A Framework for Top Management Support Practices for the Successful Delivery of Projects in Revenue Administrations in SACU

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Thesis accepted in fulfillment of the requirements for the degree Doctor of Philosophy in Business Management and Administration at the North-West University

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DECLARATION OF ORIGINALITY

I, **TSEKO NYESEMANE**, declare that the Thesis titled "A Framework for Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in SACU," submitted for the degree of Doctor of Philosophy at North-West University, has not been previously submitted by me for a degree at this or any other University. This is my own work in design and execution, and all material contained herein has been duly acknowledged.

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T. Nyesemane

CERTIFICATE OF ACCEPTANCE FOR EXAMINATION

This thesis, entitled "A Framework for Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in SACU", written by **TSEKO NYESEMANE (student number 29682835)**, is hereby recommended for acceptance for examinations.

Promoter: Prof. J.A. Meyer

Signature: _____

DEDICATION

This work is dedicated to my late maternal grandmother, Nkhono 'Mamabusetsa Teleka, who walked me to my first class which lit the fire in me, and to my parents, 'M'e 'Matseko Nyesemane and Ntate Ts'abo Nyesemane, who continued to feed this fire.

ABSTRACT

Organisations, both public and private, exist to achieve a specific objective or vision. The attainment of this objective is done through the implementation of some sort of strategy. It has been shown that strategy implementation can be done either as part of operations or through projects.

This leads to the notion that the successful attainment of project objectives contributes to effective strategy attainment whereas the failure to realise project objectives contributes towards failure in realising strategy. Many studies have explored and discovered factors which contribute to the failure of the successful delivery of strategy through the execution of projects. One of these factors, namely Top Management Support, has consistently ranked high amongst the list of such factors. There have not been many studies, however, which have drilled down on what specific factors comprise Top Management Support. The few studies which have investigated this research niche have been primarily in the IT projects sphere. It has been demonstrated, through these studies, that Top Management Support Practices are industry specific.

This study has acknowledged this gap and has sought to close this gap within the parastatals industry in the form of revenue administrations. This study has followed a mixed method research approach through employing an exploratory sequential mixed method research design. It has explored, through and adaptation of Mintzberg's Managerial Roles, specific Top Management Support Practices most appropriate for the successful execution of projects in the context of Revenue Administrations in the Southern African Customs Union. The study was concluded by developing a proposed framework for successful project delivery with specific Top Management Support Practices.

Keywords: Project, Project Management, Project Success, Revenue Administrations, SACU, Mintzberg's Managerial Roles, Top Management Support Practices.

ACRONYMS

ADB	African Development Bank
BURS	Botswana Unified Revenue Services
CG	Commissioner General
CSF's	Critical Success Factors
CSP's	Critical Success Processes
CVF	Competing Values Framework
IPMA	International Project Management Association
LRA	Lesotho Revenue Authority
MRA	Mauritius Revenue Authority
PAIE	Producer, Administrator, Entrepreneur, and Integrator
PMI	Project Management Institute
PMBOK	Project Management Body of Knowledge
PMO	Project Management Office
PRINCE	Projects IN Controlled Environments
RRA	Rwanda Revenue Authority
SACU	Southern African Customs Union
SARS	South African Revenue Services
SRA	eSwatini Revenue Authority
TMSP	Top Management Support Practices
TRA	Tanzania Revenue Authority
URA	Uganda Revenue Authority
ZIMRA	Zimbabwe Revenue Authority
ZRA	Zambia Revenue Authority

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CHAPTER ONE – OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This research study is in the field of project management in parastatals. It endeavours to develop a conceptual framework of Top Management Support Practices. This framework will optimise project execution in revenue administrations in the Southern African Customs Union (SACU).

The purpose of this chapter is to introduce the thesis and to highlight the research process followed in this study. This chapter will focus on providing a background to the study, highlighting the problem statement, itemising the research questions and objectives, and it will conclude with a brief introduction to the method of research.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

As Patanakul and Shenhar (2012) have noted, strategy is a plan developed by senior management to achieve the stated mission and vision of the organisation. Steyn (2010) stated that "strategy is the pattern of major goals, objectives and essential policies that lead to improved benefits, the prime purpose being to add value to the organisation". Strategy is future-oriented in nature and can be defined as a plan that reveals the scope, purpose, goals and objectives of an organisation (Lynch, 2009). From these meanings it can be deduced that strategy implementation is the usage of resources with the intention of realising organisational goals and objectives for the purpose of adding value to the organisation.

As reported by Longman and Mullins (2004), projects are one of the various ways through which organisations implement strategy. In addition, Pinto and Slevin (1988) noted that projects are the "stepping-stones" for organisational strategy implementation. Furthermore, Larson and Gray (2014) concluded that successful project management, which, in turn, results in successful strategy implementation, requires the proper alignment of projects with the organisational strategic goals of the organisation.

Despite using different words, the literature on the definition of what a project is zones in on a similar meaning. These meanings include:

1. "A project is a complex, non-routine, one-time effort limited by time, budget, resources and performance specifications designed to meet a set strategy" (Attarzadeh & Ow 2008:234);
2. "A project is a temporary endeavour undertaken to accomplish a specific objective, product or service through a unique set interrelated tasks and the effective utilisation of resources" (Gido & Clements, 2011; Project Management Institute, 2008);
3. "A project is unique, transient endeavour undertaken to achieve the desired outcome" (Lewis, 2011); and
4. "A project is a time and cost constrained operation to realise a set of defined deliverables to quality standards and requirements" (International Project Management Association, 2015).

Further to their defining a project, Gido and Clements (2011) listed the attributes of a project as:

1. It has a well-defined objective which can be an expected result or product;
2. It is implemented through a series of interdependent tasks;
3. It is executed through the utilisation of numerous resources;
4. It has a specific time frame which is finite;
5. It is a unique undertaking which occurs only once;
6. It executed on behalf of a client who normally funds it; and
7. It has a degree of uncertainty.

In a similar way, the different definitions of what project management is by different authors converges around a similar meaning. These include:

1. "Project management is the application of knowledge, skills, tools and techniques to project activities to meet the project requirements" (Project Management Institute, 2008);
2. "Project management is accomplished using the processes of initiating, planning, executing, controlling and closing" (Rose & Indelicato, 2009); and

3. "Project management is a process by which projects are defined, planned, monitored, controlled and delivered, such that agreed benefits are realised" (Jowah, 2013).

From these statements, it can be concluded that effective project execution through the process of project management leads to effective strategy implementation and the successful realisation of set goals. On the other hand, ineffective project execution, or project failure, leads to failure by the organisation to attain its strategic goals. The success of a project is seen through its positive impact on the organisation's strategic objectives (Kenny 2003). This is because, according to Shenhar and Dvir (2007), organisations utilise projects to deliver their strategy.

To assist organisations to mitigate against the non-attainment of strategy through projects, studies have been conducted which have revealed the circumstances and elements considered essential for effective project execution, or Critical Success Factors (CSFs) for project execution (Abdel-Hamid, Sengupta, and Swett 1999; Certo, Lester, Dalton & Dalton, 2006; Cooper & Kleinschmidt 1995; Friedman 2007; Pinto & Slevin 1988). Cooke-Davies (2002:185) defined critical success factors as prerequisites for the successful delivery of projects. This view is supported by Zwikael and Globerson (2006b) who indicated that critical success factors are those factors which can lead either to success or to failure in project execution.

Perusing the relevant literature on requisite critical success factors for effective project execution has revealed that such factors are many. It has also been revealed that some studies have listed up to over seventy of these factors granted that these are for different projects environments and industries (Ejaz, Hussain, Shabbir, Shamim, Naeem, Tahir, Ahmad & Farooq, 2013). In agreement with Zwikael and Globerson (2006b), however, the general nature of these critical success factors complicates decision making during the execution of projects.

This research study has adopted how critical success factors have been defined and it has defined critical success factors as those individual factors which optimise project management so that projects are executed successfully.

As stated in Fortune and White (2006) and Ofori (2013), top management support is the most cited critical success factor deemed essential for successful project execution. Ofori (2013) showed that the continual engagement and involvement of key stakeholders

including the executive management optimised the success of such a project. For example, during the start of a project both the project manager and the project sponsor normally agree on the purpose, expected outcomes, budget, deliverables and time frame of the project (Ofori, 2013).

This view relative to the importance top management support as a vital success factor is supported by different studies, most of which rank top management support high amongst the critical success factors essential for successful project execution. Schultz, Slevin and Pinto (1987) showed that management's support in any strategy implementation is important and can be a determination for success or failure. Dorsey (2014) pointed out that any project without full commitment from the top management can collapse at any time during its life cycle. Pinto and Prescott (1988) agreed that top management does not only provide authority, direction and support for successful project execution but also acts or serves as a conduit for the implementation of an organisation's strategy. As concluded by Meredith and Mantel (2006), project execution without support of top management rarely survives.

In defining top management support, Pinto and Slevin (1987) referred to it as the form and extent of support a project manager receives from management, comprising the allocation of sufficient resources, authority and power for project success as well as support in the event of crises. Pursuant to Kerzner and Saladis (2009), in the process of executing projects, top management "should act on request, assist in conflict resolution, and provide continuous feedback". Top management support also includes helping project teams overcome impediments, being committed and being motivational with regard to subordinates (Kandelousi, Ooi, & Abdollahi, 2011).

It has been pointed out that critical success factors for the successful execution of projects are general and do not pinpoint exactly what needs to be done to implement them (Dvir & Shenhar, 2011; Movassaghi, 1990). Regarding top management support as an important success factor for effective project execution, much of project management literature does not specifically say or give guidance on how top management should engage in providing support for the effective application of project management best practices (Zwikael, 2008a).

As concluded by Mpofu (2010), whereas top management may be aware that they should support project execution they do not know what they are expected to do to support it. This is despite the fact that top management are owners of an organisation's strategy and

must recognise the importance they should attribute to the successful execution of projects (Mpofu, 2010). This has presented a dilemma in the top management of organisations leading to the question of 'how their role can lead to the optimisation of projects execution'.

To bridge this gap relative to what top management should do in their support of project execution, several studies have been conducted. These studies listed the elements which pinpoint what top management should do to support project execution, and also referred to these as critical success factor practices essential for effective project execution (Zwikael, 2008a). These critical success factor practices were defined as those processes which most significantly improved project success (Zwikael, 2008b). These practices have also been shown to influence effective project management positively (Zwikael, 2008a). Other similar studies have either explored top management support primarily within the IT sector in the private sector or in studies carried out in developed countries (Hsu, Huang, & Hsu, 2006; Ifinedo, 2008; Pham, Pham, & Pham, 2016; Zwikael, 2008a).

Through these studies, which sought to develop special practices and process which top management could follow with regard to supporting projects execution, it has emerged that effective project execution requires industry specific, culture specific and different top management support practices (Zwikael & Globerson, 2006b). This is because it has been shown and is argued that culture impacts on organisational output, project management, top management support and project success differently (Zwikael, 2008b). In addition, it is because different industries operating within different environments face different challenges with regard to the management of projects (Zwikael, 2008b). Finally, it is because, in project management practice, "one size" for managing projects does not exist (Dvir, Ben-David, Sadeh & Shenhar, 2006).

1.2.1 The research context - The Southern African Customs Union (SACU)

This research study has explored a key success factor in project execution within the area of revenue administrations in SACU, namely top management support. It has sought to develop top management support practices which will optimise project execution in revenue administrations in SACU.

SACU is the earliest Customs Union in the world (SACU, 2019; Kirk & Stern 2005). SACU comprises five-member states, namely:
1. Botswana;

2. Eswatini;

3. Lesotho;

4. Namibia; and

5. The Republic of South Africa.

Revenue administrations comprising SACU are shown in Table 1 – 1.

Table 1- 1:   Revenue Administrations in SACU (Source: Own compilation)

Country	Revenue Administration
Botswana	Botswana Unified Revenue Authority
Eswatini	Swaziland Revenue Authority
Lesotho	Lesotho Revenue Authority
Namibia	Namibia Revenue Authority
Republic of South Africa	South African Revenue Services

SACU was established with the following aims and objectives:

1. To link its members to a single tariff so that there are no customs duties between them;

2. To form a customs area in which tariffs and other barriers are removed on all trade related activities between its members for products which originate from this Customs area;

3. To develop and agree a common external tariff to which all non-members of SACU are subjected: and

4. To share revenue from application of the external tariff in a pre-arranged and agreed method (Kirk & Stern, 2005).

Revenue collection in SACU is done by the respective revenue administrations.

1.2.2   Revenue administrations operating environment

Revenue administrations operate within an unpredictable era with several challenges brought about by both the internal and external environment. This era, sometimes referred to as the new economy, is characterised by chaos, competition, rampant change, a faster flow of information and communication, an increase in business complexity and a

pervasive globalisation (Steyn, 2001). According to Rai (2004), Fjeldstad (2005) and Kidd and Crandall (2006), challenges facing revenue authorities centre around the issues of:

1. National Politics;
2. The abundance of politically-based exemptions from payment of taxes and Customs Duties;
3. The global economic landscape;
4. Poverty and inequality;
5. The growing informal sector;
6. High unemployment which erodes the tax base; and
7. The high costs of collecting taxes.

As a result of these challenges, project failure increases pressure on revenue administrations to meet set strategies effectively and maximise revenue collection, which is the main reason for the existence of revenue administrations. Low revenue remittances to governments lead to budget shortfalls which, in turn, mean that governments may not be able to offer all the services required from it.

1.3 STATEMENT OF THE PROBLEM

1.3.1 Problem

Sekaran (2006) defined a research problem as "any issue that exists in the literature, theory, or practice that leads to a need for the study". Welman, Kruger and Mitchell (2005) explained that a research problem entails reducing a wide research topic and zooming into a problem which is small enough to be investigated.

A literature review led to this research study; there is no Top Management Support Practices framework which can be applied within revenue administrations in SACU. The literature has identified that strategy is a tool that top management uses to deliver on its organisational mandate (Mpofu, 2010). It has also been concluded that one of the tools of strategy implementation and delivery is projects (Kimmons, 1990; Shenhar, Dvir, Lechler & Poli, 2002). It has been shown that Top Management Support is one of the most significant key success factors in effective strategy implementation through projects (Fortune & White, 2006; Hoegl & Gemuenden, 2001; Liu & Wang, 2016; Nixon, Harrington, & Parker, 2012; Pinto & Slevin, 1988). Despite this finding, top management is still not aware of what they should do to support the effective delivery of strategy through the best practices of project management (Mpofu, 2010). In addition, Top Management Support,

as a key success factor, is general and as such is not useful with regard to better decision making (Zwikael & Globerson, 2006b).

Whereas some studies have researched what top management should do to support the effective delivery of strategy through project management best practices, most of these studies have either been in the IT sector or in developed countries (Madanayake, 2014).

A knowledge gap still exists in top management support practices with regard to the delivery of strategy through project management best practices especially in developing countries and in organisations which work toward mobilising revenue for their governments through taxes and duties. An extensive search on databases showed no previous study of this nature in revenue administrations in SACU.

Revenue administrations, such as the two selected revenue administrations, namely the Lesotho Revenue Authority (LRA) and the Botswana Unified Revenue Services (BURS), need continually to improve to meet set goals (Bird, 2011). Improvements undertaken to meet strategy implies improving in the area of implementation so as to overcome the common challenge found in project management, which is ensuring the outcome of the project on the agreed timelines, within the approved budget and in line with the agreed quality standards. These challenges have a direct way of leading to these administrations not effectively implementing their strategies and attaining their objectives, including that of revenue collection on behalf of their governments. It is, therefore, important for these two organisations to utilise previously researched knowledge relative to key success factors for effective delivery of strategy through projects and to implement each key success factor fully. In implementing the success factor of top management support, the top management of these organisations needs to know exactly what to do.

There is need, therefore, for a research study which will explore the field in an effort to identify and develop appropriate Top Management Support Practices which can be used to optimise top management support in project management in organisations of this nature in this region of SACU.

1.3.2   Knowledge gap

Different top management support practices which optimise strategy implementation through projects are needed for each industry and culture (Zwikael, 2008b). This is

because "one size fits all" does not exist for these practices (Dvir *et al*., 2006). This is also because organisations may use different project management processes (Pennypacker & Grant, 2003). It has been established that this special need of specific top management support practices is mostly required in Africa where almost all its countries are classified as developing countries (Muriithi & Crawford, 2003).

Whereas the two identified revenue administrations have PMOs, they have not developed a unique set of practices which can be implemented by top management in its support of the execution of its projects. This is not surprising, though, considering that it has been shown that top management in organisations have no clue as to what to do in order to support project management (Mpofu, 2010). Moreover, there is a dearth of research in this field of business management within SACU.

Based on the aforementioned conclusions that top management support practices differ for each country, industry and organisation, research into and the development of these practices, the development of a conceptual framework and the eventual implementation of the framework will optimise top management support in project management in revenue administrations in SACU. This will contribute to effective strategy implementation and will provide benefits of strategic importance to the nations of this Union as revenue administrations meet their revenue target obligations as set by their governments.

1.3.3   Context

To ensure economic growth and to respond to emerging challenges, governments establish parastatals to create wealth in the economy (Adam, 2014:13). These parastatals are supposed to operate efficiently and effectively such as in the private sector with clear strategic objectives.

In the case of Lesotho, the LRA is a parastatal set up by government with the main objective of revenue collection. In the case of Botswana, the BURS is a parastatal set up by government with the main objective of revenue collection.

Any failure by these two institutions to meet their targets may result in their respective governments also failing in their mandate of caring for their nationals. The development of appropriate top management support practices and their implementation will assist the two

revenue administrations to apply project management best practices effectively and successfully execute projects.

