings and found to relate to thirteen unique categories. On closer examination, these categories were found to relate either to the ‘need for change’ or the ‘capacity for change’, as proposed in the literature of OR4C (Weiner 2009).

Step 3. Choosing the questions for the research questionnaire

The questions were analysed and evaluated for their appropriateness to be grouped under their respective categories. Questions from existing questionnaires that best represented the meanings of each category were subsequently chosen for reuse in the study. Questions were reworded or completely rewritten only when they did not adequately represent the variable being examined.

3.2.2 Phase 2: Pilot Test

The purpose of *Pilot testing* is to assess the *clarity*, *appropriateness* and *face validity* of the instrument. Clarity of the instrument addresses the potential risk of ambiguity and the possibility of having a question interpreted differently by different individuals participating in the study. Appropriateness considers the effectiveness of the questions as they relate to the constructs under investigation. The logical arrangement of the questions in the instrument and the correctness of the scales are also verified as a part of the test for face validity, which ensures that the questions accurately reflect what they are intended to measure (Saunders, Lewis, and Thornhill 2009).

Step A: The initial step of piloting the testing process, involving five university lecturers in the field of Business Management.

Step B: An additional five practitioners from different industries were invited to take part in the pilot test.

Step A: Initial pilot test

Five university lecturers in the field of Business Management were invited to review the draft instrument as the initial step of the pilot testing process. The academics were chosen on the basis of their credentials and their knowledge about organisational change. Feedback from these individuals provided critical information that was useful for improving the overall quality of the questionnaire.

Step B: Further pilot test

While feedback from Step A was useful in ensuring that the questions in the instrument accurately reflected what they were intended to measure, a further pilot test, Step B, was deemed necessary to verify that the validity and accuracy held true when the instrument was used. Further, because the questionnaire was intended for use beyond the academic circle, it was decided that input from people outside of the academic environment would be useful in identifying problems that might have otherwise been overlooked. Hence, five practitioners from different industries were invited to take part in the pilot test. They were chosen from different levels of their

respective organisations so as to improve the validity of the questionnaire when used organisation-wide.

The development and refinement of the questionnaire was an iterative process over a three-month period. Although none of the original questions was singled out as being inappropriate, a number of suggestions were made by participants to improve on the structure and wording of some of the questions. All suggestions were carefully considered and many participants were consulted a number of times during the refinement stage. A comprehensive and robust questionnaire was thus developed and used as the instrument for this research investigation.

The outcome of Phase 1 (Instrument Development, described in Section 3.5.1) and Phase 2 (Pilot Testing, described in Section 3.5.2) was the questionnaire used in this study, presented in Section 4.1. A copy of the questionnaire is also attached in Appendix A.

3.2.3 Phase 3 Data Collection

Six hundred and seventy-eight invitations were sent at random to individuals working in 225 local government offices in different cities, towns and shires in Australia. With a total of 562 local government offices operating in Australia (as reported by the Australian Bureau of Statistics), the sample size of 225 corresponds approximately to a 95% rate of sampling confidence (Saunders, Lewis, and Thornhill 2009). The local government offices of Australia were chosen for the study for three main reasons:

- 1) They represent a large sector of the Australian economy that is constantly adapting to changes in social and economic demands.
- 2) They are accessible and thus more likely to respond positively to the invitation.
- 3) The models developed in the study may be valuable and potentially useful for guiding change efforts in the 562 local government bodies in Australia.

The invitations to participate in the survey were sent via email. The emails stated clearly that participation in the study was strictly voluntary. Individuals who chose to participate in the study were then guided by a web-link to the questionnaire,

which was held online at QUALTRICS, a commercial survey organisation. Those intending to participate were requested to follow the link, while those who declined were thanked for their attention.

Using QUALTRICS for the data collection provided three main benefits. Firstly, hosting the questionnaire online made it easy to administer the survey and facilitated the process of reaching out to a large target audience. Secondly, the user-friendly software contributed to the design of the questionnaire, which improved response rates. Thirdly, as response data was recorded directly into the automated system at QUALTRICS, data entry was unnecessary. This saved time and eliminated the risk of errors arising from mistakes made during data entry.

Further, an automated feature offered by the QUALTRICS system was activated to reduce the likelihood of returning surveys with missing data. This function on the QUALTRICS system alerted respondents when a question had been left unanswered and restricted their ability to proceed until all questions in a given section had been answered. But despite the use of this feature, about 5% of the questionnaires (thirty-three surveys) were recorded by the tracking system at QUALTRICS as being incomplete.

The outcome of this step is outlined in Section 4.2. A breakdown of the rate of responses is provided, along with details of the respondents' level of employment and the types of changes that respondents were thinking of in their responses to questions on OR4C.

3.2.4 Phase 4 Data Analysis And Model Development

For clarity, the data analysis and model development phase (Phase 4) is discussed as a series of four distinct steps. The *first* step relates to the analysis of the open-ended questions asked in the questionnaire. The *second* step involves screening the data for missing components, outliers and normality. The *third step* focuses on the analysis of the quantitative data collected in the study. Reliability and validity are established in this step, and the process – of establishing them according to statistical requirements – is clearly spelled out. The *fourth step* of model development provides a detailed description of the process of formulating the Structural Equation Models used to answer the research questions.

First step: Analysis of Open-Ended Questions

OCul and OR4C were two independent latent constructs in the study. Latent constructs are by definition concepts that cannot be directly observed or measured. As such, they are commonly theorised as comprising a number of factors, which are in turn measured by items called variables. Identifying the appropriate number of factors for assessing a latent construct is often considered to be as important as determining the right variables with which to measure the factors.

Two open-ended questions were posed in the questionnaire. Participants in the survey were invited to express in their own words what they thought were the causes of OChg failure and were asked to suggest ways of improving the chances of their organisations achieving OChg Success. The purpose of these questions was to gather qualitative data that would be useful for assessing the adequacy of the factors in capturing the important dimensions of OCul and OR4C. At the same time, they were also a practical way to determine whether additional factors were needed to improve the comprehensiveness of the proposed factor structure, and whether the factors chosen were – in the views of the respondents – influential on OChg Success. Taking into consideration the views of the respondents regarding what they thought were important causes of OChg Success (and failure) was an added way to ensure that all elements (of OChg Success) were accounted for in the factors chosen for the study. The findings of this process are outlined in Section 4.3. There are two outcomes derived from the analysis of the qualitative data: 1) the conceptual model of OCul and OR4C illustrated in Figure 13, and 2) an illustration of the relationship between OCul, OR4C and OChg Success.

Data Screening

The data collected in the survey were thoroughly screened before analysis. The process of screening evaluated the data along three different dimensions: 1) Missing components, 2) Outliers and 3) Data Normality.

Screening the data for missing components reduces the risk of potential problems that may arise during analysis. For example, missing data may cause information to be askew, leading researchers to form erroneous conclusions. Also, patterns of missing data that are related to some form of bias may go unnoticed if data is not screened carefully. Data that is missing in systematic ways may be

indicative of problems related to the questions themselves, or the ways in which the questions were structured. This may easily be overlooked if the data-screening process is not rigorous. But even with a robust screening process, data may still be missing to the extent where insufficient data points (response data) are available for a proper statistical analysis. Two specific conditions of ‘missing data’ were dealt with in the data-screening process in this study. They were: (1) the number of missing values in each of the variables, and (2) the number of variables missing for each response.

A significant amount of data missing from a particular variable (or question) indicates that the variable is related to an issue that respondents may not feel comfortable providing a response to. In such instances, the variable may be considered problematic and be excluded from the study. The choice to exclude the variable is feasible only if the goals of the investigation are not thwarted by its exclusion. In this study, when substantial amounts of data were found to be missing from an individual response, decisions had to be made to either exclude the incomplete questionnaire or impute the missing values using the ‘replace missing value’ function in SPSS. Mean and Median replacement methods are the two common approach of data imputation used for dealing with missing data (Lynch and Jarvis 2008).

Outliers are the extremes of values, those that are uncharacteristically different from the general responses collected in the study. The presence of outliers will potentially pull response value away from the ‘true’ mean (as well as the median) and adversely affect the results of the investigation. The data ranges for the variables in the study were evaluated using the boxplot feature in SPSS. Any outliers in the datasets were highlighted and dealt with by a process named ‘Winsorising’, which is the replacement of the outlier value with the highest value in the data set that is not an outlier (Ghosh and Vogt 2012). However, this method of dealing with outliers is only feasible if the number of items identified to be outliers is less than 5% of the dataset. This method is the preferred way of dealing with outliers because it reduces the risk of eliminating an entire survey response on account of an outlier value in one or some of the answers tendered.

Normality of data distribution is a condition that is necessary to improve the reliability and validity of statistical analysis. In this study, the ‘Z’ score will be reviewed as an indication of skewness and kurtosis. In practice, it is common to

compare the 'Z' scores, which are derived by dividing the statistical values of the dataset by the standard errors computed in SPSS. Skewness and kurtosis are deemed to exist when the 'Z' values are greater than +/- 1.96, while normal distribution is achieved when 'Z' scores are within the range of +/- 1.96. The study adopted the alternative approach of determining data normality by visual inspection of the histogram and the normal Q-Q plots (Doane and Seward 2011, Cramer and Howitt 2004). The data will be accepted as appropriate for representing the phenomenon when the shape of the data illustrated in the histograms resembles the bell-shaped curve of normal distribution and when the data points in the Q-Q plots closely resemble the line of normal distribution. Skewness and kurtosis will not be corrected if the data found in the study is approximately normal. This is important, as skewness and kurtosis are in some ways reflective of the nature of the factor being investigated.

Second Step: Analysis of Quantitative Data

Composite scaling (also called summated scales) is a method that combines several variables measuring the same concept into a single factor in an attempt to increase the reliability of the measurement scale (Hair Jr et al. 2009). There are two prominent advantages of using composite scales: 1) Composite scales reduce the risk of measurement errors, which are the aspects of factors that are incorrectly measured, or in some cases, not measured at all, and 2) Composite scales reduce the risk derived from attempting to measure too many different aspects of a factor based on a single measurement item.

Although composite scales present an efficient way to capture important aspects of the factors being studied, the adequacy of composite scales must be assessed to ensure their effectiveness, which is normally based on their reliability and the validity of the scale. 'Test and re-test' and measurement of internal consistency are the two forms of reliability considered in composite scale development. As the purpose of 'test and re-test' is beyond the scope of this study, the measurement of internal consistency will be used to establish reliability of the scale. This will be assessed by computing the Composite Reliability (CR) index in the manner specified by Fornell and Larcker (1981). According to Hair Jr et al. (2009), the reliability of internal consistency is established if the CR for a fact is

greater than 0.70. The CR for the factors employed in this study is reported in Section 4.5.2.

Validity is the extent to which the scales or sets of measures accurately represent the factors and constructs of interest. Three forms of validity are commonly assessed in practice. They are:

- 1) Nomological validity (reported in Section 4.3)
- 2) Convergent validity (reported in Section 4.5.1)
- 3) Discriminate validity (reported in Section 4.5.2)

Nomological validity refers to the accuracy of the summated scale in making predictions about the model (Hair 2009). It relates to how well the proposed structure of the measurement scale is aligned to the established knowledge in the literature about the model. In this study, every effort was made to identify conflicts between the proposed factor structures of OCul and OR4C and the established theories in the literature. Although no discrepancies were found, the structures of OCul and OR4C proposed in this study were subjected to further examination and compared to the qualitative data in the study. The result of the process is reported in Section 4.3.

Convergent validity relates to the degree to which the different variables in a scale are correlated. Assessing the correlations between the variables within a measurement scale verifies that the different variables are indeed measuring different aspects of the same factor. The convergent validity for the factors used in this study is established on the basis of three criteria: 1) if the aggregate Cronbach's Alpha measurement of the variables used to assess a factor is greater than 0.70 (Hair et al. 2006, Robinson, Shaver, and Wrightsman 1991), 2) if the standardised correlations measurement for a variable is at least 0.60 (Bagozzi and Yi 1988), and 3) if the square multiple correlations assessment (also referred to as R^2) of each variable is at least 0.40 (Bollen 1998).

Discriminate validity is the degree of uniqueness among the factors used to conceptualise a construct. For example, in this study, the construct OR4C is conceptualised as being comprised of two factors: Need for Change (Need) and Capacity for change (CAP). Discriminate validity is the process of demonstrating that the factor Need is conceptually distinct from the construct CAP. This is established by comparing the values of the Average Variance Extracted (AVE), the

Maximum Shared Variance (MSV) and the Average Shared Variance (ASV). Each of the indexes is computed in the following manner as specified by Fornell and Larcker (1981). According to Hair Jr et al. (2009), discriminate validity is established when:

$$\text{Maximum Shared Variance (MSV)} < \text{Average Variance Extracted (AVE)}$$

$$\text{Average Shared Variance (ASV)} < \text{Average Variance Extracted (AVE)}$$

Determining how variables (measurement indicators) are used to measure the factors employed is as important as choosing the right variables for the study. Decisions made during the specification process determine whether the variables are to be used as formative or reflective measures. Decisions made in the specification process are important as they have serious implications on the results of a research project and may, in extreme circumstances, render the findings of an investigation flawed (Hardin, Chang, and Fuller 2008).

Whether a measurement scale is formative or reflective is dependent on the direction of causality. The direction of causality flows from the variables to a factor in a formative measurement scale and from the factor to its respective variables in a reflective measurement scale. This means that the values and meanings of a factor are the composite values of its respective variables, while the values and meanings of variables are derived from the factor in a reflective measurement scale.

While some researchers believe that reflective measures should be used whenever possible in the place of formative measures (Bagozzi 2007, Howell, Breivik, and Wilcox 2007), others feel strongly that some of the constructs now conceptualised as reflective measures would have been more appropriately represented by formative indicators (Diamantopoulos and Winklhofer 2001). Coltman et al. (2008) agree and claim that the 'uncritical' application of a reflective measurement model could oversimplify the measurement of some constructs, resulting in a reduction of rigor in research. The discussion about which constructs are better measured with formative measures and which are better measured with reflective indicators is ongoing (Hardin, Chang, and Fuller 2008, Marakas, Johnson, and Clay 2008).

Although constructs are not *inherently* formative or reflective (Baxter 2009, Diamantopoulos 2011, Wilcox, Howell, and Breivik 2008), two principles were drawn on in this study to form the guidelines for determining the measurement orientation of the variables employed to measure OCul and OR4C. The two principles are:

1) Irrespective of whether the orientation of measurements is reflective or formative, they should be aligned with the assumptions made regarding the nature of the construct. According to Barki (2008) and (Diamantopoulos 2011), the choice of measurement perspective should be based on a clear conceptual definition of the focal construct.

2) The source from which variables derive their meanings is a strong indication of whether the variables should be conceptualised as reflective or formative measurement indicators. As stated by Collier and Bienstock (2009), formative measurement models specify the direction of causality as flowing *from* the indicators *to* the latent construct. Hence, formative indicators do not derive their meaning *from* the latent construct, but instead give meaning *to* the latent construct.

OR4C is hypothesised and measured within a two-factor construct comprised of NEED and CAPACITY. The specification is aligned with the assumption that the determination of the degree of NEED for change and CAPACITY to engage in change are evaluated by respondents, with due consideration of the organisational settings. In the absence of an organisational context, the terms “NEED” and “CAPACITY” may be indeterminate and devoid of meaning altogether. As such, it is appropriate to conceptualise the NEED and CAPACITY constructs as reflective measures.

Fourth Step: Model development

The purpose of this step is to formulate (based on the data collected in this study) Structural Equation Models that are useful in addressing the research questions asked in this investigation.

This section describes the Confirmatory Factor Analysis (CFA) process, which was an important step in the development of the structural models used in this study. While convergent validity assessed how well the *variables* in the model performed in measuring the **factor** group that they were a part of, CFA measured the effectiveness of the *factors* when used in combination to measure the **latent constructs** of OCul and OR4C. In particular, confirming the convergent validity of the variables and assessing the discriminant validity of the factors were the main aims of the CFA process.

The CFA process was carried out one latent construct at a time, using AMOS 22. OCul was the first construct to be analysed, followed by OR4C. The hypothesised measurement models of OCul and OR4C were tested with the data collected in the study to establish discriminant validity as well as ‘goodness of fit’.

A well-fitting model would mean that the variables chosen based on the literature corresponded with the data collected. The presence of ‘goodness of fit’ would mean that OCul was explained accurately in relation to the five factors: Organisational Vision (OV), Value for Employees (VE), Employee Commitment (EC), Supportive Work Environment (SE) and Open Communication (OC). It would also mean that OR4C was explained accurately by two factors: Need for Change (NEED) and Capacity for Change (CAP). Finally, ‘goodness of fit’ would mean that the measurement variables reflected the characteristics of the factors that they were designed to measure.

Four sets of statistical indices were chosen to evaluate the ‘goodness of fit’. The indices were chosen because they reflected diverse criteria in the manner proposed by Jaccard and Wan (1996). These indices are believed to be appropriate to this study because they are less sensitive to the sample size (Fan, Thompson, and Wang 1999). The four sets of measurement indices are: 1) Normed Chi-Square (X^2) set (*comprised of 4 statistical measures*), 2) The Tucker-Lewis Index (TLI) including the Comparative Fit Index (CFI), Non-normal Fit Index (NNFI), 3) Adjusted Goodness of Fit Index (AGFI), and the Root Mean Square Error of Approximation (RMSEA).

Normed Chi-Square (X^2) was the first of the four sets of indices selected for factorial model validation. NC is the index that results from *dividing* Chi-Square value by the degree of freedom for the model. An NC value that is less than 1 is representative of a very well-fitting model. Values of NC between 1 and 2 are

accepted as a good fit, and an NC value between 2 and 3 is representative of a model that is accepted as having a reasonable fit (Kline 2010, Bollen 1993).

The second set of indices that provided a baseline comparison for this study are the Tucker-Lewis Index (TLI), Comparative Fit Index (CFI) and Non-normed Fit Index (NFI). The cut-off for these indices for a well-fitting model are suggested by Hu and Bentler (1999) to be greater than 0.90.

The Adjusted Goodness of Fit Index (AGFI) is the third index referred to in this study. AGFI values that are above 0.95 indicates a well-fitting models. AGFI values between 0.90 and 0.95 suggest a reasonable fit, while values less than 0.90 indicate a poor fit (Hu and Bentler 1999, Kanjanarach, Krass, and Cumming 2011).

The Root Mean Square Error of Approximation (RMSEA) is the measure of discrepancy per degree of freedom. RMSEA values that are less than .05 are indicative of well-fitting models. Models are deemed to be a reasonable fit if RMSEA values are between .05 and .08. Models with an RMSEA value greater than 0.08 are considered a poor fit (Hu and Bentler 1999, Kanjanarach, Krass, and Cumming 2011, Browne and Cudeck 1992).

3.2.5 Test for Invariance

The two constructs investigated in this study (OCul and OR4C) were tested to establish whether responses from leaders and managers were invariant to – or the same as – those received from the members at the staff level. The Configural Test and the Metric Test for invariance were used in the study to establish measurement invariance. Configural invariance was established on the basis of how well the structure of each of the groups fitted the data. Configural invariance was established when the structure for both of the groups achieved ‘goodness of fit’ as determined by the fit index described in Section 3.5.4 (sub-section 4d). In contrast, metric invariance is the technique of comparing the chi square value of the factor (between the constrained and the unconstrained) models. The tests of configural and metric invariance are described below.

Test for configural invariance

The test for configural invariance evaluates the basic structural models of OCul and OR4C as they relate to OChg Success. The baseline models (OCul in relation to OChg Success + OR4C in relation to OChg Success) are generated without constraints and the fit between the models and the data is freely estimated. The fit statistics for determining configural invariance are based on those shown in Section 3.5.4 (sub-section 4d). A ‘good fit’ of the models across multi-groups (e.g., Leaders + Managers in comparison to Staff Members) indicates that the OCul and OR4C constructs are invariant across the different groups and that the responses of both the groups are not significantly different within the model structure. Conversely, models that do not fit the data well (below the range specified in Section 4.6.8) suggest that the responses from the compared groups are significantly different and are therefore ‘not invariant’ (Marsh 1994, Hong, Malik, and Lee 2003).

Test for metric invariance

The test for metric invariance is implemented by constraining the factor pattern coefficients (the loading) to be equal across groups. According to Milfont and Fischer (2010), because the pattern coefficients carry information about the

relationship between the latent scores and the observed scores, constraining the pattern coefficients and comparing the differences in scores are significant. They posit that if the pattern coefficients of the models are constrained to be equal, then the differences in observation will naturally be the results of the differences between the groups compared within the structure of the constructs. The chi-square and degree of freedom for the unconstrained model (factors were allowed to be freely estimate) are then compared to the scores of the model whose factor coefficients were constrained to be equal to one another. The groups are deemed to achieve metric invariance if the differences between groups are greater than a 0.05 significance level and 'not-invariant' if the differences between the groups are less than 0.05.

3.3 Summary

Research philosophies underpinning the various approaches to research were discussed at the beginning of this chapter. The discussion provided the basis to articulate the philosophy that was chosen to guide the process of this investigation. The chapter gives a detailed description of the steps taken to implement this study, including information about the established statistical guidelines used to process the numerical data collected in this study.

4 Findings and Analysis

Chapter 4 accounts for the findings of this investigation. It provides a description of the questionnaire (shown in Appendix A) produced as a result of the instrument development process and pilot testing (see Section 3.2.1 and Section 3.2.2). It presents information about the data collection process (Section 3.2.3) and outlines the responses to the open-ended questions asked in the survey. Two outcomes were derived from the analysis of the qualitative data: the conceptual model of OCul and OR4C, illustrated in Figure 4-4 and an illustration of the relationship between OCul, OR4C and OChg Success, illustrated in Figure 4-5. The result of data screening is presented (see Section 3.2.4b), along with the findings of the scale-validation process (see Section 3.2.4c). The chapter ends with an outline of the basis for model development (see Section 3.2.4d) and the results of invariance testing (see Section 3.2.5).

4.1 The Instrument / Questionnaire

The questionnaire attached to Appendix A is the outcome of the instrument development process described in Section 3.2.1 and the pilot testing process described in Section 3.2.2. The questionnaire is divided into three sections and the breakdown of each section is described below.

Section (A) is comprised of twenty-four (24) questions, which, in combination, make up the OCul construct. The questions were grouped into the five factors listed below:

Factors		
Organisational Vision	(OV)	3 questions
Value for Employees	(VE)	6 questions
Employee Commitment	(EC)	6 questions
Supportive Environment	(SE)	5 questions
Open Communication	(OC)	4 questions

Additionally, respondents were asked if they thought that their organisations were generally successful in engaging in OChg (Yes/No question). They were subsequently asked to grade the levels of OChg Success within their organisations on a scale of 0-7 (0=unsuccessful, 7=highly successful). An open-ended question was subsequently posed to the respondents, inviting them to comment on the causes of their organisation's successes or failures in engaging in OChg.

Section (B) is comprised of thirteen questions, which, in combination, make up the OR4C construct. The questions were grouped into the two (2) factors listed below:

Factors

Need for Change	(NEED)	6 questions
Capacity for Change	(CAP)	7 questions

Additionally, respondents were asked whether the OChg they were referring to in their responses to the questions in Section (B) was successful (Yes/No question). They were then asked on a scale of 0-7 (0=unsuccessful, 7=highly successful) to grade the success level. An open-ended question was subsequently asked to solicit comments as to what could have been done to increase the level of OR4C in their organisations in order to improve OChg Success.

Section (C) is made up of four (4) demographic questions. Respondents were asked to approximate the number of employees working in their organisation. They were also asked how long they had been employed by the organisation, and their job title. The last question, relating to the job title, was optional in order to protect the privacy of the respondents. A description of the data collected in this study is detailed in Section 4.2 below.

4.2 Data

(Outcome of the process described in Section 3.2.3)

Section 4.2 provides an overview of the data collected in this study. It recounts the rate of responses relative to the sample population and provides a summary of the levels of employment of the respondents. It also highlights the types of changes that respondents were thinking of in their reply to the OR4C questions.

4.2.1 Rate of Response

A summary of the data collection is shown in Figure 4-1. As illustrated, 678 invitations were emailed at random to individuals working in 220 arbitrarily selected local government offices out of a total of 562 such offices in Australia. In response, 264 surveys (39%) were received, but a significant amount of data was missing from 33 of the responses (5%). The 33 responses with missing data were excluded from the study as data that were missing related to the dependent variables. The balance of 231 responses (34%) was accepted as a useable survey, upon which the findings of this study could be based.

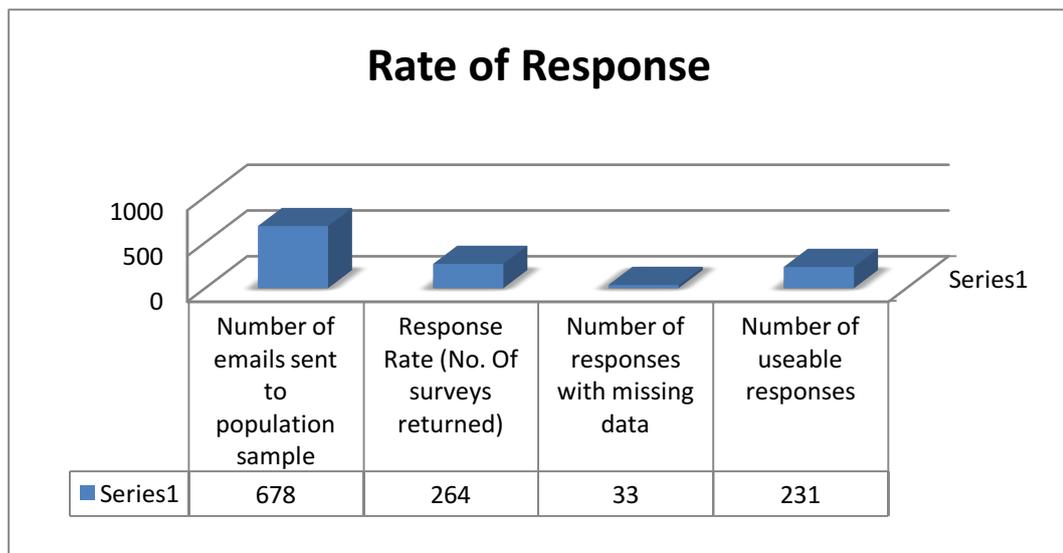


Figure 4-1 Summary of the rate of response

4.2.2 Breakdown of the Respondents' position

Figure 4-2 (below) illustrates the breakdown of the respondents' positions in their respective organisations. The levels of their employment were separated into four groups. A total of 42 respondents (18%) were employed at the senior management or executive level and 45 respondents (20%) worked as managers. Additionally, 60 respondents (26%) were employed in supervisory roles and 84 employees (36%) were employed at the staff level.

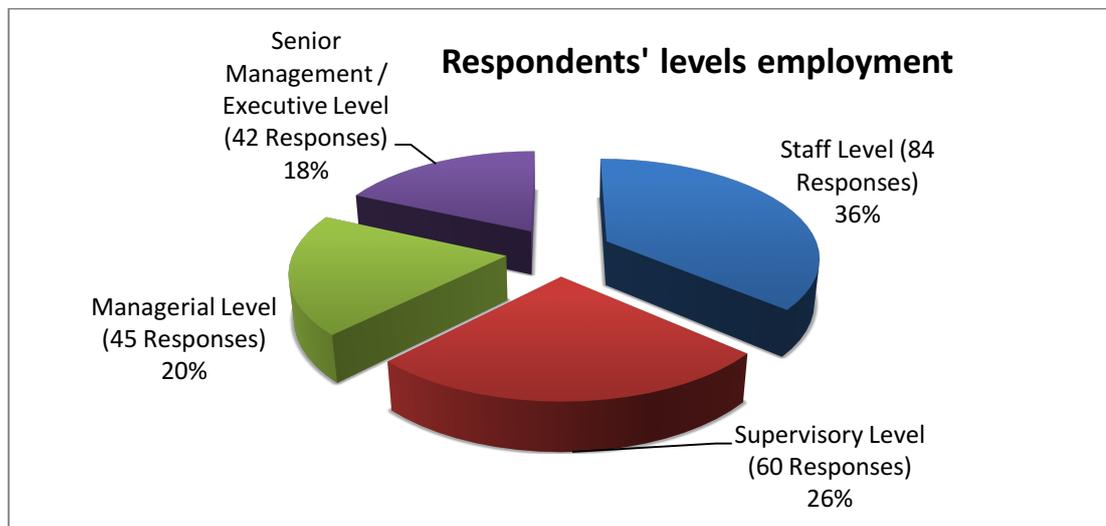


Figure 4-2 Respondents' levels of employment

4.2.3 Types of Change (OChg) Faced By Respondents

There were five (5) main types of changes highlighted by respondents in this investigation. Many of the changes were aimed at business process improvements (86 respondents / 37%), while others involved changes in information technology and the implementation of new computer systems (84 respondents / 36%), and mergers and acquisitions (54 respondents / 24%). Fewer respondents were involved in changes caused by the use of new production machinery, or other unspecified change types.

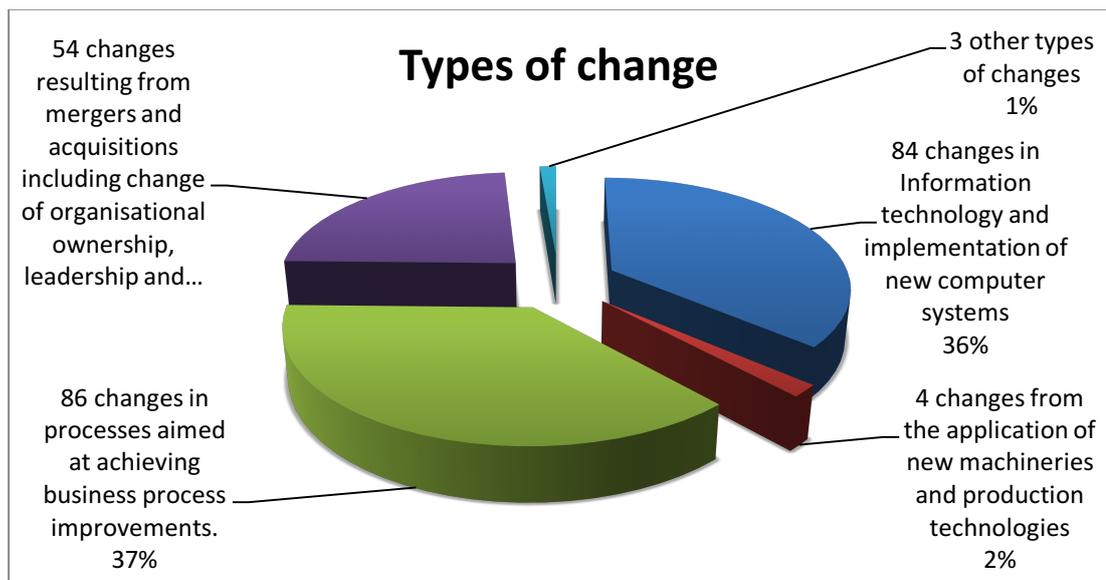


Figure 4-3 Illustration of the different types of change faced by respondents

4.3 Analysis of the Qualitative Data

(Relates to the process described in Section 3.2.4a)

Responses to the open-ended questions indicated that almost all of the concerns expressed by the participants in the survey were accounted for within the factors structure hypothesised in this study. The few that could not be explained by the factors used to conceptualise the OCul construct were found to relate to OR4C instead. Examples of issues that could not be linked to OCul were, for instance, related to a lack of resources, an absence of specific skill sets to support OChg, and a lack of know-how. Examples of these statements are:

“Inadequate ways of measuring the success of change. Mostly driven by people who have a vision without knowing the full impact of change at the ‘coalface’ level.”