This research study is undertaken in the context of a developing country and within parastatals. It is in the field of strategy implementation though project execution. Figure 1 – 1 below, which is adapted from Saunders, Lewis and Thornhill (2009) represents this study's research context.
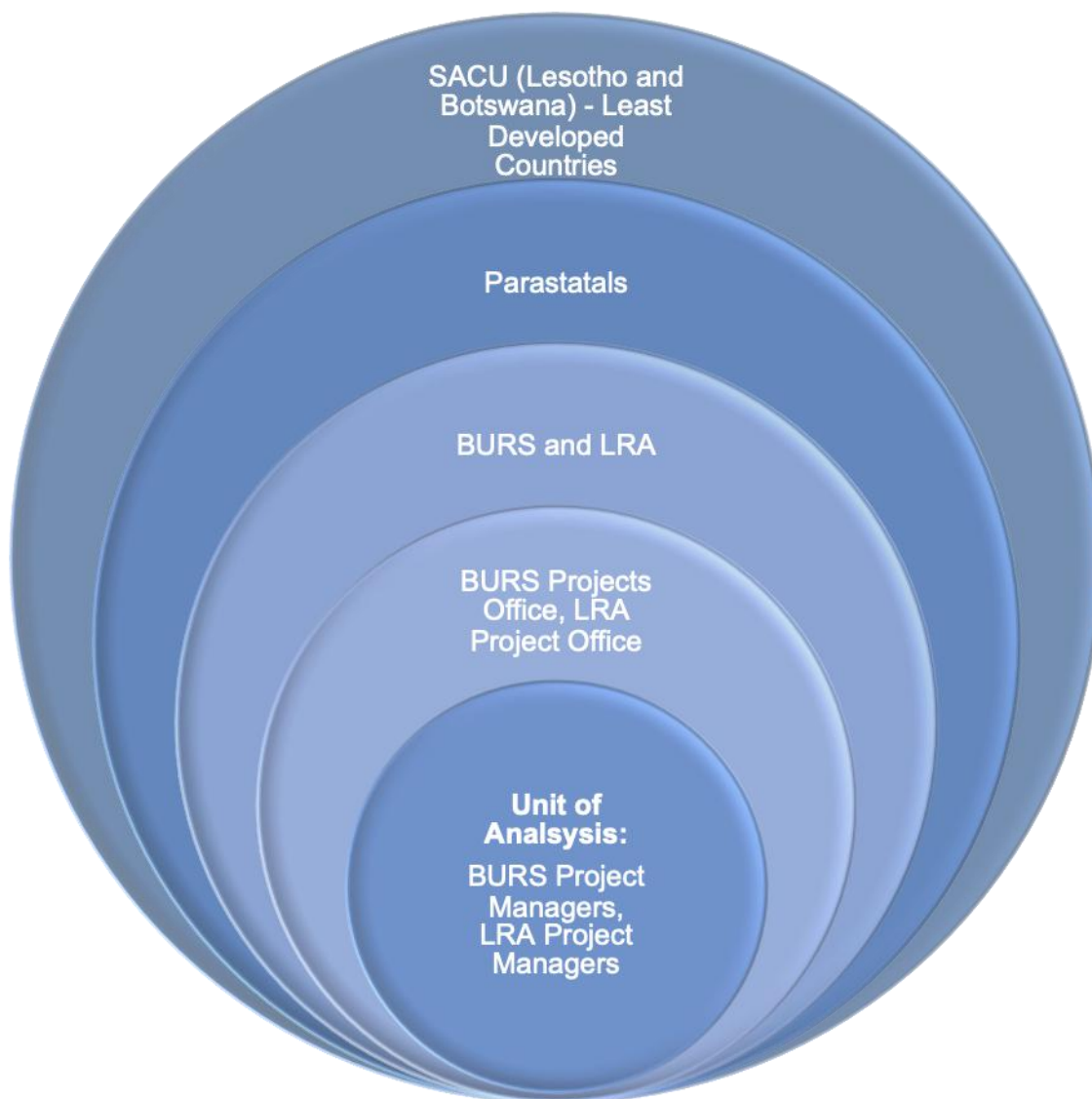
Figure 1‑1:   Context and unit of analysis (Source: Saunders, Lewis & Thornhill, 2009)

1.4 RESEARCH QUESTIONS

It has been concluded that, because project management is a tool used to deliver an organisation's strategy, it is critical for top management to understand and support project execution (Mpofu, 2010). Furthermore, Mpofu (2010) theorised that, if that is not the case, there is high likelihood of project failure leading to the non-attainment of set objectives. In the same way, it is the responsibility of top management of revenue administrations to understand and support project execution.

The main research question for this study is:

What constitutes top management support practices for successful project execution in revenue administrations in SACU?

The sub-questions to be addressed to assist answering the research question comprise of the following:

1. What constitutes top management support practices for project execution in revenue administrations in SACU?
2. Which top management support practices are emphasised during project execution in revenue administrations in SACU?
3. Which top management support practices will best optimise project execution in revenue administrations in SACU?

1.5 RESEARCH AIMS

Notwithstanding the fact that top management support is classified as one the most important factors of project critical success, research conducted into it has been insufficient (Young, 2005). This is also because top management support practices and processes in projects differ both in industry and in relation to culture (Zwikael, 2008b:499). Based on Young (2005), research findings on top management support during projects execution should produce recommendations "that are implementable in practice, synthesise a body of research and stimulate critical thinking".

The aim of this study is to explore top management support practices in project execution by revenue administrations in SACU. The study will seek to probe and investigate thematic areas relating to top management support during project execution to develop a

Top Management Support Practices framework for optimising the applicability of project management best practices in revenue administrations in SACU. This will be done through identifying top management support practices suitable for effective applicability of project management best practices in the selected revenue authorities.

The study will explore the opinions and perspectives of those who have expertise in project management in these organisations, namely project managers and project teams, who will be solicited to identify these top management support practices.

1.6   RESEARCH OBJECTIVES

1.6.1   Primary objective

The key objective of this study is to contribute to the pool of knowledge through investigating and exploring top management support practices employed during project execution through the applicability of project management best practices in revenue administrations in SACU so as to develop a Top Management Support Practices Framework (conceptual framework) which will improve strategy implementation through project execution in revenue administrations in SACU.

1.6.2   Secondary objectives

The secondary objectives of this research are to:
1. develop an understanding of Top Management support practices essential for successful execution of projects;
2. discover Top Management support practices primarily employed during projects execution in revenue administrations in SACU;
3. establish Top Management support practices considered most essential for successful execution of projects in revenue administrations in SACU; and
4. apply research findings to propose a Top Management Support Practices Framework for effective and successful project execution in revenue administrations in SACU.

1.7   RESEARCH DESIGN AND METHODOLOGY

1.7.1   Mixed methods and analysis

This study is inherently exploratory.   It is concerned with exploring, informing, and advancing knowledge in business practice.   Exploratory studies have been defined as research studies which seek to explore research areas and phenomena where not much is known about the theme (Mazzola & Kellermanns, 2010; O'Cathain, 2010).

This study has employed the use of a Mixed Methods Research (MMR), namely a research approach used to resolve a research question through the employment of qualitative and quantitative methods (Clark, Creswell, Green & Shope, 2008).

In applying the Mixed Methods Research (MMR), and based on the affirmations of Creswell and Plano Clark (2007), at the qualitative phase of the research the research will allow for the exploration of the research questions which will lead to the development of an instrument and the formulation of a conceptual framework.   This framework will be tested and finalised through the quantitative phase leading to the research question's being addressed.

1.7.2   Population sampling

The target population for the study comprises subjects selected from two revenue administrations from the the total of five revenue administrations which make SACU. These two revenue administrations are the Botswana Unified Revenue Services and the Lesotho Revenue Authority.   Purposive sampling was employed to select respondents from the organisational structure, namely project managers.   The researcher considered that this sample included those participants whose knowledge and relevant issues around the subject matter would provide significant insight into the study (Sargeant, 2012).

1.7.3   Data collection, method, and analysis

The use of face-to-face interviews with respondents was employed as a data collection tool in the qualitative phase of the study while respondents provided their insight through questionnaires which were communicated through email during the quantitative phase of the study.   This sequencing and employment of data collection tools are aligned to the views of Creswell and Plano Clark (2007), and McKim (2017).

In the qualitative phase, in analysing collected data, the initial step was to transcribe the interview recordings. This was to ensure the accuracy and integrity of data. This is in conformity with the conclusions by Welman, Kruger and Mitchell (2005:211), who maintained that audio tape recordings should be transcribed to text as handwritten notes before further processing. The second step was the verification of the transcripts for the purpose of ensuring that the data collected are both accurate and trustworthy. Finally, data analysis involved thematic analysis. According to Maguire and Delahunt (2017:3352), thematic analysis is an analysis technique which involves the identification of common patterns relative to the topic or theme.

In the quantitative data analysis phase, the data sourced through questionnaires were firstly summarised. The data were then presented, examined and manipulated through quantitative techniques including uni-variate, bi-variate, and multivariate techniques. Prior to data analysis, however, and as a means to ensure that the collected data are of the required quality, the data preparation process described by Sheard (2018) was followed. The data were then analysed through SAS computer software, which is a computer software programme which is used for quantitative and statistical data manipulation and visualisation. The data were analysed in the form of descriptive statistics with resulting frequency tables showing distributions of the statement responses. The data were also subjected to tests to show measure of central tendency and dispersion. Lastly, the data were summarised through the use of descriptive statistics and appropriate conclusions made in relation to the research study's objectives.

1.8 ETHICAL CONSIDERATIONS MOTIVATION FOR RESEARCH

As stated by Cooper and Schindler (2014), research ethics provides a guarantee that no one is harmed by the research activities. In the quest to provide protection to the respondents and those who participate in this research study, the elements relative to the ethics of research, as outlined by Allmark, Boote, Chambers, Clarke, McDonnell, Thompson and Tod (2009), were employed. The following ethical standards of doing the research were adhered to:

1. All sources used were fully referenced;
2. The research was conducted with care and confidentiality;
3. Participants' information and data were kept private and anonymous;
4. The principle of informed consent was adhered to;

5. During the interviews participants were given the freedom and right to be free in their response giving;

6. Participants were not pressed for answers; they had the right not to answer any question posed;

7. Upfront disclosure to the participants on the recording of the discussions was made and the reproduced data secured; and

8. A confidentiality agreement which sought to guarantee the rights of the participants was signed by the researcher.

In addition, in conformity with the view of Pratchett (1999) that ethical clearance be sought from the university, the researcher sought ethical clearance prior to the collection of relevant data in accordance with the ethical code of practice in research of the North-West University.

1.9   SCOPE, ASSUMPTIONS AND DELIMITATIONS OF THIS STUDY

This research study focuses on top management support practices within the realm of organisational strategy implementation through project execution in two revenue administrations in SACU, namely BURS and LRA.

The study is premised on the fact that each of these revenue administrations executes projects in an organised and systematic way through a set of recognised and accepted project management best practices and methodology.

Top management support practices in this research study are based on managerial roles as espoused by Mintzberg (1973) with specific managerial practices as adapted by Mech (1997).

1.10 SIGNIFICANCE AND CONTRIBUTION OF THIS STUDY

To date, studies have been undertaken to develop tools, technology and techniques meant to assist organisations in effective project execution.   Though these studies have been beneficial, they have not reduced the rate of project failure (Zuofa & Ochieng, 2014). Similarly, despite research and the development of critical success factors for project execution, the usage of such knowledge (?) has not fully benefitted organisations (Zwikael,

2008b). This point to the need for other ways and means to ensure project execution success.

In line with Hyväri (2016) and Salum (2017:120), research in general management has shown the importance of leadership and top management of organisations in respect of the implementation of organisational strategies, and this is in line with what this study proposes.

It has been shown that, even though top management support is necessary and essential in effective project management, organisations still need to develop critical success processes which can be used as an implementing tool (Zwikael, 2008b). It has also been established that, as a result of differences in culture (country level, industry level and organisational level), there is no universal set of critical success practices which can be used and applied across organisations (Dvir *et al.*, 2006). To optimise top management support, therefore, each organisation needs to develop its own practice since there is no universally valid practice in existence. This view is further enhanced by the conclusion by Mpofu (2010) that, in most cases, organisational executive management has no idea of what to do to support effective project management best practices. These executives are, however, required to be involved in all the life cycles of projects (Mpofu, 2010). Whereas there is need for top management in revenue administrations to play a supporting role in the applicability of project management best practices, there is no guidance available on how best they can do so.

The study will further build on and add to the existing body of knowledge on critical success factors essential for project success by developing a Top Management Support Practices Framework. These practices will be implementable in revenue administrations in SACU to optimise project execution. This study will, therefore, benefit both project practitioners and project-oriented organisations including organisations of a similar nature.

Perusing various databases has revealed that there is no sign of research of this nature relative to top management support practices in revenue administrations in SACU. This study will extend the work done by other researchers, including Zwikael (2008b) and Zwikael and Globerson (2006b), who have developed critical top management support practices and processes for organisations for the IT industry within developed countries. It will also address the gap identified by Mpofu (2010) that there is dearth of knowledge on what top management support in project management should comprise of.

This research study is significant because:

1. It will contribute to the knowledge base on project management success factors through the creation of Top Management Support Practices for the revenue administrations in SACU. This will benefit project practitioners and scholars.

2. It will bridge the gap on project management research in revenue administrations in SACU and add a perspective from a least developed country on the African continent. This will benefit organisations of this nature, project practitioners and scholars.

3. On a practical level, it will develop a set of specific and precise practices which can be employed by those who own strategy in revenue administrations in SACU, namely top management, in their delivery of strategy through project execution.

4. The implementation of the developed framework may lead to the improvement in the management of projects in revenue administrations in SACU, directly improving their chances of effective strategy implementation through projects. This may be beneficial to SACU member states.

1.11 CHAPTER OUTLINES

Chapter 1 - Overview of The Study

This chapter puts the research into context. The chapter discusses the research problem, the purpose of the research, the questions posed by the research as well as the objectives the research set out to achieve. The chapter also provides justification for the research study and considers its limitation.

Chapter 2 - Understanding Top Management, Top Management Work and Top Management Support

This chapter seeks to locate and summarise studies and research work on top management, top management work and top management support through reviewing the literature on these concepts.

Chapter 3 - Understanding Revenue Administrations, Projects and Project Management

This chapter aims to review theories on parastatals, projects, and project management theories. It shows how revenue administrations as parastatals came into being.

The chapter provides definitions for projects and project management and shows the differences between the two. The chapter also shows how projects and project management relate to organisational strategy. It continues by defining the different project management best practices which are also referred to as project management methodologies and it highlights how these differ.

Chapter 4   -   Research Methodology

This chapter reviews the research methodology employed by this study. It motivates the selection of the methodology. Furthermore, it motivates and provides justification for the type of data collection analysis. It concludes by highlighting and discussing the importance of validity and reliability in research as well as showing the ethical consideration which were dealt with.

Chapter 5   -   Qualitative Data Presentation and Interpretation

Chapter 5 discusses the qualitative data collection methods, the data presentation, and the data interpretation. The chapter is concluded by proposing a preliminary conceptual framework.

Chapter 6   -   Quantitative Data Presentation and Interpretation

This section of the research highlights the quantitative data presentation and analysis. It highlights how the collected data were summarised and coded and discusses how the data were validated through data manipulation. Furthermore, the chapter analyses the collected data through the employment of descriptive statistics and inferential statistics. The chapter concludes by discussing the statistical findings and by adjusting and confirming the framework proposed in the preceding chapter.

Chapter 7   -   Findings and Presentation of the Conceptual Framework

This chapter summarises the conclusions drawn from the two cases and presents the conceptual framework.

Chapter 8   -   Conclusions and Recommendations

This chapter revisits both the research questions and objectives and highlights how each of these was addressed through summarising the findings. It re-states the developed and proposed conceptual framework and highlights the study's limitations while showing areas of alignment which may require further research.

1.12 CONCLUSION

This chapter has introduced this research study. It has highlighted prior studies which have been undertaken to develop specific top management support practices. It then showed that these practices are, however, not industry- or culture- or country-specific and stressed the need to develop a set of top management support practices in effective project management in the SACU region, which is a developing region, and within the services industry of revenue administrations which serve through revenue collection on behalf of governments. Within revenue administrations in SACU, Lesotho and Botswana were selected as cases.

1.13 LINK TO NEXT CHAPTER

The next chapter will review previous studies undertaken within the topics of top management and top management support.

CHAPTER TWO - UNDERSTANDING TOP MANAGEMENT, TOP MANAGEMENT WORK AND TOP MANAGEMENTSUPPORT

2.1   INTRODUCTION

This part of the study introduces the concept of top management. It gives definitions of top management from the available literature.   It also moves on to highlight different approaches to understanding top management, top management work and it discusses the role approach to managerial work in detail.   It concludes with highlighting top management support, what it is and why it is essential for the effective realisation of organisational goals.

2.2   DEFINING TOP MANAGEMENT

Merriam-Webster (2019) suggested that the definition of top management is the "most senior staff of an organisation or business, including the heads of various divisions or departments led by the chief executive."   The literature on top management is, however, full of varying definitions of what comprises top management and who is a top manager.

As concluded by Wei and Lau (2012), organisational top management includes the Chief Executive Officer and other top executives and leaders who are heads of functions and who formulate strategy and oversee its implementation. Madanayake (2014) asserted that the term 'top manager' refers to the various hierarchical levels of decision making in organisations. These management levels may also differ with regard to terms, including those relating to decision making powers according to the nature and differences in organisational types (Wei & Lau, 2012).

The literature on top management makes a distinction between corporate managers, functional managers, and front-line managers. Other terms which have been used are top/strategic management, middle management, and operational management (Madanayake, 2014).   As explained by Menz (2012), these managers, despite all operating at different levels in the organisation, are part of top management.

In terms of functionality and responsibilities, the literature refers to top management as consisting of those responsible for organisational vision and goals and resource allocation (Cao, Simsek & Zhang, 2010; Simsek, Zeki, Lubatkin & Dino, Wei & Lau, 2012). In contrast, operational managers are mostly tasked with the daily activities of the organisation (de Oliveira, Jair, Nagano, Ferraudo & Rosim, 2015).

It has been established that managers on different levels in organisations can be labelled top management, but other terms have also been used to refer to top management, namely organisational leadership, the executive, leadership and management (Madanayake & Gibson, 2015; Sambamurthy & Zmud, 1999; Zwikael, 2008a).

Based on these this, therefore, it follows that CEOs, Senior Managers, Chief Information Managers, Directors, Commissioners, Assistant Commissioners, and others who operate at the strategic decision-making level of an organisation can be referred to, and classified as, top management. These are all people who, according to Smith and Tushman (2005), make and are involved with decisions affecting the company's strategy. This is because this level of the organisation is responsible for planning for the organisation as well as deploying the resources needed for attainment of the organisational vision (Wei & Lau, 2012). This is also because top management is comprised not of the CEO alone, but the CEO is part of a larger team of managers (Simsek, Veiga, Lubatkin & Dino, 2005).

2.3   MANAGERIAL WORK

The literature relating to the study of the work of managers uses different classifications to refer to managerial work (de Oliveira *et al*., 2015). These include, for example, the functional approach which describes a manager's work as that of planning, organising, commanding, coordinating, and controlling (Carroll & Gillen, 1987; Kotter, 1982).

Yukl (1999) maintained that studying what comprises the daily work of managers could be done using different approaches, including the specific characteristics of managers, their responsibilities, their behaviour, their authority and their specific situational aspects.