“There must be more scrutinising when selecting management positions based on actual skills and not how well liked one may be. This is the root of all issues within the organisation.”

“Lack of resources and funding hinder the successful transition to change on numerous occasions.”

“Need better exploration of reasons for changes, what outcomes are expected. How will changes benefit the stakeholders? Sometimes it is change for change’s sake without any real rationale. Better planning processes need to be put in place.”

The four statements above are examples of issues that did not fit into the factor structure of OCul. They were related to a need for specific skill sets and resources, as well as a need for knowledge about processes for the implementation of effective change. Although the factors highlighted were indeed vital to the achievement of OChg Success, they were found to relate to OCul only indirectly. They were more appropriately represented in the construct of OR4C. A summary of the statements that explicitly account for the OCul factors were hypothesised to affect OChg Success are shown in Table 4-1 below:

Table 4-1 Responses relating to the factors of Organisational Culture that influence Change success

<i>Factors and dimensions</i>	Examples of Survey Responses that correspond to OCul Factors believed to Increase/Inhibit Change Success
<i>Clarity</i>	<p>“Management must be clear about what results are wanted. Change is by sections, often not explained well, esp. to those at the ‘coalface’.”</p> <p>“My organisation is going through change fatigue - due to restructure changes as a yearly event.”</p>
<i>Alignment</i>	<p>“Lots has happened but nothing has changed.”</p> <p>“Failure to regularly check in on progress. Lack of proper management caused many of the projects to fizzle out over time.”</p>

“Many activities seem to be ‘tick and flick’ with management stating their commitment, but taking no action to demonstrate their commitment.”

Shared Commitment

“Too MUCH middle management, so too many change agendas.”

“Management must be clear about what results are wanted. Change is by sections, often not explained well, esp. to those at the 'coal face'.”

“Lots of talks but very little follow-up action.”

“This was change for change; 12 months after all the upset, and 6 team members leaving because of the breaking up of our department. Now 12 months later we have almost all the same positions as before just with new people. I often wonder if it was a way of losing team members without dismissing them.”

“Articulate strategic plans to staff ... explain the "WHY" of change.”

Encouraging Continuous Improvement

“Very limited staff input and therefore very limited "ownership" of change.”

“The change was decided upon without discussion with the relevant department. Additional resources were not provided to accompany this change, which resulted in disruptions to other tasks.”

“To be more successful, executives need to be more honest about what the change is for (e.g.: to save money) then allow the staff input into how that can be most effectively achieved. It would then be useful to have a review of the change in 6 or 12 months to determine if the change has been positive and be willing to reverse changes if necessary. There seems a lot of pressure on the leaders of change to insist that their change is only positive.”

“Stronger leadership. Need to display concern for employees.”

“Poor Leadership and no empowering or buy-in from staff to stop the cycle of change failure.”

“Staff members are not respected for their experience, knowledge and ability.”

“Compliment and recognise staff who do follow through on change.”

“Lack of recognition of staff's ability to cope with change.”

“People have been in the organisation a long time and are comfortable with the status quo and whilst change is suggested and recommended there is not enough enforcement to make the change stick and people just go back to how they used to do things.”

“No changes have been made since I was employed.”

“Train staff at all levels in change management”

Personal Commitment

“Values and vision statements were not constructed with staff input.”

“...It is not useful for staff to believe there are penalties in not adopting change but for them to be wholly convinced that they will be better off as a result of the changes.”

“No general staff ownership of most change.”

Job Satisfaction

“Very low wages do not encourage staff to give 100% effort.”

“I hate the job that I am expected to perform as the result of what they call restructuring.... Benefits from the change are self-serving to those who lead it. Nothing would have made me support that change.”

Competence

“This organisation does not solve problems and cannot look at the big picture, they simply put Band-Aids on problems, solving part of the problem but creating a bigger problem.”

“Recent changeover of staff in Senior Management roles is likely to turn around the causes of failure by increased staff engagement, recognition and reward plans.”

“Too many skilled people were made redundant hence leaving the business without key knowledge and skills. Not all redundant positions were unnecessary. There were other aspects of the business that should have been reviewed and cut back before getting rid of key people.”

“Change was detrimental to the performance of the team I was involved in. I was told that we had to perform at a lower standard and support another team to raise their level of performance.”

“They do not have the business skills required to do the all things required and the dept. of local govt. will not or does not recognise this. By the time they wake up some of their most recognised will be in major trouble.”

“Top tier staff, particularly c. e. o. /s, are judged on their remuneration not their ability to perform the duty required.”

Influence on Decision

“Values and vision statements were not constructed with staff input.”

“The organisation fosters a culture of nepotism. Provides no consultation process with staff members about changes and is extremely dictatorial in style. People are either being sacked or made redundant, positions altered without consultation or explanation.”

“Respect for staff opinion (from management) and real opportunities for staff to engage in the decision-making process.”

“Change was forced.”

Respect for work

“To be more successful, executives need to be more honest about what the change is for (e.g.: to save money) then allow the staff input into how that can be most effectively achieved. It would then be useful to have a review of the change in 6 or 12 months to determine if the change has been positive and be willing to reverse changes if necessary. There seems a lot of pressure on the leaders of change to insist that their change is only positive.”

“As the professional information management specialist I should have been in the initial and ongoing discussions and planning stages of the changes proposed.”

“In all honesty, this change was driven hard by upper level management and whatever concerns we may have had would not have changed the outcome in its implementation. I have come to realise, the lower down you are in the food chain, no matter how hard you kick and scream, if upper level management wants to change, it will occur.”

“Respect for staff opinion (from management) and real opportunities for staff to engage in the decision-making process.”

Positive Attitude to Change

“Nothing can be done to improve things - we are tied to government policies and practices, which are strangling initiative.”

“Employee longevity rewarded rather than performance. Need turnover to renew thinking and innovation.”

“Government organisations are always reluctant to change. We have employees who have been here for over 30 years and the change process is always difficult.”

“Be positive about the change and don't leave important details out or constantly change stance on issues.”

“The old staff would do things their way and pity on the new staff.”

“There is also a need to create a more positive organisational culture that approaches change in a proactive manner, rather than resisting it, but this could be slowly built through improved communication lines and greater involvement in the change process from the start.”

Inter-departmental Support

“The change was decided upon without discussion with the relevant department. Additional resources were not provided to accompany this change, which caused disruption to other tasks.”

“Trust in management. Lack of real consultation with lower level staff. Lack of consultation between teams.”

Leadership and Managerial Support

“There is a need for greater push from senior management when changes are made that need employees to learn new processes.”

“Poor leadership and no empowerment or buy-in from staff to stop the cycle of change failure.”

“Ensuring there is someone in place who can guide and lead change.”

“Failure of leadership to fully commit to the change and support it in terms of budget and setting examples.”

“Respect of staff by management would go a long way. Good leadership would also help.”

Trust Among Members

“Doing change "to" people, instead of doing it 'with' them.”

“Stronger leadership is proving to be more effective. There are still General Managers who have their own agendas and are not held to account.”

“Lack of trust fostered by an "us" versus "them" workplace culture.”

“If management tries to lead change staff will react negatively and perceive change as being forced on them. If management engages staff to develop a more positive culture to change, the few staff members that agree to help are labelled as management favourites. Some staff members report that their managers are unsupportive while managers say the opposite. With a good deal of changes at the line managers’ level, there is a lack of continuity and consistency in delivering the messages about change and new ideas.”

Peer Support

“People that come to work with an attitude that the planets revolve around them and to disturb that fragile balance is to court disaster, therefore they consider themselves untouchable.”

“Some employees have been with this organisation for a long time; they find it difficult to change, or they resist, as it doesn't benefit them. Senior management is reluctant to upset them and turn a blind eye.”

“Very limited collaboration with staff.”

Accurate Information Exchange

“Assuming that putting a page up on the corporate intranet is sufficient to tick the check box marked "communications plan completed.”

“Many employees were affected by this decision and they were unheard. If negotiated, the change could have been avoided. Communication with staff is crucial to be able to take such draft.”

Table 4-2 Examples of responses relating to the factors of Organisational Readiness for Change that influence Change success

<i>Factors and dimensions</i>	Examples of Survey Responses that correspond to OR4C Factors believed to Increase/Inhibit. Change Success
<i>Need for Change</i>	<p>“The whole concept <i>was floored*</i> and I would not have gone down that path in the first place.”</p> <p>“A change was needed to improve business but there was no change management for staff there was no processes developed to support this change.”</p> <p>“New management would be an improvement.”</p> <p>“Fail to follow through; no planning; lack of staff commitment; staff not totally convinced of the consequences of not changing direction; staff comfortable in their jobs and don't want to change; manager not skilled at dealing with the staff issues associated with change management; too many different individual vested interest.”</p> <p>“New management - unskilled and not educated to the standard of the area being managed.”</p> <p>“The person making the change does not have a good grasp on the technicalities of the system, he comes from an accounting background, and does not understand how non accounting sections work.”</p> <p>“Management did not understand the change. The scoping committee that created the change was dispersed and the implementation staff were useless and not Subject matter experts.”</p> <p>“Lack of understanding of the work done within our Business Unit and associated requirements for the equipment we rely upon.”</p>

Capacity for Change

“Engage a full time IT professional who could give a rational explanation of what is required and how the goals can be achieved.”

“Lack of ongoing resources.”

“... they are encouraged by dept. local govt. to lock the doors and do it their way and in a lot of cases they are not business skilled enough.”

“More commitment from management to continue the project, or a reason as to why it was stopped.”

“Lack of commitment from Management. The culture has not changed as there is not the commitment from our leaders.”

“Lack of communication / staff training.”

“Lack of marketing the change to the end users i.e. the general public. In my opinion the change occurred far too quickly and should have been released in stages that were spaced further apart to allow everyone to adapt better.”

“Staff skill level and ability made the change difficult to be 100% successful.”

*Note: * the respondent probably meant 'flawed'*

4.3.1 Conceptualising Organisational Culture

OCul is conceptualised in this study as being comprised of five factors: Visions, Value for Employees, Employee Commitment, Supportive Work Environment and Open Communication⁵. The meaning of each of the variables is described in the table below, together with corresponding references to the literature.

Table 4-3 Summary of factors that make up the OCul construct

Factor	Description
Visions	<p data-bbox="612 719 1369 913">Visions are the expressions of what organisations are about. They articulate the purposes that organisations seek to fulfil and communicate what the organisations envisage themselves to be in the future.</p> <p data-bbox="612 994 1369 1189">The effectiveness of organisational visions were evaluated in this study on the basis of their clarity, the degree to which activities aligned with them, and the degree to which members were committed to them.</p> <p data-bbox="612 1270 1369 1464">(Klinge et al. 1995, Thomas Li-Ping, Kim, and O'Donald 2000, Maull, Brown, and Cliffe 2001, Alas and Vadi 2004, Denison and Mishra 1995, Chiloane-Tsoka 2013, French et al. 2009)</p>
Value for Employees	<p data-bbox="612 1599 1209 1744">Value for Employees relates to views held by organisations with respect to their employees' contributions toward the existence of the firm.</p>

⁵ The Goodness of fit indices (for OCul) in Section 4.6.2 (Figure 4.20) derived from the Confirmatory Factor Analysis process were used as the basis to establish that the chosen factors are representative of the data collected in the study.

Organisations that value their employees commonly recognise their contributions and show concern for their well-being. Recognition may be expressed in the form of rewards and remunerations. Concern for employees' well-being may take the form of improving their skills through training and encouraging them to seek continuous self-improvement.

(Thomas Li-Ping, Kim, and O'Donald 2000, Adams, Bond, and Arber 1995, Reigle 2001, Minvielle et al. 2005, Maull, Brown, and Cliffe 2001, Alas and Vadi 2004)

**Employee
Commitment**

Employee Commitment relates to the degree of loyalty that employees have towards their organisations. Employees are found to be more committed to their organisations when they are satisfied with the work that they do or feel empowered as a result of the respect they receive and the influence they exert in decision-making. Uncommitted employees become detached and often have strong tendencies to become disengaged and eventually leave.

(Gifford, Zammuto, and Goodman 2002, Krlewski, Wingert, and Barbouche 1996, Klingle et al. 1995, Thomas Li-Ping, Kim, and O'Donald 2000, Adams, Bond, and Arber 1995, Reigle 2001, Cooke and Rousseau 1988, Minvielle et al. 2005, Maull, Brown, and Cliffe 2001, Alas and Vadi 2004, Pang 1996)

Supportive Work Environment

Supportive Work Environment relates to the degree of help and encouragement available to employees in their work setting. Supportiveness in organisations may be evaluated as the degree of help that one department is willing to give another for the overall good of the organisation, or simply the readiness of individual employees to help their peers in need. The degree of support in a work environment corresponds to the level of trust between peers and between employees and management.

(Kralewski, Wingert, and Barbouche 1996, Thomas Li-Ping, Kim, and O'Donald 2000, Adams, Bond, and Arber 1995, Cooke and Rousseau 1988, Minvielle et al. 2005, Glaser, Zamanou, and Hacker 1987, Maull, Brown, and Cliffe 2001, Pang 1996)

Open Communication

Open Communication reports on the flow of information within organisations. It is an indication of quality of information exchange that takes place between employees and between management and staff in an organisation. Communication is about how people in an organisation relate to one another, and how conflicts are handled. Open Communication requires trust and the willingness of individuals to share accurate information in a timely fashion for the well-being of the organisation.

(Klinge et al. 1995, Thomas Li-Ping, Kim, and O'Donald 2000, Reigle 2001, Minvielle et al. 2005, Glaser, Zamanou, and Hacker 1987, Maull, Brown, and Cliffe 2001)

4.3.2 Conceptualising Organisational Readiness for Change

OR4C was conceptualised in this study as comprising two variables: Need for Change and Capacity for Change⁶. Conceptualising OR4C as a combination of the Need for Change and Capacity for Change is aligned with the definition of OR4C as articulated by Armenakis and his colleagues (1993), which corresponds to the suggestion of Weiner, Amick, and Lee (2008c). They argued that it is wrong to assume change to be an automatic process in organisations, just because they have the raw potentials of expertise, resources and opportunities. The potential for change, they said, must be activated by motivation, which, maybe driven by the perception of a need for change. The meaning of each of the variables is described in the table below, together with corresponding references to the literature.

Table 4-4 Summary of factors that make up the OR4C construct

Factor	Description
Need for Change	Need for Change relates to whether the requirement for organisations to make adjustments is considered necessary by its members. The perception of ‘need’ is contemplated within the context of whether making adjustments will solve the problems that organisations are facing and bring about an increased level of efficiency. Other relevant issues that are worked into the consideration of ‘need’ include the potential benefits to the individuals and their organisations might derive from engaging in change. The willingness to commit to change is closely related to the perception of need. In general, individuals are more willing to commit to and support change if they perceive that there is a real need for it. (Walker et al. 2007, Holt et al. 2007, Armenakis, Harris, and

⁶ The Goodness of fit indices (for OR4C) in Section 4.6.4 (Figure 4.21) derived from the Confirmatory Factor Analysis process were used as the basis to establish that the chosen factors are representative of the data collected in the study.

Mossholder 1993, Holt et al. 2006, Coch and French 1948, Cinite, Duxbury, and Higgins 2009, Weiner 2009, Jansen 2000)

Capacity for Change

Capacity for Change relates to the ability of organisations to engage in a chosen change process. In particular, it relates to the presence of required skill sets to plan and expedite a change process, as well as the proficiencies necessary to support the process of transformation once it begins. The presence of change leadership and the availability of material resources are considered to be important aspects of Capacity for Change. (Judge and Douglas 2009, Hicks and McCracken 2011, Cinite, Duxbury, and Higgins 2009, Weiner 2009, Meyer and Stensaker 2006, Jansen 2000, Jones, Jimmieson, and Griffiths 2005)

4.3.3 Conceptual Model of Organisational Culture and Readiness for Change

In this study, a hypothesised structure of OCul and OR4C was developed based on a review of the literature and a detailed examination of instruments used in earlier studies for assessing these constructs. As detailed above (Sections 4.3.1 and 4.3.2) the construct of OCul was hypothesised as comprising five factors: Organisational Vision, Value for Employees, Employee Commitment, Supportive Work Environment and Open Communication. The construct of OR4C was conceptualised as comprising two factors: Need for Change and Capacity for Change. A breakdown of the OCul and OR4C constructs is shown in Figure 4-4.

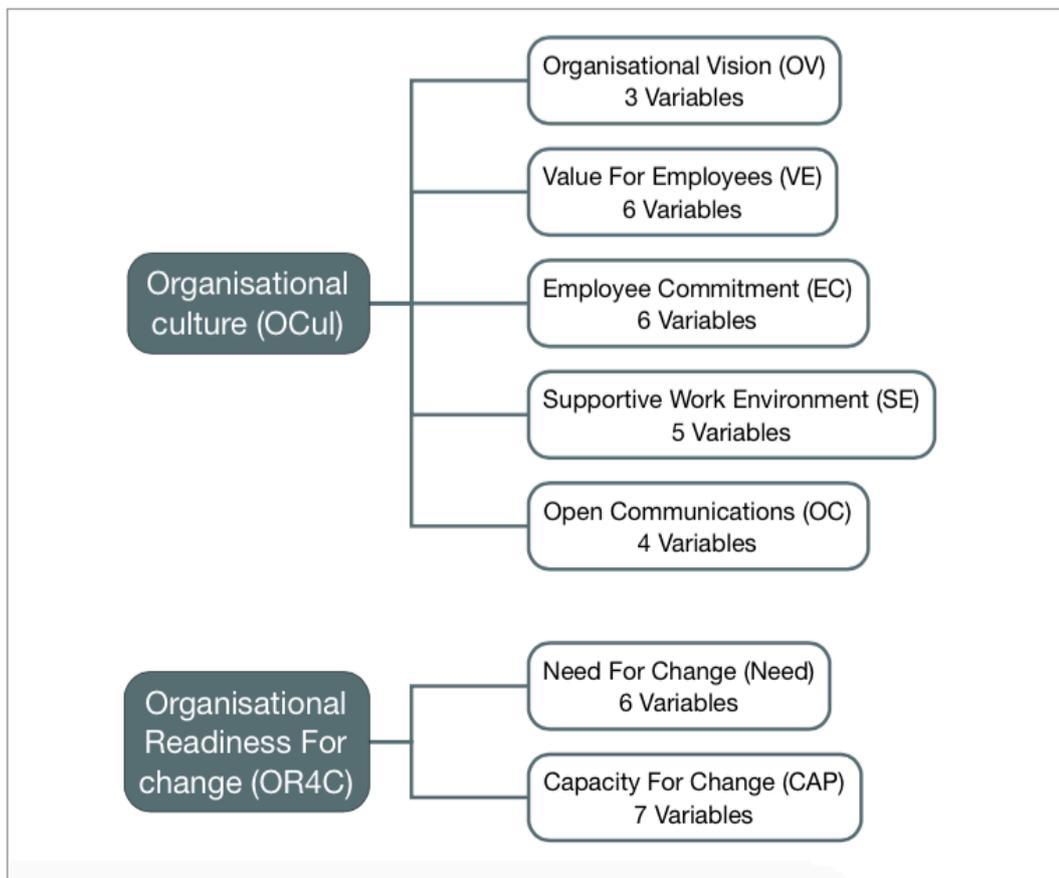


Figure 4-4 Breakdown of the OCul and OR4C constructs

Figure 4-5 below illustrates the relationship between OCul, OR4C and OChg Success. It shows how the five factors (Organisational Vision, Value for Employees, Employee Commitment, Supportive Work Environment and Open Communication) that were used to conceptualise OCul are related to the two factors of OR4C (Need for Change and Capacity for Change) and OChg Success⁷.

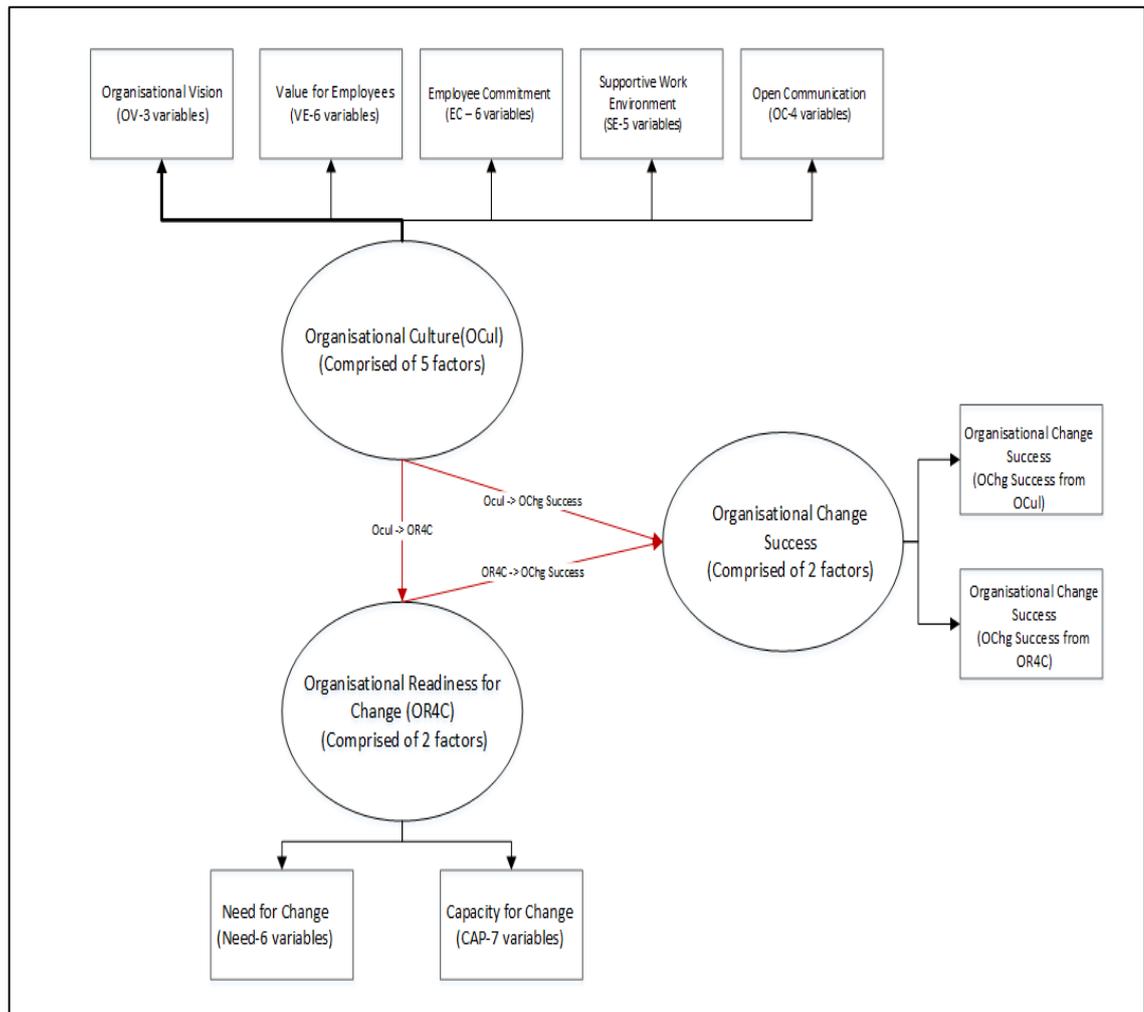


Figure 4-5 Relationships between OCul, OR4C and OChg Success

⁷ Note: The number of factors chosen to represent a construct must conform to the conceptual definition of the construct and more importantly, they must comply with the necessary level of reliability and validity (Hair et al. 2006)

4.4 Data Screening

The process of data screening involves examining the data for missing components, outliers and the normality of data distribution.

4.4.1a) Missing Data

Examination of the data collected indicated that large amount of data was missing in a systematic manner in some questionnaires. In particular, it indicated that the participants who had returned a partially completed questionnaire had started answering the questions but had decided at some point to give up. On closer inspection, it was found that the missing data from the thirty-three incomplete questionnaires could not be replaced by imputation using SPSS. Data were found to be missing in a critical part of the survey, such that imputation could distort the results of the study. The thirty-three questionnaires with missing data were therefore excluded from further analysis. Only the 231 questionnaires that had been completed were found to be appropriate for inclusion.

4.4.1b) Outliers

As described in Section 3.2.4 (b), outliers are the extremes of values that are uncharacteristically different from the general responses collected in the study. The data ranges of the factors in this study were evaluated using the box plot feature in SPSS. When the number of outliers in the dataset was less than 5%, the highlighted items were dealt with by ‘Winsorising’, which is the replacement of the outlier value with the next closest value in the data set that is not an outlier (Ghosh and Vogt 2012). Shown below are the box plots for each of the factors used in this study to conceptualise OCul and OR4C.

Organisational Vision	(Figure 4-6)
Value for Employees	(Figure 4-7)
Employee Commitment	(Figure 4-8)
Supportive Environment	(Figure 4-9)
Open Communication	(Figure 4-10)
Need for Change	(Figure 4-11)

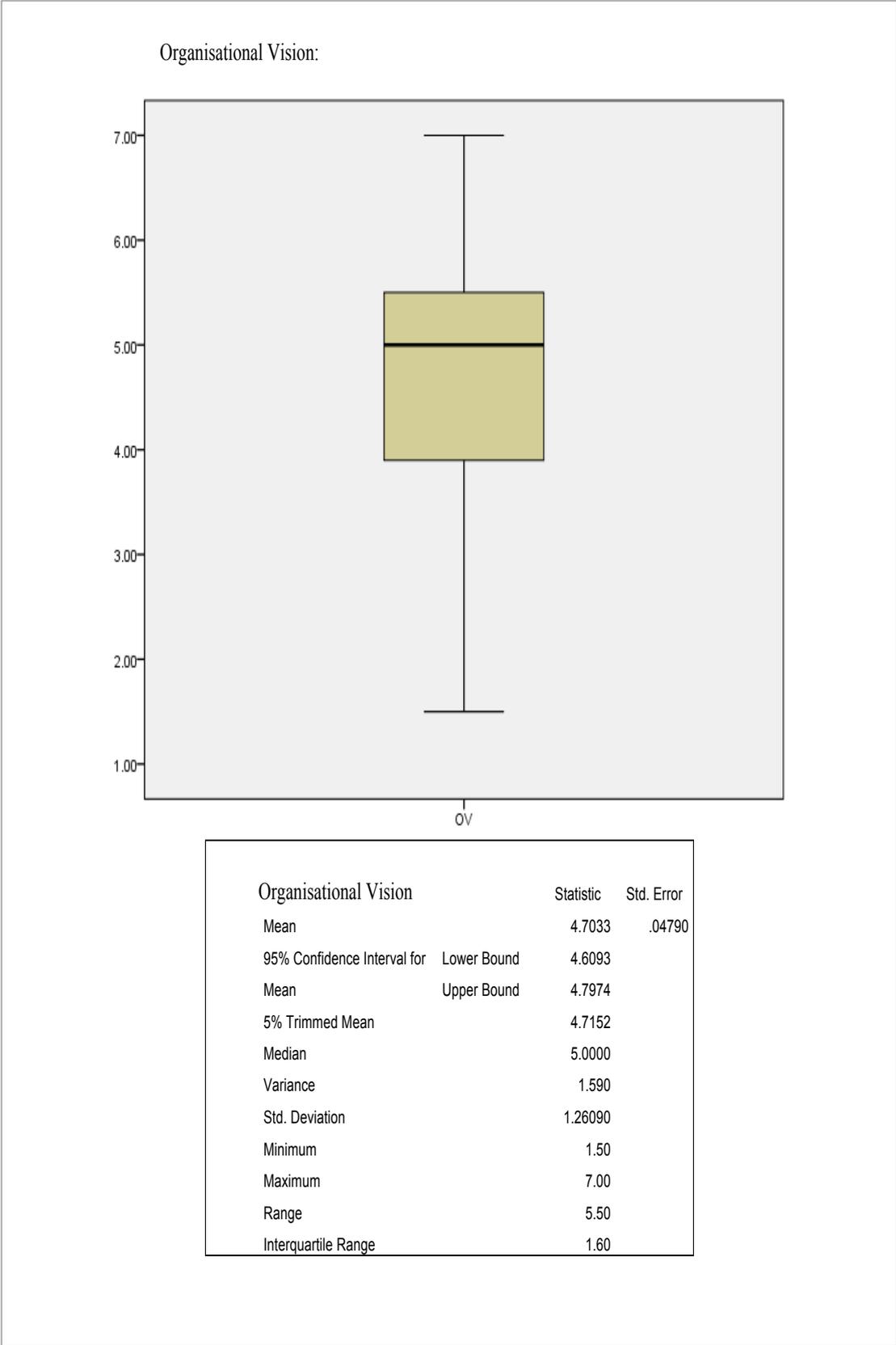


Figure 4-6 Box plot of Organisational Vision (data is free of outliers)