Table 2 – 1 provides a highlight of these different approaches to understanding the work of managers as adapted from Nystrom (2005) and de Oliveira *et al.* (2015).

Table 2-1:   Approaches to understanding managerial work

Study	Approach
Mintzberg (1973)	Roles approach.
Snyder and Wheelen (1981)	Theory approach.
Kotter (1982)	Work agenda and leadership (planning, organising, commanding, coordinating, and controlling)
Carroll & Gillen (1987), O'Gorman, Bourke & Murray (2005)	Classical and roles approach.
Yukl (Yukl 1999)	Managerial work and managerial behaviour approach.
Tsoukas (1994)	Functional and roles approach.
Fells (2000); Lamond (2004)	Process and roles approach.
Al-Taie, Lane & Cater-Steel (2014)	Four different approaches: roles approach, PAIE (Producer, Administrator, Entrepreneur, and Integrator); CVF (Competing Values Framework) and the integrated model of executive leadership roles.

The main classifications which emerge from this summary table are the process approach, the role approach, the PAIE (Producer, Administrator, Entrepreneur, and Integrator), the CVF (Competing Values Framework) approach and the integrated model of executive leadership roles approach.

2.3.1   The process approach

The process approach, according to de Oliveira *et al*. (2015), seeks to answer the question of "what activities managers carry out". As put forward by de Oliveira *et al*. (2015), this approach provides the definition of a manager based on the function of the manager's role against the foundations of the general roles of Planning, Organising, Leading and Controlling. De Oliveira *et al*. (2015) broke down these functions into constructs as demonstrated in Table 2 – 2.

Table 2-2: **The process approach (with constructs) to a Manager's work (Source: de Oliveira, 2015).**

Managerial Function	Construct	Description
Planning	Preparation for the future.	Thinks about the future, seeks information and analyses the environment in which the company operates.
	Establishment of goals.	Evaluates and defines the company's mission, guidelines, goals and targets.
	Establishment of courses of action and resources.	Identifies, evaluates, and selects alternatives and means to accomplish goals.
Organisation	Establishment of workflows.	Defines workers' attributes, conduct and behaviour rules.
	Provision for the needs of personnel.	Hires personnel, assigns workers' duties and duties.
	Provision for needs regarding tangible and intangible resources.	Allocates material goods throughout company or financial resources demanded by plan or budget.
Leadership	Decision about work implementation.	Makes decisions and communicates with subordinates, implementation of plan and workflows. Relays rules and work routines.
	Relationship with subordinates.	Prompts actions verbally and in writing, responds to initiatives and requests from subordinates, directs, encourages, rewards, and

Managerial Function	Construct	Description
		reprimands subordinates, conducts meetings and interferes with interpersonal relationships to solve conflicts.
	Dealing with people.	Maintains contact with other people who are not subordinates, e.g. customers, suppliers, consultants, service providers or peers.
Control	Monitoring of activity implementation.	Evaluates progress of plan through visual, verbal contact, electronic or written means.
	Analysis of divergences.	Compares what has been accomplished with plan and assesses reasons for divergences.
	Provision of information.	Provides remaining areas of company with information on plan implementation as it occurs and/or on later occasions (feedback).

2.3.2   The role approach

Sarbin and Alan (1968) argued that the term 'role' refers to an "organised set of behaviours belonging to an identifiable office or position". Conversely, as argued by Nystrom (2005), a role is a variable which is connected to several factors including responsibility or rank. The role approach to managerial work emerged from the work on managerial roles which was eventually developed into a theory by Mintzberg, culminating in his publication in 1973 (Carroll & Gillen, 1987).

Mintzberg (1973) made observations about Chief Executive Officers and their daily work routines and concluded that managers exist to fulfil ten roles, categorised into three main groups as presented below:

I.   **Interpersonal Roles:**

Figurehead;

Leader; and

Liaison.

II.   **Informational Roles:**

Monitor;

Disseminator; and

Spokesman.

III. **Decisional Roles:**

Entrepreneur;

Disturbance handler;

Resource allocator; and

Negotiator.

These roles are further explained, using examples in Table 2 – 3.

The description of what comprises the work of managers is based on a set of work activities, actions or operations (de Oliveira *et al*., 2015). In effectively doing his work, a manager starts with developing interpersonal relationships with those around him, resulting in an intimate relationship with co-workers (de Oliveira *et al*., 2015). This intimacy results effectively in the manager's being able to execute on time and to make well-timed resolutions. This explanation summarises the three groups of the managers' work roles, i.e. interpersonal roles, informational roles and decisional roles.

Table 2-3:   **The role approach to a Manager's work (Source: Mintzberg, 1973).**

Category	Roles with examples
Interpersonal Roles Interpersonal roles are concerned with the contact between the manager and the people in his environment (e.g.	1. **The Figurehead:** Performs ceremonial duties, e.g. Award-granting ceremonies or professional class meetings. Meets

Category	Roles with examples
subordinates, other managers, the board of directors, the works council, customers and suppliers).	with non-customers visiting the company. 2. **The Leader:** Responsibility for the work of subordinates, motivating and encouraging employees, exercising formal authority, e.g. virtually all managerial activities involving subordinates. Acknowledgment of mail; external board work; other activities involving outsiders. 3. **The Liaison:** Making contacts outside the vertical chain of command including peers in other companies or departments, and government and trade organisation representatives, e.g. handling all mail and contacts categorised as concerned primarily with receiving information (periodical news, observational tours).
Informational Roles The managerial roles in this category the processing of information which means that they send, pass on and analyse information.	4. **The Monitor:** Scans the environment for new information to collect, 5. e.g. the manager constantly looks out for new and useful information which contributes to output. This information is from his constant reading of relevant literature, with most of it most of it coming from discussions with peers and discussions with subordinates. **The Disseminator:** Passing on privileged information directly to subordinates, e.g. forwarding mail to the organisation for the purpose of providing information, verbal contacts

Category	Roles with examples
	involving information flow to subordinates (review sessions, instant communication flows) 6. **The Spokesperson:** Sharing information with people outside their organisation, e.g. informing "key influencers" (CEO, Board; etc.) and "the organisation's public" (suppliers, trade organisations, peers, government agencies, customers and press).
Decisional Roles The managerial roles in this category involve using information for decision making.	7. **The Entrepreneur:** Seeks to improve the unit by initiating projects, e.g. strategy and review sessions involving initiation or design of improvement projects. 8. **The Disturbance Handler:** Responds involuntarily to pressures too severe to be ignored, e.g. strategy and review sessions involving disturbances and crises. 9. **The Resource Allocator:** Decides who gets what, e.g. scheduling; requests for authorisation; any activity involving budgeting and the programming of subordinates' work. 10. **The Negotiator:** Committing organisational resources in "real-time" with the broad information available from their informational roles, e.g. contract negotiation, labour negotiations.

Despite the ten roles being equally important, their level of importance depends on the level of the manager in the organisation's structure (Mintzberg, 1973). The level of importance may also change as a consequence of changes brought about by the landscape in which the organisation operates.

2.3.2.1 Mintzberg's Managerial Roles with constructs

In the further exploration of Mintzberg's Managerial Roles, Mech (1997) adapted a breakdown of these roles into specific constructs. These constructs represented specific tasks which, according to him, a manager performs or practises in each role. These constructs, with their corresponding descriptions adapted for organisational strategy implementation through project work, are summarised in Table 2 – 4. These constructs have previously been applied in academic research by Judson (1981) and West and Anderson (1996).

Table 2- 4:   An adaption of Mintzberg's roles with constructs (Mech, 1977).

Role	Construct	Description
Figurehead	Participation in social affairs.	Participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebration events.
	Attention to visitors.	Performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects-related matters.
	Promotion of social events.	Conceives, participates and makes speeches in a variety of social and ceremonial projects related activities.
Leader	Guidance in activity	Defines work targets and

Role	Construct	Description
	implementation.	communicates commands and instructions to subordinates.
	Creating a milieu with colleagues and project staff.	Offers positive critiques, praises and motivates subordinates.
	Exercise of authority.	Makes sure that subordinates fully understand instructions as well as accepting and following them.
Liaison	Internal relationships.	Develops activities to maintain a set of formal and informal projects related to relationships within the organisation.
	External networks.	Establishes and maintains project-related external contacts and information sources outside the organisations.
	Dissemination of internal information.	Relays important external project-related information to employees.
Monitor	Information gathering.	Identifies and collects project-related information relevant to the organisation.
	Monitoring of internal operations.	Assesses the performance of projects in order to make adjustments and

Role	Construct	Description
		changes.
	Monitoring of external events.	Monitoring the internal and external environment to make sure that projects are running smoothly.
Disseminator	Information selection	Sorts out which project-relevant information will be shared with subordinates.
	Information sharing.	Shares project-relevant information with subordinates.
	Confirmation of information reception.	Ensures that subordinates obtain project-related information so that they can complete their tasks.
Spokesperson	Preparation of reports and information.	Grants interviews, makes speeches or provides organisational information to external audiences on project-related issues.
	Representing the project office outside of the organisation.	Speaks about project-related issues and history at events or meetings.
	Representing the project office inside the organisation	Speaks to people outside the project office about project-related issues.
Entrepreneur	Promotion of improvements.	Changes workflows to improve productivity of project actions.

Role	Construct	Description
	Proposition of opportunities.	Seeks innovations that can improve projects in the organisation.
	Implementation of new projects.	Scans the internal and external environment looking for innovations related to strategy to be implemented as projects.
Disturbance handler	Solution of routine conflicts.	Solves the conflicts of subordinates and project office staff deriving from everyday situations.
	Solution to sudden conflicts.	Solves conflicts of subordinates and project office staff deriving from unexpected situations.
	Solution of impasses.	Puts a stop to misbehaviour within the project office or in the organisation.
Resource allocator	Scheduling of commitments.	Allocating of project office resources.
	Evaluation of budgets.	Decides on organisation's investments (analyses and selects projects that demand the application of financial resources).
	Allocation of resources.	Allocates financial, material and physical resources to maximise organisational efficiency.
Negotiator	Negotiation of co-operation.	Represents the project office and organisation

Role	Construct	Description
		at various non-routine discussions or negotiations.
	Negotiation of agreements.	Resolves problems that occur between the project office and other business units.
	Negotiation of transactions.	Negotiates and works with other parties to come to an agreement.

2.3.3 Debates on the role approach

The preceding sections have highlighted that there are differences in the study of what managers do daily in their respective and different levels. Some of the studies have studied managerial work based on functions whilst others employ the roles approach (de Oliveira *et al.*, 2015).

Carroll and Gillen (1987) have criticised the role approach to understanding managerial work by pointing out that Mintzberg's Managerial Roles are general and lack the specificity required to provide a guide for the activity of the manager. Another criticism has been that, in empirical studies employing these roles where there was observable organisational performance, it could not be ascertained which of the roles were used predominately by the managers (Carroll & Gillen, 1987; Lamond, 2004). Nevertheless, other studies have supported the use of the roles approach. For example, Anderson, Murray and Olivarez (2002) concluded that employing these roles requires making three assumptions, namely:

1. These roles are all necessary for a manager's operations albeit at different levels of application;
2. These roles are complementary to one another; and
3. These roles are hierarchical and begin with the interpersonal role followed by informational roles moving to decisional roles.

In a study on the role approach, Madanayake (2014) observed that Mintzberg's roles approach generalised managerial roles based on the observation of a very thin line of data.

These criticisms, however, were previously disputed by Harrison (1978) who proved that most studies conducted following Mintzberg's study and employing the role approach came to the same conclusions as he had done. In addition, Kurke and Aldrich (1983) replicated Mintzberg's work on managerial roles through structured observation with supplementary, unstructured interviewing and studied four top managers for one week each and came to the same conclusions.

2.3.4 Applications of the role approach

The literature on managerial work is littered with numerous studies on managerial work based on Mintzberg's role classification (Pinsonneault & Rivard, 1998).

Grover, Jeong and Kettinger (1993) investigated the influences of functional speciality and hierarchical level on the managerial roles with a view to understanding the role of the Chief Information Officer in organisations. A replication of the same study was undertaken by Gottschalk (2002) who provided empirical insight into the importance of the Chief Information Officer role with possible role explanations. In addition to these studies in the Information Technology field, it is noted that most studies on managerial roles were done in the fields of Information Technology and Information Systems (Madanayake, 2014).

Macintosh and Williams (1992) used Mintzberg roles approach to investigate managerial budgeting behaviours and so linked this approach to the field of accounting. In addition to these studies, managerial roles have been used in the hospitality field (Ayres, 2014), in academia (Anderson, Murray & Olivarez, 2002; Mace, 2013), in management sciences (de Oliveira *et al*., 2015), including project management (Madanayake, 2014; Madanayake, Gregor & Hayes, 2009), in psychology (Harrison, 1978) and in the management of sports (Ramezani, Khabiri, Alvani & Tondnevis, 2011). These studies were also undertaken in different continents and so confirmed the alignment of the roles approach of Mintzberg to different cultures.

Despite being used in numerous empirical studies and across different fields, it has been argued that Mintzberg's Managerial roles differ in applicability based on the type of organisation in which managers practice them (Shapira & Dunbar, 1980). Nevertheless, Shapira and Dunbar (1980) did concede that their study presented limitations. Their study was undertaken under simulation and this could have resulted in a manager's behaviour

not fully corresponding to his actual behaviour on the job within this context. In addition, it was possible that the interpersonal aspects of managerial work are more evident on the job than in a simulation. This conclusion by Shapira and Dunbar (1980) did not, therefore, nullify Mintzberg's Managerial roles.

2.3.5 Managerial work and managerial practices

According to de Olivier *et al*. (2015), the work of top managers can be referred to by many names. As stated by Stewart (1982), the roles approach of managerial work is also known as the work activity school and belongs to the field of study relative to how managers spend their working hours. Whether what a manager spends his time doing is referred to as 'managerial work' or 'managerial roles' is neither here nor there, but what is important is that this work or role comprises of what a manager does with his time within his organisation to build and maintain the reality of the organisation in a general and integrated way, respecting the singularities of their respective hierarchical levels (de Oliveira *et al*., 2015).

Similarly, referring to what a manager does to support strategy implementation through project execution, Zwikael (2008b) and Zwikael and Globerson (2006b) discussed top management process practices, which comprise activities or work that top management does. This research study ties these concepts together and uses the term top management practices and equates it to top management work through managerial roles constructs as described in Table 2 - 4. This research study bases these top management practices on the role approach as espoused by Mintzberg in 1973.

2.4 TOP MANAGEMENT SUPPORT

In mobilising organisational resources for optimum output, a top manager's work is constantly to be on the lookout for his organisational success through ensuring optimum use of all organisational resources to ensure maximum output (Hales, 2002). Those working below top management or those who operationalise strategies get direction and support from top management (Nyström, 2005). According to Dong, Neufeld and Higgins (2009), top management support comprises three critical components, namely:
1. Resource provision so that there is availability of funds, personnel, and equipment;
2. Participation and availability throughout the project duration; and

3. Involvement that shows commitment with participation that is sincere and full of effort.

Within the realm of operationalising organisational strategies in temporary organisations or projects, Pinto and Slevin (1987) referred to top management support as the readiness and preparedness of an organisation's management to empower managers through the allocation of the necessary and required resources and control in the execution of their duties.

In such instances, as stated by Sudhakar (2015) and Sudhakar (2016), the availability of relevant and required resources is an essential requirement for the effective execution of work and, therefore, the effective delivery of organisational strategies.

In agreement with this understanding, Madanayake, Gregor and Hayes (2009) stated that the definition of top management support revolves around two themes, the meaning derived from top management's devotion of time in proportion to cost and potential benefits and top management's degree of understanding of the importance of the project management function.

This means, therefore, that, as a top manager caries out his managerial work, utilising Mintzberg identified roles, part of what he will be doing is supporting those who put the strategies he has formulated to attain organisational objectives into operation.

2.5   SUMMARY

This chapter has reviewed top management and top management work. Starting with defining what top management is based on the literature, it highlighted different approaches to studying what top managers do in organisations. It dwelt on the role approach to managerial work as promoted by Mintzberg in 1973, an approach supported by other researchers.

In addition, the chapter listed the roles as classified by Mintzberg (1973) with examples of each and it highlighted possible constructs for each role. The chapter further investigated debates on the role approach, highlighting arguments supporting this approach and those against it. It also highlighted cases where the role approach has been used in research,

from different fields of study, including within the African continent which is the setting for this research study.

The chapter ended by introducing the concept of top management support and showed that, in doing their managerial work, top management can be acting out a supporting role for organisational benefit.

2.6 LINK TO THE NEXT CHAPTER

The next chapter examines relevant theory, defines concepts and looks at organisational strategy implementation through temporary organisations or projects. It further looks at parastatals and refers to revenue administrations. Moreover, it critically considers factors which make projects fail and those which make projects succeed. On those factors which make projects succeed it considers top management support and argues that managerial work equals top management support even in the case of project execution.

CHAPTER THREE – UNDERSTANDING REVENUE ADMINISTRATIONS, PROJECTS AND PROJECT MANAGEMENT

3.1   INTRODUCTION

This chapter defines the terms which are applicable to the chapter and the study. In doing this, the chapter will discuss the following themes: parastatals and revenue administrations; projects and project management; project management methodologies; project failure and project success factors; top management support as a project success factor; and top management support practices and processes, as well as introducing a conceptual framework through which it proposes to develop a framework.

3.2   UNDERSTANDING REVENUE ADMINISTRATIONS

Revenue administrations are a type of parastatal created in the mid-1980s (Kidd & Crandall, 2006). A parastatal is an entity or an organisation which belongs to a government, either partly or entirely (Mpofu, 2010; Peng, Bruton, Stan & Huang, 2016). Razakov (2015:12) and Omoleke (2010) went further and defined parastatals as legal entities founded by governments through legal statutes to undertake commercial or business activities on behalf of a government owner.

Cuervo-Cazurra, Inkpen, Musacchio & Kannan (2014) provided two explanations for the existence of parastatals. The first explanation is an economic explanation emanating from the problem of market imperfections under which the the role of government is to resolve issues brought about by this imperfection. The second explanation relates to politics and ideology where the government takes ownership of selected productive assets. Tabellini (2005) supported and subscribed to this argument by stating that the roles of governments and states include the provision of goods and services, ensuring equity in income opportunities, the stabilisation of unusual economic fluctuations, the ensuring of free trade, political freedom, and economic growth and development.

Mascarenhas and Aharoni (1988) documented three objectives of parastatals, namely:

1. To effectively maximise social benefits for the citizens. This is in line with their mandate of being state's tools.

2. To maximise efficiency. The emergence of parastatals was meant to correct the inefficiencies of the market which meant that their performance should better that of the market.

3. To serve and meet the expectations of different stakeholders (for example parastatal workers, civil societies, and the government).

On the other hand, Toninelli (2008) stated that parastatals are strategic policy tools for states in developing and developing countries. Acting as agencies or bestowed with the mandate to be stewards, it can be argued from these discussions that the objectives of the parastatals to a larger extent need to be aligned to the state's or government's mandate (Toninelli, 2000).

Parastatals in the form of revenue administrations emerged in the mid-1980s (Kidd & Crandall, 2006). Most of these types of parastatals are found on the African continent and in Latin America (Fjeldstad & Moore, 2009). Fjeldstad and Moore (2009) noted the two prime mandates of revenue authorities as being:

1. Assessing, collecting, and accounting for all revenues due under the country's tax laws; and

2. Playing an advisory role for government on required changes to tax laws and fiscal policy in general.

Table 3 – 1 highlights the mandate and legislative base for revenue authorities in the Sub-Saharan part of the African continent.

Table 3- 1:   Mandate and legislation for selected revenue administrations (Source: Kidd & Crandall, 2006).

Country	Name of Revenue Administration	Legal/Law	Legal Form/Character
Botswana	Botswana Unified Revenue Service	Botswana Unified Revenue Service Act	Agency of the government; body corporate
eSwatini	eSwatini	The Revenue	Agency of the

Country	Name of Revenue Administration	Legal/Law	Legal Form/Character
	Revenue Authority	Authority Act, 2008	government; body corporate
Lesotho	Lesotho Revenue Authority	Lesotho Revenue Authority, Act 2001	Agency of the government; body corporate
Mauritius	Mauritius Revenue Authority	Mauritius Revenue Authority Act, 2004	Agent of the state; body corporate
Rwanda	Rwanda Revenue Authority	Rwanda Revenue Authority Act, 1997	A public establishment and a body corporate
South Africa	South African Revenue Services	South Africa Revenue Service Act, 1997, as revised	Public entity; organ of the state within the broad public administration, but outside public service
Tanzania	Tanzania Revenue Authority	Tanzania Revenue Authority Act 1996	Agency of the government; body corporate
Uganda	Uganda Revenue Authority	Uganda Revenue Authority Act, 1992	Statutory body
Zambia	Zambia Revenue Authority	Zambia Revenue Authority Act, 1994	Body corporate
Zimbabwe	Zimbabwe Revenue Authority	Zimbabwe Revenue Authority, Act 1999	Body corporate

3.2.1 Characteristics of revenue administrations

As claimed by Toninelli (2000), the revenue administration model has been designed to limit the influence and political interference in the authority's operations by the Government through its Ministry of Finance. As such, revenue administrations are semi-autonomous and independent from the normal and regular rules governing public sector institutions; they are able to recruit, to retain and to promote quality staff as well as being able to pay salaries which are above those paid by the public sector.

Kidd and Crandall (2006) summarised the characteristics of revenue administrations as:

1. Design
    i. They have a degree of freedom and are usually controlled through a structured governance framework with clear levels of accountability.
2. Degree of autonomy
    i. Legal Standing: They are established through legislation which gives them autonomy from government.
    ii. Funding: They are funded by the state either through budgetary appropriations or through a percentage retention of the revenue they collect.
    iii. Budget flexibility: Budget flexibility varies from little flexibility to complete flexibility on a one-time budget.
    iv. Financial policies: These are aligned to civil service laws and regulations or based on the governance framework of a corporate body.
    v. Human resources: Human resources are governed based on civil service framework or based on the governance framework of a corporate body.
3. Governance framework
    i. Minister of Finance: The Minister has direct supervision, either directly or through a Board of Directors Chair.
    ii. Board of Directors: This plays a board relevant advisory role or can run the entity through taking business decisions.
    iii. Role of Director General/Commissioner General: Either a coordinator or implementor of all related entity operations.
4. Accountability
    i. The entity reports to the government through the Minister of Finance.
    ii. The entity is audited to ensure oversight through a Board of Directors selected audit firm of through the government's Auditor General.

3.2.2   Performance of revenue administrations

Since their formation, revenue administrations have been relatively successful (Fjeldstad & Moore, 2009; Fjeldstad & Rakner, 2003). The meaning of success in this instance is that revenue administrations have met the goals set for them by governments. Despite recorded successes, revenue administrations still face challenges brought about by the environment in which they exist, such as declining economic performance. Perusing through discussions and literature on revenue administrations by Rai (2004), Fjeldstad and Rakner (2003) and Kidd and Crandall (2006), reveals that the challenges facing revenue administrations are a result of the following issues and factors:

1. National Politics;
2. Abundance of exemptions for political reasons;
3. Global economic landscape;
4. Poverty and inequality;
5. Growing informal sector;
6. High unemployment; and
7. High costs of collecting taxes.

These challenges, therefore, call for parastatals to emulate private sector organisations closely in terms of how they conduct business and their swiftness in adapting to the changing environment.   This could be through setting up effective governance mechanisms, being less bureaucratic and having the right strategic leadership (Mpofu, 2010).

3.3   UNDERSTANDING PROJECT AND PROJECT MANAGEMENT

The purpose of this research study is to propose a framework to ensure that project execution in revenue administrations is effective. It is, therefore, important to set the scene and understand project and project management concepts.

3.3.1   Defining a Project

The literature on project management shows various definitions of what constitutes a project. These include:

1. "A project is a temporary endeavour which seeks to organise human and financial resources in a novel way with the purpose of undertaking a unique scope of work, of given specification so as to deliver beneficial change defined by quantitative and qualitative objectives" (Wilson-Murray, 1997);
2. "A project is a temporary endeavour undertaken to accomplish a specific objective, product or service through a unique set interrelated tasks and the effective utilisation of resources" (PMI, 2016);
3. "A project is a complex, non-routine, one-time effort limited by time, budget, resources and performance specifications designed to meet a set strategy" (Attarzadeh & Ow, 2008:234);
4. "A project is an endeavour to accomplish a specific strategic objective through a unique set of interrelated tasks and the effective utilisation of resources" (Steyn, 2011); and
5. "A project is a unique, transient endeavour undertaken to achieve the desired outcome" (Ghosh, Forrest, Dinetta, Wolfe & Lambert, 2012).

These definitions, though differently worded, all converge on the meaning of a project as being working towards a single achievement within an agreed time. In alignment with the view of Gido and Clements (2011), this achievement can be a component of an organisation's strategy, which can be to change a business process, to be a market leader in a product, to increase sales and therefore profits, or to improve a process.

Based on this understanding of a project as an endeavour, Gido and Clements (2011) and Steyn (2001:4) concluded that project tasks and activities have:
1. Restrictions on time in that they have fixed start and completion times;
2. Specific goals and targets;
3. Observable improvements upon their completion;
4. Capability of using allocated resources;
5. Can be implemented through various departments in organisations;
6. Specific objectives to be accomplished within certain requirements;
7. Bring about beneficial change or added value;
8. Utilise and connect resources and
9. Are multifunctional because they cross several functional departments within an organisation.

3.3.2   Defining Project Management

As is the case with the definition of a project, the literature on project management provides many definitions. These definitions include:

1. "Project management is the planning, organising, directing and controlling of an organisation's resources for a relatively short-term objective that has been established to complete specific goals and objectives through a systems approach to management" (Kerzner, 2014);

2. "Project management entails implementing a project effectively within the constraints of time, money (and the resources it buys) and specifications" (Atkinson, 1999);

3. "Project management is the application of knowledge, skills, tools and techniques to project activities to meet the project requirements" (Rose, 2013);

4. "Project management is a professional's capability to deliver, with due diligence, a project product that fulfils a given mission, by organising a dedicated project team, effectively combining the most appropriate technical and managerial methods and techniques and devising the most efficient and effective breakdown and implementation routes" (Ohara, 2005); and

5. "The coordinated and integrated management of portfolios of processes and projects, including large tasks, that brings about improvements in organisations that achieve benefits of strategic importance" (Steyn, 2001).

Though differently penned, these explanations of what project management describe it from two perspectives, viz. the why and how of the way it is practised.

3.4   ROLE OF PROJECTS IN ORGANISATIONS

In agreement with Steyn (2010), strategic leaders are increasingly managing their organisations through projects. Steyn asserted that this practice has turned out to be the operationalisation of strategy. As stated by Verzuh (2003), this has led to a large proportion of time and resources being spent on projects within many industries and amongst many professionals. Noting that even non-project led organisations do execute projects to drive their strategies, Verzuh (2003) coined the term "the project-based organisation" in reference to such organisations.

The importance of projects as tools to deliver organisational strategy has, therefore, been amplified. As stated by Artto and Dietrich (2007), the importance of projects is that they

provide organisations with a certain level of competitive advantage. In conformity with this view, Shenhar *et al.* (2001) concluded that "projects are strategic weapons initiated to create economic value and competitive advantage for organisations".

As a further endorsement of the role of projects in organisations, (Turner, 2009:67) argued that the process of its execution, or project management, is a critical and significant aspect of the strategic management process in organisations. It is because of this, according to Meredith and Mantel (2006) and Steyn (2011), that more and more executives have discovered that driving their organisational strategies through projects reduced risks, cut down on costs and improved their chances of strategy attainment.

Figure 3 – 1 depicts the link between an organisation's strategy and its operations, through its portfolio down to projects. In this schematic presentation of Cleland and King (1983), project success leads to programme success, which leads to portfolio success and then to organisational strategy attainment.
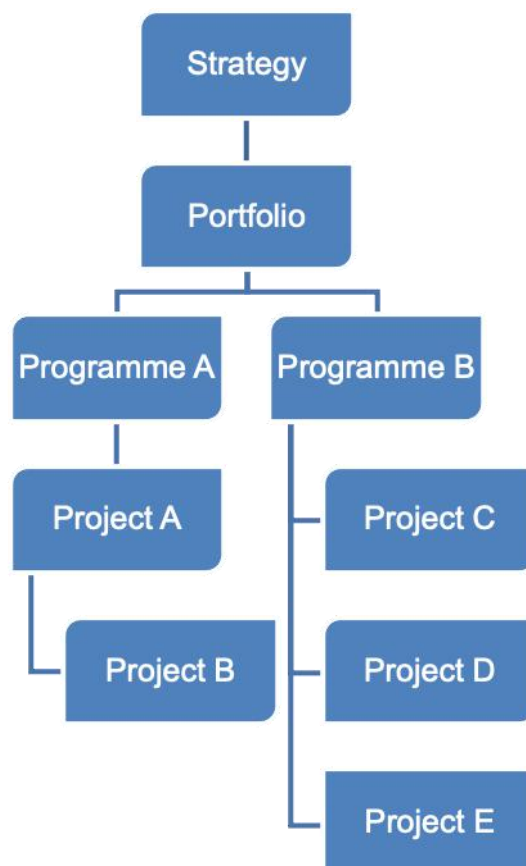
Figure 3-1:   Linking strategy with projects (Source: Cleland and King, 1983).

3.5   PROJECT LIFECYCLE

From the various definitions of a project, it has been shown that a project is bounded by time frames. Arguing that a project comprises of a series of non-repetitive tasks that need to be done and finalised in a pre-determined sequence, Clements and Gido (2011) referred to the path from the definite start and definite end as a project lifecycle. Different project management best practices and bodies of knowledge have proposed different project lifecycles. These are further expanded on below under each project management best practice.

3.5.1   The Four Stage Project Lifecycle

Based on the statements by Gido and Clements (2011), the project lifecycle stages are defined as follows:

1.   **Initiation/Conceptualisation Stage**: In this stage the project is conceptualised and clearly defined. Questions, such as what the project is going to do, what the business case for doing the project is, who wants the project done, where is the resources to complete the project going to come from, who is going to manage the project and who is going to do the work in the project, are asked and answered. As these questions are answered the need for memoranda of understanding and service level agreements may emerge including whether human resources are required to be seconded to the project.

2.   **Planning/Design Stage**: This phase is concerned with planning the project by looking critically at the project time and project cost and mapping these against the desired product to enable an understanding of the effort required to complete the project. Possible factors which may affect the work done in the project are identified and mitigation factors identified. Specific work packages are identified and arranged in a logical way and resources to deliver them are identified and documented.

3.   **Execution/Implementation**: This stage is concerned with the actual work done to meet set outcomes. Individuals assigned to different work packages do the work; they are led and managed to ensure the quality agreed is achieved. Identified risks are managed to ensure that the project deliverable is achieved. As the work packages are delivered, there is an ongoing control to ensure that emerging problems and risks are dully identified and dealt with.

4.   **Closure/Termination**: During this last phase of the lifecycle confirmation that all work packaged and delivered to the agreed specifications is done. The project

deliverable is transferred to those who commissioned the project. The project is evaluated, and lessons learnt are documented and archived to provide insight into future projects. All memoranda of understanding, service level agreements and contracts are formally closed. Project human resources are released back to their functions or redirected to other functions.

Figure 3 – 2 highlights these steps as explained above.
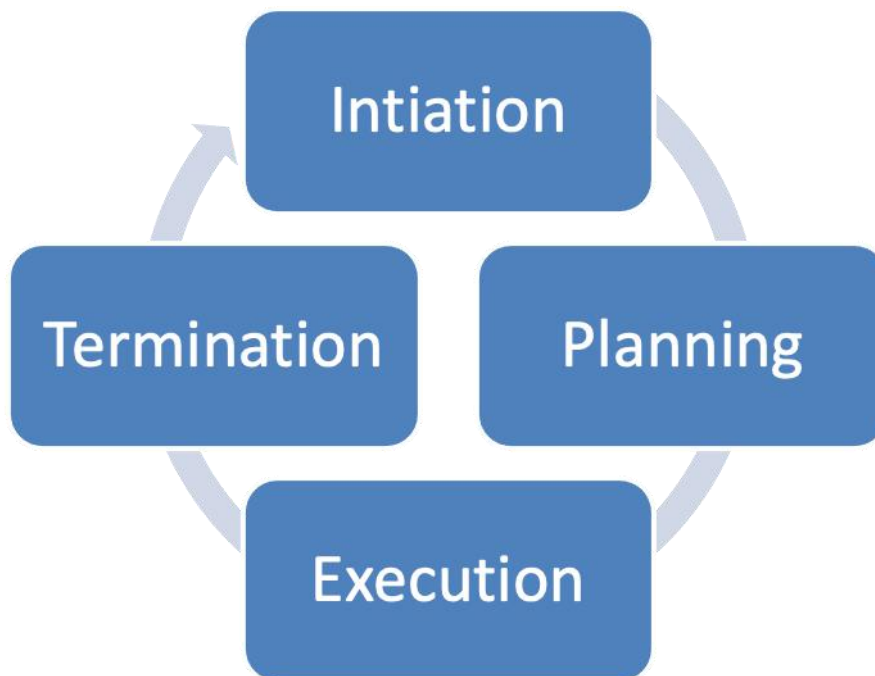
Figure 3- 2:   Four stage project lifecycle (Source: Gido & Clements, 2011).

3.5.2   The Five Stage Project Lifecycle

In contrast to a four-stage project lifecycle, some authors and project management best practice bodies go further and discuss a five-stage project lifecycle. For example, Grundy (2000), detailed a five phased project lifecycle. This was through the addition of the Creation of Strategy Phase immediately after the first stage of Initiation/Conceptualisation. The resulting project lifecycle presented was as shown in Figure 3 – 3.

Figure 3-3:   Five stage project lifecycle (Source: Grundy, 2000).

3.5.3   The Six Stage Project Lifecycle

In addition to the four stage project lifecycles and the five-stage project life cycle, other researchers and project management bodies of knowledge have gone further and developed a six-stage project lifecycle.   As stated by Elbeik and Thomas (2007:14), the different phases in a six-stage project lifecycle are:

1. **Defining Stage**: in this stage the project is fully discussed with stakeholders and project objectives agreed.   A project feasibility study, detailing costs and time frames, is developed and a project brief developed.
2. **Planning Stage**: In this stage an initial project plan is developed and agreed.   This plan is continuously reviewed and edited during the project lifetime.
3. **The Team Stage**: Project personnel who work to deliver on the agreed objectives are identified and deployed to the project.   Team development through coaching, leadership and motivation continue throughout the project lifetime.
4. **The Communications Stage**: Team and stakeholder communication is done continuously throughout the project lifetime.   Communication is both formal and informal, project reports, project meetings and project presentations.
5. **The Controlling Stage**: Project work is implemented during this stage.   This stage also involves the monitoring of the various tasks and activities of the project team in line with the agreed work patterns and quality control measures.   Project timeline reviews are also performed, and revisions done accordingly.

6. **The Review and Exit Stage**: At this last stage, the project is reviewed in terms of all the other steps and lessons learnt are documented. Project exit is done with documented reports on all work done and completed and all resources accounted for and redeployed accordingly.

3.6   PROJECT MANAGEMENT BEST PRACTICES AND METHODOLOGIES

The end of the sixties saw an increased need to recognise project management as a field of study (Benitez Codas, 1987). Since that period, several Project Management Associations have come into existence each with its own methodology. As stated by McConnell (2012), a project management approach is "a suite of structural elements or units that create a theoretical foundation for the project management process." Other studies have established that project management methodologies are customisable and adaptive to organisations (Al-maghraby, 2010).

As stated by Gray and Larson (2010) and Turley (2010), prominent project management associations include the Project Management Institute (PMI), the Association of Project Managers (APM) and Projects IN Controlled Environments 2 (PRINCE2). In addition to these there is also JPM which is a Japanese management style developed to solve enterprise problems and manage projects and programmes (Ohara, 2005). These Project Management Associations have developed best practices in relation to steps towards project execution in different settings resulting in their respective Bodies of Knowledge (Cleland & Ireland, 2006).

The following sections will introduce these project management associations and methodologies.

3.6.1   Project Management Institute (PMI)

As one of the earliest formalised project management best practices associations, the Project Management Institute (PMI) was established in 1969 in the United States of America (Stretton, 2007). Seeking to enhance the formalisation of strategy execution through projects, PMI developed special capabilities and proficiencies, also referred to as the PMI Project Management Body of Knowledge, or PMBOK, which could be used in various industries to execute strategy through project execution (Rose, 2013). These tools and techniques have been approved and recognised by several professional associations

as standard methodologies for implementing project management in an effective way (Ali, 2010:25).

The PMBOK divides project execution into five phases, which are also referred to as project management process groups (Rose, 2013). According to Rose (2013), these are:
1. "The Initiating Process;
2. The Planning Process;
3. The Executing Process;
4. The Monitoring and Controlling Process; and
5. The Closing Process".