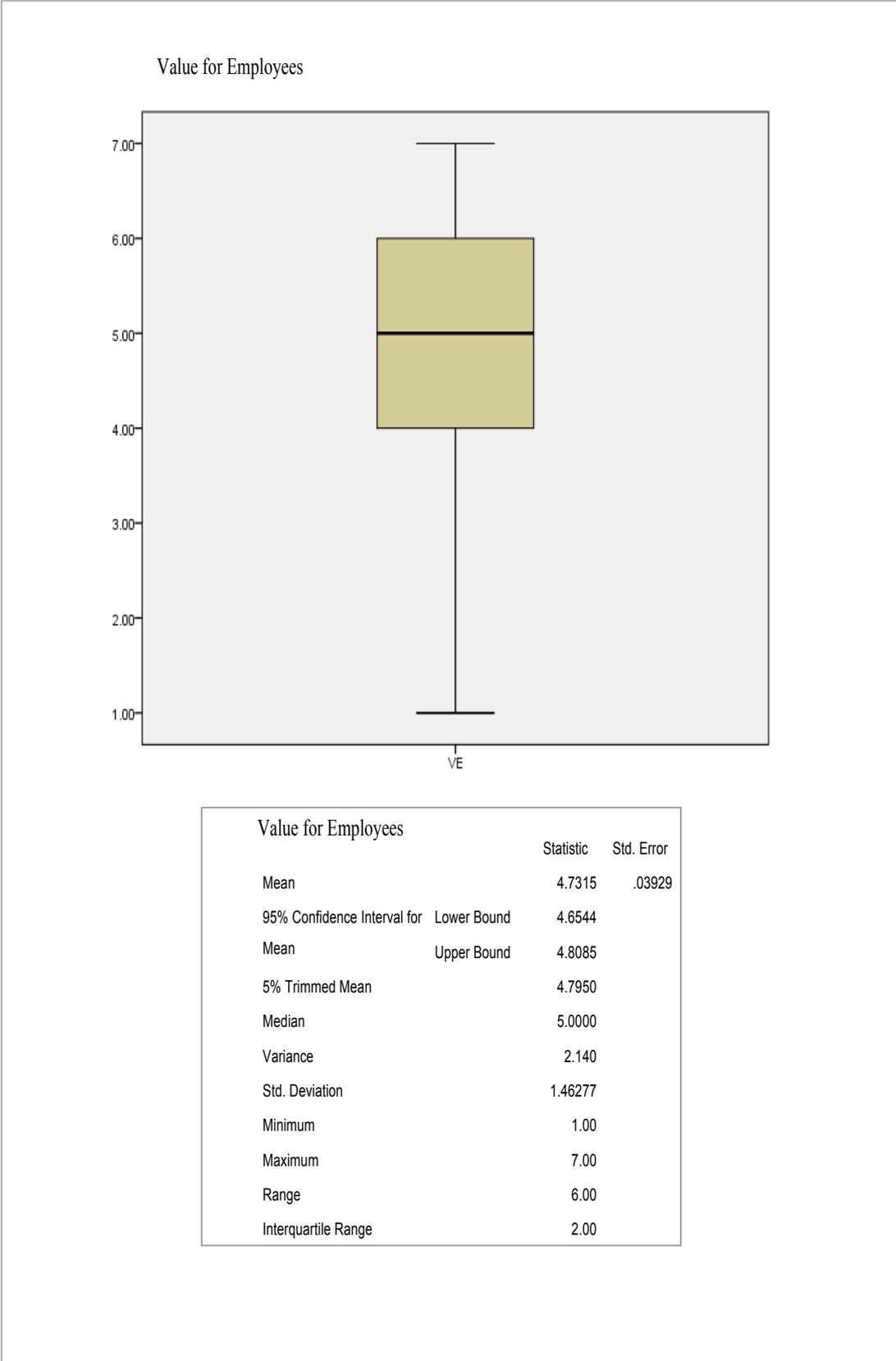


Figure 4-7 Box plot of Value for Employees (data is free of outliers)

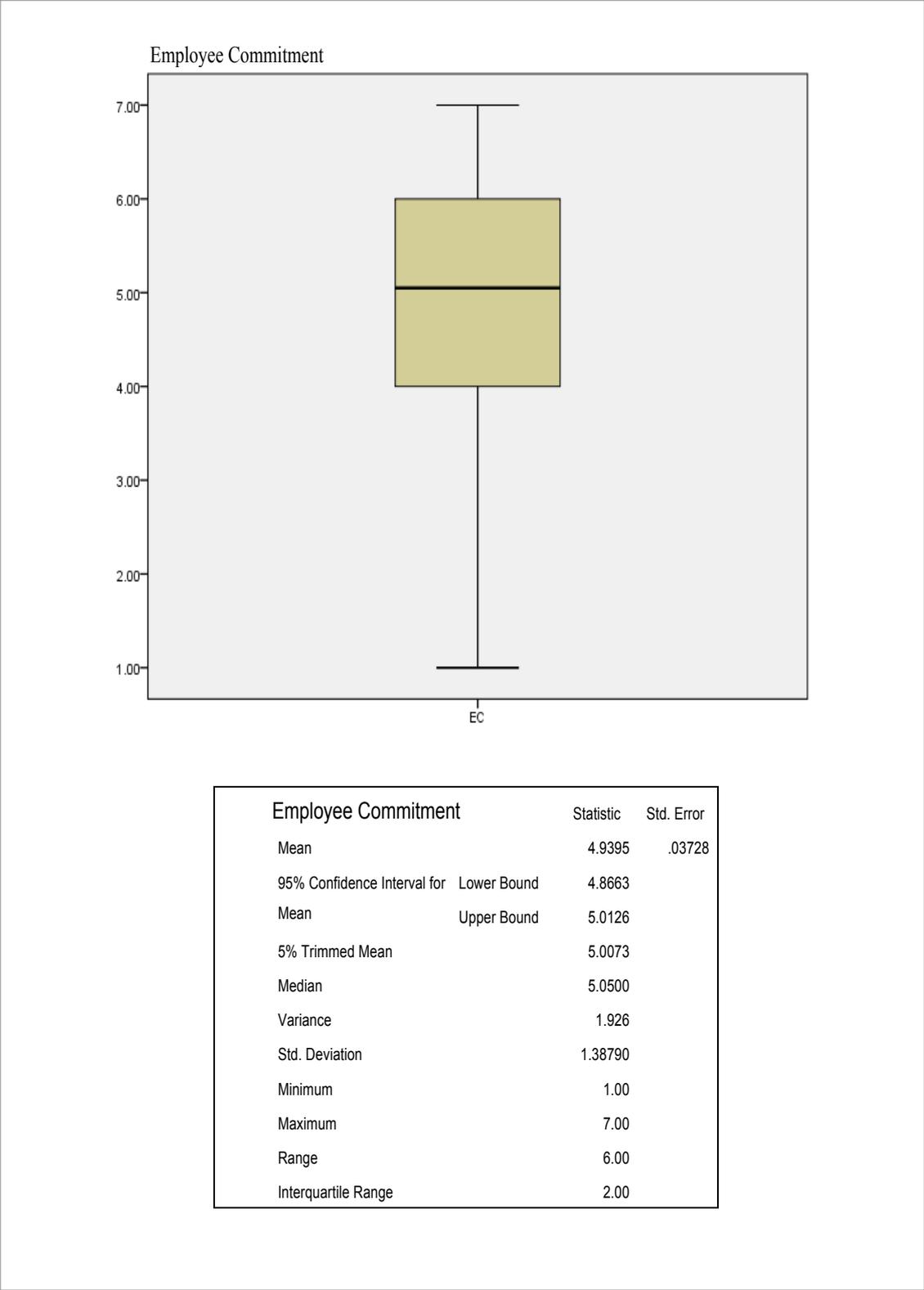


Figure 4-8 Box plot of Employee Commitment (data is free of outliers)

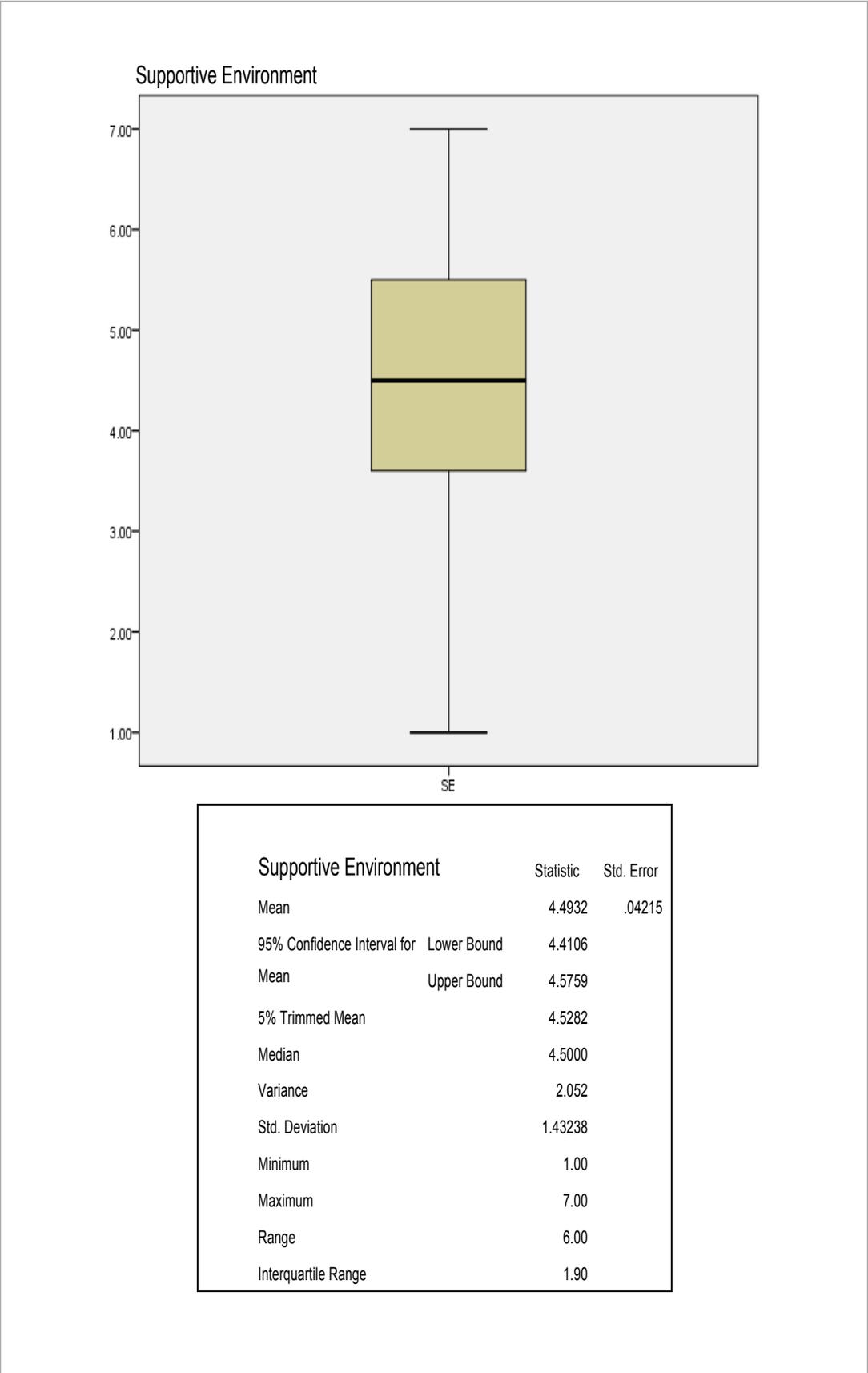


Figure 4-9 Box plot of Supportive Environment (data is free of outliers)

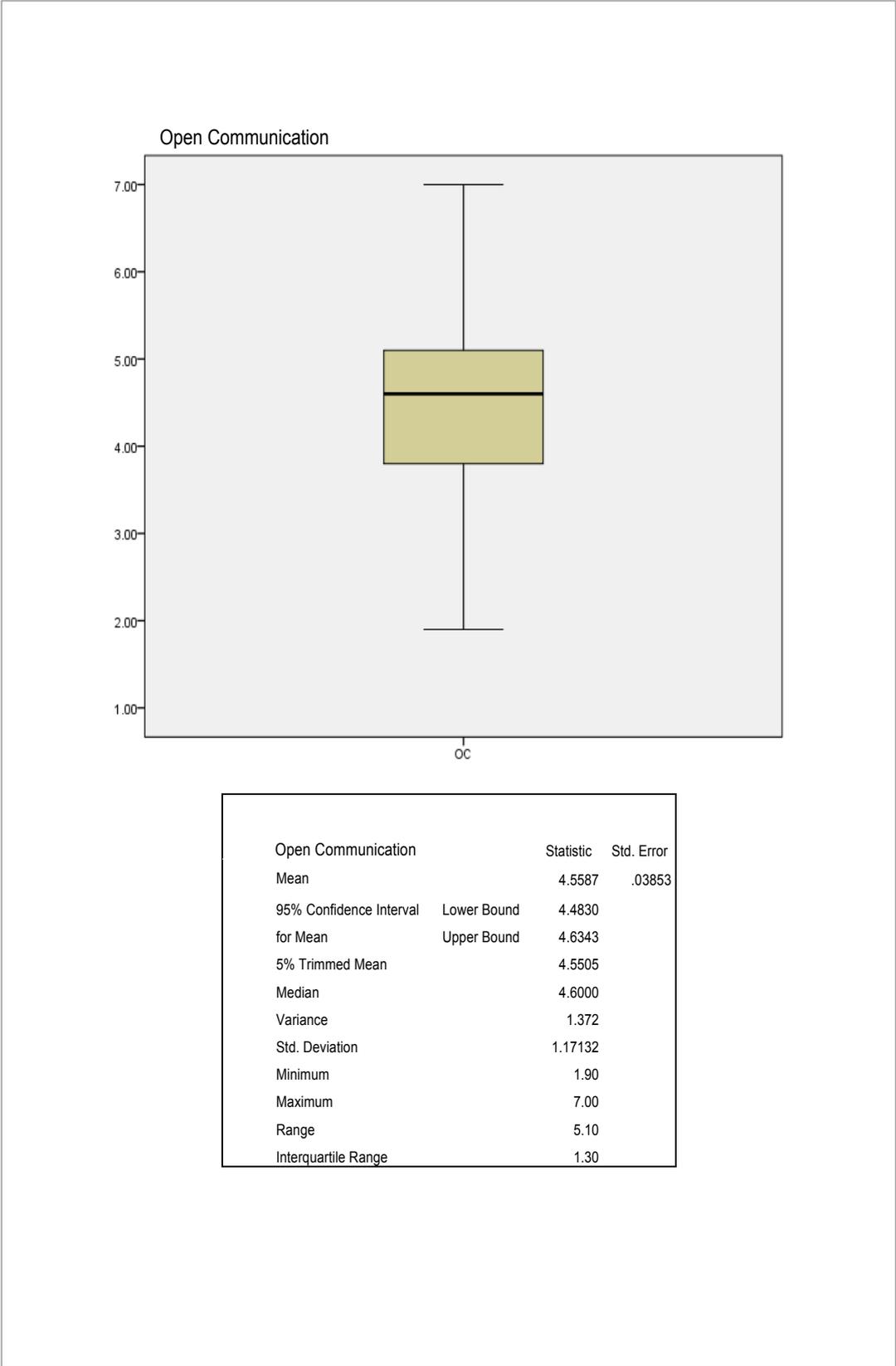


Figure 4-10 Box plot of Open Communication (data is free of outliers)

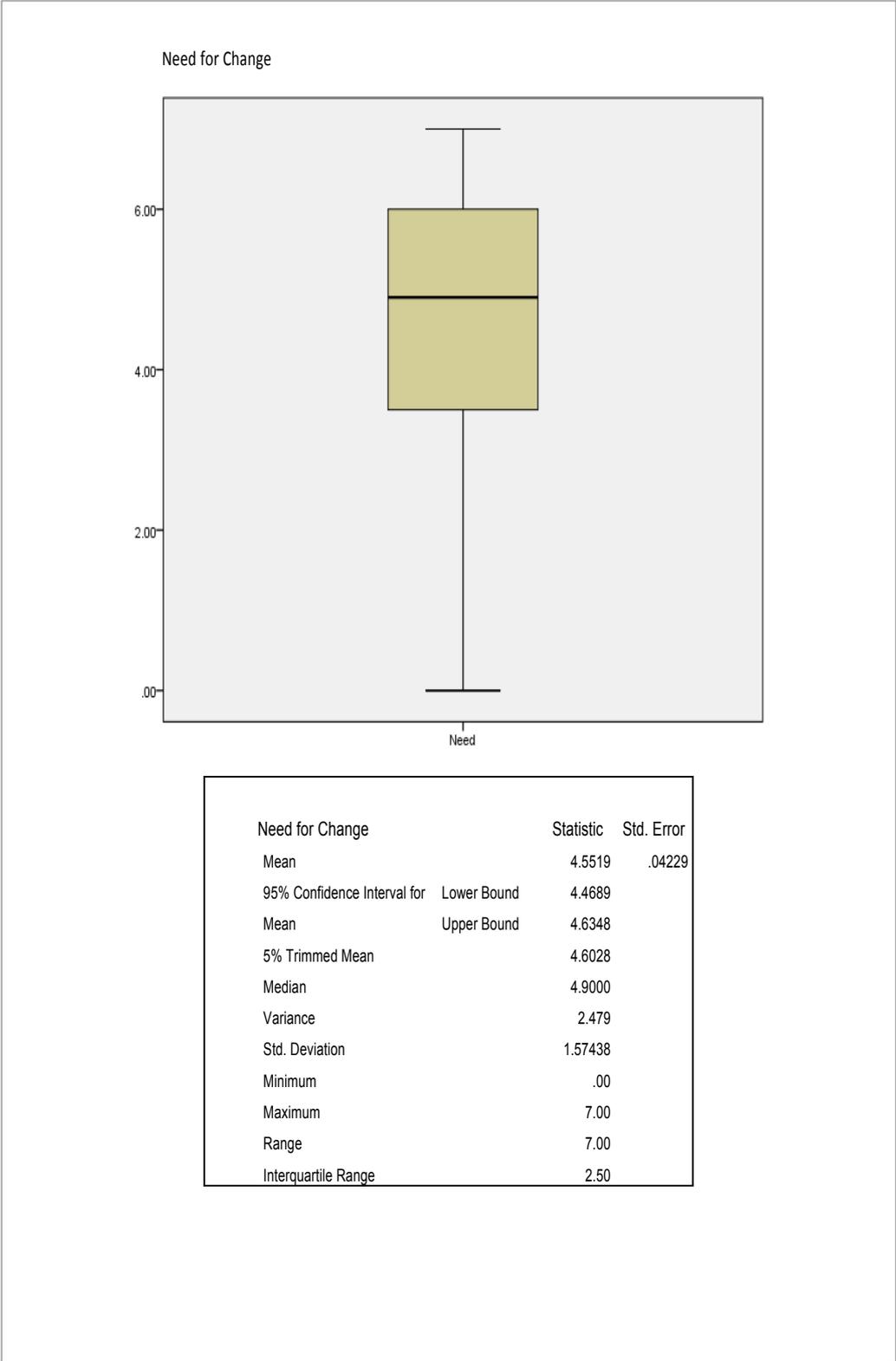
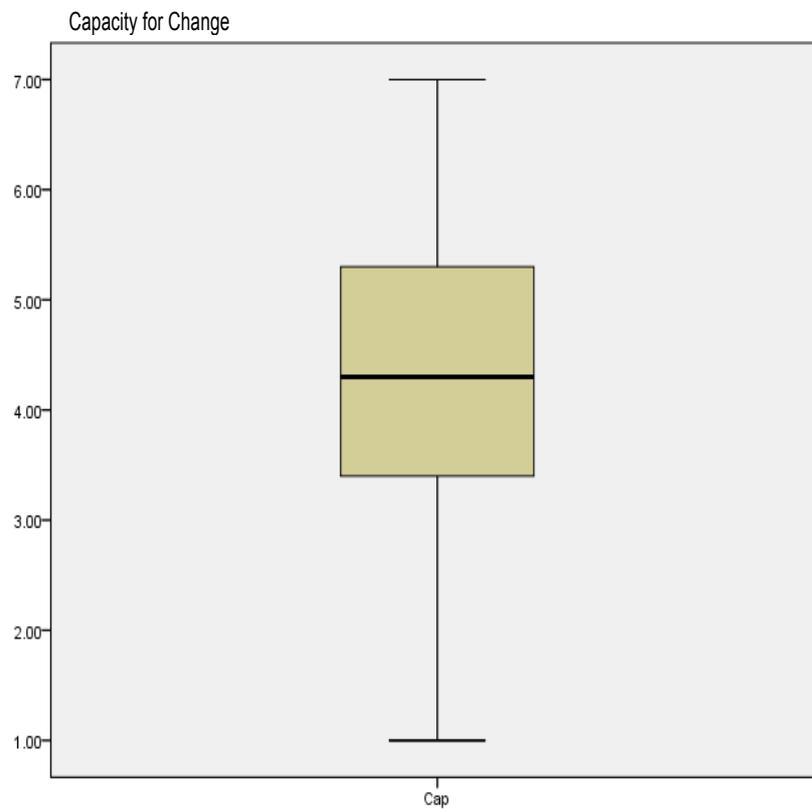


Figure 4-11 Box plot of Need for Change (data is free of outliers)



Capacity for Change	Statistic	Std. Error
Mean	4.4138	.03380
95% Confidence Interval for Mean	Lower Bound 4.3475	
	Upper Bound 4.4801	
5% Trimmed Mean	4.4417	
Median	4.3000	
Variance	1.847	
Std. Deviation	1.35912	
Minimum	1.00	
Maximum	7.00	
Range	6.00	
Interquartile Range	1.90	

Figure 4-12 Box plot of Capacity for Change (data is free of outliers)

4.4.1c) Normality

The Normality for each category (factor) of data is determined by visual inspections of their histograms and the normality of the Q-Q plots shown in the figures, as illustrated (Doane and Seward 2011, Cramer and Howitt 2004):

Factors	
Organisational Vision	(Figure 4-13)
Value for Employees	(Figure 4-14)
Employee Commitment	(Figure 4-15)
Supportive Environment	(Figure 4-16)
Open Communication	(Figure 4-17)
Need for Change	(Figure 4-18)
Capacity for Change	(Figure 4-19)

As indicated in Section 3.2.4, the ‘Z’ score is also reviewed as an indication of skewness and kurtosis. Skewness and kurtosis are deemed to exist when the ‘Z’ values are greater than +/- 1.96, while normal distribution is achieved when ‘Z’ scores are within the range of +/- 1.96. An overview of the normality test for the data collected in this study is shown in Table 4-5 below:

Table 4-5 Overview of the test for Normality

Factor	Skewness			Kurtosis		
	Stats	SE	Z score	Stats	SE	Z score
OCul: Vision	-0.148	0.093	-1.59	-0.544	0.185	-2.94
OCul: Value for Employee	-0.571	0.066	-8.65	-0.167	0.066	-2.53
OCul: Commitment	-0.565	0.066	-8.56	-0.107	0.131	-0.82
OCul: Support Environment	-0.296	0.072	-4.11	0.377	0.144	2.62
OCul: Open Communication	-0.103	0.08	-1.29	-0.161	0.161	-1.00
OR4C: Need for Change	-0.477	0.066	-7.23	-0.378	0.131	-2.89
OR4C: Capacity for Change	-0.195	0.061	-3.20	0.511	0.122	4.19

Test for Normality: Organisational Vision

The Organisational Vision factor has a skewness value of -0.148 (SE 0.093) and kurtosis value of -0.544 (SE 0.185), indicating that there is no skewness issue, but possibly a kurtosis problem. However, the histogram and Q-Q plot in Figure 4-13 below show that the data for Organisational Vision is approximately normal and appropriate for use in the investigation.

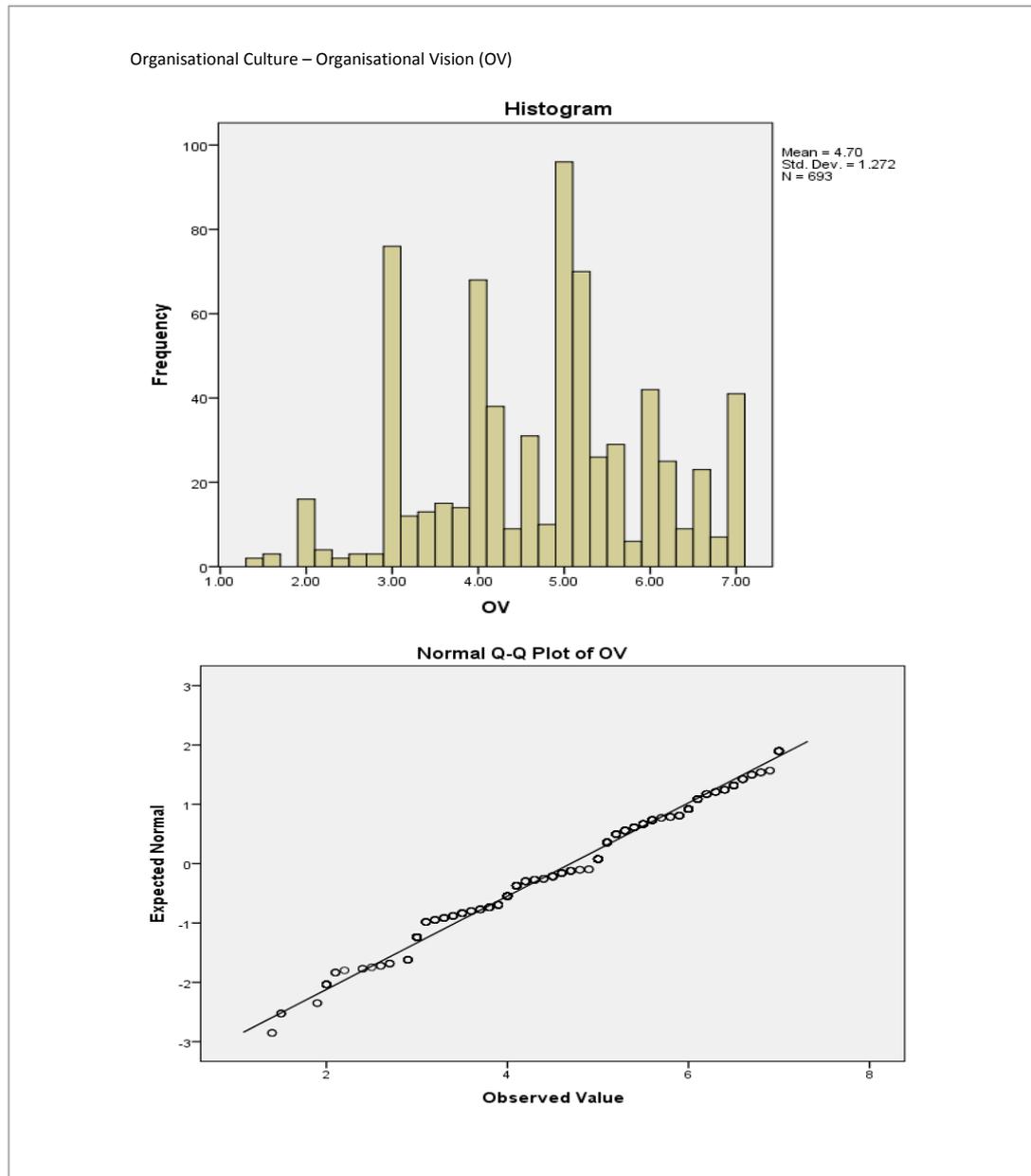


Figure 4-13 Histogram and Q-Q plot for - Organisational Vision

Test for Normality: Value for Employees

The Value for Employees factor has a skewness value of 0.571 (SE 0.066) and a kurtosis value of -0.167 (SE 0.066), indicating that there are probably issues with both skewness and kurtosis. However, visual inspection of the histogram and Q-Q plot in

Figure 4-14 below confirms that data for Value for Employees, as illustrated in the histogram, resembles the bell shape curve of normal distribution, albeit tending to the right (skewed toward the higher value) and slightly kurtotic. Data points in the Q-Q plot are, however, clustered around the line of normality, indicating that the data pattern is approximately normal and appropriate for use in the investigation. The skewness of the values at the higher end of the scale is to be expected and reflects the importance of Employee Commitment to OChg Success.

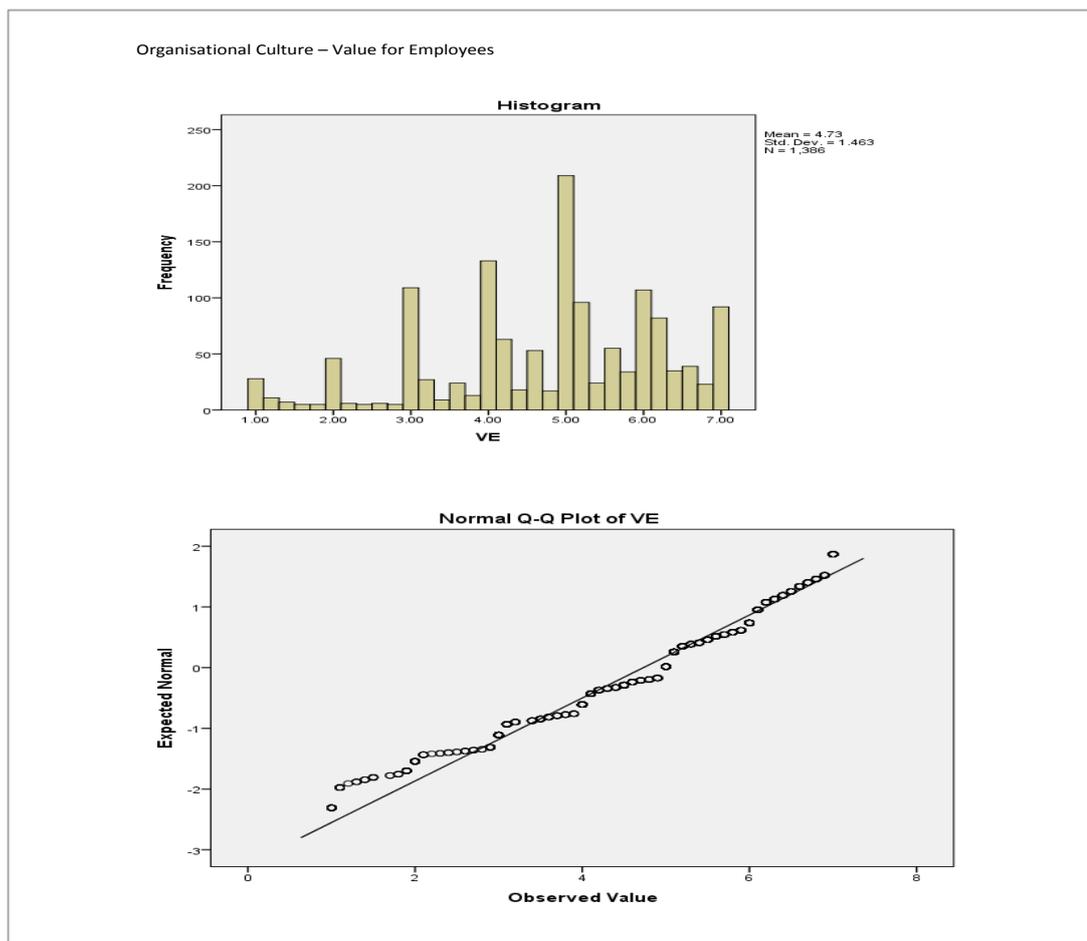


Figure 4-14 Histogram and Q-Q plot for – Value for Employees

Test for Normality: Employee Commitment

The Employee Commitment factor has a skewness value of 0.571 (SE 0.066) and a kurtosis value of -0.107 (SE 0.131), indicating that there are probably issues with both skewness and kurtosis. However, the histogram and Q-Q plot in Figure 4-15 below show that data for Employee Commitment, as illustrated in the histogram, resemble the bell-shape curve of normal distribution, albeit tending to the right (skewed toward the higher value) and slightly kurtotic. Data points in the Q-Q plot are, however, clustered around the line of normality, indicating that the data pattern is approximately normal and appropriate for use in the investigation. The skewness of the values at the higher end of the scale is to be expected and reflects the importance of Employee Commitment to OChg Success.