3.6.2   Association for Project Management (APM)

Coming into being later than PMI, the International Project Management Association (IPMA) was created in 1965 in Europe (Ghosh *et al*., 2012). Its terms of reference were to promote project management through providing guidance through research and development (Ghosh *et al*., 2012).

The APM Body of Knowledge has a total of 69 topics divided into four areas of knowledge for effective delivery of projects, namely:
1. Context;
2. People;
3. Delivery; and
4. Interfaces (Ghosh *et al*., 2012).

APMs 69 topics lead to the project lifecycle as depicted in Figure 3 – 4 (Gosh *et al*, 2012).
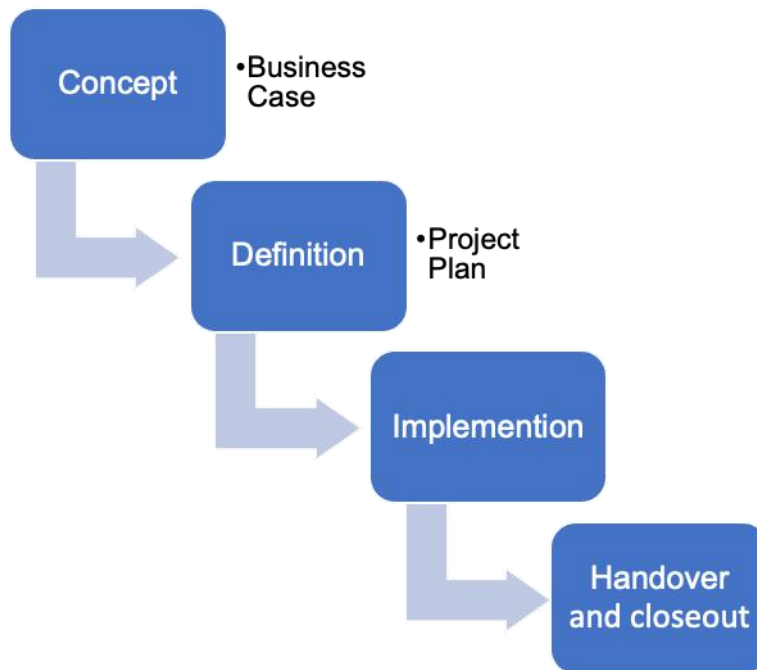
Figure 3-4: **APM basic project lifecycle (Ghosh *et al*., 2012).**

3.6.3 Projects IN Controlled Environments 2 (PRINCE2)

PRINCE, which is an acronym for PRojects IN Controlled Environments, is a systematic approach developed by the UK Government to deliver strategy through project execution (Ghosh *et al*., 2012; Karaman & Kurt, 2015).

According to Bentley (2010) and Hedeman, Heemst, and Fredriksz (2006), PRINCE2 has two key principles, namely:

1. An approved business case gives rise to a project; and
2. Its emphasis is on the project deliverable and not on the steps implemented toward achievement of the said desirable.

Furthermore, PRINCE2 divides a project into manageable stages and processes which enable the efficient control of resources and regular process monitoring throughout the project (Bentley, 2010). According to Bentley (2010), these stages comprise:

1. **Start Up a Project (SU):** This is the information and data gathering stage which happens before the beginning of the project.
2. **Initiating a Project (IP):** This is the business case. This process examines the rationalisation stage. Its deliverable is a Project Initiation Document and a Project Plan.

3. **Directing a Project (DP):** In this stage those who will work on the project are identified by an organisation's Senior Management. In addition, documentation of the decision made on how the project will be delivered is done.

4. **Controlling a Stage (CS):**   In this phase the project is operationalised, and the Project Manager tracks the project's activities.

5. **Managing a Stage Boundary (SB):**   This phase manages the completion of each step and phase of the project and ensures that the subsequent step is well planned for.

6. **Managing Product Delivery (MP):**   This step relates to the delivery of Specific Products requested by the project owners.

7. **Closing a Project (CP):**   In this last phase confirmation of the product is made, as is confirmation on agreed quality. The project team lead submits a closure report.

3.6.4   The Project and Program Management for Enterprise Innovation (P2M)

As stated in Ohara (2005), JPM is a Japanese management style which came about to meet the need to resolve business problems and manage projects and programmes. This style led to a Japanese project management system, referred to as Project and Programme Management (P2M) (Ohara, 2005). As advocated by Ohara (2005) and Ohara (2009), this project management best practice is premised on value creation in executing strategy through projects.

As mentioned by Kwak and Ibbs (2002), P2M BOK is based on a pyramid structure which consists of four basic domains for certification, namely goals, strategy, management of value and finance. P2M BOK further separates the procedures and the practices for project management into nine knowledge fields of project management and five procedures of project management (Kwak & Ibbs, 2002).

3.7 PROJECT MANAGEMENT APPROACHES: TRADITIONAL VS AGILE APPROACHES

As stated by Iivari, Hirschheim & Klein (2000), project management refers to key principles that describe and specify how a project is governed. The Project Management Institute (2017) described project management as the operationalisation of technical tools to deliver a project. Based on these definitions and previous ones on the definitions of project management best practices and methodologies, it emerges that projects, though similar in

intention and purpose, can be managed somewhat differently. Špundak (2014) contended that projects are managed according to specific project management approaches.

This section will highlight and discuss the traditional view of project management and the contemporary agile view of project management.

3.7.1 Traditional project management

As demonstrated by Fernandez and Fernandez (2008), "traditional project management is a linear strategy that consists of dependent, sequential phases that are executed with no feedback loops". The goal of the traditional project management approach is, therefore, the effective realisation of the project as initially planned, through the measures of time, budget, and scope (Frame, 2008). Moreover, this view places importance on the actual goal realisation and delivery, which comes at the final stage of the project lifecycle (Špundak 2014).

As pointed out by Fernandez and Fernandez (2008), the traditional approach to project delivery has the following features:
1. The identification and presence of well-stated goals, how to reach them and the necessary inputs need to realise such goals successfully;
2. Limited acceptance of changes to the agreed deliverables; and
3. Implementation is done in accordance with the accepted way of doing things including reporting and documentation.

Despite the acceptance that this approach delays the realisation of benefits or goals, Špundak (2014) posited that this approach of delivering projects is the most prevalent amongst the various project management best practices primarily because most of these bodies of knowledge came into existence during the period when the traditional approach was prevalent as the sole way of executing projects.

However, to date, and party due to changes in brought about by developments across various fields in which projects are delivered which rendered the linear strategy of delivering projects ineffective, the need to re-align project management approaches has been recognised. This view is supported by Saynisch (2010), who advocated for change in the science of delivering strategy through the execution of projects because the old ways of carrying out project work cannot address emerging issues brought about the

changing environment. The speed at which technology changes, for example, can have a bearing on the outcome of an agreed project so that either scope change or deliverable change is required.

The traditional approach does present some advantages though. Fernandez and Fernandez (2008) recognised that traditional project management enables activity scheduling within the lifecycle of a project which facilitates relevant resource mobilisation in time. This is especially beneficial to organisations which have scarce resources to deliver projects.

One of the main disadvantages of this approach is the assumption relating to it that the project exists in isolation from its environment. This means that this approach does not easily allow for changes even though the environment around the project is changing. Organisations exist in an era where there is rapid change and where there is no "one size for all" in the delivery of projects (Shenhar *et al.*, 2002). Because of the rapid change in which organisations exist, projects tend to be more complicated and this renders this approach unsuitable and inappropriate (Williams, 2005). Moreover, the rigidity in this approach, according to Fernandez and Fernandez (2008), is that a change in any of the variables of the triple constraints of project delivery, namely the approved cost of the project, the approved length of time to deliver the project and the approved project quality, leads to a negative impact on the overall project.

3.7.2   Agile project management

The Agile project management approach came into existence to counter the negative characteristics of traditional project management (Fernandez & Fernandez, 2008:11).

Because of the inflexibility of the traditional execution of projects and the long-term learning on how to deliver projects, new methods have been developed. Notable amongst these is the Agile Project Management (APM) approach. This approach involves structured principles and practices meant to address challenges brought about by the evolving environment in which projects are delivered (Serrador & Pinto, 2015; Špundak, 2014).

The main characteristic of this approach is adaptability to changes during the project lifecycle (Serrador & Pinto, 2015). In addition, in contrast to traditional approaches this

approach places great importance on high project team communication and collaboration (Collyer, Warren, Hemsley & Stevens, 2010). In addition, this approach affords the project team some independence in taking project-related decisions without necessarily having to go through the longer route in line with the regular project governance structures applicable in traditional approaches (Serrador & Pinto, 2015). Furthermore, it has been concluded that this approach allows for frequent changes and adjustments which lead to project time being used effectively resulting in benefits to the project's constraints of time and cost (Fernandez & Fernandez, 2008).

In summary, therefore, the Agile approach:

1. makes project execution faster and makes it possible to realise early project goals (Dalcher, Benediktsson & Thorbergsson, 2005);

2. enables better control of the uncertainty projects (Dalcher, Benediktsson & Thorbergsson, 2005);

3. reduces risk brought about by a not well-defined project scope which may lead to an unintended project deliverable (Cervone, 2011); and

4. Affords the project better project control and better communication (Cervone, 2011; Serrador & Pinto, 2015).

Notwithstanding these identified benefits, this approach does have some limitations, which include:

1. Minimum interaction with the customer through the project lifecycle (Fernandez & Fernandez, 2008). One of the project success measures identified is customer satisfaction. It is important, therefore, to carry project owners and customers on the project journey, including agreeing to milestones, so that the overall delivery is understood and accepted.

2. Because of the numerous alterations brought about in this approach, it can be quite unclear as to when the project delivery is in the project lifecycle (Fernandez & Fernandez, 2008). This may be confusing to those expecting the project solution or result, and it requires that such people be given the basic principles of this approach so that they are carried on along the project journey more easily.

3.8   PROJECT SUCCESS VS PROJECT MANAGEMENT SUCCESS

It was mentioned by Pinto and Slevin (1988:68) that project success comprises most discussions in the literature about project management. Despite this saturation there is little agreement on the definition of project success (Müller & Jugdev, 2012; Shenhar *et al*.,

2001).   One of the reasons for this lack of agreement is that project success can be influenced by various aspects (Varajão, Ribeiro, Dominguez & Paiva, 2014). It is because of this characteristic of projects that Stuckenbruck (1987) concluded that the project success measure should reflect different views.

The customary interpretation of project success is built on the triple constraint as discussed in project management literature, viz. cost, time and scope (Turner, 2009:2). This approach in defining project success, as depicted in Figure 3 – 6, is not enough, however (Patanakul, Shenhar & Milosevic, 2012).   In addition, research by Hameri and Heikkila (2002) shows four projects whose determination of success or failure went further than the interpretation of cost, time and scope to include profit margins and user satisfaction.   Similarly, the Sydney Opera House was completed over time and over budget even though it turned out to be a landmark object (Dvir & Shenhar, 2011).
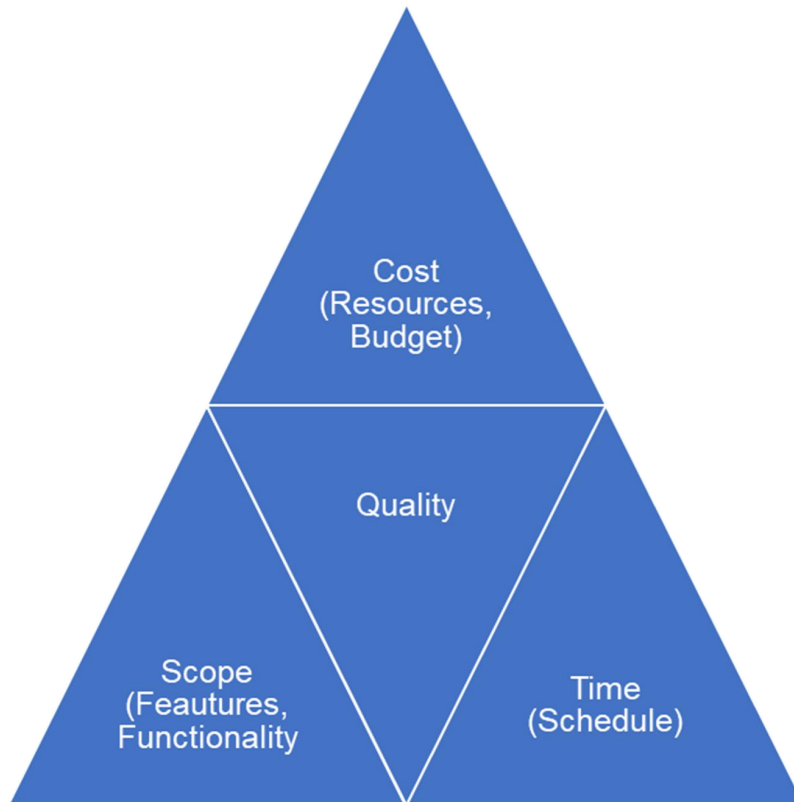
Figure 3-5: **Project management triangle (Source: Burke, 2009:36)**

Efforts meant to widen the understanding of project success to beyond cost, time and scope led to the dismantling of what project success is in order to cover success according to the project and success according to the client (Cooke-Davies, 2002). Defining project success from a project perspective considers the projects' performance on time and cost whereas project success as viewed by the client or owner of the project includes project effectiveness, satisfaction and use.

Additionally, going beyond the elements of cost, time and scope to define project success, the definition offered by Kerzner (Kerzner, 2001) includes "the limitation of minimum changes in the scope of activities without interruptions in the workflow, without shifts in the corporate culture, and with full acceptance of results by the project client".

These views on the broader definition of project success were supported by Bannerman (2008) whose definition of project success considered two components, efficiency and effectiveness. Efficiency relates to how well the project has been carried out and effectiveness relates to how the project delivers major benefits of strategic importance.

The definition of what project success is has shifted from the traditional measures of cost, time and scope and now includes elements like the delivery of intended benefits of strategic importance (Ali ,2010).

Providing a limited summary of the discussion of the science of what project success is, Table 3 – 2 highlights definitions which go beyond the iron triangle of cost, time and scope.

Table 3- 2:   Definitions of project success

Researcher	Additional elements to definition
DeCotiis & Dyer (1979)	1. Client satisfaction. 2. Client welfare.
Freeman and Beale (1991)	1. Project execution within agreed steps and timelines. 2. Efficiency of execution. 3. Customer satisfaction with the project's deliverable. 4. Development of the project team. 5. Manufacturability and business performance.
Cooper & Kleinschmidt (1995)	1. Financial performance: financial performance of the project. 2. Opportunity window: level of organisational benefits of strategic importance. 3. Market impact: how the deliverable brings in new clients.
Pinto & Mantel (1990)	1. How the project is implemented. 2. Expected worthiness of the project. 3. Client acceptance with the project deliverable.
Hameri & Heikkila (2002)	1. Profit margins. 2. User satisfaction.
Shenhar *et al*. (2001)	1. User satisfaction.
Kerzner (2001)	1. Primary factors: project time, project cost and project deliverable quality.

Researcher	Additional elements to definition
	2. Secondary Factors: client acceptance of the project deliverable.
Patah (2010)	1. Efficiency: Efficiency relates to how well the project has been carried out. 2. Effectiveness: how well the project contributes to major organisational benefits of strategic importance.

3.8.1 Factors Which Lead to Project Failure

However important project success is, projects still fail (Shenhar *et al*., 2001; Zwikael & Globerson 2004). Holgeid and Thompson (2013) defined project failure as "a project that is either terminated or not completed on-time, or not on budget, or not providing the value aimed for". According to Portman (2018), the CHAOS Report by the Standish Group highlights the fact that 36% of global projects were successful, 45% challenged, and 19% classified as failed projects. Furthermore, it has been demonstrated that there is high number of projects which fail in comparison to those which succeed (James, 1997).

Whereas Carbone and Gholston (2004:10) agree that "poor project management is the number one cause of project failure", project management literature has identified other factors which contribute to project failure. Discenza & Forman (2007) posited that there are infinite reasons which give rise to project failure, and Gupta, Gunasekaran, Antony, Gupta, Bag and Roubaud (2019), have commented that there are numerous studies which discuss the reasons why projects fail. Project management literature lists factors which lead to project failure and classifies these factors into categories. Table 3 – 3 highlights examples of factors which contribute to project failure. Recognising and Identifying issues which can lead to project failure enables organisations to set in motion activities which minimise such factors to ensure project success (Gupta, Gunasekaran, Antony, Gupta, Bag and Roubaud, 2019).

Table 3-3: Factors which contribute to project failure

Pinto & Kharbanda, 1996	Laurie, 2003	Taimour, 2005	Henderson, 2006	Discenza & Forman, 2007	Amponsah, 2012	Lim, 2019
Leading the project with a weak project manager.	Overspending and not aligning to the budget of the project.	Poor planning.	Optimism: too much optimism.	Lack of focus on business value, not technical detail.	The lack of project pre-financing.	Poor preparation.
Not considering changes in the environment (including stakeholders).	Inadequate attention to tendering and drawing up contracts.	Unclear goals and objectives.	Investment: too little investment at the beginning.	No established, clear accountability for measured results.	Cumbersome procurement processes.	Inadequate documentation and tracking.
Releasing a deliverable to the market too soon.	Lack of planning of project infrastructure.	Objectives changing during the project.	Slow decision making in investment decisions.	Failure to use project management methodology.	Late start of project.	Bad leadership.
Not bothering about building in fall-back options or contingencies.	Lack of accountability of top management and frequent changing of project.	Unrealistic time or resource Estimates.	Technical know-how: dearth of expertise in the project delivery team.	- Non-inclusion of the customer at the beginning of the project. - Non-	- Lack of adequate planning. - Delays in disbursement of project	Failure to Define Parameters and Enforce Them

Pinto & Kharbanda, 1996	Laurie, 2003	Taimour, 2005	Henderson, 2006	Discenza & Forman, 2007	Amponsah, 2012	Lim, 2019
	managers.			inclusion of the customer during the project delivery time.	funds. - Interference by top management.	
Blaming the person most visible at the onset of problems in the project.	Dearth of effective planning and monitoring; bad project planning leading to unrealistic deadlines.	Lack of executive support and user involvement.	- Inadequate project team constitution. - No use of project management methodologies. - Other risks.	Scarcity of management and motivation of project teams.	Absence of project management skills.	Inexperienced Project Managers
Letting new ideas starve to death from inertia.	Dearth of risk management planning leading to absence of contingency plans.		Big-bang delivery of project outputs.	Absence of project management skills.	Dearth of application of project management best practice implementation.	Inaccurate cost estimations.

Pinto & Kharbanda, 1996	Laurie, 2003	Taimour, 2005	Henderson, 2006	Discenza & Forman, 2007	Amponsah, 2012	Lim, 2019
					tools including monitoring.	
Not bothering about conducting feasibility studies.			Information Technology dictating the project deliverable instead of delivering solutions to Business Processes.			Little Communication at every level of management.
Failure to accept that the project is a failure.			Legacy: Refusing to recognise that deliverable does not meet required quality standards and retreat.			Culture or ethical misalignment.
Adjusting either one of the triple constraints of			Too much intervention by top management.			Competing priorities.

Pinto & Kharbanda, 1996	Laurie, 2003	Taimour, 2005	Henderson, 2006	Discenza & Forman, 2007	Amponsah, 2012	Lim, 2019
time, cost and quality and so impacting the whole outcome.						
Political interference.			Constant scope creep.			Disregarding project warning signs
Over-managing project managers and their teams.						

3.8.2 Project Success Factors

Projects assist organisations to attain set visions and goals (Lewis, Welsh, Dehler &. Green, 2002). This means that successful projects give benefits to organisations (Davies & Hobday, 2005; Frame, 2008; Müller & Jugdev, 2012).

As in the case of project failure factors, project management literature has identified factors which enhance project success, which are also referred to as critical success factors. Muller and Jugdev (2012) defined project success factors as "elements of a project which, when influenced, increase the likelihood of success; these are the independent variables that make success more likely." Critical success factors are also inputs to project management practice which have the potential to result in project success (Alias, Zawawi, Yusof & Aris, 2014).

Because of the nature of projects, and their diversity, it is not easy to establish all possible project management success factors (Prabhakar, 2008). Table 3 – 4 summarises some of the project success factors identified from the literature on project management.

Table 3- 4:   Critical project success factors

Author	Critical project success factors List
Martin (1976)	1. Defining of project goals. 2. Selection of how projects are executed. 3. Top management support. 4. Organising and delegating authority. 5. Selecting the appropriate team to deliver the project. 6. Allocating enough resources to the project. 7. Providing for control and information mechanisms.
Baker, Murphy & Fisher (1998)	1. Dedication of the project team towards execution. 2. Correct initial costing of the project. 3. Sufficient capability of the project team to execute. 4. Availability of sufficient project budget. 5. Accurate project planning. 6. Few challenges at the start of the project faculties. 7. Full attention to project delivery tasks by all. 8. Dearth of bureaucracy.

Author	Critical project success factors List
	9. Dedicated project manager. 10. Pre-agreed measures of success.
Pinto & Slevin (1998)	1. Top management support. 2. Timely engagement of the user. 3. Accurate deployment of human resources. 4. Technical tasks. 5. User endorsement of the project deliverable. 6. Continual soliciting of feedback. 7. Communication. 8. Timely fault finding and fixing of problems. 9. The project manager's traits. 10. Organisational politics. 11. Surrounding events. 12. Timely and decisive decision making.
Lechler (1998)	1. Selection of appropriate technology for and to support the project. 2. Clearly defined project communication channels. 3. All proceeding methods and tools usage for project support. 4. Necessary authority given to the project leader.
Jiang, Klein & Discenza (2002)	1. The ability of the project resources to circumvent an obstacle. 2. Ability to leverage people without breaking them so that the project team works to the maximum. 3. Focusing on the goal of the project. 4. Following of standardised project related processes. 5. Learning from the past project related work. 6. Maintenance of ongoing communications. 7. Recording of all work being done. 8. Application of knowledge from previous project related work. 9. Ensuring that there is buy in from all stakeholders. 10. Executing with ease.
Dong, Chuah & Zhai (2004)	1. Effective communication 2. Top management support.

Author	Critical project success factors List
	3. Client engagement.
	4. Project manager trait and project team characteristics.
	5. Understanding what the project is about.
	6. Adequate preparation for execution.
	7. Adequate management of execution and change.
	8. Adoption of information technology to execute.

3.8.2.1 Top Management Support as a project CSF

Top management support features prominently amongst the factors which contribute to the successful execution of projects.

Top management support is defined as "the willingness of an organisation's top management to provide the necessary resources and authority to ensure project success" (Pinto & Slevin, 1987). This is because, as concluded by Babu and Sudhakar (2015), being able to determine how resources are used is a prerequisite for the effective execution of projects. Within the realm of IT projects, Dong *et al*. (2009) demonstrated that top management support consists of:

1. Resource provision so that there is availability of funds, personnel and equipment;
2. Participation and availability throughout the project duration; and
3. Involvement that shows commitment with participation that is sincere and full of effort.

The summary from these three can be inferred from Madanayake, Gregor and Hayes (2009) to mean that a project implemented in an environment in which top management allocates all projected required resources, gives the necessary direction and provides timely decision making is likely to be successful.

In other studies of project success, it has been ascertained that top management support is another important success factor which results in the effective delivery of strategy through project execution. Slevin and Pinto (2008) held the view that, in ranking success factors by order of importance, the first on the list is a project mission followed by top management support. Dorsey (2014) stressed that any project without full commitment

from the top management has the great potential of collapsing. As has been researched by Fortune and White (2006) who perused sixty-three publications discussing the execution of projects, top management support ranked high as a critical success factor. Additionally, Ali and Kidd (2014) claimed that the support role of top management in successful execution and delivery of projects is significant.

To add to this, Varajao, Dominguez, Ribeiro and Paiva (2014) found that top management was in the top five of measures considered critical for project execution in Information Technology projects. Babu and Sudhakar (2015) and Sudhakar (2016) ranked top management support as number two in the list of most important project success factors in construction projects. Furthermore, in their literature review study on critical success factors, Zwikael & Globerson (2006b) ranked top management support at number two in order of importance, coming only after project planning at number one.

Moreover, Ofori (2013) stated that the engagement and involvement of key stakeholders, who include the executive management, at each stage will optimise the success of the project. For example, at the start of the project both the sponsor, who is at the executive level of the organisation, and the project manager will reach an agreement and understanding on the purpose, expected outcomes, budget, deliverables and time frame of the project. This finding supports the research by Besner and Hobbs (2012) who concluded that top management support is a continuous requirement thoughtout the lifecycle of the project.

Despite this identified importance of the need for top management support in project execution, there is no universal conclusion in relation to what top management needs to do when it supports project execution. Dong *et al*. (2009) claimed that there was a puzzling ambiguity about what top management is in academic discussions. This ambiguity, therefore, leads to the absence a uniform approach and understanding of what comprises top management support. This gap in a uniform understanding and approach results in difficulty for top management in different organisations to take appropriate and relevant action to ensure effective project execution and strategy attainment (Young & Jordan, 2008). This insufficiency has also resulted in some top management in organisations not fully comprehending the importance of project execution (Crawford, 2005).

In an effort to bridge this gap, some studies have been conducted with the view of identifying specific top management support practices which increase the chances of

project success. Zwikael (2008b) presented seventeen critical top management processes in the execution of IT projects. These Critical Success Processes, according to Zwikael and Globerson (2006a), "are those practices which when practised are most effective in project success." Further to that, Hanson (2006) presented the finding that top management support resulted in the successful execution of projects in the South African building industry. Similarly, Madanayake, Gregor and Hayes (2009) identified nine important elements or attributes of the relationship of top management and project managers which contributed toward effective top management support. In another study, Madanayake (2014) identified top management support roles which greatly influence the success of Information Technology and Systems projects.

3.9   A NEED FOR FURTHER RESEARCH

Globally, research has gone into developing tools, technology and techniques meant to assist organisations in effective project management (Zwikael & Globerson, 2006). Notwithstanding these studies on project success factors, the level of project performance is still not sufficient (Zuofa & Ochieng, 2014). A cause of this identified poor performance could be the lack of depth in the study of each critical success factor (Madanayake, 2014).

Regarding the most cited critical success factor of top management support, Zwikael (2008b) concluded that specific practices and processes required that top management should be researched for each industry in each country. This is because it has been shown there is no 'one size' for managing projects (Shenhar *et al*., 2002). These views endorse the assertion by Butler and Fitzgerald (1999) that the concept of top management support still needs to be studied.

This study seeks to bridge this identified gap of the insufficiency of relevant top management support practices required for the effective delivery of strategy with regard to project execution within the context of revenue administrations. This view supports the view by Dong *et al.* (2009) who argued that the term 'top management support' summarises a plethora of activities, and without specificity, performed by top management. This study proposes, through the development of ideas from literature, to offer a top management support practice framework based on the managerial roles as discussed in Section 2.3.2.

3.10 FRAMEWORK CONCEPTUALISATION

On the basis of the identified literature in both the preceding chapter and this chapter, this study makes a proposition that project execution implemented through project management best practices with relevant top management support practices and with other critical success factors will result in successful projects. This is summarised in Figure 3 – 6 below.
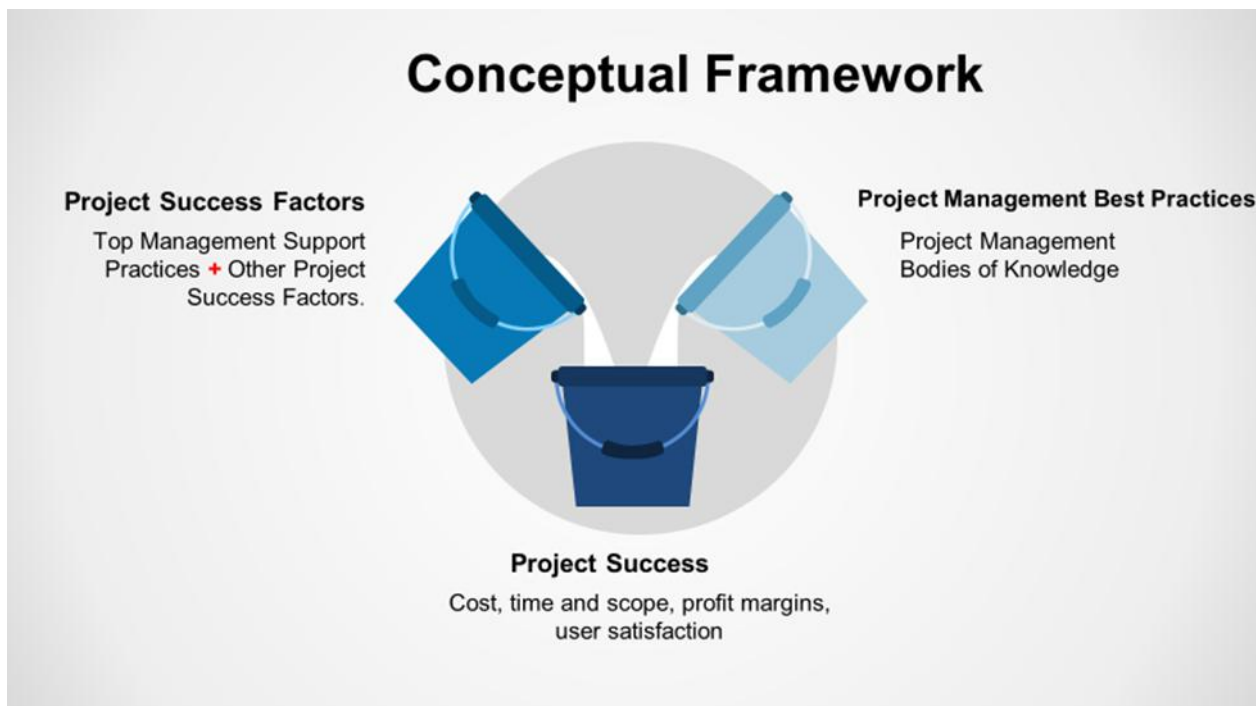
Figure 3- 6: **Conceptual framework (Source: Own).**

In this conceptualisation, top management support practices comprise top management actions carried out within the managerial roles as espoused by Mintzberg (1973) and in line with the top management constructs as determined by Mech (1997). These practices are defined in Table 3 – 5 and summarised in Figure 3 – 7 below.

Table 3- 5: **Top Management Support Practices with descriptions (Source: Mech, 1997)**

Role Grouping	Role	Practice	Description
Interpersonal	Figurehead	Participation in social affairs.	Participates in a variety of symbolic, social and ceremonial activities such as attending project

Role Grouping	Role	Practice	Description
			closure celebrations events.
		Attention to visitors.	Performs routine duties of a ceremonial or social nature such as meeting organisational guests on project-related matters.
		Promotion of social events.	Conceives, participates and makes speeches in a variety of social and ceremonial project-related activities.
	Leader	Guidance in activity implementation.	Defines work targets and communicates commands and instructions to subordinates.
		Creating a constructive milieu with colleagues and project staff.	Offers positive critiques, praises and motivates subordinates.
		Exercise of authority.	Makes sure that subordinates fully understand instructions as well as accepting and following them.
	Liaison	Internal	Develops activities

Role Grouping	Role	Practice	Description
		relationships.	to maintain a set of formal and informal project-related relationships within the organisation.
		External networks.	Establishes and maintains project-related external contacts and information sources outside the organisation.
		Dissemination of internal information.	Relays important external project-related information to employees.
Informational	Monitor	Information gathering.	Identifies and collects project-related information relevant to the organisation.
		Monitoring of internal operations.	Assesses project performance in order to make adjustments and changes.
		Monitoring of external events.	Monitoring the internal and external environment to make sure that projects are running smoothly.
	Disseminator	Information selection.	Sorts out which project-relevant

Role Grouping	Role	Practice	Description
			information will be shared with subordinates.
		Information sharing.	Shares project-relevant information with subordinates.
		Confirmation of information reception.	Ensures that subordinates obtain project-related information so that they can complete their tasks.
	Spokesperson	Preparation of reports and information	Grants interviews, makes speeches or provides organisational information to external audiences on project-related issues.
		Representing the project office outside of the organisation.	Speaks about project-related issues and history at events or meetings.
		Representing the project office inside the organisation	Speaks to people outside the project office about project-related issues.
Decisional	Entrepreneur	Promotion of improvements.	Changes workflows to improve productivity of project actions.
		Proposition of opportunities.	Seeks innovations that can improve

Role Grouping	Role	Practice	Description
			projects in the organisation.
		Implementation of new projects.	Scans the internal and external environment looking for innovations related to strategy to be implemented as projects.
	Disturbance handler.	Solution of routine conflicts.	Solves conflicts of subordinates and project office staff deriving from everyday situations.
		Solution to sudden conflicts.	Solves conflicts of subordinates and project office staff deriving from unexpected situations.
		Solution of impasses.	Puts a stop to misbehaviour within the project office or in the organisation.
	Resource allocator.	Scheduling of commitments.	Allocating of project office resources.
		Evaluation of budgets.	Decides on organisation's investments (analyses and selects projects that demand the application of financial

Role Grouping	Role	Practice	Description
			resources).
		Allocation of resources.	Allocates financial, material and physical resources to maximise organisational efficiency.
	Negotiator	Negotiation of cooperation.	Represents the project office and organisation at various non-routine discussions or negotiations.
		Negotiation of agreements.	Resolves problems that occur between the project office and other business units.
		Negotiation of transactions.	Negotiates and works with other parties to come to an agreement.

Figure 3-7:   Top Management Support Practices (Source: Mech, 1997)

3.11 SUMMARY

This chapter has reviewed project and project management literature. It has defined both concepts, shown how projects act as vehicles for the delivery of strategy in organisations and defined different project management methodologies.

The impact of two factors considered important towards the effective attainment of strategy delivery through project execution was also discussed, namely organisational structure and organisational culture. In both cases, drawing from available literature, the advantages and disadvantages of each identified element were discussed

Factors considered important for effective project delivery and, therefore, strategy attainment were discussed and the identified, most essential factor, namely top management support, investigated. The literature has revealed that, even though top management support has been cited as the most essential factor for the successful delivery of projects, there is dearth of accepted actual practices and processes showing how this support should be given by an organisation's top management. This has shown the need to build on the literature relative to top management support practices and processes.

3.12 LINK TO THE NEXT CHAPTER

The next chapter will address this study's chosen research methodology, the methodology's limitations and how these will be addressed. The chapter will further show how data will be collected, how data will be analysed. What ethical considerations are considered in this research study will also be discussed.

CHAPTER FOUR – RESEARCH METHODOLOGY

4.1 INTRODUCTION

Chapter one provided an introduction to the theme of this study. It presented the central question of the research study as seeking to establish how top management in SACU revenue administrations support the implementation of strategy through project execution. The second and the third chapters presented critical reviews of the literature and relevant theoretical considerations for this study. In addition, key constructs, knowledge gaps and contributions that this research study will make were all discussed.

This part of the study considers questions this research seeks to answer, including the underlying philosophy of the research, the research methods, research strategies and techniques, and it highlights how the relevant the data were collected and analysed.

4.2 RECAP OF THE RESEARCH BACKGROUND

The following section provides background with regard to the intention and context of the study in an effort to guarantee that it connects to the methodology adopted.

4.2.1 Review of the research problem, purpose and objectives

This part reviews the problem identified in this research, the research purpose and research objectives. These three subjects are considered significant in the choice of methodology

4.2.1.1   Research problem/aims of the research

Chapter 1 showed that, even though top management owns strategy, they do not know what to do to support strategy implementation through project execution. Studies have been undertaken to close this gap, but these have mainly been quantitative based so testing what already exists rather than developing new understanding. It has been shown that many of such studies have been centred in the for-profit private sector and within the IT industry.

To resolve the aim of the study the overall question asked was: **How can top management support practices be optimised for successful project execution in revenue administrations in SACU?**

4.2.1.2   Review of the purpose of the research/research questions

Based on the research aim, the following research questions were posed:

1. What constitutes Top Management Support Practices for project execution in revenue administrations in SACU?
2. Which Top Management Support Practices are emphasised during project execution in revenue administrations in SACU?
3. Which Top Management Support Practices will best optimise project execution in revenue administrations in SACU?

4.2.1.3   Review of the research objectives

Chapter One also presented the following research objectives, which were to:

1. develop an understanding of Top Management Support Practices essential for successful execution of project;
2. discover Top Management Support Practices mostly employed during project execution in revenue administrations in SACU;
3. establish Top Management Support Practices considered most effective for the successful execution of projects in revenue administrations in SACU; and
4. apply research findings to propose a Top Management Support Practices framework for effective and successful projects execution in revenue administrations in SACU.