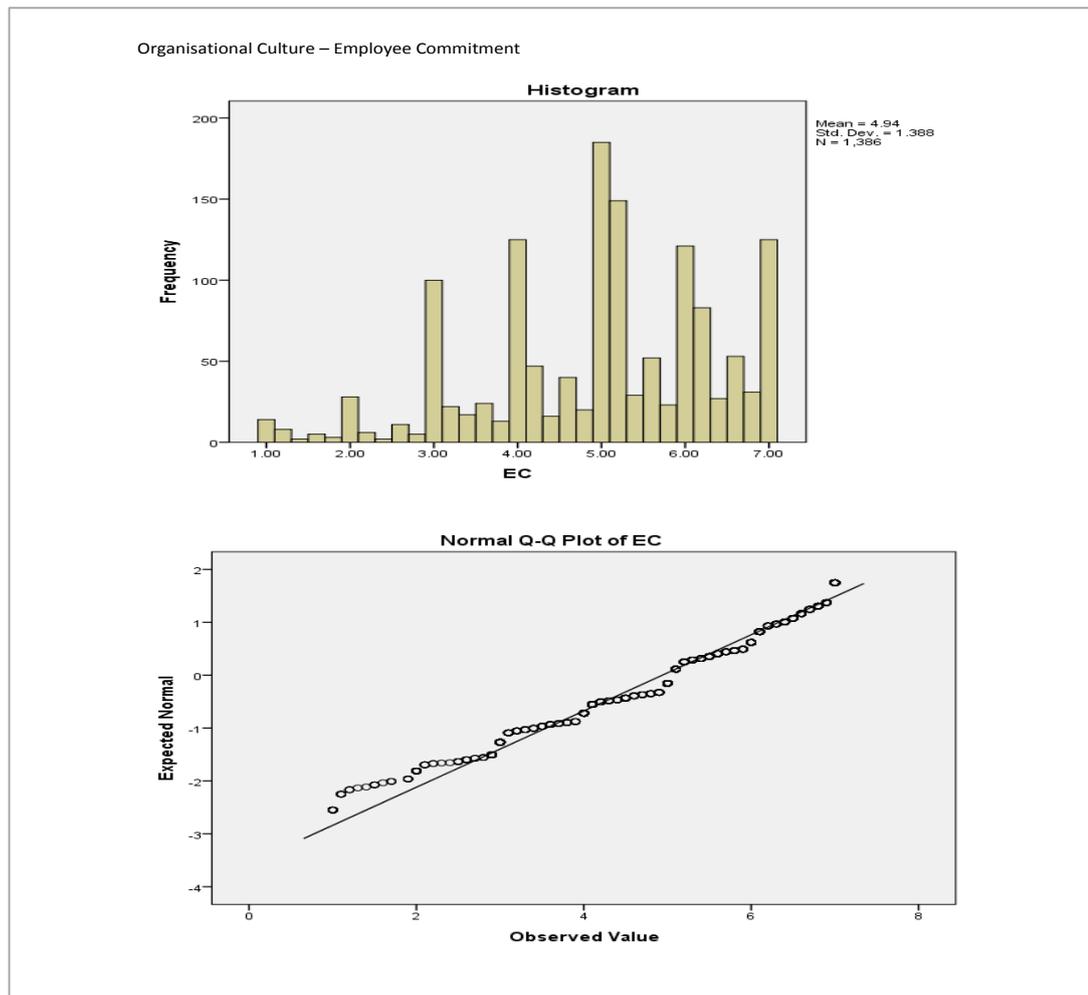


Figure 4-15 Histogram and Q-Q plot for – Employee Commitment

Test for Normality: Supportive Environment

The Supportive Environment factor has a skewness value of 0.296 (SE 0.072) and a kurtosis value of 0.377 (SE 0.144), indicating that there are probably issues with both skewness and kurtosis. However, the histogram and Q-Q plot in Figure 4-16 below shows that data for Supportive Environment, as illustrated in the histogram, resemble the bell-shape curve of normal distribution, albeit tending to the right (skewed toward the higher value) and slightly kurtotic. Data points in the Q-Q plot are, however, clustered around the line of normality, indicating that the data pattern is approximately normal and appropriate for use in the investigation. The skewness of the values at the higher end of the scale is to be expected and reflects the importance of a Supportive Environment to OChg Success.

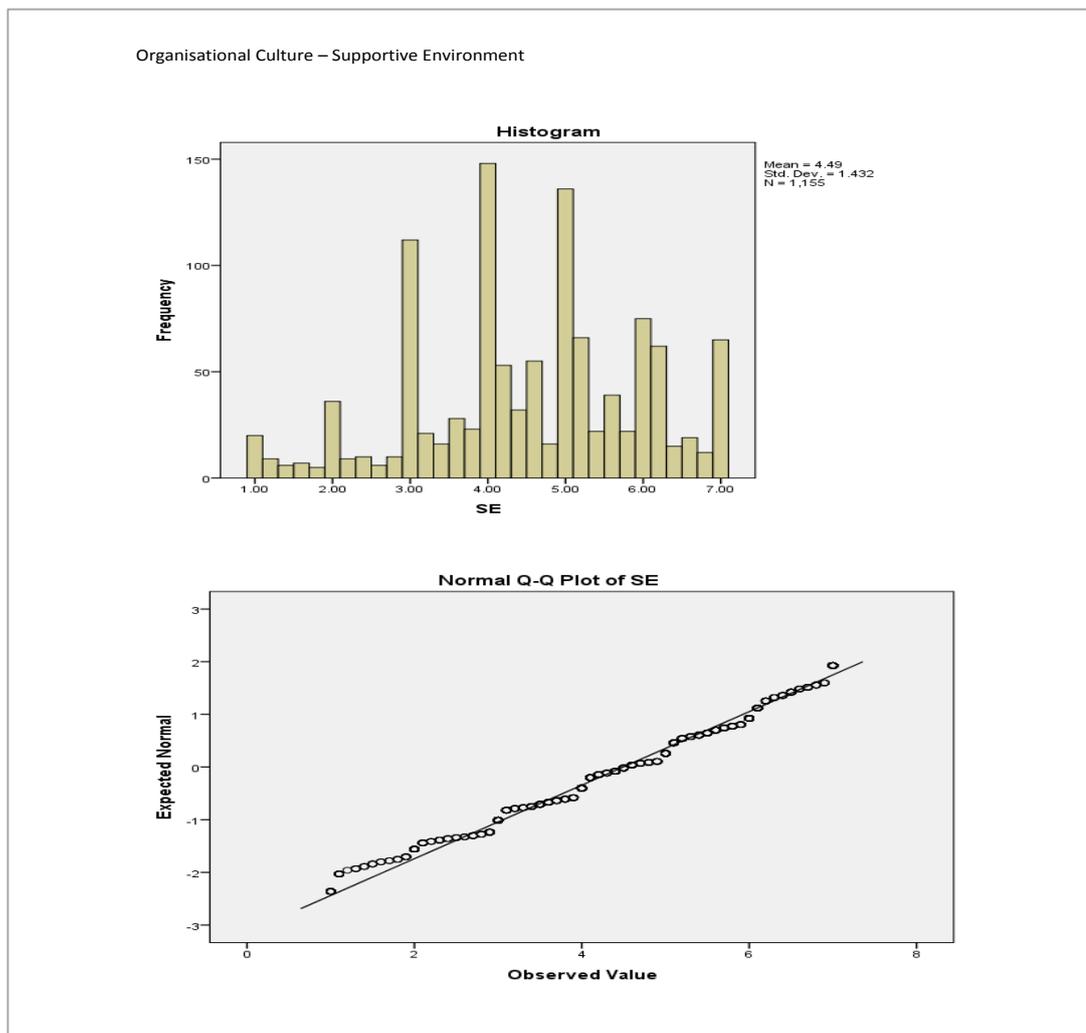


Figure 4-16 Histogram and Q-Q plot for – Supportive Environment

Test for Normality: Open Communication

The Open Communication factor has a skewness value of 0.103 (SE 0.080) and a kurtosis value of -0.161 (SE 0.161), indicating that there is probably no issue with either skewness or kurtosis. Inspection of the histogram and Q-Q plot in Figure 4-17 below also reveals that the data for Open Communication, as illustrated in the histogram, resemble the bell-shape curve of normal distribution, albeit tending to the right. Data points in the Q-Q plot are also clustered around the line of normality, indicating that the data pattern is approximately normal and appropriate for use in the investigation.

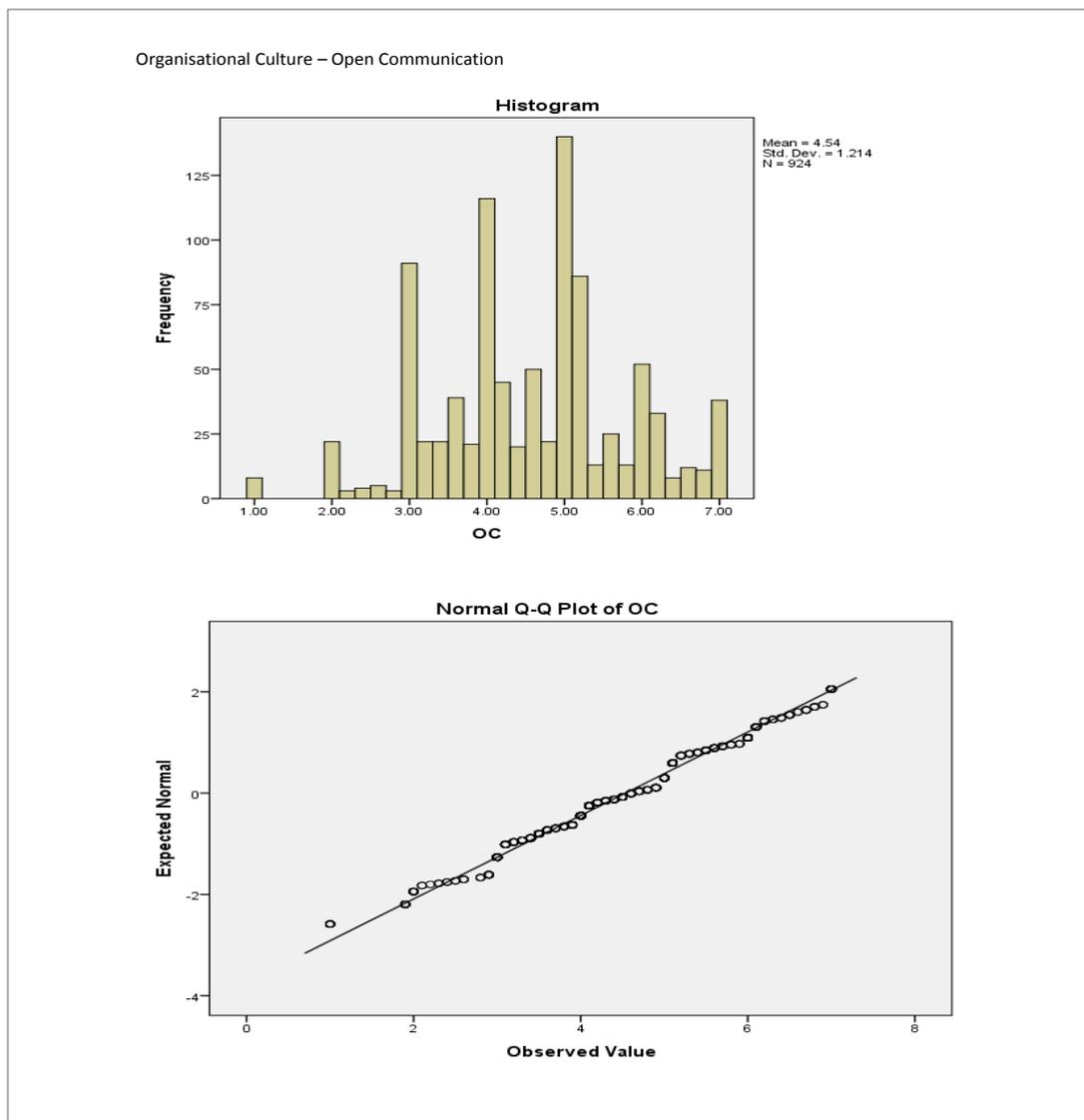


Figure 4-17 Histogram and Q-Q plot for Open Communication

Test for Normality: Need For Change

The Need for Change factor has a skewness value of 0.477 (SE 0.066) and a kurtosis value of 0.378 (SE 0.131), indicating that there are probably issues with both skewness and kurtosis. However, the histogram and Q-Q plot in Figure 4-18 below show that data for the Need for Change, as illustrated in the histogram, resemble the bell-shape curve of normal distribution, albeit tending to the right (skewed toward the higher value) and slightly kurtotic. Data points in the Q-Q plot are, however, clustered around the line of normality, indicating that the data pattern is approximately normal and appropriate for use in the investigation. The skewness of the values at the higher end of the scale is to be expected and reflects the importance to OChg Success of the perceived Need for Change.

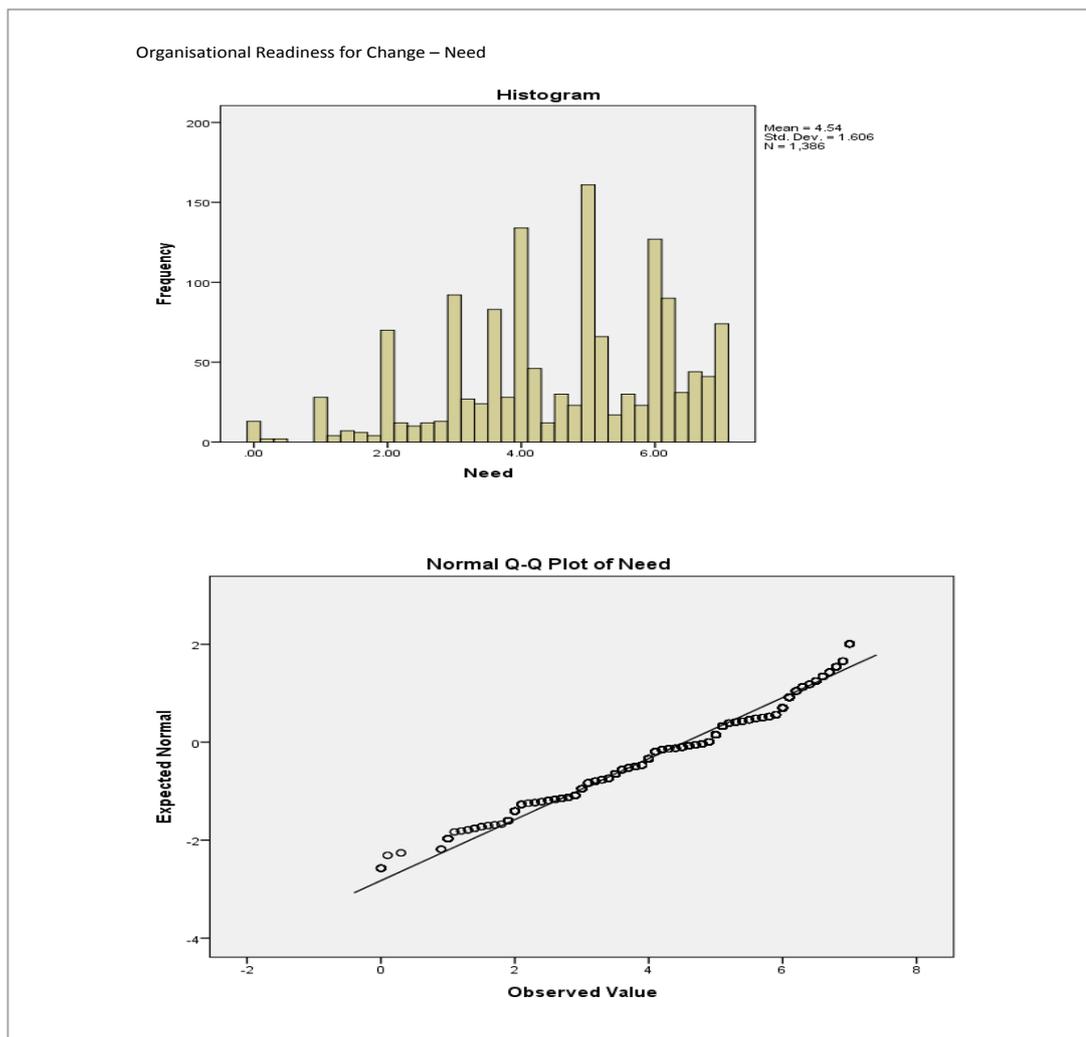


Figure 4-18 Histogram and Q-Q plot for – Need for Change

Test for Normality: Capacity for Change

The Capacity for Change factor has a skewness value of 0.195 (SE 0.061) and a kurtosis value of 0.511 (SE 0.122), indicating that there are probably issues with both skewness and kurtosis. However, the histogram and Q-Q plot in Figure 4-19 below show that data for the Capacity for Change, as illustrated in the histogram, resemble the bell-shape curve of normal distribution, albeit tending to the right (skewed toward the higher value) and slightly kurtotic. Data points in the Q-Q plot are, however, clustered around the line of normality, indicating that the data pattern is approximately normal and appropriate for use in the investigation. The skewness of the values at the higher end of the scale is to be expected and reflects the importance of the Capacity for Change in achieving OChg Success.

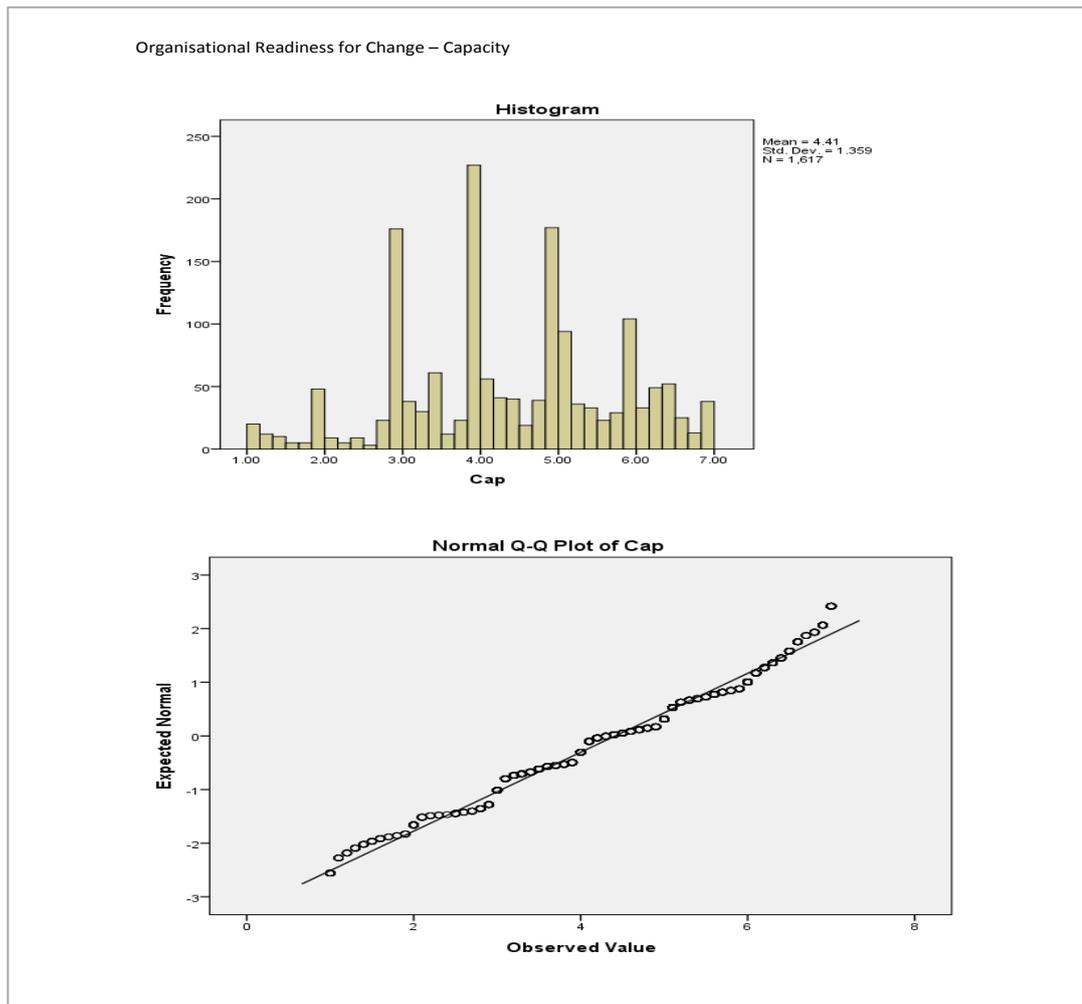


Figure 4-19 Histogram and Q-Q plot for – Capacity For Change

The above figures (Figure 4-13, Figure 4-14, Figure 4-15, Figure 4-16, Figure 4-17, 4-18 and 4-19) outlined in detail the results of the Test for Normality for each of the factors used to conceptualise OCul and OR4C. Apart from the OV (vision) and OC (communication) factors that were found have a normal data distribution on the basis of their 'Z' values, the remaining factors were highlighted as likely to be represented by data that are either skewed, kurtostic or both. However, visual inspection of their histograms indicated that despite being skewed and/or kurtostic, the data distribution was shaped in a bell curve that is characteristic of a normal distribution. Further, the clustering of data points about the normality line in the Q-Q plot also indicates that the data collected for each of the factors is approximately normal and suitable for analysis and further investigation. Having been screened for missing values, outliers and normality, the data collected was subsequently used for scale validation, described in Section 4.5 below.

4.5 Scale Validation

The results shown in Sections 4.5.1 and 4.5.2 (below) relate to the Test for Convergent Validity and Discriminate Validity respectively.

4.5.1 Test for Convergent Validity

The convergent validity of the factors used in this study is established on the basis of three criteria, as outlined in Section 3.2.4 (Step 4c):

- 1) If the aggregate Cronbach's Alpha measurement of the variables used to assess a factor is greater than 0.70 (Hair et al. 2006, Robinson, Shaver, and Wrightsman 1991).
- 2) If the standardised correlations measurement for a variable is at least 0.60 (Bagozzi and Yi 1988).
- 3) If the square multiple correlations assessment (also referred to as R^2) of each variable is at least 0.40 (Bollen 1998).

The data collected in this study indicate that all of the variables converged on the factors that were used to make up the OCul and OR4C construct. As shown in (Table 4-6 The CR, AVE, MSV and ASV for OCul and OR4C) below, the lowest value is found in the ‘Employee Commitment’ factor for OCul, which had a Cronbach’s alpha assessment of 0.801. While the highest Cronbach’s Alpha for OCul was 0.934 for the ‘Value for Employees’ factor in the OCul construct, ‘the Need for Change’ factor for OR4C was the higher of the two factors (for the OR4C construct), with a Cronbach’s Alpha score of 0.934.

All the standardised correlations measurements for each variable were at least 0.60 (Bagozzi and Yi 1988), with the exception of variable EC1, which was part of the Employee Commitment factor for assessing OCul (loading 0.50). This indicated that EC1 was a poor fit with the rest of the variables for measuring the Employee Commitment factor and it was therefore not included for further analysis.

With the exception of three variables (EC1- 0.25, CAP 1- 0.38 and CAP 7 – 0.27), all other variables had a Square Multiple Correlations value higher than 0.40 (Bollen 1998). This indicated that the variables EC1, CAP 1 and CAP 7 were poor measures of their respective factors and they were subsequently excluded from further analysis.

4.5.2 Test for Reliability And Discriminant Validity

Based on the data collected in the study, the following values were computed.

Table 4-6 The CR, AVE, MSV and ASV for OCul and OR4C

	CR	AVE	MSV	ASV
Organisational Culture				
Supportive Environment (SE)	0.918	0.692	0.906	0.725
Organisational Vision (OV)	0.878	0.707	0.626	0.494
Value for Employees (VE)	0.934	0.704	0.889	0.733
Employee Commitment (EC)	0.790	0.396	0.889	0.801
Open Communication (OC)	0.904	0.703	0.906	0.726
Organisational Readiness for Change				
Need for Change (Need)	0.940	0.710	0.710	0.710
Capacity for Change (CAP)	0.900	0.560	0.710	0.710

CR=Composite Reliability, AVE= Average Variance Extracted, MSV=Maximum Shared Variance, ASV=Average Shared Variance

All the values for CR are above 0.70, which indicates that the scales for all the factors are reliable on the basis of internal consistency (Hair Jr et al. 2009).

Discriminate validity was established for the factor OV, where its value of AVE (0.707) was greater than its MSV (0.626) and ASV (0.494). There were discriminant validity issues for all other factors, for the reasons outlined below:

SE: AVE (0.692) was less than MSV (0.906) and ASV (0.725)

VE: AVE (0.704) was less than MSV (0.889) and ASV (0.733)

EC AVE (0.396) was less than MSV (0.889) and ASV (0.801)

OC AVE (0.703) was less than MSV (0.906) and ASV (0.726)

CAP AVE (0.0.56) was less than MSV (0.710) and ASV (0.710)

Based on the analysis, the five factors for conceptualising OCul and two factors for conceptualising OR4C were indiscriminate, which indicates that the factors are conceptually identical. On that basis, the factors were combined for further analysis.

Table 4-7 Properties of the Organisation Culture and Organisational Readiness for Change Constructs

M = Mean, SD = Standard Deviation, Reg. Wt. = Standardised Regression Weights, SMC = Squared Multiple Correlations

Factors / Variables	Description of variables (Organisational Culture)	M	SD	Loading	SMC
	Organisational Vision - Cronbach's Alpha 0.869				
OV1	I have a clear understanding of the visions of my organisation and what it wants to be in the future.	4.97	1.42	0.81	0.65
OV2	Most of the activities in my organisation are aligned to achieving its long-term goals.	4.66	1.33	0.91	0.84
OV3	The employees in my organisation are committed to a shared organisational vision.	4.29	1.24	0.78	0.62
	Value for Employees - Cronbach's Alpha 0.934				
VE1	Employees are highly valued by the leaders and managers of my organisation.	4.48	0.15	0.89	0.79
VE2	The contributions of the work I do are well recognised by my organisation.	4.54	1.51	0.83	0.69
VE3	My organisation recognises the contributions of high performing staff members.	4.38	1.57	0.88	0.78
VE4	There is a strong commitment in my organisation to encouraging continuous self-improvement.	4.88	1.39	0.83	0.69
VE5	My organisation is committed to providing staff training programs.	5.08	1.38	0.74	0.55
VE6	Learning and development are highly valued in my organisation.	5.03	1.29	0.83	0.69
	Employee Commitment - Cronbach's Alpha 0.801				
EC1	I am committed to the work that I do in my organisation.	5.87	0.908	0.50	0.25
EC2	I am satisfied with the work that I do in my organisation.	5.23	1.36	0.64	0.41
EC3	I feel that I am competent to deal with all changes in my organisation.	5.50	0.99	0.38	0.14
EC4	Staff members in my organisation have strong influence on decisions made regarding organisational change.	3.79	1.36	0.67	0.46
EC5	I am accorded a respectable status in the work I perform in my organisation.	5.05	1.48	0.71	0.51
EC6	People in my organisation have positive attitudes toward changes that they face at work.	4.10	1.32	0.76	0.58

M = Mean, SD = Standard Deviation, Reg. Wt. = Standardised Regression Weights, SMC = Squared Multiple Correlations					
Factors / Variables	Description of variables (Organisational Culture)	M	SD	Loading	SMC
	<i>Supportive Environment - Cronbach's Alpha 0.916</i>				
SE1	Different departments in my organisation are mutually supportive for the overall good of the organisation.	4.42	1.45	0.79	0.62
SE2	There is a high level of trust between management and the staff in my organisation.	4.13	1.66	0.90	0.81
SE3	Staff members in my organisation can rely on the support of their managers when needed.	4.65	1.51	0.84	0.71
SE4	There is a high level of trust among the members in my organisation.	4.33	1.52	0.85	0.72
SE5	There is a high level of mutual support among employees in my organisation.	4.67	1.33	0.76	0.57
	<i>Open Communication - Cronbach's Alpha 0.904</i>				
OC1	There is open communication between managers and employees in my organisation.	4.33	1.51	0.90	0.82
OC2	Conflicts are generally resolved proficiently in my organisation.	4.20	1.37	0.81	0.66
OC3	There is open communication among employees in my organisation.	4.54	1.36	0.80	0.64
OC4	Information exchanged between members in my organisation is mostly accurate	4.68	1.24	0.82	0.67

M = Mean, SD = Standard Deviation, Reg. Wt. = Standardised Regression Weights, SMC = Squared Multiple Correlation

Factors / Variables	Description of variables (Organisational Culture)	M	SD	Loading	SMC
	<i>Need for Change (Need) - Cronbach's Alpha 0.934</i>				
NEED1	I believe there was a real business need for us to make this change.	4.88	1.86	0.87	0.75
NEED2	I feel that this change was appropriate and likely to solve the problem as intended.	4.60	1.90	0.90	0.82
NEED3	I have benefited / will benefit personally from this change.	4.15	2.05	0.80	0.65
NEED4	My organisation has benefited / will benefit significantly from this change.	4.60	1.94	0.86	0.75
NEED5	I was personally committed to this change	5.20	1.54	0.78	0.60
NEED6	I felt well informed of the real need for my organisation to make this change	4.69	1.75	0.81	0.65
	<i>Capacity for Change (CAP) - Cronbach's Alpha 0.900</i>				
CAP1	I have the skills necessary to make this change work.	5.11	1.34	0.62	0.38
CAP2	The people who implemented this change had the skills necessary to SUPPORT this change	4.58	1.70	0.90	0.81
CAP3	The people leading this change had the skills necessary to MAKE this change work.	4.58	1.68	0.90	0.82
CAP4	There was a high level of staff involvement in making this change.	4.22	1.73	0.73	0.53
CAP5	Adequate resources were allocated to make this change successful.	4.41	1.70	0.74	0.56
CAP6	The leaders in my organisation were trustworthy in relation to this change.	4.83	1.55	0.75	0.56
CAP7	The senior management in my organisation had strong commitment to this change.	5.17	1.37	0.52	0.27

4.6 Model Development

4.6.1 OCul Model Fitting

Despite the presence of strong theoretical supports (shown in Section 4.3.1) to theorise OCul as a construct that is comprised of five distinct factors (OV, SE, EC, SE and OC), the presence of high factor correlations shown by the data collected in this study suggested otherwise. The test for discriminant validity outlined in Section 4.5.2 illustrated that the factor OV was shown to highly correlate to VE (0.74) and that VE was, in turn, highly correlated to EC (0.94). SE was also shown to be strongly correlated to EC (0.93) and OC (0.96).

The highly correlated factors meant that they were not distinct and that the variables used to measure each of the respective factors were, in essence, measuring different aspects of a single factor. On this basis, OV, VE and EC were combined to make up the new factor VE. VE was believed to be the most appropriate factor name because it may be conceptualised as the goals of OV and it is likely to encourage EC. On the same basis, SE was assumed to be unlikely to exist in the absence of OC. Therefore, all the variables for assessing OC were incorporated into the SE factor, and the new factor name of SE was used for further analysis.

As the result of this reconfiguration, OCul was conceptualised as being comprised of two factors: VE and SE. A high correlation between VE and SE (0.89) indicated that they were not distinct factors, and that they should be combined. The factors VE and SE were therefore combined and the aggregate of their variables was taken to represent the OCul construct. The OCul construct was then subject to further refinement in CFA, which is described in the section below.

Using the modification indices reported in AMOS (CFA), a number of variables were flagged for re-examination. Although many of the variables were retained, many others were removed. The variables that were removed from the model were taken out for one or more of three main reasons:

- 1) If the variables were loading poorly on a factor, indicating that it was a poor measurement item for the factor.
- 2) If the variables were shown to relate to more than one factor in the model and retaining it would cause the condition of cross-loading.