4.3   DEFINING RESEARCH

Sekaran (2006) outlined the research process as being an organised, consistent and progressive approach to solving problems through observations and data gathering and analysis with a view to make concrete and valid observations.   Saunders *et al*. (2009:5) defined research by describing its characteristics, which are:

1. In research data are methodically gathered and put together;
2. In research data are methodically interpreted and explained; and

3. The primary objective of research is to discover things.

In agreement with these definitions, Leedy and Ormrod (2010:2) noted that research is a process made up of several activities which include the gathering of data in an orderly fashion, analysing and making sense of this data in an effort to better understand a phenomenon. Based on the notion and understanding that research should be practical and useful, Zikmund, Babin, Carr and Griffin (2010:5) defined business research as "the application of the scientific method in searching for the truth about business phenomena." These definitions align in meaning to that of Grinnell (993:4) that research is a deliberate yet meticulous way of arriving at conclusions without the use of gut feeling or personal encounters.

In further support of the definition of research, Punch (2005) defined research design as a detailed plot designed to investigate a phenomenon and arrive at an accurate conclusion and understanding thereof.   Similar in understanding, Seaman (2008) went further to define the research approach as underlying principles and processes of conducting the research study which include the research paradigm, the origin of the research methodology and purpose, the methods employed to collate information and infer meanings therefrom and the conclusions drawn from such meanings.

Kumar (2014:13) and Easterby-Smith *et al*. (2002) categorised research into descriptive research, correlational research, explanatory research and exploratory research.   In Kumar's view (2014:13), descriptive studies attempt to describe a situation, problem, phenomenon, service, or programme methodically or describe attitudes toward an issue. The purpose of descriptive studies, therefore, is to describe what is common and frequent about an issue or problem under study through an understanding of the subject of the research (Robson, 2002:59).

Correlational studies seek to discover and establish the presence of a relationship, association, or interdependence among several aspects of a phenomenon (Blumberg, Cooper & Schindler, 2005).

Explanatory studies seek to clarify and understand the reasons pertaining to cause and effect.   Put differently, this type of study centres on making sense of relationships between variables (Saunders *et al.*, 2009:140).

Exploratory studies also attempt to explore research areas and phenomenon where little is known (Blumberg *et al.*, 2005; Gray, 2013). Creswell (2009:26) further added that exploratory research studies are best used in research where not much has been written and where the outcome of research is formulated through discourse with people.

This research study is explorative; it seeks to explore, inform, and advance knowledge in business practice. This exploration is done regarding top management support practices in project execution in revenue administrations in SACU. Its aim is to develop those practices which best contribute to the effective implementation of strategy through projects.

The next sections of this chapter elaborate on this study's approach through detailing the research methodology employed.

4.4 EPISTEMOLOGICAL ASSUMPTIONS

In accordance with Crotty (2003:3), epistemology is the study of human knowledge. In support of this definition, Saunders *et al.* (2012) added that epistemology relates to what constitutes acceptable knowledge in research, based on an individuals' ontology and axiology. In describing what ontology is, Remenyi, Williams, Money and Swartz (1998:282) explained that it is a philosophical consideration of the nature and relations of being. Axiology, on the other hand, is a philosophical consideration of sensemaking with regard to value (Saunders, Lewis, & Thornhill, 2012).

This, therefore, means that a researcher's understanding of things, their history, and their philosophy and belief system has an influence on the research they undertake. To mitigate against this bias, therefore, research studies need to follow an epistemological assumption is that the truth cannot be arrived at through the employment of one paradigm only. This notion is called pragmatism (Tashakkori & Teddlie, 2009).

4.4.1 Interpretivism

Researchers who follow interpretivism are of the view that reality depends on the individual view of what constitutes the environment (Remenyi *et al.*, 1998:35). In other words, individuals observe and interpret social settings differently. Based on this understanding of interpretivism, therefore, it is clear that, in order to arrive at conclusions, a researcher adopting this epistemological viewpoint needs to conceptualise and understand

differences between people and the interpretations and meanings that they give (Saunders *et al*., 2009:116). Interpretivist research, for this reason, is founded on conclusions which are based on people's own view of what pertains in the world. Through interpretivism, therefore, the researcher looks at many views and narrows them into a few categories for the purpose of achieving the aims of research and making conclusions.

As pointed out by Fitzgerald and Howcroft (2016), interpretivism follows an inductive approach to theory development. In the inductive approach the research begins making observations which are then expanded into generalisations. This position is also explained by Saunders *et al*. (2012) as a process whereby the researcher resolves the research questions through the framing of meanings through analysing particular evidence as presented by his/her observations.

Crotty (1998) posited that interpretivists are guided by the following assumptions:
1. People's interpretations stem from their own and personal engagements with the world they live in. In order to ensure rich and accurate research which is based on interpretivism the researcher needs to collect information through open-ended questions.
2. The researcher needs to have a comprehensive understanding of the research theme environment because the subjects of research, who are human, make their assumptions and conclusions based on their own understanding of the world. In a similar way, even the researcher may make interpretations of information received based on the perspective of the impact they receive through his/her own understanding of the world.
3. Because of the nature of this epistemology, i.e., that it draws conclusions from human interactions, the conclusions drawn are social in nature, and they represent the community's interaction with one another.

Furthermore, in accordance with Creswell (2009), qualitative methods drive collection of information and its evaluation in this epistemological setting. This is because, as asserted by Berg (2007), the qualitative researcher's interest is social arrangements and settings. It is also because, in qualitative research, conclusions are derived from generalisations of information received and not from computation data (Lancaster, 2005).

4.4.2   Positivism

Levin (1988) theorised that people who subscribe to positivism consider reality as unchanging such that knowledge can be gained from a comparison between the natural world and the social world. Positivistic researchers prefer working with observable social realities. In undertaking their research, they believe that phenomena should be isolated and that observations should be repeatable. Owing to the assumption that observation in the natural world can be repeated in the social world, positivists commonly arrive at their research findings through undertaking a quantitative route of research (Creswell, 2009; Saunders *et al.*, 2012). The quantitative route involves the researcher's posing explicit questions which are then reviewed through quantitative techniques to give meaning in relation to the phenomenon under study. This quantitative technique, according to Stainback and Stainback (1988), makes it possible for a researcher to be able to describe and delineate a phenomenon, to be able to undertake comparisons and to conclude with regard to any underlying relationship in the phenomenon under study.

Positivists are deductive in nature (Lodico, Spaulding & Vogtle, 2006). This opinion has been corroborated by Fitzgerald and Howcroft (1998), who explained that the concept of deductive reasoning involves analysing information from different perspectives and possibilities to arrive at a conclusion.

4.4.3   Pragmatism

The decision to employ the use of pragmatism hinges on a research study's questions (Sweetman, Badiee & Creswell, 2010). To this end, different research philosophies may be applicable to resolving individual research questions as posed by the research study (Bryman & Bell, 2011; Bryman, 2012). On the basis of Saunders *et al.* (2012), pragmatism advocates the employment of the relevant method based on the overall research problem. This is also because of inherent limitations pertaining to each research approach, and this led to the conclusion that researchers should not dwell much on the debate of which approach is superior (Saunders *et al.*, 2012).

In terms of data collection techniques, procedures and evaluation, pragmatism brings together the two philosophies, interpretivism and positivism, choosing the most appropriate approach to resolve the research problem (Hurmerinta-Peltomaki & Nummela, 2006). It utilises a Mixed Method Research (MMR) approach through quantitative and qualitative

approaches (Creswell, 2014). Despite the use of the two approaches, pragmatism considers the study's purpose.

This study is explorative in nature. It has sought to explore, inform and advance knowledge and to develop a framework of Top Management Support Practices which enhance project execution. The study has followed a pragmatic position and makes use of inductive research. This decision hinges on the explorative nature of this study and the questions posed by it, which seek to comprehend, discern, interpret, and understand a phenomenon more effectively so as to solve it. Through a pragmatic approach, the research study has applied the inductive method to develop a conceptual model which will be tested deductively.

4.5 RESEARCH DESIGN

A research design is a plan of how the research will be undertaken (Saunders *et al*., 2012). Based on Creswell (2014), a research design provides specific procedures for answering a research question "within qualitative, quantitative, and mixed method approaches." A research design attributes importance to this process followed to arrive at a conclusion of the study, outlining all the steps from information gathering to sensemaking. A research plan, then, lays the foundation for the researcher in terms of how to carry out the research.

4.5.1 Defining mixed methods research (MMR)

Mixed methods research (MMR) combines the use of quantitative and qualitative methods to undertake research (Tashakkori & Teddlie, 2010; Creswell, 2014). Tashakkori and Teddlie (2009) defined mixed research studies as those studies which make use of a combination of both a qualitative approach and a quantitative approach. According to Creswell (2013), this combining of the qualitative and quantitative approaches results in a higher than ordinary validity in the results of the study and enables a holistic comprehension of the research problem and the solutions to the questions thereof. Furthermore, the individual strengths of each approach, qualitative and quantitative, become complementary and present no overlapping weaknesses (O'Cathain & Thomas, 2006).

Table 4 – 1 shows characteristics of qualitative and quantitative methods.

Table 4-1: Differences between quantitative and qualitative methods (Source: Creswell, 2014; Bryman & Bell, 2007).

Orientation	Qualitative	Quantitative
How it views the world	Multiple realities.	Solitary and measurable reality.
Purpose	Sensemaking based on perspectives of others.	Establish relationships between measured variables.
Research methods and process	- Flexible strategies. - Data compilation drives design. - Theory not mandatory for research to start. - Uses induction.	- Not flexile. Follows pre-set pathway. - Tests a pre-supposed postulation. - Uses deduction.
Researcher's responsibility	Participatory role of the researcher elevated.	Does not allow researcher's participation in research setting. Researcher is observer.
Ability to form generalisations	Allows for generalisations.	Does not allow for generalisations

With regard to where it can be used, Creswell (2008) posited that it can best be employed under the following situations:

1. To compare research findings;
2. To explain research findings;
3. To explore a phenomenon and test its findings;
4. To build an information gathering tool; and
5. To supplement research findings through the qualitative approach.

The research process and roadmap adopted and followed in this study are aligned to those presented by Saunders *et al.* (2012). A research process, according to Kothari (2004), is a series of actions and steps which objectively collate information from different sources so as to arrive at an informed decision. Furthermore, as *per* Hofstee (2006), the research process can include the following steps:

1. Selecting the research theme;

2. Outlining of the aim of the research, objectives and questions or developing hypotheses;
3. Carrying out a review of the relevant literature;
4. Determining which information gathering methods to use;
5. Collating and analysing of collected information; and
6. Drawing conclusions based on the analysis of information.

The research process can also include the steps as adopted by Saunders *et al*. (2012) which are pictorially represented in Figure 4 – 1 below.
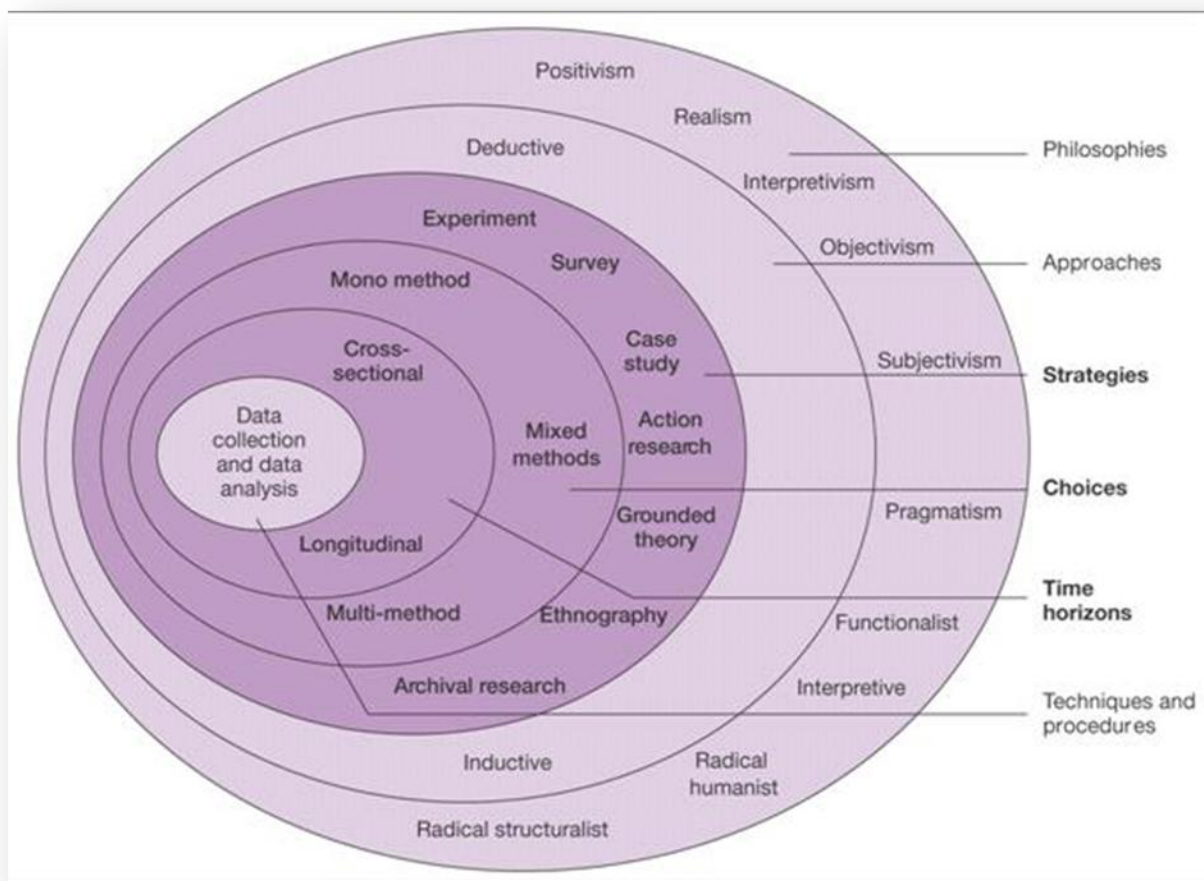
Figure 4- 1:   The Research Onion (adapted from Saunders *et al*., 2012)

This research study has combined and fused these steps through its research process. The researcher has discussed his epistemological foundations, the research's approaches and has shown its preferred research approach.

The application of an adapted research method is undertaken with the understanding that the concept being studied, that is top management support in the execution of projects in revenue administrations within the SACU region, has not been previously researched. The mixed methods approach will best address this gap through this study. In line with previously identified benefits of mixed methods approach, this research approach will resolve the research question by providing a satisfactory conclusion.

4.5.2   Characteristics of mixed methods research

Maudsley (2011) has shown that the mixed methods approach combines qualitative and quantitative approaches.   This combination can follow any order (Glogowska, 2011). Zhang and Creswell (2013) have highlighted the benefits of this approach, which include the provision of better comprehension of the research.

To understand this approach more clearly, Creswell and Plano Clark (2011) highlighted the following characteristics of mixed methods research:
1. Mixed methods research uses a combination of qualitative and quantitative approaches to resolve the research question.
2. Mixed methods research merges qualitative and quantitative approaches. Merging and integration can be achieved either by two forms of data built on one another, sequentially, or through embedding one approach into another.
3. Mixed methods research give preference to either the qualitative approach or the quantitative, or *vice versa*, or to both approaches.
4. Mixed methods research applies these procedures (qualitative and quantitative) across all research philosophies.
5. Mixed methods research arranges these procedures (qualitative and quantitative) into plans so as to give direction to how the study will be implemented.

This research study benefits from these characteristics.   Through its adoption and employment of both the qualitative and quantitative it enables a better comprehension of the research material. The qualitative phase of the research enabled the exploration of the research problem and resulted in the design of an instrument and the development of a conceptual framework which was used to increase understanding during the quantitative phase.

4.5.3 Strengths and limitations of mixed methods research

Despite noting the many strengths of a mixed methods research design, several limitations have been identified. Table 4 – 2 provides a summary of the strengths and limitations.

Table 4-2:   Strengths and limitations of mixed methods research design (Source: Teddlie & Tashakkori, 2010; Creswell & Plano Clark, 2011).

Strengths	Limitations
– Comprehensiveness of the data; – Owing to ability to use either one of qualitative or quantitative approach, useful for a broad spectrum of research; – Ability to resolve either one of the methods weaknesses; – Ability to validate results from either one of the methods leading to better understanding of phenomenon under research; – Increases knowledge and understanding of the theme under study.	– Requires familiarity with both approaches; – May leads to challenges in the decision on which approach is best including on outlining the approach to be taken by the research; – Difficult to use concurrently; – May be laborious and costly.

The researcher noted the strengths and addressed the limitations inherent in mixed methods research and addressed the limitations through:

1. Soliciting expertise in both quantitative and qualitative approaches;
2. Using the literature to develop a questionnaire in order to address research questions in both the quantitative and qualitative phases;
3. Clearly following guidelines on the specific type of mixed methods design adopted for this study; and
4. Using project management tools to carry out this research.

4.5.4 Exploratory sequential mixed method research

Mixed methods research can be divided into the following categories:

1. "Concurrent mixed methods design, which comprise triangulation design and embedded design.
2. Sequential mixed methods design, which comprise explanatory design, exploratory design, and sequential embedded design" (Creswell & Plano Clark, 2007).

This research study has followed an exploratory design, also referred to as the exploratory mixed methods design. This design begins with the qualitative phase which leads to the quantitative phase. Creswell (2014) has highlighted different circumstance where Sequential Exploratory mixed methods design can best be used, as highlighted in Table 4 – 3 below. As for the procedure followed in this study, Figure 4 – 2 below shows an adaption of this design diagrammatically as applied in this research study.
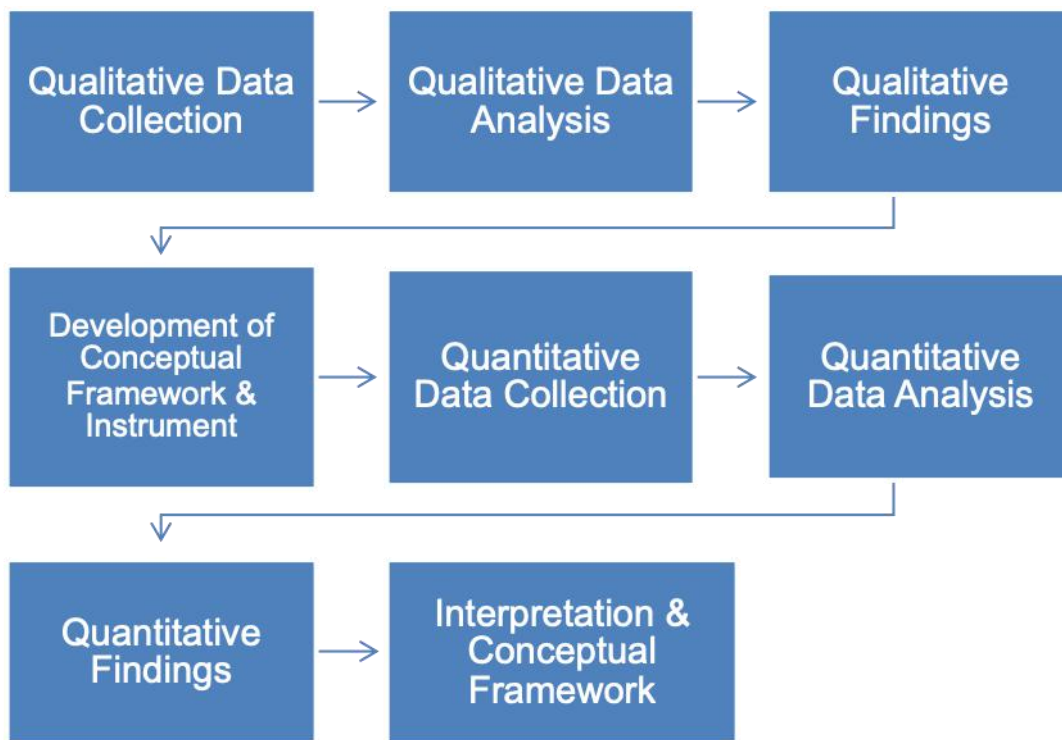
Figure 4-2:   Exploratory mixed method design (Adapted from Creswell & Plano Clark, 2007).