3) If one variable was flagged as having been caused by another variable. For example, if two variables X & Y were shown to have a causal relationship, then the response to variable Y would inadvertently be dependent on the initial response to variable X. In such a case, measuring variable Y would be unnecessary as the result of variable Y is dependent on the result of variable X.

The discussion that follows is a detailed account of the variables that were deleted, along with the reasons for their exclusion. The result of the process is the fitted model of the OCul construct shown in Figure 4-20.

4.6.1 a) Variables deleted as the result of poor loading on the OCul construct

Table 4-8 Variables deleted as the result of loading poorly on the OCul construct

Variables	Questions	Loadings
EC1	I am committed to the work that I do in my organisation.	(0.48)
EC2	I am satisfied with the work that I do in my organisation.	(0.63)
EC3	I feel that I am competent to deal with all changes in my organisation.	(0.37)
EC4	Staff members in my organisation have a strong influence on decisions made regarding organisational change.	(0.66)
EC5	I am accorded respectable status in the work that I perform in my organisation.	(0.66)
OV1	I have a clear understanding of the vision of my organisation and what it wants to be in the future.	(0.56)
OV2	Most of the activities in my organisation are aligned with achieving its long-term goals.	(0.64)
VE5	My organisation is committed to providing staff training programs.	(0.62)

Employee Commitment (EC)

EC is well supported in the literature as being an important part of OCul that strongly influences the chances of achieving OChg Success (Gifford, Zammuto, and Goodman 2002, Thomas Li-Ping, Kim, and O'Donald 2000, Reigle 2001, Cooke and Rousseau 1988, Minvielle et al. 2005, Maull, Brown, and Cliffe 2001, Alas and Vadi 2004). However, the five variables that were employed to assessing EC in this study were found to be poor measures of the OCul construct. The various dimensions of

EC were found to be cross-loading with variables belonging to factors employed in this study. Namely, EC was shown to be highly correlated to and influenced by both the visions of an organisation (OV: 0.79), and the value that an organisation has for its employees (VE: 0.94). EC is also shown to be susceptible to the influence of a Supportive Environment (SE: 0.93) and the degree of Open Communication between managers and staff (OC: 0.90).

As such, the measurement of these variables (OV, VE, SE and OC) renders it unnecessary for EC to be assessed as a separate dimension of OCul. The data in this study suggest that a large portion of EC might be explained by the factors of OV, VE, SE and OC. Namely, 62% of the variance of EC might be explained by OV ($R^2 = 0.79^2$), while 88% of the variance of EC might be explained by VE ($R^2 = 0.94^2$). Additionally, a variance of 86% in EC was shown in the data to be explained by SE ($R^2 = 0.93^2$), and a variance of 81% in EC was explained by OC. With such a high degree of overlap, measuring EC together with OV, VE, SE and OC would duplicate the measurement effort. While it might seem appealing to measure EC in place of OV, VE, SE and OC, this is unfeasible and would prove ineffective, as the correlation factor loading for EC is much lower than those for OV, VE, SE and OC. As such, the data uncovered in the study showed that the factor EC (comprised of variables EC1, EC2, EC3, EC4 and EC5) could be omitted without significant impact on the OCul construct.

Organisational Vision (OV)

OV1⁸ and OV2⁹ were the two factors highlighted as being adequate measures of OCul. While both variables (OV1 & OV2) would appear to be important influences on the achievement of OChg Success, the retention of the variable OV3 (Factor correlation: 0.70 – The employees in my organisation are committed to a shared organisational vision) might be a passable replacement. After all, it is highly likely that employees need a clear understanding of the vision of their organisation in order to align their activities with achieving them. Furthermore, the willingness of employees to align their activities with the visions of their organisation might be

⁸ (Factor correlation: 0.56 – I have a clear understanding of the vision of my organisation and what it wants to be in the future)

⁹ (Factor correlation: 0.64 – Most of the activities in my organisation are aligned to achieve its long-term goals)

considered to imply their willingness to commit to the shared vision. As such, the assessment of OV3 might be considered a satisfactory substitute for OV1 and OV2.

Value for Employees (VE)

The variable VE5 (Factor correlation: 0.62 – My organisation is committed to providing staff training programs) was highlighted as a poor measure of OCul as it influences OChg Success. Although the influence of VE2 on OCul is relatively high (Factor correlation: 0.62 / $R^2 = 0.385$), the overall impact of the factor is still significantly lower than other variables, such as OV3 (Factor correlation: 0.71 / $R^2 = 0.50$), SE3 (Factor correlation 0.86 / $R^2 = 0.73$) and OC2 (Factor correlation: 0.83 / $R^2 = 0.69$). More importantly, the variable was omitted from the study as it was below the factor correlation cut-off point of 0.7 (Hair 2009).

4.6.1 b) VE1 being caused by VE4 and VE5

Table 4-9 VE1 being caused by VE 4 and VE5

Variables	Questions
VE1	Employees are highly valued by leaders and managers in my organisation.
VE5	My organisation is committed to providing staff training programs.
VE4	There is strong commitment in my organisation to encouraging continuous self-improvement.

The conditions of VE4 and VE5 are indications of the degree to which organisations value their employees. As such, if the values that respondents attributed to VE4 and VE5 were high, the value attributed to the question in VE1 would inevitably also be high, and vice versa. On this basis, the condition of auto-correlation is believed to exist between VE4, VE5 and VE1. Accordingly, the variable VE1 was omitted from this study.

4.6.1 c) VE2 duplicates VE3

Table 4-10 VE2 duplicates VE3

Variables	Questions
VE2	The contribution of the work I do is well recognised by my organisation.
VE3	My organisation recognises the contributions of high-performing staffs.

Although the variables VE2 and VE3 were designed to measure different aspects of how much organisations value their employees, the two variables were shown in AMOS as being auto-correlated. In particular, it might be reasoned that it is highly unlikely that an organisation would recognise the contribution of the employees in the work they perform and simultaneously ignore the contributions of their high-performing staffs. As such, the value of VE2 is believed to be highly dependent on the value allocated to VE3. Accordingly, the variable VE2 was omitted from this study for being a duplicate of VE3.

4.6.1 d) VE4 duplicates VE 5

Table 4-11 VE4 duplicates VE5

Variables	Questions
VE4	There is a strong commitment in my organisation to encouraging continuous self-improvement
VE5	My organisation is committed to provide staff training program.

The variable VE4 was identified by the modification indices of the AMOS software as being auto-correlated to VE5. Although encouraging continuous self-improvement is conceptually identical to the willingness to provide staff training programs, the two variables measured different aspects of how much an organisation values its employees. However, on closer examination of the two variables, it becomes clear that the value a respondent allocates to VE4 is highly dependent on the value he or she allocates to VE5. As such, there is auto-correlation between the variables VE4 and VE5. Accordingly, VE4 was excluded from further analysis.

4.6.1 e) OC3 duplicates OC4 and SE4

Table 4-12 OC3 duplicates OC4 and SE4

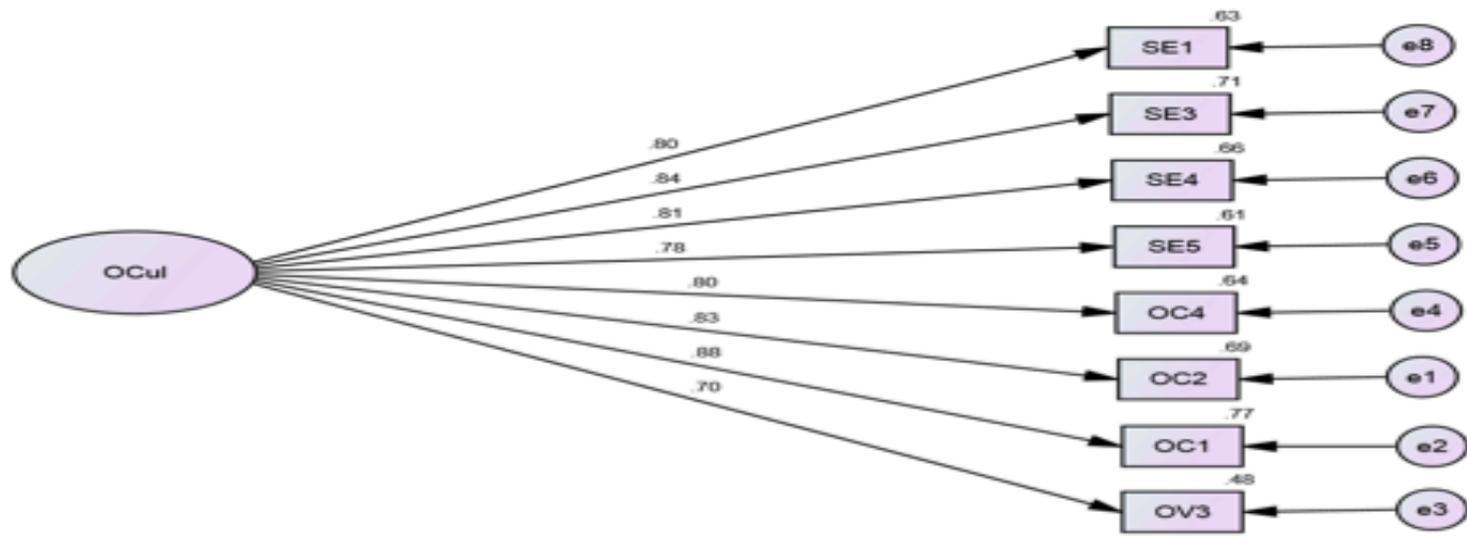
Variables	Questions
OC3	There is open communication among employees in my organisation.
OC4	Information-exchange between members in my organisation is mostly accurate.
SE4	There is a high level of trust among members in my organisation.

The variable OC3 was identified (by the modification indices function of the AMOS software) as being auto-correlated to OC4 and SE4. It is logical to assume that open communication among employees is highly related to the accuracy of the information being exchanged, as well as to the level of trust among people in an organisation. As such, it follows that the degree of open communication perceived by the respondents to the survey would be dependent on the values they allocate to the variables OC4 and VE4. As such, the variable OC3 was omitted from the study for reason of being auto-correlated to the variables OC4 and SE4.

4.6.2 Fitted OCul Model in Confirmatory Factor Analysis (CFA)

Figure 4-20 shows a fitted model of the OCul construct. The model comprises eight measurement variables (SE1, SE3, SE4, SE5, OC1, OC2, OC4 and OV3), and the Cronbach's Alpha value is 0.936. The standardised loading values for all the variables are above the minimum of 0.60 (Bagozzi and Yi 1988). The values of the standardised loadings are between 0.70 and 0.88, with the lowest being the variable OV3 (0.70) and the highest being OC1 (0.88). All the Squared Multiple Correlation (R^2) values are greater than the minimum of 0.40 (Bollen 1998), with the lowest being OV3 (0.48) and the highest being OC1 (0.77). The reliability of the OCul construct is based on the value of its Cronbach's Alpha, while its validity is established on the basis of its standardised loadings and its Squared Multiple correlation (R^2) (see Section 4.5.1).

The OCul model is well-fitted to the data, with $\chi^2 = 38.277$, $DF = 20$ and $\chi^2/DF = 1.914$, p -value = 0.08. The model appears to fit well to the data. This good fit is indicated by the following fit indices: GFI=0.959, AGFI=0.927, NFI=0.972, CFI=0.986, TLI=0.981 and RMSEA=0.63.



χ^2	df	χ^2/df	p	GFI	AGFI	NFI	CFI	TLI	RMSEA
38.277	20	1.914	.008	0.959	0.927	0.972	0.986	0.981	0.63

Figure 4-20 Fitted Measurement Model for Organisational Culture

4.6.3 OR4C Model Fitting

Despite the strong theoretical supports in the literature for conceptualising OR4C as comprising two distinct factors (Section 4.3.2), the test for discriminant validity in Section 4.5.2 indicated the presence of discriminant validity issues, suggesting that the two factors (Need and CAP) should be combined into a single factor in order to be more representative of the findings.

Using the modification indices report generated in AMOS during CFA, the variables that were used to measure OR4C were re-examined. While many were retained, many others were omitted. Below is a detailed account of the variables that were excluded from further analysis and the reasons for their removal.

4.6.3 a) Variables deleted as a result of poor loading on the OR4C construct

Table 4-13 Variables deleted as a result of loading poorly on the OR4C construct

Variables	Questions	Loadings
CAP1	I have the skills necessary to make this change work	(0.64)
CAP7	The senior management in my organisation had strong commitment to this change	(0.47)

Two variables that were found to load poorly on OR4C were excluded from the study. The omission of these two variables accounts in part for the differences between the initial hypothesised model and the resultant model of the OR4C construct. Apart from loading poorly on the construct, other possible explanations for the exclusion of these variables will be examined in the discussion below.

Skills to make the change (CAP1)

The variable CAP1 (I have the skills necessary to make the change work) was highlighted as a poor measure of OR4C as it influences OChg Success. Although the influence CAP1 on OCul is relatively high (Factor correlation: 0.64 / $R^2 = 0.40$), the overall impact of the factor is still significantly lower than other variables, such as CAP3 (Factor correlation: 0.92 / $R^2 = 0.84$), CAP2 (Factor correlation 0.91 / $R^2 = 0.83$) and Need6 (Factor correlation: 0.82 / $R^2 = 0.67$). Primarily, the variable CAP1

was omitted from study as it was below the factor correlation cut-off point of 0.7 (Hair 2009).

The commitment of senior management (CAP7)

Although the commitment of senior management to change is shown in the literature to be a strong influence on OChg Success (Whelan-Berry and Somerville 2010), the variable CAP7 (Factor correlation: 0.47 - The senior management in my organisation had strong commitment to the change) was found in this study to exert only a secondary influence on OChg Success. In particular, CAP7 was found to be a less important variable for assessing OR4C when compared, for example, to CAP3 (Factor correlation: 0.92 - The people leading this change has the necessary skills to make the change work) or Cap2 (Factor correlation: 0.91 – The people who implemented this change had the skills necessary to support this change). More importantly, the variable CAP7 was omitted from the OR4C construct because it was significantly below the 0.7 factor correlation cut-off suggested by Hair (2009) and followed by most researchers.

4.6.3 b) CAP4 being caused by Need1 and Need6

Table 4-14 CAP4 being caused by Need1 and Need6

Variables	Questions
CAP4	There was a high level of staff involvement in making this change.
Need 1	I believe there was a real business need to for us to make this change.
Need 6	I felt well-informed of the real business need for us to make this change.

The variable CAP4 was omitted from the OR4C for being auto-correlated to the variable Need1 and Need6. It is established in the literature of OChg that the degree of staff involvement in change is highly dependent on the amount of available information (about change), as well as the perception of employees as to whether there is a real business need for a change (Holt et al. 2006, Coch and French 1948, Cinite, Duxbury, and Higgins 2009, Weiner 2009, Jansen 2000). Many participants in this study shared these views, and one respondent in particular expressed the view that the causes of change failure in his/her organisation were a lack of clear reason for change and the tendency to operate in “silos”.

The literature and the views expressed by the aforementioned respondent are in agreement that the level of employee commitment to change is highly dependent on their perceptions of the need for change, as well as the availability of information about it. As such, the value of CAP4 (relating to the commitment of employees to change) would likely be highly influenced by the values of Need1 (which relates to the perceived need for change) and Need6 (which relates to being informed about the need for change). As such, CAP4 was deemed auto-correlated to Need1 and Need6 and was therefore excluded from the OR4C construct.

4.6.3 c) Causal relationship between Need2, Need1

Table 4-15 Need2 being caused by Need1 and Need6

Variables	Questions
Need2	I feel this change is appropriate and likely to solve the problem as intended.
Need1	I believe there was a real business need to for us to make this change.

The variable Need2 was found in this study to be auto-correlated to Need1. The two questions above were incorporated in the questionnaire to measure different aspects of OR4C. While Need1 was intended to measure how strongly a staff member felt about the need for change, Need2 was aimed at measuring the level of confidence an employee had in the effectiveness of a change in addressing the problem that had made it necessary. However, it was highlighted in AMOS that perception among employees of a need for a business change (Need1) was strongly affected by the level of confidence they had in advocating the change as the solution (Need2). Since the value of Need1 was evidently dependent on the value attributed to Need2, the presence of auto-correlation was assumed, which making it necessary to omit Need2 from the study.

4.6.3 d) Need5 caused by CAP6

Table 4-16 Need5 caused by CAP6

Variables	Questions
Need5	I was personally committed to this change.
CAP6	The leaders in my organisation were trustworthy in relation to this change

The variable Need5 was highlighted in the modification indices as being caused by CAP6. On the assumption that employees are more likely to commit to changes that are led by trustworthy people, then the variable Need5 appears to be unnecessary. On that basis, it was excluded from further analysis in the study.

4.6.3 e) Need4 caused by Need1

Table 4-17 Need4 caused by Need1

Variables	Questions
Need4	My organisation has benefited / will benefit from making this change.
Need1	I believe there was a real business need to for us to make this change.

The variable Need4 was found to be auto-correlated to Need1. Citing the ‘Theory of Motivation’ (Herscovitch and Meyer 2002), Weiner (2009) expresses the view that employees would generally be more willing to commit to change if they thought some tangible benefits might be accrued either to them personally or to their organisation. He adds that the perception of a need for change is most likely related to the belief that such a change will bring about a resolution to the impending problem facing an organisation. Such a resolution can be viewed as a benefit that an organisation may derive from OChg.

4.6.3 e) CAP5 caused by CAP6

Table 4-18 Cap5 caused by CAP6

Variables	Questions
CAP5	Adequate resources were allocated to make this change successful.
CAP6	The leaders in my organisation were trustworthy in relations to this change.

Similarly, the variable CAP5 was highlighted as being auto-correlated to CAP6. The acceptance of this correlation would mean that the degree of trust employees have for their leaders is strongly influenced by the ability of those leaders to make the resources available for them to engage in change.

Some scholars believe that a leader's power is embedded in his or her ability to manage and provide resources in an organisation as needed (Pfeffer 1992, Dubrin 2012). Therefore, it is reasonable to assume that a trustworthy leader will deliver on the jobs he or she is committed to do, including the task of making available the necessary resources for change. Hence, the value of CAP6 (trustworthiness of leaders) is likely to be highly influenced by the value of CAP5 (availability of adequate resources for change), indicating the presence of auto-correlation. Accordingly, CAP5 was excluded from the study.

4.6.3 f) Need1 caused by CAP3 and Need6

Table 4-19 Need 1 caused by CAP3 and Need6

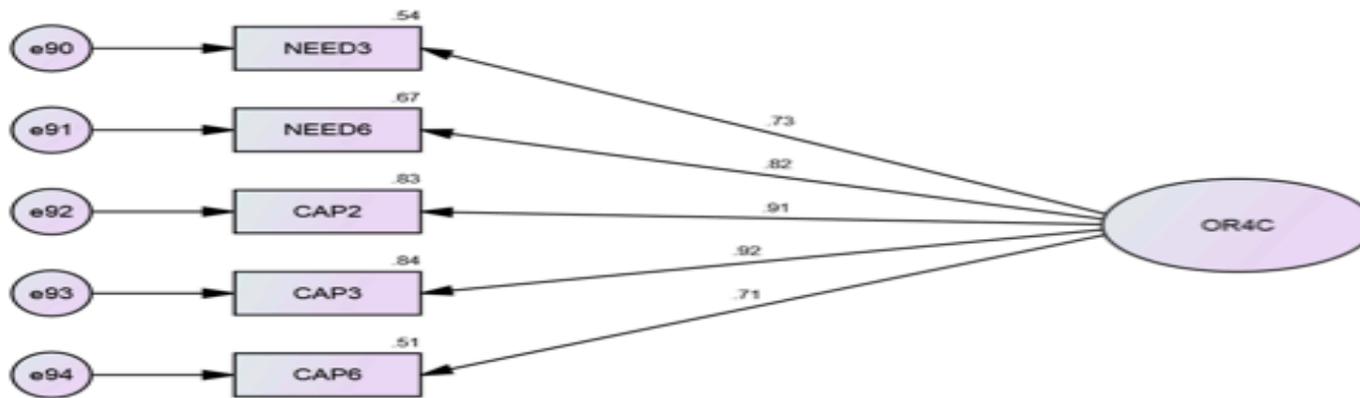
Variables	Questions
Need1	I believe there was a real business need to for us to make this change.
CAP3	The people leading this change had the skills necessary to make this change work.
Need6	I felt well-informed of the real business need for us to make this change.

The variable Need1 was highlighted in AMOS as being auto-correlated to CAP3. The ability to create the perception of a need for change among employees is well-recognised in the literature of OR4C as an important precursor of OChg Success (Walker et al. 2007, Holt et al. 2007, Armenakis, Harris, and Mossholder 1993, Holt et al. 2006, Coch and French 1948). As such, the degree to which employees perceive a need for change reflects strongly on the skills of the people leading the change. Hence, the value of Need1 (Belief in need for change) would be strongly influenced by the measurement of CAP3 (Faith in Skills of people leading the change), which suggests the presence of auto-correlation. Accordingly, based on the assumption that leaders with the skills to make a change work would also be proficient in creating the perception of a need for such a change, the variable Need1 was excluded from the study.

4.6.4 Fitted Model of OR4C in Confirmatory Factor Analysis (CFA)

Figure 17 below shows a fitted model of the OR4C construct. The model comprises five measurement variables (Need3, Need6, CAP2, CAP3 and CAP6), and the Cronbach's Alpha value is 0.909. The standardised loading values for all the variables are above the minimum of 0.60 (Bagozzi and Yi 1988). The values of the standardised loadings are between 0.71 and 0.92, with the lowest being the variable CAP6 (0.71) and the highest being CAP3 (0.92). All the Squared Multiple Correlation (R^2) values are greater than the minimum of 0.40 (Bollen 1998), with the lowest being CAP6 (.51) and the highest being CAP3 (0.84). The reliability of the OCul construct is based on the value of its Cronbach's Alpha, while its validity is established on the basis of its standardised loadings and its Squared Multiple correlation (R^2) (see Section 4.5.1).

The OR4C model is well-fitted to the data, with $\chi^2 = 8.691$, $DF = 5$ and $\chi^2/DF = 1.738$, p -value = 0.122. This good fit is indicated by the following fit indices: GFI=0.984, AGFI=0.953, NFI=0.989, CFI=0.995, TLI=0.991 and RMSEA=0.57.



χ^2	df	χ^2/df	p	GFI	AGFI	NFI	CFI	TLI	RMSEA
8.691	10	1.738	0.122	0.984	0.953	0.989	0.995	0.991	0.57

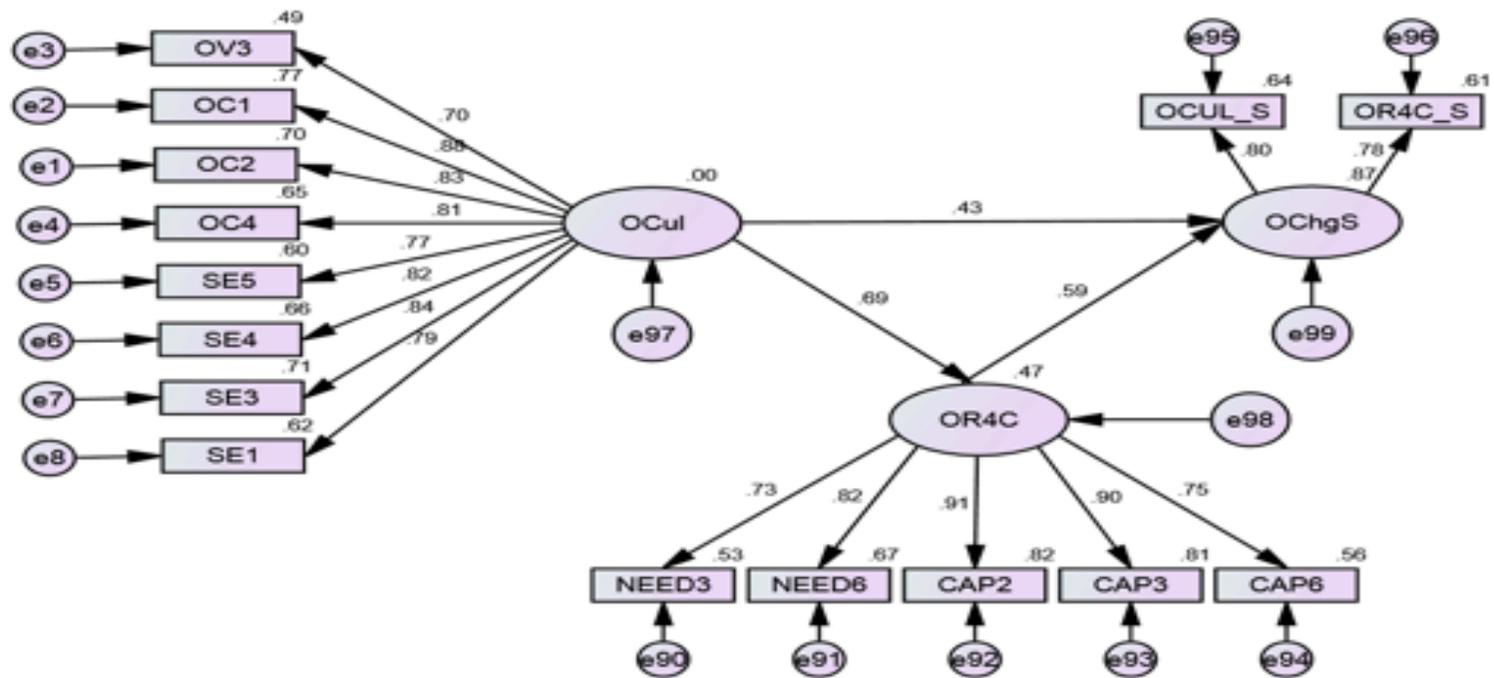
Figure 4-21 Fitted Measurement Model for Organisational Readiness for Change

4.6.5 Initial OCul, OR4C and OChg Success Model (pre-fitting)

The diagram in Figure 4-22 represents the structural model for the relationship between OCul, OR4C and OChg Success. Reliability and convergent validity has been established independently for both the OCul and OR4C constructs. The reliability of the OCul construct is based on the Cronbach's Alpha value of 0.936 (see Section 4.6.2), and the composite reliability (CR) was 0.94. The convergent validity of the construct is based on the fact that all standardised correlations measured for the OCul constructs are above the value of 0.60 (Bagozzi and Yi 1988), with the lowest being 0.73 (Need3). Further, all the squared multiple correlations of the variables for OCul were also above the value of 0.40 (Bollen 1998), with the lowest value being OV3 (0.49).

Similarly, the reliability of the OR4C construct is based on the Cronbach's Alpha value of 0.909 (see Section 4.6.4), and the composite reliability (CR) was 0.91. The convergent validity of the construct is based on the fact that all standardised correlations measured for the OR4C constructs were above the value of 0.60 (Bagozzi and Yi 1988), with the lowest being 0.70 (OV3). Further, all the squared multiple correlations of the variables for OCul were also above the value of 0.40 (Bollen 1998), with the lowest value being Need3 (0.53).

Although both the constructs (OCul and OR4C) were tested to be reliable and valid, the fit of the two constructs with the structural model shown in Figure 4-22 was demonstrated in the fit statistics: $\chi^2 = 225.869$, $DF = 87$ and $\chi^2/DF = 5.596$, p -value = 0.000 GFI=0.888, AGFI=0.846, NFI=0.920, CFI=0.949, TLI=0.938 and RMSEA=0.83. The process of refining and refitting to the model of the constructs is described in detail in Section 4.6.6. The fitted model is shown in Figure 4-23 and described in detail in Section 4.6.7.



χ^2	df	χ^2/df	p	GFI	AGFI	NFI	CFI	TLI	RMSEA
225.869	87	2.596	0.00	0.888	0.846	0.920	0.949	0.938	0.829

Figure 4-22 Organisational Culture, Organisational Readiness for Change and Organisational Change Success Model (Pre-fitting)

4.6.6 Refining the Model of OCul and OR4C on OChg Success

Table 4-20 CAP6 correlated to OC1 and OV3

Variables	Questions
CAP6	The leaders in my organisation were trustworthy in relation to this change.
OC1	There is open communication between managers and employees in my organisation.
OV3	The employees in my organisation are committed to a shared organisational vision.

The close relationship between communication and the element of trust is well-established in a number of studies (Diallo and Thuillier 2005, Rode 2010). As such, it is plausible to consider the degree of openness in communication between employees and managers to indicate the trustworthiness of leaders in organisations. Also, if employees are more likely to commit to and share in the visions of their organisations when they think their leaders are trustworthy, then the willingness of employees to commit to the vision of their organisation also indicates the trustworthiness of their leaders. Retaining the OC1 and OV3 variable in the model, the variable CAP was excluded from further analysis.

4.6.7 Fitted Model of OCul and OR4C on OChg Success

The model in Figure 4-23 illustrates the fitted structural model depicting the relationships between OCul, OR4C and OChg Success. It is the result of the refitting and refining process (outlined in Section 4.6.6) of the initial model present in Figure 4-22. The refining and refitting process has rendered the model a good fit for the data collected in this study. The fit indices of the model are now as follows: $\chi^2 = 106.145$, $DF = 68$ and $\chi^2/DF = 1.56$, $p\text{-value} = 0.002$. The model appears to fit well to the data as indicated by the following fit indices: GFI=0.942, AGFI=0.910, NFI=0.959, CFI=0.985, TLI=0.979 and RMSEA=0.49.

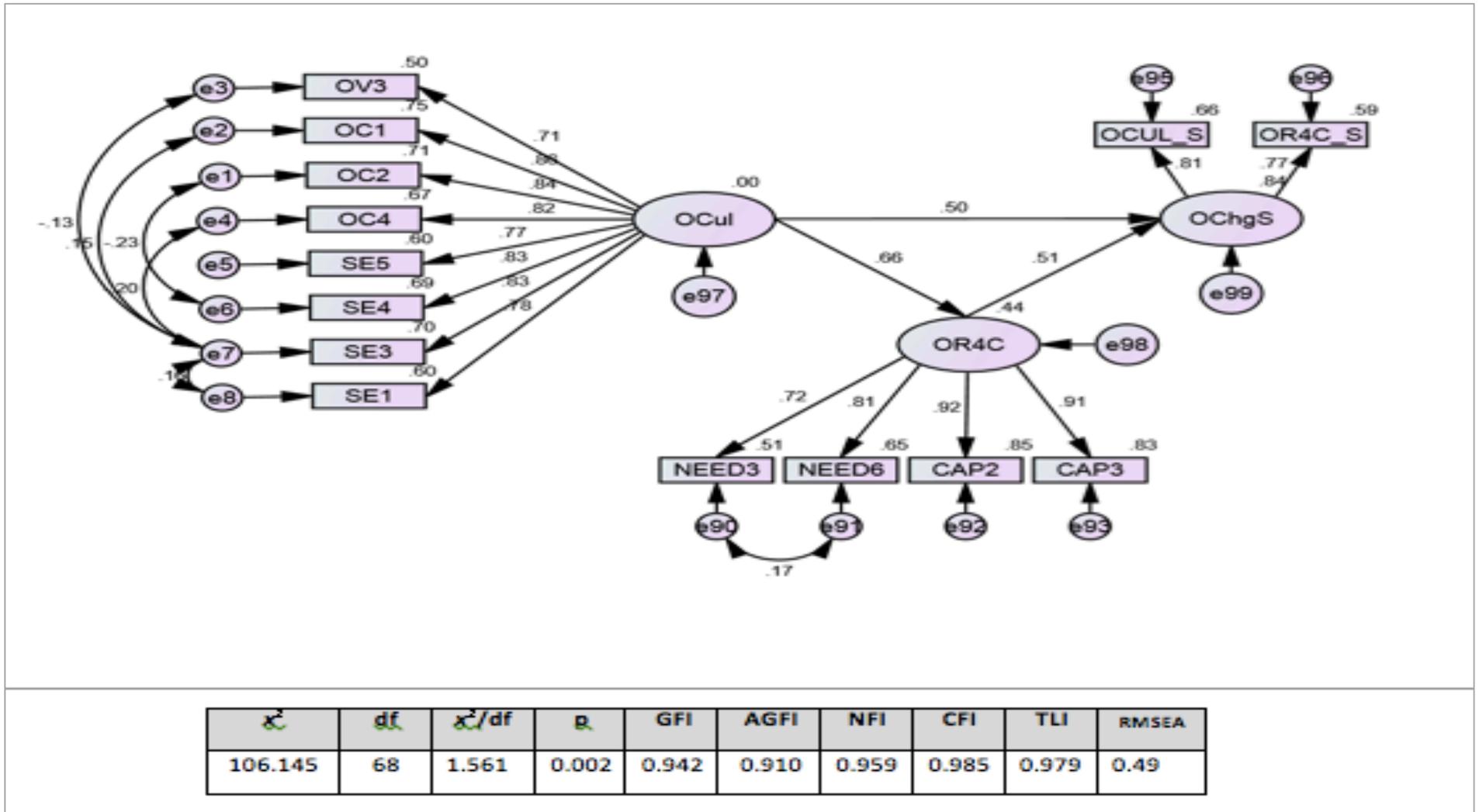


Figure 4-23 Organisational Culture, Organisational Readiness for Change and Organisational Change Success Model (Fitted)

Factor score weights and Correlations between OCul, OR4C and OChg Success

Table 4-21 Factor score weight between OCul, OR4C and OChg Success is a summary of the factor score weight between OCul, OR4C and OChg Success, followed by Table 4-21, which shows the correlations between the factors that make up OCul, OR4C and OChg Success. The information of these tables is provided here to afford a succinct overview of how strongly OCul, OR4C and OChg Success are related, as well as to summarise the correlations that exist between the variables of OCul and OR4C.

Table 4-21 Factor score weight between OCul, OR4C and OChg Success

Matrices (Group number 1 - Default model)														
Factor Score Weights (Group number 1 - Default model)														
	OChg_Succ	CChg_Succ	SE1	SE3	SE4	SE5	OC4	OV3	OC1	OC2	NEED3	NEED6	CAP2	CAP3
OCul	.024	.039	.062	.116	.134	.085	.143	.082	.113	.161	.001	.003	.009	.008
OR4C	.038	.063	.003	.006	.007	.004	.007	.004	.006	.008	.054	.110	.344	.308
OChgS	.135	.225	.018	.034	.039	.025	.042	.024	.033	.047	.012	.025	.079	.071

Table 4-22 Factor correlation between OCul, OR4C and OChg Success

Sample Correlations (Group number 1)														
	OChg_Succ	CChg_Succ	SE1	SE3	SE4	SE5	OC4	OV3	OC1	OC2	NEED3	NEED6	CAP2	CAP3
OChg_Succ	1.000													
CChg_Succ	.623	1.000												
SE1	.425	.543	1.000											
SE3	.500	.585	.706	1.000										
SE4	.470	.625	.621	.666	1.000									
SE5	.390	.526	.626	.659	.658	1.000								
OC4	.446	.655	.619	.617	.679	.628	1.000							
OV3	.418	.572	.557	.536	.604	.532	.606	1.000						
OC1	.477	.648	.683	.760	.722	.642	.722	.604	1.000					
OC2	.479	.619	.677	.724	.632	.671	.670	.571	.723	1.000				
NEED3	.557	.434	.349	.412	.406	.384	.370	.362	.381	.409	1.000			
NEED6	.619	.501	.396	.432	.483	.407	.388	.431	.479	.420	.646	1.000		
CAP2	.660	.587	.425	.513	.560	.431	.536	.443	.541	.560	.647	.737	1.000	
CAP3	.653	.545	.401	.466	.516	.419	.481	.419	.503	.514	.667	.739	.845	1.000

Condition number = 56.830

Eigenvalues
8.204 1.677 .592 .524 .459 .403 .381 .340 .314 .288 .268 .217 .189 .144

4.7 Test for Measurement Invariance

OCul and OR4C have been highlighted in the literature as multi-level concepts, and a number of scholars have highlighted the need for investigators to take into consideration the multi-level nature of these constructs (Ashkanasy, Broadfoot, and Falkus 2000, Weiner 2009, Rafferty, Jimmieson, and Armenakis 2013, Holt and Vardaman 2013). Accordingly, data were collected from individuals from different levels of various organisations and compiled into two distinct groups comprising: a) staff and supervisors, and b) leaders and managers.

The segregation of employees into two groups facilitated the examination of whether OChg is perceived differently by employees in the staff and supervisors group (n=144), compared to those in leadership and managerial roles (n=87). The division of the data into two groups enabled an assessment of whether the measurement variables chosen to represent vital aspects of OCul and OR4C on OChg Success were the same for both groups.

Sections 4.7.1 to 4.7.13 outline the findings relating to OCul and OR4C at the measurement model level. At this stage, this study compared the mean scores and standard deviations (SD) of the responses from the two groups (staff + supervisors and leaders + managers) in order to determine whether the responses from the two groups were identical or statistically different. Section 4.7.14 (OCul) and 4.7.15 (OR4C) extend the test for invariance to the structural level for configural invariance, which is supplemented by the test for metric invariance in Section 4.7.16.

4.7.1 OChg Success due to OCul

OCul S: On a scale of 0 to 7, how successful / unsuccessful is your organisation at achieving the promised results of change? (0=Very unsuccessful, 7=Very successful)

Individuals at both levels (staff + supervisors and leaders + managers) shared the view that changes in their organisations were generally successful at achieving the promised results. The mean scores of both the groups were similar (4.6167 & 4.6425 respectively) and the test for equality of variance indicated that the variances in both groups were assumed to be equal (F=1.193 / Sig 0.276).

4.7.2 Commitment to shared Organisational Visions

OV3: The employees in my organisation are committed to shared organisational visions.

Visions of organisations are found in research to have significant impact on the commitment of employees toward change, particularly in cases where change initiatives were aligned with visions of the organisations (Neves 2009, Choi and Ruona 2011). When asked, most respondents to the survey expressed a belief that employees in their organisation were committed to visions of their organisations.

Responses from those in leadership and managerial roles indicated that they were more resolute in their beliefs that employees in their organisations were committed to share visions. The mean score values for OV3 from those in leaders + managers roles were 4.51 (standard deviation (SD) 1.240315), which was higher than the mean scores of 4.15903 (SD 1.237821) for those employed at the staff + supervisors level. Although the mean scores of those in leadership and managerial position indicated that they had more confidence in the employees' commitment to share visions in the organisations, the difference is not significant ($F=0.022$, Sig 0.882) from those at the supervisory and staff level. Hence, data supports people from both groups shared the view that employees in their organisations are committed to their shared organisational visions.

4.7.3 Communication between managers and employees

OC1: There is open communication between managers and employees in my organisation.

The higher mean scores received from respondents in leadership + managerial roles (mean=4.7287, SD 1.38379) indicated that they were more confident that the channels of communication between managers and employees were open in their organisations. Although many employees in the supervisory and staff level agreed with the view (mean=4.1000), the higher rate of SD (SD=1.5449) indicated that many more employees at the staff and supervisory levels were uncertain of the level of openness in communication. However, the variances in the response from the two groups were not significant to render the beliefs between the groups to be different in

regard to the said issue. As such, the data demonstrates that while members in the leadership and managerial roles were the stronger believers in the existence of open communication between managers and employees in their organisations, people at supervisory and staff level agreed.

4.7.4 Conflict resolution

OC2: Conflicts are generally resolved proficiently in my organisation

People employed in leadership and managerial roles demonstrated a greater confidence (mean= 4.4816, SD=1.25536) in their belief that conflicts were generally resolved proficiently in their respective organisations than those at the staff and supervisory level (mean=4.0361, SD=1.41790). Further, the greater range of SD in the responses from employees at the staff and supervisory level indicated that they were less convinced that their organisations were proficient at resolving conflicts. The test for equality of variance, however, indicated that responses from both groups regarding the issue investigated in OC2 were not statistically different. Hence, the data shows that confidence levels among employees in the ability of their organisation to resolve conflicts were identical and statistically invariant ($F=0.362$, Sig 0.548).

4.7.5 Quality of information exchanged

OC4: Information exchanged between members in my organisation is generally accurate

Respondents to the survey generally believed that the information exchanged between employees in their organisations was mostly accurate. In particular, people in leadership and managerial roles were more confident of the accuracy of the information exchanged (mean=4.8552, SD=1.30622) than employees at the staff and supervisory level were (mean=4.5840, SD=1.19500). However, the lower SD observed at the staff and supervisory level indicated that they were confident of the accuracy of the information exchanged in their organisation. Responses from both groups indicated that employees were generally confident of the accuracy of the information exchanged in their organisations. Further, the data collected indicated

that the differences in responses from the two groups were only marginally different and considered to be statistically invariant ($F=0.299$, $Sig= 0.585$).

4.7.6 Mutual Support among Employees

SE5: There is a high level of mutual support among employees in my organisation

All the respondents to the survey shared the view that there was a high level of mutual support among employees in their organisations. In particular, respondents in leadership and managerial positions were more convinced of the existence of mutual support among employees within their organisations. This is inferred on the basis of the higher mean scores (4.8437) and narrower range of SD (1.29962), in comparison with the responses from the employees working at the staff and supervisory level (mean=4.4750, SD1.34879). The variance in the mean and SD scores between the two groups (staff + supervisors and leaders + managers) was, however, not statistically different when subjected to the test for equality of variance ($F=0.022$, $Sig= 0.883$). This means that although all the respondents to the survey were of the opinion that there was a high level of mutual support among employees in their organisations, the sense of the presence of mutual support was stronger among those in leadership and managerial positions.

4.7.7 Managerial Support

SE3: Staff members in my organisation can rely on the support of their managers when needed

The respondents from both groups (staff + supervisors and leaders + managers) were convinced that managerial support was available to staff members when needed. However, the level of confidence among employees at the staff and supervisory level appears lower on the basis of a lower mean score (4.4431) and a wider range of SD (1.54316). The mean score of those in leadership and managerial roles was higher (5.0069) and the responses were spread over a narrower SC band (1.40023). Differences in mean scores and SD were, however, not significant enough to render the responses from the two groups statistically different ($F=0.991$, $Sig= 0.321$). Hence, while the members of both groups felt that the support of managers was

available whenever it was needed, people in the leadership and managerial roles felt more strongly about its existence.

4.7.8 Interdepartmental Support

SE1: Different departments in my organisation are mutually supportive for the overall good of the organisation

Employees in staff and supervisory positions (mean=4.2674, SD=1.48610), as well as those in leadership and managerial roles (mean=4.609, SD=1.40412), were convinced of the existence of interdepartmental support for the overall good of their respective organisations. Although the mean score for the responses received from those in leadership and managerial roles was marginally higher, the responses from both groups were found to be statistically invariant (0.222, Sig= 0.638).

4.7.9 OChg Success due to OR4C

OR4C S: On a scale of 1 to 7, how successful / unsuccessful would you rate the change effort that you have identified for this survey?
(1=Very unsuccessful, 7=Very successful)

Respondents from both groups felt confident that their organisations were successful at implementing the change that they were referring to in their responses to this survey. People in leadership and managerial roles were slightly more convinced of their success at OChg (mean=4.7690, SD=1.62433) than those in staff and supervisory positions were (mean=4.6424, SD=1.54257). Interestingly, although more people in leadership and managerial roles were convinced of their success in OChg, views regarding rates of success were more varied in this group, as reflected in the standard deviation value. Differences in the responses between the groups were, however, insignificant, rendering the responses from both groups invariant (F=0.049, Sig= 0.825).

4.7.10 Benefits from OChg

Need 3: I have benefited / will benefit from this change

Benefits that employees may derive from change are strong motivators for their commitment to change (Haffar, Al-Karaghoul, and Ghoneim 2014). Employees in general are believed to be more willing to support changes that may either benefit them personally or benefit their organisations on the whole.

Respondents from both groups (staff + supervisors and leaders + managers) indicated that some benefits were accrued or forthcoming, but neither appeared to be overly keen to acknowledge the benefits that they would derive from change. While the value of 3.5 is the mid-point for the scale, which ranges between 0 and 7, the mean scores from respondents were only marginally higher: staff + supervisors (mean=4.0660, SD=2.02), leaders + managers (mean=4.302, SD=2.09867). Further, the high value of SD in both groups underscored the variance in views regarding the realisation of benefits from change, but members from both groups expressed views that were the same with regards to the benefits of change ($F=0.218$, Sig= 0.641).

4.7.11 Informed of the need for change

Need 6: I felt well informed of the real need for my organisation to make this change.

The importance of employees perceiving the need for change is well-recognised in the literature of OR4C (Holt and Vardaman 2013, Armenakis and Harris 2009). Highlighting discrepancies commonly brings about recognition of the need for change and focuses employees on gaps between the current state of an organisation and where they want it to be.

Respondents from both groups (staff + supervisors and leaders + managers) felt well-informed of the need for their organisations to make the change. Although the mean scores of those in leadership and managerial roles were slightly higher (mean=4.8747, SD=1.78157) than those of employees in staff and supervisory positions (mean=4.5840, SD = 1.17631), the range of responses was almost identical, as reflected in the SD. The responses from both groups were not statistically different ($F=0.60$, Sig= 0.807), which meant that members of both groups felt well-informed of the need for change to an identical degree.

4.7.12 Skills to support OChg

CAP 2: The people who implemented this change had the skills necessary to support the change.

Among other things, having the required skills to support OChg has been suggested to be an important consideration for the achievement of OChg Success (Bouckenooghe, Devos, and Van den Broeck 2009). Respondents to the survey were confident that the people leading the OChg had the skills necessary to support it. Although responses from both groups (staff + supervisors and leaders + managers) were not statistically different ($F=1.141$, $Sig= 0.287$), people in leadership and managerial roles had stronger confidence in the availability of the skills needed to support change. The mean score of the values for those in leadership and managerial roles was 4.6736, which was slightly higher than the mean score of the values of those employed in staff and supervisory positions: 4.5306. However, the standard deviation of those in leadership and managerial roles was also higher ($SD=1.78452$) than that found in the staff and supervisory level ($SD=1.66155$). The high SD value for those in leadership and managerial roles meant that the range of values about the mean was larger, suggesting a bigger variation in the way leaders and managers responded to the question.

4.7.13 Skills to make the OChg work

CAP 3: The people leading this change had the skills needed to make this change work.

When asked, respondents to the survey in this study expressed confidence in the people leading the change and felt that they had the skills necessary to make the OChg work. The confidence level was stronger in the group comprising leaders and managers (mean=4.7609, $SD=1.74498$) than it was in the staff and supervisory level (mean=4.4764, $SD= 1.64805$). The high SD value in the responses from people in leadership and managerial roles also meant that there was greater variability in the responses received from this group. However, the test for equality of variance indicated that the people from the two groups did not respond differently to the question ($F=1.036$, $Sig= 0.310$).

4.7.14 Measurement Invariance

A measurement scale is accepted as invariant if an observed score from a respondent is not affected by his/her membership in a particular group (Wu, Li, and Zumbo 2007). That is, it is invariant if the observed scores from respondents in different groups are the same and any variations are due to reasons other than their membership in a particular group.

In this study, the scales for assessing OCul and OR4C were tested in two groups: Leaders + and Managers and Supervisors + Staff, and examined as to whether the measurement scales recorded scores that were invariant. The responses were tested for configural and metric invariance.

Assessing Configural Invariance between Leaders + Managers and Supervisors + Staff for OCul construct

The model shown in Figure 4-24 Model for testing configural invariance between 2 groups (Leaders+Managers and Supervisors + Staff) for OCul below illustrates the relationship between the OCul and OChg Success constructs. The model was tested with two sets of data (Leaders + Managers and Supervisors + Staff), and the results of the fit index were identical, as shown in the model below: $\chi^2 = 67.463$, $DF = 60$ and $\chi^2/DF = 1.124$ p -value = 0.237. The fit indices demonstrated that the model was well-fitted to the data: GFI=0.944, AGFI=0.897, NFI=0.960, CFI=0.995, TLI=0.993 and RMSEA=0.23. The fit indicates that the model in Figure 4-24 Model for testing configural invariance between 2 groups (Leaders+Managers and Supervisors + Staff) for OCul has achieved configural invariance across the two groups.

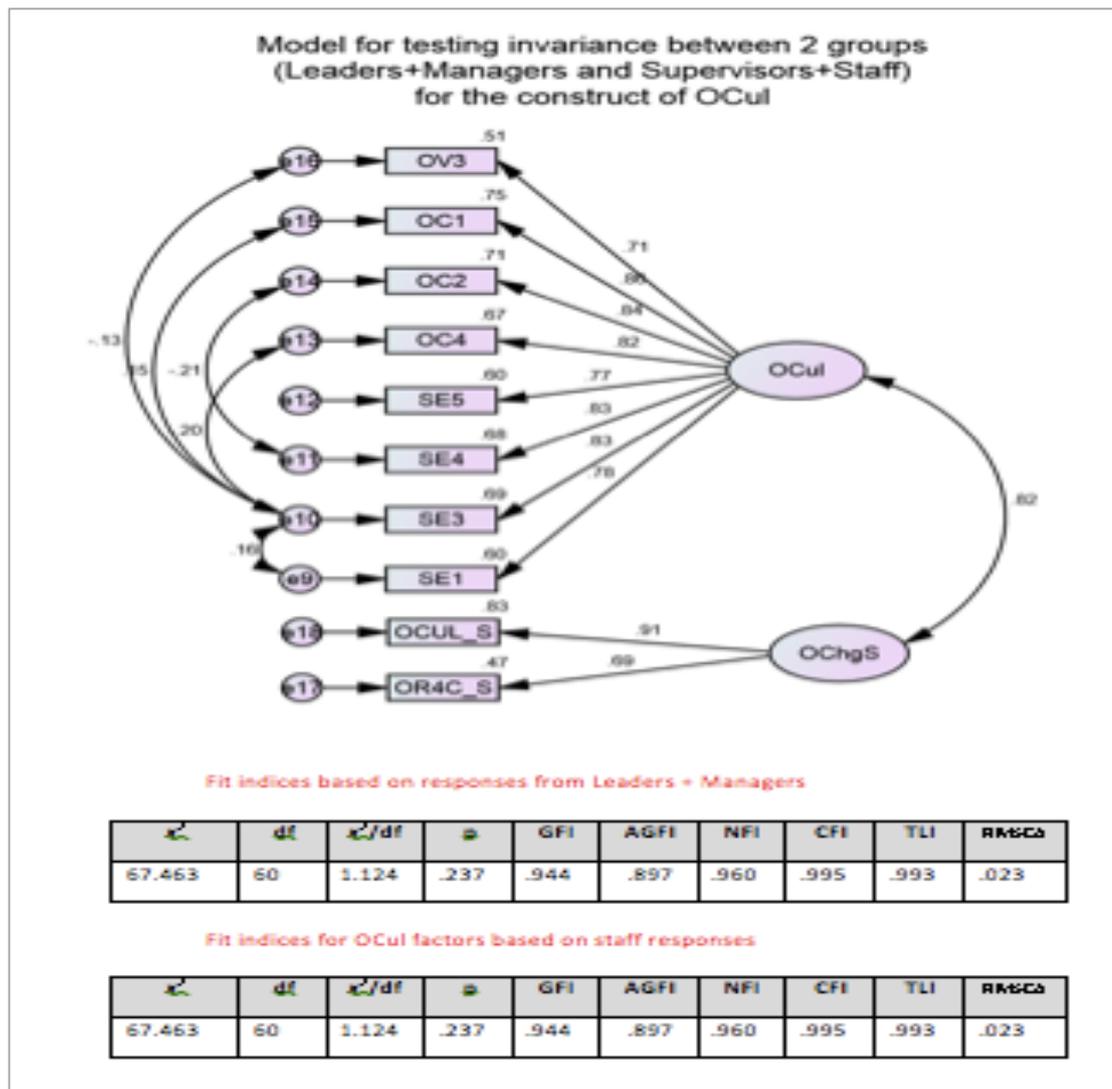


Figure 4-24 Model for testing configural invariance between 2 groups (Leaders+Managers and Supervisors + Staff) for OCul

Model for testing Configural Invariance across Leaders + Managers and Supervisors + Staff for OR4C construct

The model shown in Figure 4-25 illustrates the relationship between the OR4C and OChg Success constructs. The model was tested with two sets of data (Leaders + Managers and Supervisors + Staff) and the results of the fit index were identical, as shown in Figure 20: $\chi^2 = 20.161$, $DF = 14$ and $\chi^2/DF = 1.440$, $p\text{-value} = 0.125$. The model appears to fit well to the data as indicated by the following fit indices: $GFI = 0.982$, $AGFI = 0.947$, $NFI = 0.987$, $CFI = 0.996$, $TLI = 0.991$ and $RMSEA = 0.34$. The fit indicates that the model in Figure 4-25 has achieved configural invariance across the two groups.

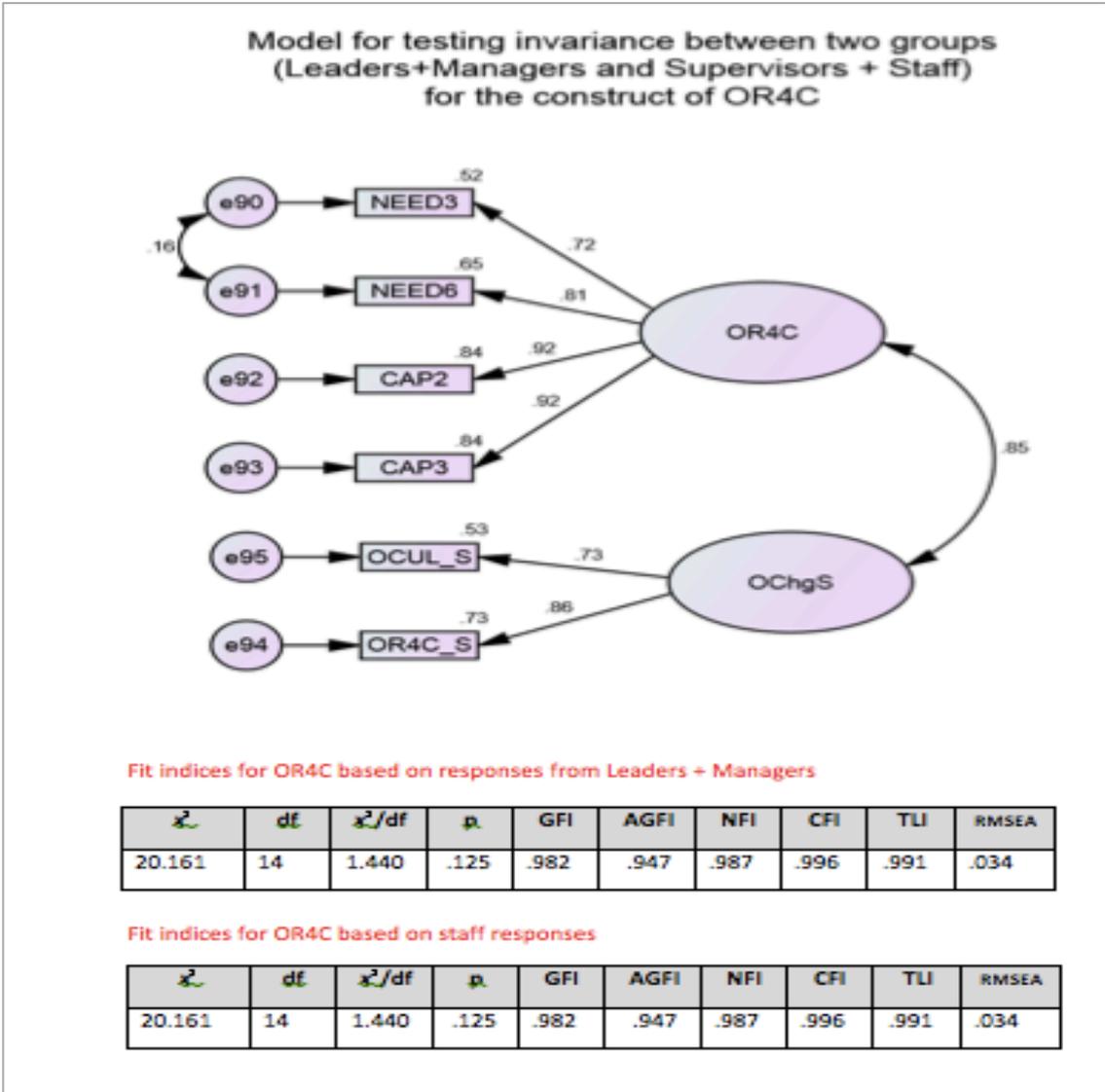


Figure 4-25 Model for testing configural invariance across Leaders + Managers and Supervisors + Staff

Metric Invariance

To test for metric invariance, the chi-square value and the degree of freedom from the unconstrained model - the model that is allowed to freely estimate- were compared to the results of the constrained model -where all factor coefficients were constrained to be equal. Metric invariance is deemed to exist between groups if the differences between constrained and unconstrained model is greater than 0.05 significance level.

Testing for Metric Invariance of OCul factors between Leaders + Managers and Staff Members

	<u>Chi-square</u>	<u>df</u>	<u>p-val</u>	<u>Invariant?</u>
Overall OCul Model				
Unconstrained	67.463	60		
Fully constrained	76.49	70		
Number of groups		2		
Difference	9.027	10	0.530	YES

When the constrained and unconstrained models of the relationship between OCul and OChg Success were compared, a *p*-value of 0.530 resulted. This was greater than the 0.05 level required to demonstrate metric invariance and hence, the data collected (relating to OCul) from the people in Leadership and Managerial roles are not statistically different from the data collected from people working at Supervisory and Staff level. On this basis, data from the two groups were deemed to achieve metric invariance or were identical in value.

Testing for Metric Invariance of OR4C factors between Leaders + Managers and Staff Members

	<u>Chi-square</u>	<u>df</u>	<u>p-val</u>	<u>Invariant?</u>
Overall OR4C Model				
Unconstrained	20.161	14		
Fully constrained	20.691	20		
Number of groups		2		
Difference	0.53	6	0.997	YES

When the constrained and unconstrained models of the relationship between OR4C and OChg Success were compared, a *p*-value of 0.997 resulted. This was greater than the 0.05 level required to demonstrate metric invariance and hence, the data collected (relating to OR4C) from the people in Leadership and Managerial roles are not statistically different from the data collected from people working at Supervisory and Staff level. On this basis, data from the two groups were deemed to achieve metric invariance or were identical in value.

4.8 Summary of Findings and Analysis

This chapter provided an overview of the findings of the research and a detailed breakdown of the information uncovered during the process of data analysis. A synopsis of the questionnaire was provided to illustrate the outcomes of the instrument development and the pilot testing process, which relates to Phase 1 and Phase 2 of the research process (Copy of questionnaire in Appendix A). This was followed by some information about the respondents who participated in the study, which showed in particular, if they were employed in a leadership or managerial capacity or if they were at supervisory position or employed at the staff level. The qualitative data collected in the study was examined to establish nomological validity of the conceptual structures of OCul and OR4C, which were developed on the basis of instruments used in prior research and the literature.

The quantitative data collected in this study was then screened for missing components, to ensure that any incomplete questionnaires would not bias the study. The test for outliers (box plots – see Section 4.4) provided the means to detect suspicious data points, while data normality (Histogram and QQ Plots - see 4.4) ensured that the data collected were not skewed or affected by kurtosis. This is an important process as data normality is a precondition for further statistical analysis. The OCul and OR4C scales were validated using the numerical data collected in the study. Each of the scales was tested independently for convergent validity (see Section 4.5.1), as well as discriminate validity (see Section 4.5.2). The constructs (OCul and OR4C) were broken down into factors, which were, in turn, measured by variables (i.e., the questions that made up the questionnaire). Convergent validity evaluates how well the variables come together conceptually, to assess the factors that they are designed to measure. In contrast, discriminate validity appraises how unique and distinct each factor is. In this study, this process established whether the OCul and OR4C constructs were represented by distinct and unique factors, which were in turn measured by variables that were conceptually similar. Table 4-7 is a summary of the outcome of this process and the basis for the hypothesised model. The hypothesised models of OCul and OR4C were further refined on the basis of the numerical data collected using the Amos statistical software. The process weeded out variables (questions) that were close enough to be considered duplicates. It also gauged the uniqueness of the factors employed to measure the OCul and OR4C

constructs, and combined those found not to be distinctive. This was an iterative process (see Section 4.6.1 and 4.6.3) and the models presented in Figure 4-20 (OCul) and Figure 4-21(OR4C) are the results of this step of the process. The refined OCul and OR4C models were combined with OChg Success to formulate the Structural Equation Model presented in Figure 4-22. This model was then further refined (see Section 4.6.6), resulting in the fitted model shown in Figure 4-23 Organisational Culture, Organisational Readiness for Change and Organisational Change Success. On the basis of the statistical standards outlined in Section 3.2.4 (Step 4), the fitted model is accepted as being reflective of the data, when a good fit is achieved. The appropriateness of measuring OCul and OR4C across the different levels of an organisation is an issue of ongoing concern in the literature. To address this issue, this study compared the results derived from data collected from people in Leadership + Managerial roles, with those drawn from people in Supervisors + Staff positions in order to determine the presence of notable similarities and differences between the two groups (see Section 4.7.14).

Chapter 4 is an outline of the data collected in this study and a detailed description of the data analysis process. The lack of convergent and discriminant validity among the factors that made up the OCul and OR4C constructs led to drastic changes in the ways that OCul and OR4C were initially conceptualised, at the beginning of this study. With regards to the issue of multi-level analysis, there was a general consensus among people working at different levels of an organisation on which factors strongly influence OChg Success. They are, however, divided over the way that each of the variables functions, and its meaning. The implications of these observations are examined in detail in Chapter 5.

5 Discussion

Chapter 5 discusses the implications of the information uncovered in this study. Drawing on the differences between the hypothesised and the refined models of OCul and OR4C (shown in Figure 5-1 and Figure 5-2), Section 5.1 examines the reasons for the differences, and expands on the implications of the dissimilarities for the nature of these constructs. This leads to the proposals of how OCul and OR4C should be theorised, so that they might be aligned with their inherent natures described in the preceding section. Findings relating to the multi-level characteristics of OCul and OR4C will be reviewed in Section 5.2, to explicate how these constructs function at different levels of an organisation to influence OChg Success. This leads to a detailed reflection on how to manage the factors of OCul and OR4C, in order to make OChg Success more achievable. The questions asked in this research will be revisited at the end of this chapter and corresponding answers are provided on the basis of the information uncovered in this study.

5.1 The Factor Models of Organisational Culture and Organisational Readiness for Change

Figures 5.1 and 5.2 depict the factor structures of the OCul and OR4C constructs. In each of the figures, the factor structure, which is based on the extant knowledge in the literature, is shown. Affixed to this is the second image of the constructs, which have been refined, based on the data collected in this study. What is obvious in Figures 5.1 and 5.2 is the drastic decrease in the number of factors in each of the constructs, and a correspondingly far-reaching reduction of variables employed to measure the OCul and OR4C constructs. A number of issues relating to startling differences between the hypothesised and refined factor structures of OCul and OR4C need to be considered. For example, how reliable are the hypothesised factor structures compared to the ones that have been refined in the data analysis process? If both are shown to be well-established, as in the case in this study, then what is the rationale behind adopting the refined factor structures over the structures that were hypothesised on the basis of what is established in the literature? These are the concerns that will be addressed in turn.

The reliability of the hypothesised factor structures for OCul and OR4C were established in a series of rigorous processes (see Section 3.2.1). Each of the categories employed was evaluated against extant knowledge in the literature (see Table 4-3 and Table 4-4) and empirically validated by the data collected in the study (see Table 4-6 and Table 4-7). Upon the basis of their nomological validity (i.e. alignment of the variables and factors with the literature) and the evidence uncovered from the analysis of the empirical data collected in this study, the hypothesised factor structures of both OCul and OR4C are well-supported.

Similarly, moving from the hypothesised structures of OCul and OR4C to their refined states was a meticulous process. The exclusions of factors used to theorise OCul and OR4C were not random, but resulted from a deliberative process detailed in Sections 4.6.1 (OCul) and 4.6.3 (OR4C). Each variable signaled for deletion was carefully evaluated and excluded only if the criteria for removing variables were met. This meant that there had to be evidence that a variable was an exact duplicate of another, or that a variable was auto-correlated to another variable within the measurement structure. It is also a requirement in Structural Equation Models that the factors employed to measure a construct must be unique and conceptually different one from another. Hence, high correlations between factors required them to be combined or excluded from further analysis. Finally, the fit indices shown in Figure 4-20 and Figure 4-21, indicated that the fit was good in each case, demonstrating that the refined models of OCul and OR4C are reliable, valid and representative of the data collected.

That being the case, how might the variations between the hypothesised and refined factor structure models of OCul and OR4C be accounted for? How might the differences between the structures be explained, when all the factor structures were tested with the same set of numerical data? Examination revealed that the primary reason for the differences in structures is due to the differences in the criteria upon which the factor were formulated. While the structures of the hypothesised models were selected to fulfill the need to assemble variables representative of the existing instruments for measuring OCul and OR4C, those that were retained in refined models were chosen because they were the most likely to improve the chances of achieving OChg Success.

Additionally, it is important to note that the variables that were incorporated into the hypothesised structures were drawn from different existing instruments for measuring OCul and OR4C. Although all the instruments were designed to measure the OCul and OR4C constructs, some were identical in focus and in their assumptions about change, while others varied. When their focus and assumptions were identical, duplications arose, which explains the high number of auto-correlations in the hypothesised factor structure models. This explains why many factors and variables had to be removed from the factor structures during the refinement stage described in Sections 4.6.1 (OCul) and 4.6.3 (OR4C).

The rationale for choosing the refined factor structure as the basis of further analysis in this study is that refined factor structures are recognised as being highly parsimonious (once all duplications and conditions of auto-correlations have been weeded out) and closely representative of the empirical data from which they are derived.

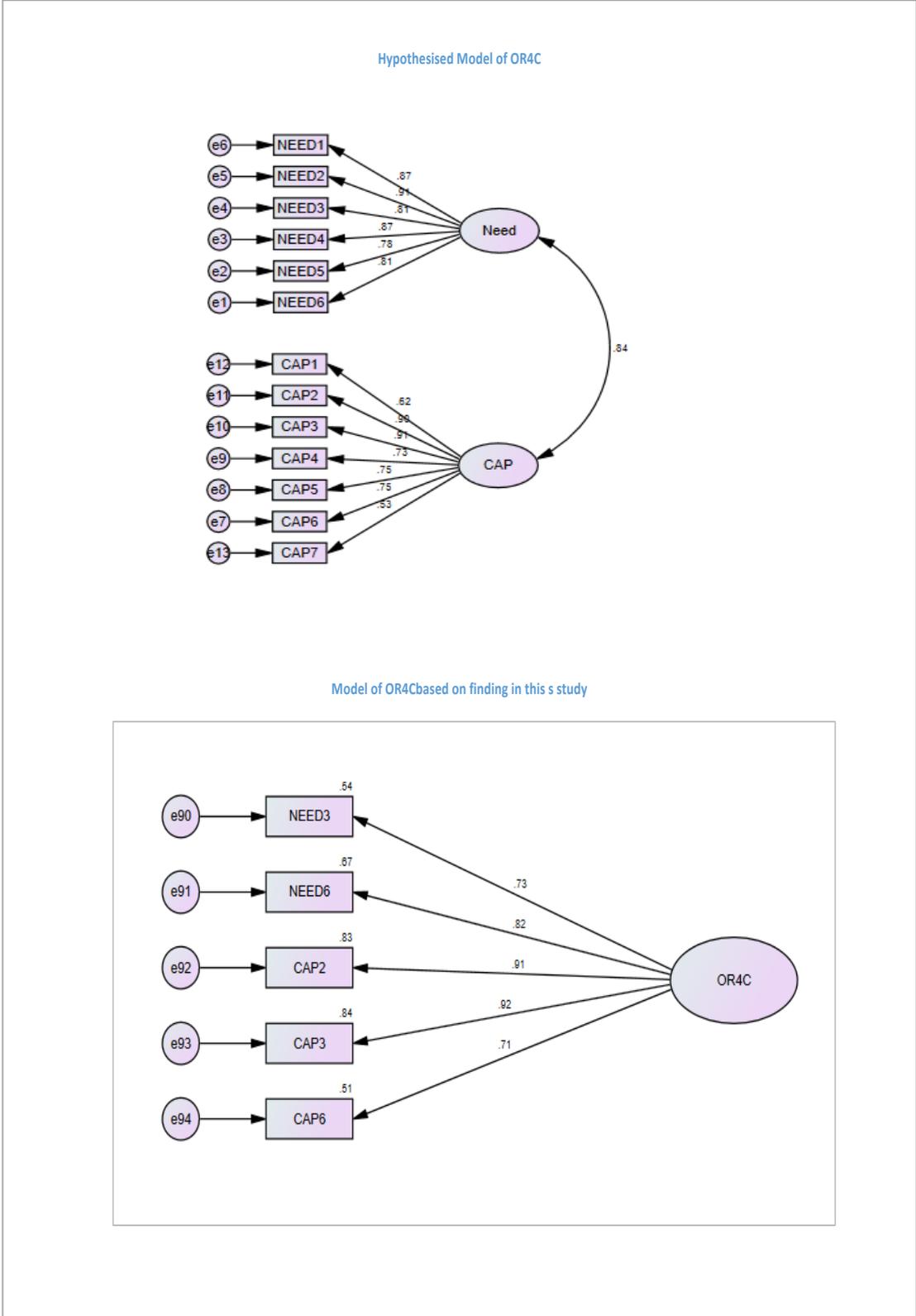


Figure 5-2 Hypothesised model of OR4C and the model of OR4C based on the findings of this study

5.1.1 Organisational Culture: The Result of the Interactions between Factors

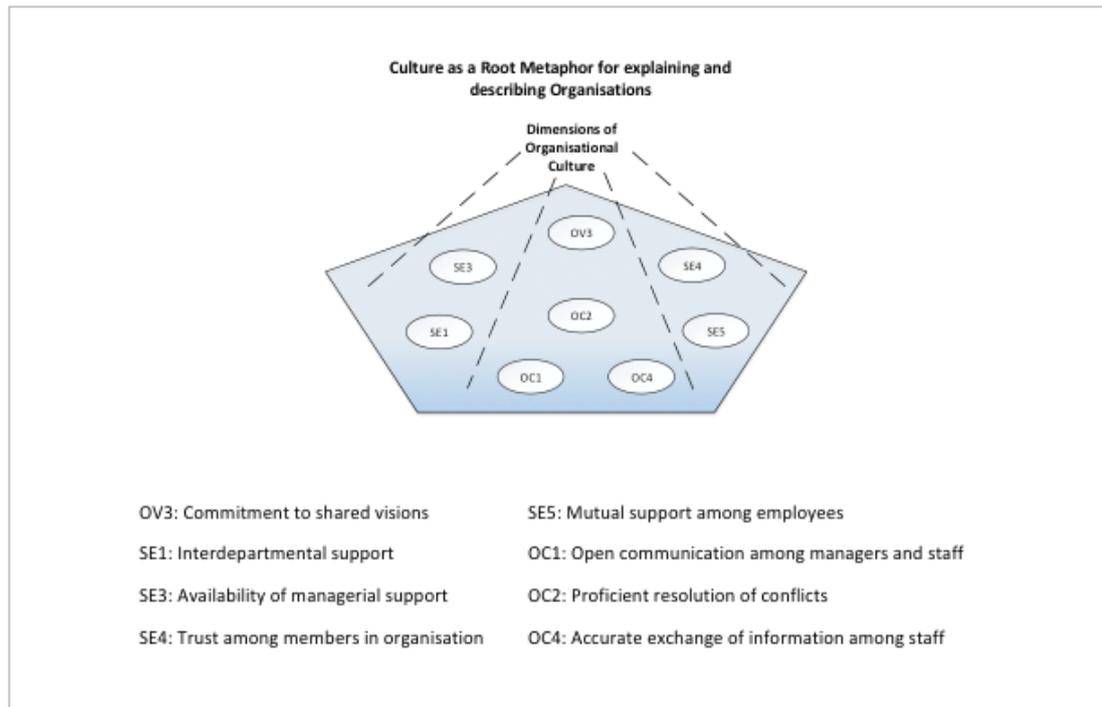


Figure 5-3 OCul as the result of the interactions between factors

Figure 5-3 is an outcome of this investigation and the result of the reflections on the issues discussed in Section 5.1. The theoretical model (see Figure 5-3) is a precise representation of the OCul construct. It is based on the refined factor structure of OCul, where issues of duplications, auto-correlations and the absence of discriminant validity (highlighted in Section 4.6.1, discussed in Section 5.1) were dealt with. Based on the findings of this study, OCul is theorised as the result of an interaction between OV3, OC1, OC2, OC4, SE1, SE3, SE4 and SE5. The interactions of these variables are shown to provide a basis of commonality among employees. The commonality of values along these dimensions facilitates the continuation of organisational activities without the need for constant evaluation, and re-interpretation of meanings. This theory of OCul is aligned with the belief that OCul represents the values that reside inside people’s heads and the social context in which meanings are formed, manifested and symbolised in the artifacts and relationships in organisations (Alvesson 2011). The model in Figure 5-3 represents the part of OCul that most influences OChg Success.

the potential benefits that may accrue as the result of change. OR4C is believed to be influenced by the level of confidence employees have in their leaders' ability to support the change process and to provide the level of leadership needed to make the change successful. Change is often challenging, even under the best conditions. Hence, the availability of strong leadership skills is an important dimension of the level of OR4C. These dimension are well-supported in the literature of OChg as being important aspects of OR4C that affect the chances of achieving OChg Success (Walker et al. 2007, Holt et al. 2007, Armenakis, Harris, and Mossholder 1993, Holt et al. 2006, Coch and French 1948, Cinite, Duxbury, and Higgins 2009, Weiner 2009).

5.2 Meanings of Culture and Readiness at different levels of an organisation

Identifying the appropriate variables for assessing and managing OCul and OR4C is undoubtedly an important focus of many research projects. However, it is just as vital to take into account the multi-level nature of these constructs (see Section 2.2.6 for OCul and Section 2.3.2 for OR4C), and to ensure that the factor structure measurement models developed in research and practice are equipped to deal with possible variations across different levels of organisations (Vakola 2013, Yammarino and Dansereau 2011).

To address this concern, data collected were segmented into two distinct groups. Respondents were categorised as either being employed in leadership and managerial roles or working at the supervisory and staff level. The two groups were compared to determine if the data collected (about OCul and OR4C) were invariant across both the groups, which would mean that the variables thought to be important to OChg Success in one group were the same in the other.

The results of the invariance analysis (the process described in Section 3.2.5 / results shown in Section 4.7.14) demonstrated that the factors used to represent OCul and OR4C in the factor structures were invariant across the two groups (Leaders and managers + Supervisors and Staff). This meant that the respondents from both groups were unanimous in their views about which variables and factors (of OCul and OR4C) strongly impacted on the outcome of OChg Success. The variables that were found to be invariant across both groups for OCul were: Pervasive Vision,

Supportive Environment and Open Communication. Two variables (Need for Change and the Capacity for change) were identified for conceptualising the OR4C construct.

A number of significant observations were made in reference to the multi-level nature of the variables of OCul and OR4C. Although members from both groups (Leaders and managers + Supervisors and Staff) were in agreement as to which of the variables in OCul and OR4C strongly impacted on OChg Success, the underlying functions of these variables appear to be quite different. This study provides two examples based on responses to the questionnaire. OV is discussed below to demonstrate how perceptions of the function of a variable might differ depending on whether one is engaged in a 'Leadership and Managerial' role or employed at a 'Supervisory and Staff' level. This is followed by a discussion of the 'Supportive Environment' variable aimed at illustrating how the views of what comprises 'support' might also vary depending on the level at which one is employed in an organisational hierarchy.

Shared Organisational Vision (OV)

OV is expressed by individuals in the 'Leadership and Managerial' group as a tool for management to articulate what the aims of their organisations are for the future. The communication of OV is thought of as a way to muster support for the chosen direction and to bolster employees' trust, as well as to raise employee morale in response to change.

Another respondent in the 'Leadership and Managerial' group articulated OC as being a way to engage staff members in an ongoing dialogue and to open up communication channels. Another individual in a 'Supervisory or Staff' position shared this view of the function of OV. Members in both groups also shared the view that OV plays a vital role in determining stakeholders' buy-in.

From the perspective of those working in 'Supervisory and Staff' positions, OV provides the information needed to determine whether those in leadership and managerial positions are sufficiently competent to deal with the challenges of change. As highlighted by one respondent in this study, changes are likely to fail if they are "driven by people who have a vision without knowing the full impact of change at the 'coalface' level". Therefore, OV, from the perspective of those at the Supervisory and Staff level, is also a source of information; that is useful for determining if the

changes are ventures worth supporting. Additionally, OV has been underscored as being useful for determining the resources needed to engage in change, which, in turn, informs whether adequate resources are available. In general, people are more willing to be supportive of change that is adequately resourced. As such, OV indirectly affects the level of commitment to change demonstrated by those at the ‘Supervisory and Staff’ level.

Examples of responses from individuals in ‘Leadership + Managerial’ roles

“Organisation is currently undergoing a restructure. The forced turn-over in staff has led to low employee morale and a lack of trust in management. The new vision or culture is being talked about by management but does not exist at the base level. Lack of communication and consultation with staff.”

“It could better engage all stakeholders and apply an overall vision for the future.”

Examples of responses from individuals in ‘Supervisors + Staff’ positions

“Not communicating the outcomes, visions and goals of the organisation to staff.”

“Inadequate ways of measuring the success of change. Mostly driven by people who have a vision without knowing the full impact of change at the ‘coalface’ level.”

“By having a cohesive management team, one that works as a team rather than a set of individuals. Have a clear set of directions and vision. Must inform staff all the way through the process and lead by example.”

“Face-to-face ongoing communication was lacking, which provided a lack of space for staff to ask questions and to buy into the change or vision of the organisation. Ideas come from the top with no roadmap and little provision for allowing time or resources to achieve change. For example, saying you want to have cultural change doesn’t mean it will happen; it generally requires a lot of effort with people who

have skills to bring about the change. Skilling-up change agents and providing them with the time and resources to work with staffing in my experience is generally a more successful approach”

Supportive Environment

Support in the work environment is well-accepted by both groups (Leaders and Managers + Supervisors and Staff) as being an important ingredient for OChg Success. However, what constitutes support and what is perceived as a supportive environment vary widely, depending on whether one is in a leadership and managerial role or employed at a supervisory level.

From the examples listed below, support – from the viewpoint point of those in a leadership or managerial role – is closely related to ‘buy-in(s)’ and commitment. Support is believed to be closely link to activities aimed at engaging staff and to efforts to provide information about the benefits and rewards of change.

In contrast, people at the supervisory-and-staff level perceive support and a supportive environment to be closely linked to a show of commitment by those in leadership roles during organisational change. A staff member also expressed the view that commitment, which was a term used interchangeably with ‘support’, relates to the availability of resources for change and to the success of leadership in playing the role model for change. Other views of what contributes to perceptions of ‘support’ and ‘supportive environment’ are expressed as being closely linked to the recognition afforded to employees, the demonstration of values and respect that organisations have for their staff, and the willingness to take input from staff into consideration.

Examples of responses from individuals in ‘Leadership + Managerial’ roles

“No executive buy-in to support any projects that involve major change management with staff. Need to engage staff better and show the benefits of change to staff’s role. Need a strong Executive support with any projects that will affect business units and the work that they do. Executive only see their role as dealing with any issues that arise from major projects that involve change management rather than promoting the project and change management aspects involved with the project. Also helps if

Executive and Managers lead by example and show that they are also embracing the change in their own work.”

“Lack of support from Council and no common commitment from all staff. Change is reactive rather than well-planned, however, this is beginning to change.”

Examples of responses from individuals in ‘Supervisory + Staff’ positions

“Failure of leadership to fully commit to the change and support it in terms of budget and setting examples.”

“I work with a group of flexible, competent and supportive people. I just feel that leadership often don’t recognise, value and respect that and do not consider staff input when making changes.”

The purpose of the discussion in Section 5.2 is to highlight that people working at different levels of an organisation have different perceptions of the functions of the different variables that represent OCul and OR4C. As shown in the examples provided, there are different views with regard to the purposes of the OV variable. Disparity in the views as to the makeup of a ‘Supportive Environment’ was also discussed. The issues highlighted in this section are not an exhaustive evaluation of how the views of those in leadership and managerial roles differ from those employed in supervisory and staff positions. While a comprehensive review is beyond the scope of this study, it might be an investigation suitable for another research project, and it is vital to note that there are strong differences in perceptions and expectations among people working at different levels of an organisation. Particularly, the differences relate to which variables influence OChg Success. The variations are embedded in their views as to the purposes of the variables and how they function. Recognising the differences in views serves as a reminder for organisations to become aware of the potential differences in views and the need to be sensitive to these variations in approaching OChg.

5.3 Impact of Culture and Organisational Readiness on Change Success

Section 5.3 discusses the impact of OCul and OR4C on OChg Success. It articulates how the information in Table 5-1 is used to formulate the diagram shown in Figure 5-5 and explains what the lines, boxes and colors represent. This leads to a further evaluation of how other variables of OCul and OR4C relate and interact interdependently to bring about OChg Success. On the basis of this appraisal, a proposal is presented in Section 5.4 to suggest how the variables of OCul and OR4C might be managed in order to improve the chances of OChg Success.

For easy reference, the factor score weights of the variables making up OCul, OR4C and OChg Success, along with the Sample Correlation Table of the same variables - presented earlier in Table 4-21 and Table 4-22 - are reintroduced in Table 5-1 below..

The discussions in Section 5.3.1 and Section 5.4 are the practical contributions of this study to the practice of OChg management. They inform on the factors of OCul and OR4C that influence OChg Success and explicate how these factors might be managed to increase the chances of OChg Success.

Table 5-1 Factor score weights and Sample Correlation for OCul and OR4C (Reintroduced for discussion)

Matrices (Group number 1 - Default model)

Factor Score Weights (Group number 1 - Default model)

	OChg_Succ	CChg_Succ	SE1	SE3	SE4	SE5	OC4	OV3	OC1	OC2	NEED3	NEED6	CAP2	CAP3
OCul	.024	.039	.062	.116	.134	.085	.143	.082	.113	.161	.001	.003	.009	.008
OR4C	.038	.063	.003	.006	.007	.004	.007	.004	.006	.008	.054	.110	.344	.308
OChgS	.135	.225	.018	.034	.039	.025	.042	.024	.033	.047	.012	.025	.079	.071

Sample Correlations (Group number 1)

	OChg_Succ	CChg_Succ	SE1	SE3	SE4	SE5	OC4	OV3	OC1	OC2	NEED3	NEED6	CAP2	CAP3
OChg_Succ	1.000													
CChg_Succ	.623	1.000												
SE1	.425	.543	1.000											
SE3	.500	.585	.706	1.000										
SE4	.470	.625	.621	.666	1.000									
SE5	.390	.526	.626	.659	.658	1.000								
OC4	.446	.655	.619	.617	.679	.628	1.000							
OV3	.418	.572	.557	.536	.604	.532	.606	1.000						
OC1	.477	.648	.683	.760	.722	.642	.722	.604	1.000					
OC2	.479	.619	.677	.724	.632	.671	.670	.571	.723	1.000				
NEED3	.557	.434	.349	.412	.406	.384	.370	.362	.381	.409	1.000			
NEED6	.619	.501	.396	.432	.483	.407	.388	.431	.479	.420	.646	1.000		
CAP2	.660	.587	.425	.513	.560	.431	.536	.443	.541	.560	.647	.737	1.000	
CAP3	.653	.545	.401	.466	.516	.419	.481	.419	.503	.514	.667	.739	.845	1.000

Condition number = 56.830

Eigenvalues

8.204 1.677 .592 .524 .459 .403 .381 .340 .314 .288 .268 .217 .189 .144

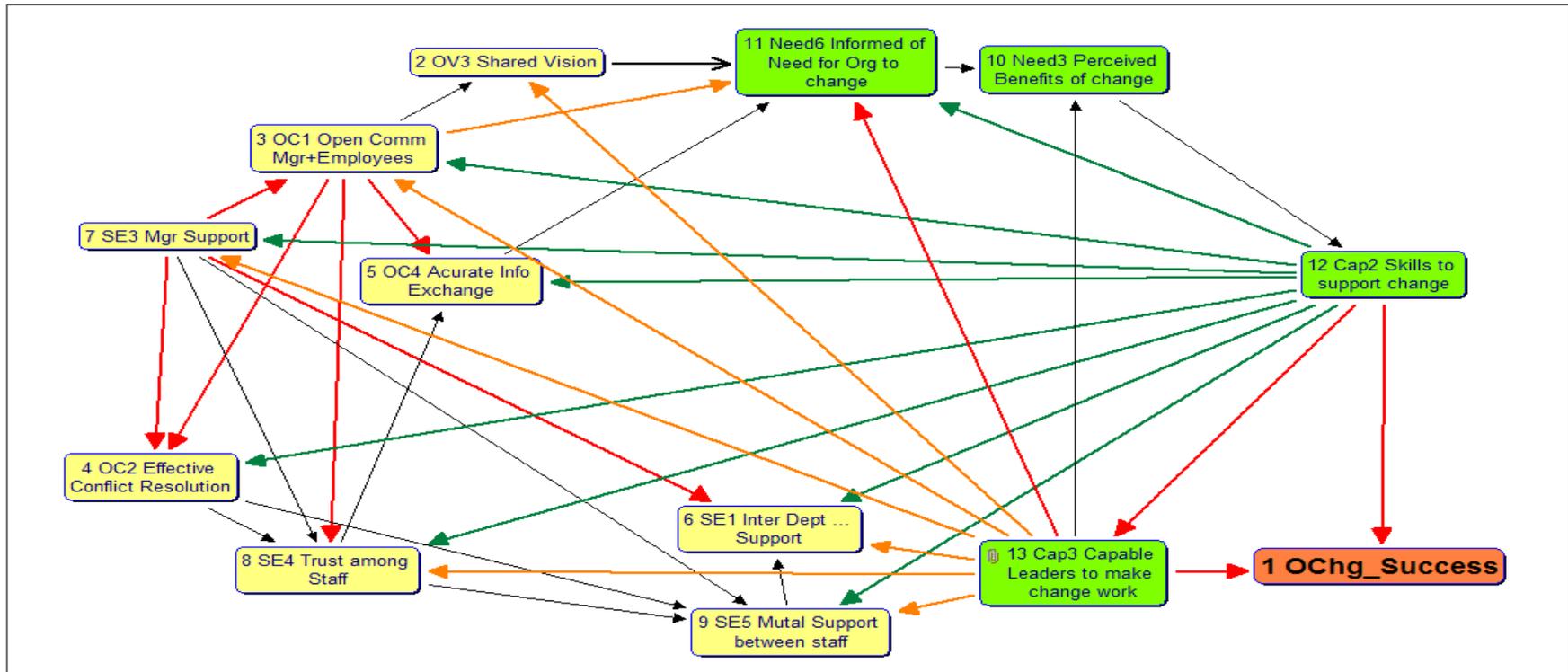


Figure 5-5 the relationship between Organisational Culture, Readiness for Change and Change Success

5.3.1 Relationship of Culture and Organisational Readiness for Change

Based on the factor score weights shown in Table 5-1, a diagram was developed to illustrate how the variables of OCul and OR4C functions to influence OChg success (see Figure 5-5). OChg Success (the dependent variable in the figure) is shown orange box labeled as box 1. The OCul construct is shown in this diagram as comprising of a number of variables represented in the yellow colored boxes, while those of the OR4C construct are shown in the boxes that are colored green. Each variable is labeled with a corresponding number for easy reference.

Lines of different colors connect the boxes shown in the figure. While the black colored lines depict the existence of a relationship between the variables shown in the figure, red colored lines are used to highlight instances where the correlations between variables are greater 0.7. Because the variable Cap 2 (Skills to Support Change) and Cap 3 (Capable Leaders to Make Change Work) are shown as exerting the strongest influence on OChg Success, green and orange coloured lines are used in the diagram to show their respective relationships to the other variables in the figure.

For consistency, the conventions used to guide the direction of influence while developing the Structural Equation Models in this study (described in 3.2.4 - Second Step: Analysis of Quantitative Data) will also be used to guide the direction of the relationship in Figure 5-5. In brief, Figure 5-5 shows that OChg Success (box 1) is dependent on the existence of Cap 2 (Skills to Support Change) and Cap 3 (Capable Leaders to Make Change Work). It further shows that presence of Cap 2 and Cap 3 is reflected in the existence of their relationship to other variables in the diagram, represented by the green and orange lines respectively.

The strong influence on OChg Success of ‘skills to support change’ and ‘leadership to make change work’

Cap2 (Skills to support change) and Cap3 (Capable leaders to make change work) were two variables found in the study to strongly influence OChg Success. Cap2 was found to exert a factor correlation of 0.79 ($R^2 = 0.62$) on OChg Success, while Cap3 exerted a factor correlation of 0.71 ($R^2 = 0.50$) on OChg Success. Additionally, findings also indicated that the ability of organisations to develop leadership

capabilities that can make change work are part of the responsibility and skill sets that are needed to support change (see red line between box 12 and 13 in Figure 5-5)

Variables of OCul that contribute to Cap2 (Skills to support change)

(Represented by green lines in Figure 5-5)

A number of OCul variables were found in the study to contribute positively to Cap2 (Skills to support change). Namely, the presence of skill sets within organisations to support change may be discerned by assessing their ability to create working environments where there is managerial support (SE3 – box 7 Figure 5-5). Data collected in this study suggest that managerial support leads to open communication (OC1 – box 3 Figure 5-5), which is instrumental for resolving conflicts that are common under conditions of organisational change.

The presence of open communication (OC1-box 3 Figure 5-5) was also shown to be vital for the advancement of trust among employees (SE4 – box 8 Figure 5-5) and the accurate exchange of information (OC4 – box 5 Figure 5-5), which are two aspects of life within organisations that support change. Strong managerial support was also shown to strongly influence the pervasiveness of interdepartmental support (SE1 – box 6 Figure 5-5) and mutual support between staff (SE5 – box 9 Figure 5-5).

In short, the presence of Cap2 (Skills to support change) is shown in this study to depend upon two vital components: 1) the ability of organisations to provide leaders who are capable of making change work, and 2) the ability of organisations to ensure the presence of:

SE3 – Managerial support

OC1 – Open communication between managers and staff

OC2 – Effective conflict resolution

OC4 – Accurate exchange of information

SE4 – Trust among staff

SE5 – Mutual support between members of staff

SE1 - Interdepartmental support

Variables of OCul that contribute to Cap3 (Capable leaders to make change work) (Represented by orange lines in Figure 5-5)

The presence of leaders who are capable of making change work can be ascertained by assessing their ability to develop clear and comprehensive visions that are widely shared among people within their organisation (OV3 – box 2 Figure 5-5). Capable leaders should also be able to create the perception among employees that they are well-informed of the need for change (Need6 – box 11 Figure 5-5) and communicate to them the potential benefits of engaging in change (Need3 – box 10 Figure 5-5). Capable leaders are able to empower their managers to be supportive of their subordinates and staff members.

As previously explained, such managerial support leads to open communication (OC1– box 3 Figure 5-5), which is essential for resolving conflicts that arise during organisational change. Open communication (OC1-box 3 Figure 5-5) was also found to be vital in developing trust among employees (SE4 – box 8 Figure 5-5), which leads to accurate exchanges of information (OC4 – box 5 Figure 5-5). Interdepartmental support (SE1 – box 6 Figure 5-5) and mutual support between members of staff (SE5 – box 9 Figure 5-5) are also found in this study to be dependent on the presence of managerial support.

Many of the OCul variables that contribute to the presence of CAP2 (Skills to support change) were also found to be instrumental in establishing the existence of Cap3 (Capable leaders to make change work). Nonetheless, the presence of Cap3 is shown in this study to be strongly correlated on the presence of:

Need3 – Perceived benefits of change

Need6 – Informed of need for change

SE3 – Managerial support

OC1 – Open communication between managers and staff members

OC2 – Effective conflict resolution

OC4 – Accurate exchange of information

SE4 – Trust among staff

SE5 – Mutual support between staff members

SE1- Interdepartmental support

This section provided a synopsis of the observations of this research. The discussion focused on the stronger relationships (factor correlations greater than 0.7) among the variables of OCul and OR4C and highlighted two important reflections: 1) The power of influence of OCul on OChg Success is not derived from the cumulative effect of its variables, but is instead caused by interactions between the variables that make up the OCul construct, and 2) OChg Success is strongly influenced by two OR4C variables (CAP2 and CAP3), which are in turn determined by a combination of variables that make up OCul. These observations are instrumental in guiding how OCul and OR4C might be managed more efficiently for the purpose of improving the chances of achieving OChg Success.

5.4 Managing Culture and Organisational Readiness for Change

With the view to add to the practical value of this study, a theory on how to manage OCul and OR4C to increase the chances of achieving OChg Success was developed and is discussed in this section (Section 5.4). The theory - which was based on the result of an analysis of the factor correlations shown in Table 5-1 - explains how the factors of OCul and OR4C function in combination to influence OChg Success. On the basis of this reasoning, a recommendation on how to manage OCul and OR4C was established, with the aim to draw management attention to the factors that must be kept in focus when managing OChg.

Management of OCul in conjunction with OR4C to increase efficiency

The observations summarised in Section 5.3.1 show that the impacts of OCul on OChg Success are enhanced when it is managed concurrently with the factors that make up OR4C. In comparison, the impact of each of the OCul variables on OChg Success is much weaker than Cap2 and Cap3, which are both OR4C variables. Further, the explanatory power of 0.25 ($R^2 = 0.5^2$ - R^2 of OCul on OChg Success) derived from managing of OCul alone (see Figure 4-23) was shown to increase significantly to 0.84 when OCul was managed in conjunction with OR4C (see Figure 4-23), which indicates that managing OCul alongside OR4C increases the chances of achieving OChg Success.

Focus on variables that strongly influence OChg Success: Cap2

With a view to becoming more effective at managing OCul and OR4C, it would appear to be practical to focus management efforts on the variables that would yield the greatest impact on the dependent variable: OChg Success. From the information displayed in Table 9, Cap2 is shown to have the strongest impact on OChg Success (factor correlation 0.79), which makes it a sensible place for management to begin.

An examination of Figure 5-5 will show that the responsibility of providing leaders capable of making change work (Cap3 – box 13 Figure 5.5) is one of the primary tasks facing organisations trying to develop the skills necessary to support change (Cap2 – box 12 Figure 5.5). Additionally, to become more efficient in dealing with OChg, managers should aim at becoming more supportive of their subordinates (SE3 – box 7 Figure 5.5).

There are a number of things that managers can do to become supportive of their employees. For example, they might take steps to become more engaging in their communication with staff members and invest the time to recognise and appreciate the contributions of their subordinates where appropriate. They may also show interested in the work of their subordinates and whenever possible, offer assistance to members at the staff level to help them resolve work-related problems. Employees are frequently frustrated when organisations are unclear about their expectations and provide little guidance about how high-performance might be achieved. In this respect, the function of managers in providing clarification about the expectations of the organisation and in helping members of staff achieve high-performance level is deemed to be supportive. This form of support that is provided by managers is been known to reduce the frustration that employees face at work (Dubrin 2012). Managerial support (SE3 – box 7 Figure 5.5) is also shown in this study to further the development of many other OCul traits that lead to increased chances of achieving OChg Success.

As illustrated in Figure 5-6, empowering managers to become supportive of their subordinates (SE3 – box 7 Figure 5.6) brings about increased openness in communication (OC1 – box 3 Figure 5.6), encourages the development of effective conflict resolution (OC2 –box 4 Figure 5.6) and heightens the development of interdepartmental support. Employees develop a higher degree of confidence in their managers if they feel supported, which is likely to lead to open channels of

communication. At the same time, in a supportive work environment with open communication, employees are likely to be more open-minded in their approaches to conflicts, which is also likely to lead to more creative solution development and more effective conflict resolution. The behaviours of supportive managers are contagious and are shown in this study to lead to interdepartmental support. Open communication (OC1– box 3, Figure 5.6), which is a spin-off of managerial support, is important for the development of trust among employees (SE4 – box 8 Figure 5.6) and for the accurate exchange of information (OC4 – box 5 Figure 5.6)

Data from this study also shows that employees are more trusting of their managers when there is openness in communication and, as a consequence, are more likely to willingly reciprocate that openness by engaging in the exchange of accurate information. The illustration in Figure 5.6) summarises how the variable Cap2 might be developed to increase the chances of achieving OChg Success. It shows that the primary focuses are to provide leaders capable of making change work (Cap3) and to empower managers to support their subordinates during change (SE3 – box 7 Figure 5.6). The presence of managerial support is shown in this study to encourage a broad range of OCul qualities that have a positive impact on OChg Success. It is shown to be instrumental for the development of open communication, trust among staff, effective conflict resolution and the accurate exchange of information. Further, managerial support is also found to encourage mutual support among staff members and interdepartmental support within organisations.

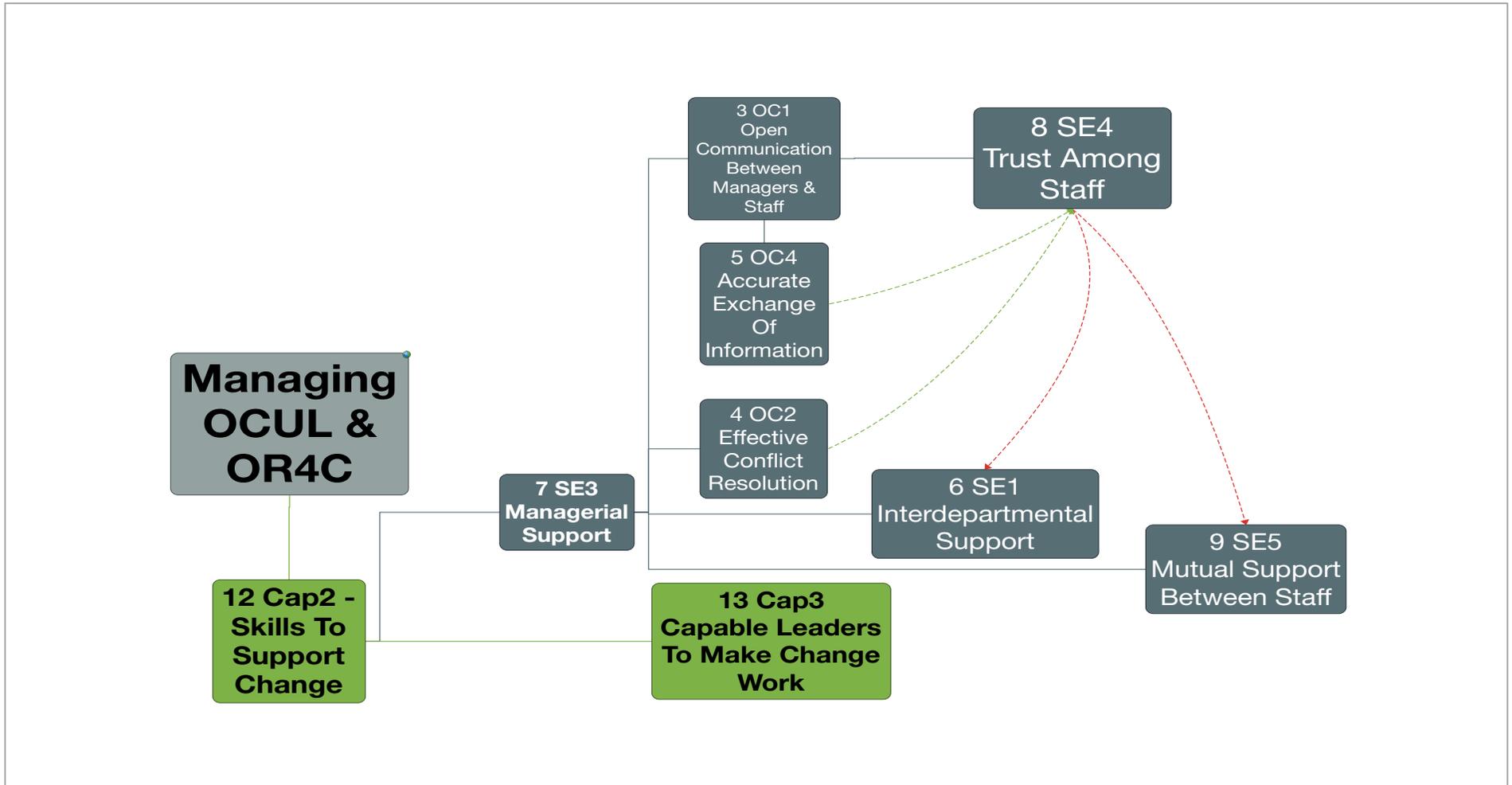


Figure 5-6 Managing Cap2 (Skills to support change) for OChg Success

Focus on variables that strongly influence OChg Success: Cap3

Cap3 (Figure 5-5) is shown in this study (see Table 9) to be a variable that strongly influences the chances of achieving OChg Success (factor correlation 0.71). Hence, it follows that the efficient management of Cap3 would have a significant positive impact on OChg Success. While many of the OCul variables that support Cap2 (Skills to support change - box 12 Figure 5-6) also support Cap3, the focus needed for developing Cap3 is different. The focus of Cap3, which is on the ability of leaders to make OChg work, is dependent upon three key variables: 1) the ability to the leaders to keep employees constantly informed of the need for change (Need6 – box 11 Figure 5-7), 2) the ability of leaders to promote the pervasiveness of visions among employees regarding what the organisation aims to be in the future (OV3 – Shared Vision – box 2 Figure 5-7), and 3) to inspire the sense of responsibility among managers to be supportive of their subordinates (SE3 – box 7, Figure 5-7).

Among the various responsibilities of leaders known to be capable of making change work (Cap3 – box 13 Figure 5-7), the ability to fulfil their employees' need to be kept informed of the need for change (Need6 – box 11 Figure 5-7) was shown in this study to be strongest (factor correlation 0.739). This would mean that, among other things, leaders who are committed to making change work must have the ability to communicate to their employees the need for change, in order to gain their support (Need6 – box 11 Figure 5-7)

This would then lead to the articulation of the potential benefits of change (Need3 – box 10 Figure 5-7). After all, change should bring with it some benefits, either to the organisation or to the staff, or even to both. In other cases, the benefits of change might also be perceived as the driver of the 'need' for change and the reason change is pursued.

The tasks of informing employees of the need for change (Need6 – box 11 Figure 5-7) and communicating to staff members the potential benefits of change (Need3 – box 10 Figure 5-6) are shown in this study to be linked to the ability of leaders to promote the visions of what their organisations aim to be in the future (OV3 – Shared Vision – box 2 Figure 5-7). Promoting the OV would invariably introduce the need for change. To muster support for changes needed in order to

achieve the OV(s), leaders would most likely have to promote their benefits and the potential paybacks that would accrue if they were done successfully.

The ability of leaders to encourage managers within their organisations to be supportive of subordinates during change (SE3 – box 7 Figure 5-7) is shown in this study as a leadership quality that is essential for making change work (Cap3 – box 13 Figure 5-7). As previously explained, managerial support encourages openness in communication between staff and managers, which is essential for building trust among employees, which is a foundation for the exchange of accurate information. Inhibited communication between managers and members of staff breeds suspicion and distrust, which is likely to lead to further conflicts and breakdown in communication. Mutual support between staff (SE5 – box 9 Figure 5-7) and interdepartmental support (SE1 – box 6 Figure 5-7) are also shown in this study to indicate the presence of managerial support.

The illustration about how the variable Cap3 might be developed to increase the chances of achieving OChg Success. It shows that the three key focuses for developing Cap 3 are: 1) Fulfil employees' need to be kept informed of the need for change (Need6 – box 11 Figure 5-7), 2) Promote the pervasiveness of organisational vision (OV3 – Shared Vision – box 2 Figure 5-7), and 3) Encourage managers to be supportive of their subordinates during change (SE3 – box 7 Figure 5-7). Keeping employees informed of the need for change was shown to facilitate the communication of benefits of change, while the pervasiveness of organisational visions informs both the need for change and the benefits that might be derived from being successful at change. Additionally, managerial support was shown to be essential for encouraging open communication, which is vital for the development of trust among staff that leads to effective conflict resolution and the accurate exchange of information. Managerial support was also found to encourage mutual support among staff and interdepartmental support within organisations, which is helpful in improving the chances of achieving OChg Success.

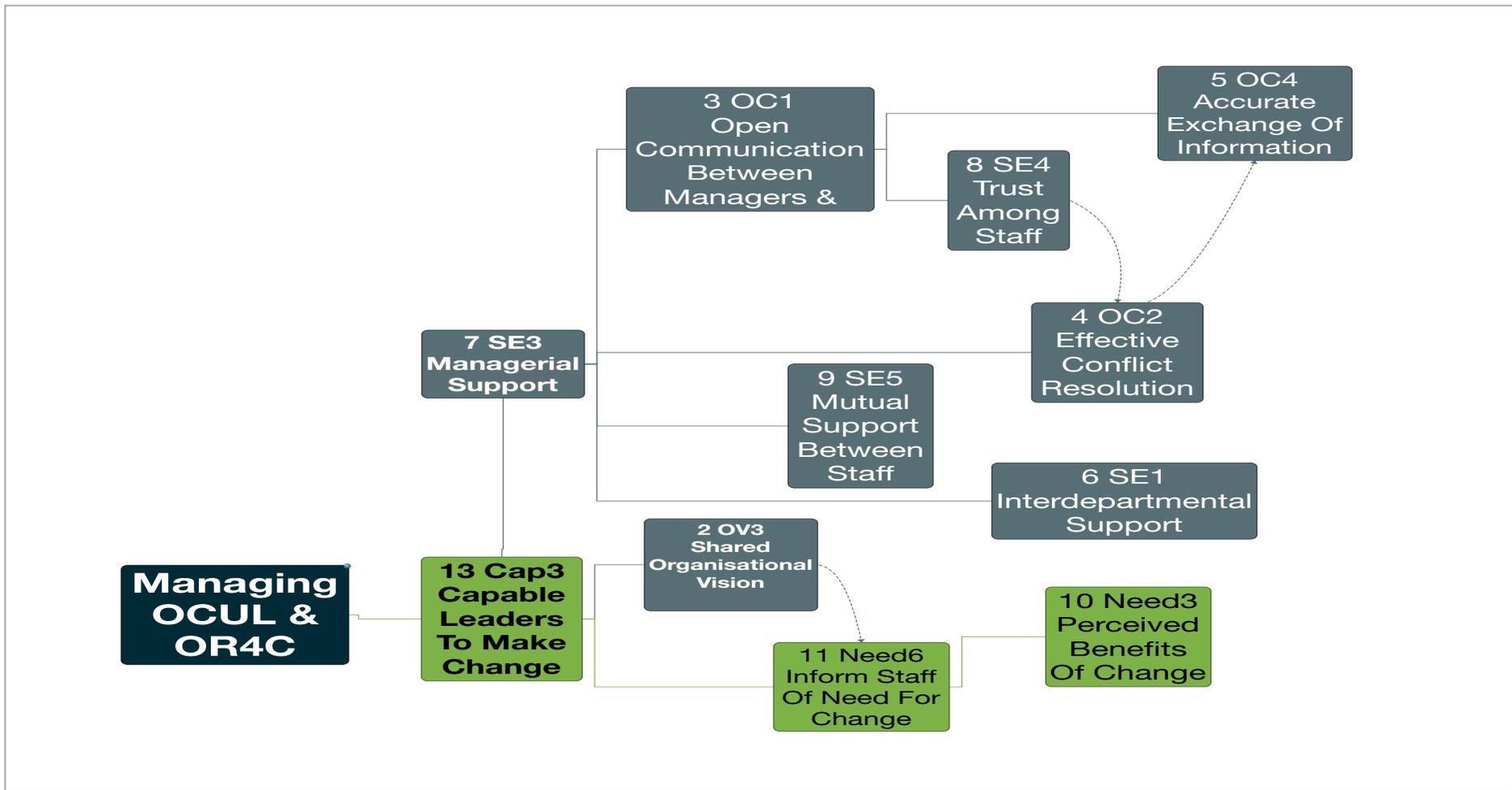


Figure 5-7 Managing Cap3 (Capable leaders to make change work) for OChg Success

5.5 Findings of this Study and the Research Questions

This study asked a total of eight questions (four main questions and four sub-questions) aimed at addressing whether the effective management of OCul or OR4C would increase the chances of achieving OChg Success. Each of these eight research questions is reviewed below and addressed in turn, based on the data collected and information uncovered in the process of data analysis.

Research Question 1: Is OCul or OR4C a stronger influence on OChg Success?

OR4C is the stronger influence on OChg Success.

Based on the analysis of the empirical data and a direct comparison of the impacts of OR4C and OCul on OChg Success, OR4C is found to have a greater impact on OChg Success (See Figure 4-23 Organisational Culture, Organisational Readiness for Change and Organisational Change Success - R^2 of OR4C is 0.26 and R^2 of OCul is 0.25).

Research Question 1a: How strong is the direct influence of OCul on OChg Success?

The strong influence of OCul on OChg Success (factor loading = 0.25) is supported by the data collected in this study.

OCul is theorised in this study as being comprised of factors including the pervasiveness of the *vision*, the degree of openness of *communication* and the level of *support* experience by staff members in organisations. Within this condition, approximately 25% of the variability in OChg Success is accounted for. However, what is noteworthy is that none of these factors in isolation can account for any percentage of the variability in OChg Success.

Research Question 1b:

How strong is the direct influence of OR4C on OChg Success?

The OR4C construct exerts a direct factor loading of 0.26 on OChg Success.

OR4C is theorised in this study as being a combination of the perceived need for change and the capacity to expedite change. Collectively, the two factors account for 26% (i.e. $R^2 = 0.51^2 = 0.26$) of the variability in OChg Success.

Research Question 1c:

How strong is the direct influence of OCul on OR4C?

OCul exerts a 0.66 direct factor correlation on OR4C. This means that about 43.5% ($R^2 = 0.435$) of the variability in the OR4C construct can be explained by the OCul construct. None of the OCul variables was shown to load highly on the OR4C construct. However, the aggregate effect of OCul on the OR4C construct is positive and explains almost half of the variability in the level of readiness for change. This means that effective management of OCul would not only exert a positive impact on OChg Success, but influence the degree of OR4C as well.

Research Question 1d:

What was the total strength of OCul (*direct and indirect influence*) on OChg Success?

OCul has a predictive value of 0.58 (R^2) on OChg Success (direct 0.25 + indirect 0.33 via OR4C). As shown in Figure 4-23, a total of 84% ($R^2=0.84$) of the variability of OChg Success is explained by the combination effect of OCul and OR4C. Hence, given that the impact of OR4C on OChg Success is 0.26 (R^2), the balance left unaccounted for is 0.58 (R^2), which is the sum total of the direct ($R^2 = 0.25$) and indirect ($R^2 = 0.33$) impact of OCul.

While OR4C is shown to exert a stronger direct influence on OChg Success (as explained in Question 1), OCul is the overall stronger influence on OChg Success. When both the direct and indirect influences of OCul on OChg Success is taken into account, the R^2 value of OCul ($R^2 = 0.58$) is almost twice as strong as the impact of OR4C ($R^2 = 0.26$) on OChg Success. Hence, the effective management of OCul is a vital consideration when pursuing OChg Success.

Research Question 2:

What OCul factors influence OChg Success?

The eight aspects of the OCul listed below are those factors found in the study to have the most significant influence on OChg Success. Organisations that are aiming to improve their cultural performance in the interests of change success should direct their management efforts towards these dimensions (see Table 5-2):

Table 5-2 Factors of Organisational Culture that strongly influences Change Success

No.	Dimension	Loading
1	Open Communication between managers and employees (OC1)	0.88
2	Conflicts are resolved proficiently within the organisation (OC2)	0.84
3	Reliable managerial support available to staff members when needed (SE3)	0.83
4	High level of trust among employees within organisation (SE4)	0.83
5	Accurate exchange of information within organisation (OC4)	0.82
6	Different departments are mutually supportive for the overall good of the organisation (SE1)	0.78
7	High level of mutual support between the members of an organisation (SE5)	0.77
8	Commitment to shared Organisational Visions (OV3)	0.71

Among the variables employed to explain the construct of OCul, OC1 (Open Communication between managers and employees) exhibits the highest factor correlation on the OCul construct (0.88). This means that the level of open communication that exists within an organisation has the most significant impact on OChg Success. This is followed closely by OC2, which relates to the level of effectiveness in dealing with conflicts (0.84), the degree of managerial support available to people at the staff level (0.83), and the amount of trust among people in the organisation (0.83). Despite being recognised as an important driver of OChg Success, the level of commitment to a shared vision emerged as the least important variable compare to the others.

Research Question 3: What OR4C factors influence OChg Success?

The four aspects of the OR4C listed below are those factors found in the study to have the most significant influence on OChg Success. Directing management efforts towards these OR4C dimensions would improve an organisation’s chances of achieving OChg Success (see Table 5-3):

Table 5-3 Factors of Readiness for Change that strongly influences Change Success

No.	Dimensions	Loading
1	People who implemented the change had the necessary skills to support the change (Cap2)	0.92
2	People who lead the change had the skills necessary to make the change initiative work (Cap3)	0.91
3	To be kept well-informed of the need to make the change (Need6)	0.81
4	Personal Valence - personal benefits as a result of the change (Need3)	0.72

Among the four aspects of OR4C that were found to influence OChg Success, the ability to provide support during implementation of OChg (Cap2 – factor loading 0.92) and the capability of leaders to make the change work (Cap 3 – factor loading 0.91) were found to be the strongest. These were followed by the need for employees to be kept well-informed of the necessity for change (Need6 – factor loading 0.81).

Although the “*presence of personal benefit as a result of change*” (Need3 – factor loading 0.72) had the lowest loading compared to the others, it is nonetheless an important factor. While the presence of personal benefits might not be a motivating factor that people consider on a daily basis, it is certainly an important issue in determining if support and commitment to change will be forthcoming. Without the likelihood of deriving any personal benefit from change, people are likely to be less motivated to change. Commitment to change might be weak at best, and it is possible that resistance to change might follow.

Research Question 4:

Would managing OCul or OR4C increase the chances of achieving OChg Success?

Although OR4C ($R^2 = 0.26$) was established in the study as exerting a marginally higher **direct influence** on OChg Success than OCul ($R^2 = 0.25$), the **total influence** of OCul on OChg Success was considerably stronger at 0.58 (R^2). The direct influence of OCul, as indicated by the factor correlation ($R^2 = 0.25$), together with its indirect influence ($R^2 = 0.33$) via OR4C, renders OCul the overall stronger influence on OChg Success. This means that the effective management of OCul presents a higher chance of achieving OChg success.

However, it must be qualified that the effective management of OCul alone does not bring about OChg Success. As noted in the explanation above, OCul exerts a direct influence of 0.25 (R^2) on OChg Success and an even stronger indirect influence of 0.33 (R^2) on OChg Success via OR4C. As such, in order to improve the chances of achieving OChg Success, organisations should focus their management efforts on OCul and OR4C concurrently.

6 Conclusions, Limitations and Future Research

This study compared the impact of OCul with the impact of OR4C on OChg Success. It began with the premise that OCul and OR4C are distinct constructs that impact on OChg Success to varying degrees. Consequently, it was assumed that it would be feasible to compare their relative influences and, in the process, determine which of the two to manage in order to make OChg Success more achievable in organisations. Although the findings of this study supported the factors presented in the literature review as being influential on the perception of and responses to OChg (see Section 2.1.3), it differed markedly as to how OCul, OR4C and the factors that were used to conceptualise them relate to one another. Rather than exhibiting traits typical of constructs that might be broken down into discrete factors and independent variables for management, OCul and OR4C displayed characteristics that rendered them as highly correlated. This means that changes in many of the variables that make up the OCul construct were shown to influence significantly the variables of OR4C and vice versa. Hence, while it might be feasible to break down the constructs of OCul and OR4C into collections of variables and factors, it is meaningless to attempt to treat them as *discrete units* for management purpose, as was originally thought possible at the beginning of this investigation. Based on the information uncovered in this research, the management of OCul and OR4C should, therefore, be approached holistically, in the way described in Section 5.4. Factors of OCul should therefore be managed in conjunction with those of OR4C in order to improve change success.

Eight key factors relating to Organisational Culture, along with four factors relating to Readiness for Change, were identified in this study as being important for achieving success in organisational change. The eight factors relating to Organisational Culture were: 1) the presence of pervasive visions, 2) the availability of managerial support, 3) open communications between managers and employees, 4) effective conflict resolution, 5) trust between employees, 6) accurate exchange of information, 7) mutual support between employees, and 8) interdepartmental support. The four factors relating to Organisational Readiness for Change were: 1) the need to be informed of the purposes of change, 2) awareness of the benefits of Organisational Change, 3) the availability of skills to support Organisational Change, and 4) the presence of strong leadership in order to make Organisational Change successful.

In response to the ongoing concerns among researchers on the issue of multilevel analysis of OCul and OR4C, examination of data showed that while respondents agreed on the influence of these factors on the success of Organisational Change, the meanings and expectations that they attributed to these factors differed broadly, depending on the level at which they were employed in the organisation. This means that the concerns in the literature about the differences among people at different levels of an organisation, in relation to OCul and OR4C, are well-founded. Therefore, it would be astute for organisations to be sensitive to these variations as they approach the task of managing OCul and OR4C.

This study was successful in achieving its goals. It brings to the forefront the need for OCul and OR4C to be managed concurrently in order to improve an organisation's chances of achieving OChg Success. It also provides empirical data to support the proposal as to how OCul and OR4C should be managed. The description of how the factors of OCul operate in conjunction with those of OR4C (see Section 5.3.1) adds to knowledge about how these constructs contribute to change success. The account of how OCul and OR4C should be managed (see Section 5.4) functions as a cogent plan to inform future change management practice. The data from this study, which introduces OCul and OR4C as being the results of the interactions of their respective variables, challenges established knowledge of how these constructs are theorised in the literature. It functions as an added theoretical consideration for researchers in future studies.

This study was based on data collected from individuals working in the local government offices in Australia. As such, it is currently limited in its power to generalise beyond the scope of the research project. However, this limitation presents opportunities for future research. For example, similar comparisons of the impact of OCul and OR4C on OChg Success might be extended to different industries and other countries. Investigations in these suggested directions provide valuable opportunities to observe different relationships between OCul and OR4C. This could lead to more effective ways of managing OCul and OR4C in different industries and different geographical locations. Additionally, the recommendation in Section 5.4 on how to manage OCul and OR4C is also an added opportunity for future research.

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Declaration:

Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

8 Appendix A

Sample of Questionnaire

Culture and Organisational Readiness for Change Survey

Dear Participant,

Thank you very much for taking part in this survey. This is a study on Organisational Culture in reference to Organisational Change.

This survey is broken down into 3 sections. There are 18 questions in section A & B and each question is comprised of a number of statements for which you are requested to indicate your level of agreement on a scale of 1 to 7.

Please select the number of your choice by clicking on the scale or by sliding the marker along the scale provided. There are 6 demographic questions in section C.

The survey is expected to take about 15 minutes to complete. All views that you express and any information that you provide are treated as confidential.

(Curtin office of Research & Development (Approval # IS-12-18))

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Culture and Organisational Readiness for Change Survey

Section A:

Please read the statements in the questions below and indicate how much you agree or disagree with the statements on the scale of 1 to 7

Organisational Visions

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree		
	1	2	3	4	5	6	7
I have a clear understanding of the visions of my organisation and what it wants to be in the future.							
Most of the activities in my organisation are aligned to achieve its long term goals.							
The employees in my organisation are committed to a shared organisational vision.							

Value for employees

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree		
	1	2	3	4	5	6	7
Employees are highly valued by the leaders and managers of my organisation.							
The contributions of the work I do is well recognised by my organisation.							
My organisation recognises the contributions of high performing staff members.							
There is a strong commitment in my organisation to encourage continuous self improvement.							
My organisation is committed to providing staff training programs.							
Learning and development are highly valued in my organisation.							

Employee Commitment

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree		
	1	2	3	4	5	6	7
I am committed to the work that I do in my organisation.							
I am satisfied with the work that I do in my organisation.							
I feel that I am competent to deal with all changes in my organisation.							

Staff members in my organisation have strong influence on decisions made regarding organisational change.							
I am accorded a respectable status in the work I perform in my organisation.							
People in my organisation have positive attitudes toward changes that they face at work.							

Supportive Environment

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree		
	1	2	3	4	5	6	7
Different departments in my organisation are mutually supportive for the overall good of the organisation.							
There is a high level of trust between management and the staff in my organisation.							
Staff members in my organisation can rely on the support of their managers when needed.							
There is a high level of trust among the members in my organisation.							
There is a high level of mutual support among employees in my organisation							

Open Communication

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree		
	1	2	3	4	5	6	7
There is open communication between managers and							

employees in my organisation.						
Conflicts are generally resolved proficiently in my organisation						
There is open communication among employees in my organisation.						
Information exchanged between members in my organisation is mostly accurate						

Change success

The Change efforts in my organisation are mostly successful at delivering the promised results.

- Yes
 No

On a scale of 1 to 7, how successful / unsuccessful is your organisation at achieving the promised results of change in general?

	Very unsuccessful	Somewhat unsuccessful	Neither successful not unsuccessful	Somewhat successful	Very successful		
	1	2	3	4	5	6	7
(1=Very unsuccessful, 7=Very successful)							

Please write below what are the causes of change failures and in your opinion, how can your organisation become more successful at change.

Section B:

Section B:

Consider a particular change that you have been affected by, or have been a part of in your organisation.

Drawing on that experience, please answer all the questions in this section.

What is the nature of the change?

- Change in information technology and implementation of new computer systems
 Change resulting from the use of new machineries and production technologies

- Change in processes aimed at achieving business process improvements.
- Change resulting from mergers and acquisitions including change of organisational ownership, leadership and management structures.
- Others (please describe in the box below

With respect to the particular change that you identified above, please read the statements in the questions below and indicate how much you agree with the statements on a scale of 1 to 7.

Need, appropriateness and benefits of change

	Strongly Disagree		Disagree		Neither Agree nor Disagree		Agree		Strongly Agree	
	0	1	2	3	4	5	6	7		
I believe there was a real business need for us to make this change.										
I feel that this change was appropriate and likely to solve the problem as intended.										
I have benefited / will benefit personally from this change.										
My organisation has benefited / will benefit significantly from this change.										
I was personally committed to this change										
I felt well informed of the real need for my organisation to make this change										

Capacity for change

	Strongly Disagree		Disagree		Neither Agree nor Disagree		Agree		Strongly Agree	
	1	2	3	4	5	6	7			
I have the skills necessary to make this change work.										
The people who implemented this change had the skills necessary to SUPPORT this change										

The people leading this change had the skills necessary to MAKE this change work.						
There was a high level of staff involvement in making this change.						
Adequate resources were allocated to make this change successful.						
The leaders in my organisation were trustworthy in relation to this change.						
The senior management in my organisation had strong commitment to this change						

Would you consider the change effort that you have identified above successful?

- Yes
- No

On a scale of 1 to 7, how successful / unsuccessful would you rate the change effort that you have identified above?

	Very unsuccessful	Somewhat unsuccessful	Neither unsuccessful nor successful	Somewhat successful	Very Successful		
	1	2	3	4	5	6	7
(1=Very unsuccessful, 7=Very successful)							

Please write in the box below what (in your opinion) are the causes of failure in the change you have identified. If possible, please suggest what should have been done to make the change more successful?

Section C:

Section C:

Please answer the following questions.

What is the size of your organisation?

What is the size of your organisation?

	0	200	400	600	800	1000
Approximate number of employees:						

How long have you been working in this organisation?

	0	5	10	15	20	25	30	35	40	45	50
Approximate number of years:											

What is the level of your employment in this organisation?

Staff Level

Supervisory Level

Managerial Level

Senior Management / Executive Level

What is your current job title in your organisation? (Optional)

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Thank you very much for your participation.