Table 4-3:   Situations where Sequential Exploratory mixed methods design is used (Source: Creswell, 2014).

When	Explanation
Utilised in explorative studies to:	– Confirm building blocks of an assertion, hypothesis or thesis. – Expanding findings from qualitative studies to more populations.

When	Explanation
	– Building of a survey questionnaire.
Connection	Outcomes from the qualitative phase can affect procedures in the quantitative phase.
Precedence	The qualitative phase is considered important.
Procedure	Linear with one phase coming after the other. Qualitative phase before quantitative phase.
Mixing	Consolidation takes place during research data and information gathering stages.

4.5.5   Rationale for use of mixed methods in this research study

The decision about which research design to employ is a function of a number of factors. These include the purpose and the nature of the research (Henning *et al*., 2007). Other factors include the thesis statement, available data and how research questions are posed (Hofstee, 2006).

It has been stated before that this study is explorative in nature. The researcher, therefore, chose to follow an exploratory mixed research design. It has been noted that the qualitative research approach results in findings which are objective in nature and informed by many respondents.

The nature of a quantitative approach is that it seeks to gain meaning from definite and precise questions (Saunders *et al*., 2003). Quantitative research also uses measurement and statistics data to assist the researcher to attain the objectives of the research. Stainback and Stainback (1988) described the aim of quantitative research as being to "describe, to compare and to attribute causality." This approach, therefore, complements the qualitative approach.

Studies undertaken to confirm the benefits of the mixed methods research design approach have shown that studies using this approach benefit from an increased validity of findings. This is particularly the case for research in the realm of business management

(Hurmerinta-Peltomaki & Nummela, 2006). Despite these benefits to business management research, however, a small proportion of such studies, at around 14% of business and management studies, have used a mixed method research design (Cameron & Molina-Azorin, 2011).

As a result, within the realm of project management research studies, Cameron, Sankaran, and Scales (2015) made an assertion that more mixed-methods research design and approach is needed. This assertion is based on the observation that project management related research studies which follow a mixed methods study design are few, coming to around 1.5% of the total studies in business management (Cameron, Sankaran, & Scales, 2015).

This study seeks to explore Top Management Support Practices in project execution with a view to developing a conceptual framework which can be readily applied in revenue administrations in SACU. The study is, therefore, explorative and seeks to gain insight into a phenomenon through asking those who have experience and testing what their views are. This study will profit from this type of research approach.

4.6 QUALITY AND RIGOUR

Research rigour is the application of appropriate research tools to meet the stated objectives of the research (Yin, 2011). Because of the combining qualitative and quantitative methods in mixed methods, Seale (1999) indicated the need to assess mixed methods research approach research rigour differently.

The criteria for rigour in qualitative research include issues of validity, reliability, replicability, and generalisability (Hammersley, 1990; Yin, 2011; Northcote, 2012). On the other hand, quantitative research addresses rigour through the precision and meticulous nature of the research in terms of its execution. Reliability is, therefore, the measure of how a repeat of research carried out in the same environment results in similar outcomes (Blumberg, Cooper, & Schindler, 2008).

In mixed methods research, research rigour may be difficult to measure because of the chaotic nature of this research method (Tashakkori & Teddlie, 2010). This has resulted in little consensus on the single measure of quality in mixed methods research design.

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Despite such little consensus, the mixed methods research design is still, however, justifiable.

To cater for rigour with regard to this research method, the researcher ensured research rigour on the premise and understanding espoused by Bryman, Becker and Sempik (2008), namely that researchers should be open and carefully document the research process through the provision of all the details. In this research study this is achieved through a clear and detailed account of data collection methods, the analysis and interpretation of collected data, including the integration of the qualitative and quantitative approaches. Finally, the research documents show how rigour was ensured in both the qualitative and quantitative approaches.

4.7 PHASE ONE: QUALITATIVE RESEARCH APPROACH

4.7.1 Introduction

A qualitative case study drives this portion of the research. An exploration of the views of selected respondents is undertaken. Through their expert knowledge, it is believed that these respondents will best shed light on the issues raised by the questions of this study. As such, the views of those involved in project execution, top management, and project managers, in the case organisations, were explored through use of face-to-face interviews. Respondents were drawn from two case organisations, the Botswana Unified Revenue Services and the Lesotho Revenue Authority, both which are members of SACU.

4.7.2 Case study

Yin (2011) explained that in case study research a problem is thoroughly and comprehensively investigated in the context of its existence. For this study, the researcher believed that case study research would be most appropriate considering the study's questions. In addition, the researcher was persuaded by the assertion by Saunders *et al*. (2009) that most exploratory research is tackled through case study research.

The study employed a two-case study approach. The reason for this decision was based on the need disclose any similarities between the chosen parastatals because of the similarity of their business and mandate. In addition to this reason, it has been established that a two-case study presents a compelling and persuasive outcome (De Weerd-Nederhof, 2001; Eisenhardt, 1989; Yin, 2011). Finally, the cases were capped at two so

as to ensure manageability of the research given time and geographical location constraints.

This study adopted the practice of data collection from a number of sources. This was done so as to align with the assertion by Bonoma (1985:203) that case construction entails multiple sources of data. In addition, during data collection, in addition to the interview being audio-taped, notes were kept in a reflexivity journal. Through the adoption of this procedure, and as espoused by Easton (2010:119), the issue of top management support in the successful delivery of projects in revenue administrations in SACU will best be understood.

As a staff member within a revenue administration in SACU, namely the LRA, and with over fifteen years of revenue administration experience, the researcher's assumed role of practitioner – researcher was suitable. This is in line with the view of Saunders *et al*. (2009) that there are benefits to be accrued through research conducted by a researcher in the area of his/her professional work. Thus, the acquired understanding of a revenue administration was seen as being advantageous to the research context.

Despite these identified benefits, however, Saunders *et al*. (2009) caution against the inherent drawbacks of a person assuming the role of practitioner – researcher. The existence of pre-conceived presumptions and beliefs by the researcher may result in research output whose quality is questionable. In such situations, it has been suggested that the researcher dully note and address this concern in a frank and thorough manner, which was the case for this research study.

4.7.3   Participants

In this portion a detailed description of how respondents were chosen will be given.

The unit of analysis for this research study was identified as those who implement strategy through projects and work on project management offices on a continuous basis in selected SACU revenue administrations, namely, project managers.

Table 4 – 4 provides the definition criteria used to identify both project managers and shows the adapted definition of these two bodies for purposes of this research study.

Table 4-4:   The Definition Of A Project Manager In The Context Of This Research Study

Description	Source	Revenue Administration Environment (BURS and LRA) and applicable to this research study
"A person assigned by the performing organisation to lead the team that is responsible for achieving the project objectives."	Project Management Institute, 2013:16	Those who have been nominated by the organisation to lead others and work in projects using pre-defined project management methodologies and report to programme managers or business unit heads.
"A person who manages temporary, non-repetitive activities to complete a fixed life project."	Gray and Larson, 2011:10	
"A person who has a single point of responsibility, who integrates and co-ordinates all the contributions and guides them to successful delivery of a project."	Burke, 2009:26	
"A person who provides the leadership to the project team to accomplish the project objectives."	Clements and Gido, 2011:302	

4.7.3.1   Sampling of respondents

Participants for the study were from two revenue administrations out of the total five revenue administrations which make SACU, namely LRA and BURS. According to Yin (2011), there is no specific prescription on defining research participants. For this research study the researcher adopted the use of purposive sampling to identify research relevant respondents from the identified organisational structures, namely project managers and top management, on the basis of the definitions of Table 4 – 4. This was done to ensure that those participants who knew and understood the phenomenon under study in selected organisations were interviewed. In line with the sayings by Sargeant

(2012), the researcher believed that this chosen group was best suited and had relevant knowledge to address the questions posed by the study.

The study's sample size was ten. This is in line with the understanding that qualitative studies are generally characterised by smaller sample sizes than quantitative studies, so this number is acceptable (Henning *et al*., 2007:71). Qualitative studies, as has been shown Labuschagne (2003:100), possess the ability to produce an exorbitant amount of data from a small sample of respondents.

The effective selection of a relevant number of research participants in qualitative research is dependent on saturation, which is a state where there is no more new information emanating from the data (Guest, Bunce & Johnson, 2006:59). In this research study, the researcher believed saturation would be reached within the selected sample size. Table 4 – 5 summarises the size and type of participants selected for interviews in this study.

Table 4- 5:   The Number Of Participants Selected For Interviews

Organisation	Gender		Total Number of Respondents
Botswana Unified Revenue Services (BURS)	Female	1	4
	Male	3	
Lesotho Revenue Authority (LRA)	Female	4	6
	Male	2	

4.7.3.2   Informed consent

Informed consent involves enabling withdrawal from research by participants after they understand what participation entails (Saunders *et al*., 2009:593). This research study subscribed to the practice of informed consent. Participation choice in this study was voluntary; there was no offer of any incentive. The selected revenue administrations and the respondents from them were advised that they could opt out of the research at any given point in time. Respondents were also issued with a form clarifying this freedom to choose to participate in the research which they signed when they voluntarily agreed to participate. In addition to explaining the freedom not to participate, the form further detailed how the data for the research were going to be sourced and how they were going

to be reported. The form also showed the details of the researcher and the researcher's supervisor, which included their names and address details.

In addition, in keeping with Creswell (2013), the anonymity and confidentiality of the respondents were ensured by making it impossible to identify respondents through their answers. Furthermore, because respondents should not be pressed or forced to respond to questions, the researcher avoided pressing respondents for response during the interview process. Finally, the Faculty of Economic and Management Sciences of the North-West University granted permission for the researcher to carry out this research. This permission is granted through issuing of an Ethical Clearance Certificate which is attached as Appendix B.

4.7.4   Data collection

It has been shown that qualitative research enables a deeper understanding of phenomenon. This is achieved through a discourse between the researcher and the respondents (Labuschagne, 2003:100). For this study, the researcher engaged participants intimately through face-to-face interviews in their respective organisations. The interviewing process produced data through text and audio tapes (Creswell & Plano Clark, 2011).

4.7.4.1   Interviews

Based on the exploratory nature of this part of the study, primary information gathering followed face-to-face, open-ended interviews (Bertels & Lawrence 2016). These interviews were carried out using a conversational mode. Interview protocols were developed and served as frameworks for the questions posed to respondents. The study's objectives, the relevant literature and the observed shortcomings informed the interview protocol. Table 4 – 6 highlights the assessed constructs and their explanations, while Figure 4 – 3 shows the conceptual depiction of the interview protocol.

Table 4- 6:   Description of constructs measured (Adapted from Mech, 1997)

Role	Construct	Description
Figurehead	Participation in social affairs.	Participates in a variety of symbolic, social and ceremonial activities

Role	Construct	Description
		such as attending project closure celebrations events.
	Attention to visitors.	Performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects related matters.
	Promotion of social events.	Conceives, participates and makes speeches in a variety of social and ceremonial projects related activities.
Leader	Guidance in activity implementation.	Defines work targets and communicates commands and instructions to subordinates.
	Creating a constructive milieu with colleagues and project staff.	Offers positive critics, praises and motivates subordinates.
	Exercise of authority.	Makes sure that subordinates fully understand instructions as well as accept and follow them.
Liaison	Internal relationships.	Develops activities to maintain a set of formal and informal projects related relationships within the organisation.
	External networks.	Establishes and maintains projects related external contacts and information sources

Role	Construct	Description
		outside the organisations.
	Dissemination of internal information.	Relays important external projects related information to employees.
Monitor	Information gathering.	Identifies and collects projects related information relevant to the organisation.
	Monitoring of internal operations.	Assesses projects performance in order to make adjustments and changes.
	Monitoring of external events.	Monitoring the internal and external environment to make sure that projects are running smoothly.
Disseminator	Information selection	Sorts out which project's relevant information will be shared with subordinates.
	Information sharing.	Shares project's relevant information with subordinates.
	Confirmation of information reception.	Ensures that subordinates obtain project-related information so that they can complete their tasks.
Spokesperson	Preparation of reports and information.	Grants interviews, makes speeches or provides organisational information to external

Role	Construct	Description
		audiences on project-related issues.
	Represents the project office outside of the organisation.	Speaks about project-related issues and history at events or meetings.
	Represent the project office inside the organisation	Speaks to people outside the project office about project-related issues.
Entrepreneur	Promotion of improvements.	Changes workflows to improve productivity of project actions.
	Proposition of opportunities.	Seeks innovations that can improve projects in the organisation.
	Implementation of new projects.	Scans the internal and external environment looking for innovations related to strategy to be implemented as projects.
Disturbance handler	Solution of routine conflicts.	Solves conflicts of subordinates and project office staff deriving from everyday situations.
	Solution to sudden conflicts.	Solves conflicts of subordinates and project office staff deriving from unexpected situations.
	Solution of impasses.	Puts a stop to misbehaviour within the project office or in the organisation.
Resource allocator	Scheduling of commitments.	Allocates project office

Role	Construct	Description
		resources.
	Evaluation of budgets.	Decides on organisation's investments (analyses and selects projects that demand application of financial resources).
	Allocation of resources.	Allocates financial, material and physical resources to maximise organisational efficiency.
Negotiator	Negotiation of cooperation.	Represents the project office and organisation at various non-routine discussions or negotiations.
	Negotiation of agreements.	Resolves problems that occur between the project office and other business units.
	Negotiation of transactions.	Negotiates and works with other parties to come to an agreement.

In reference to defining top management support practices, the study has adopted the managerial role-based perspective as conceived by Mintzberg (1973) and adapted to practices by Mech (1997). Managerial roles, according to Mintzberg (1973), are an organised set of behaviours associated with specific management positions and are measured by how individuals in these positions do their work.

During the interviews, probing questions were added to encourage participants to tell their stories and give more insight. Caution was taken not to ask leading questions lest the interview outcome be influenced. Saunders *et al.* (2009:324) stated that during the

interview asking probing questions provides an opportunity for explanations and brings out deep responses required in research seeking to understand the meanings of phenomena. In an attempt to ensure the flow of discussion between the researcher and the respondents and to guarantee the credibility of the information received from respondents the interview sessions were recorded on a digital voice recorder.

Figure 4-3: Conceptual depiction of the interview guide (Source: Adapted from Mech 1997)

4.7.4.2　　　Pilot study

Ismail, Kinchin and Edwards (2017:3) reported that a research pilot study guarantees that the main study will attain its set objectives. Furthermore, as argued by (Tustin, 2010), piloting provides the required affirmation that the developed questionnaire will bring in the required information to answer the study's objectives.

The research protocol was administered to three respondents, one from BURS and two from LRA, as a pilot. The respondents' feedback was used to consolidate the final research protocol before it was administered to the study sample.

The findings from the pilot of the protocol included the need to re-craft some questions using different but simple words to ensure that respondents would understand them.

4.7.4.3　　　Field notes, documentation, and reflexivity journal

A researcher has the potential to influence data production because of his/her inherent assumptions, values, beliefs, and biases (Creswell & Miller, 2000:127; Leedy & Ormrod, 2010). A researcher is encouraged to acknowledge and make his/her assumptions, values, and beliefs and biases explicit (Gray, 2013:28). During data production a reflexivity journal was maintained by the researcher where he recorded his assumptions, values, beliefs, biases, thoughts, ideas, feelings, and concerns.

4.7.5　Data analysis

In analysing data concerning this research study the initial step was to transcribe the interview recordings. The second step involved having the transcriptions verified to safeguard accuracy and provide assurance that the data were trustworthy. This is in conformity to the conclusions by Welman *et al*. (2005:211) who maintained that audio tape recordings should be transcribed to text as handwritten notes before further processing.

This phase of the study followed the views of Maguire and Delahunt (2017:3352) with regard to data analsys, and thematic analysis was adopted to make sense of the data. The six-step technique advocated by Braun and Clarke (2006) was adopted. This technique involves the following six steps:

1. **Step 1**: The researcher becomes acquainted with the data set;
2. **Step 2**: The researcher develops first codes;
3. **Step 3**: The researcher initiates the searching of themes;
4. **Step 4**: The researcher reviews the themes;
5. **Step 5**: The researcher establishes themes; and
6. **Step 6**: The researcher completes the report.

4.7.6 Limitations and strengths of the research design

Table 4 – 1 differentiated between the qualitative and quantitative research approaches. The qualitative design of this phase of the phase will benefit from the strengths of this approach which will balance the inherent limitations of the approach.

4.7.6.1 Limitations

In accordance with Miles and Huberman (1994:2) and Atieno (2009:17), qualitative research is labour-intensive and may prove to be lengthy. This is a result of the high volume of information which normally accompanies this approach. It has also been argued that, owing to its ability to infer by generalisation, it may be difficult to extend such inference to a wider scope with certainty in view of the fact that such findings may not have accompanying statistical inferences.

Moreover, Harbour and Kisfalvi (2014:511) and Lincoln and Guba (1985:290) posited that in exploratory, inductive, and subjective research themes in qualitative research present the opportunity for bias by both researcher and respondent. An additional limitation is that of ambiguity resulting from human language (Atieno, 2009:17). In such a case a respondent's meaning, based on the sentence structure or usage of a word, for example, would be given a different meaning by the researcher.

For the purposes of this study, the researcher noted and developed mitigations against these limitations.

4.7.6.2   Strengths

Despite the limitations of qualitative research explained above, Henning *et al*. (2007) stated that it provides in-depth inquiry to posed questions. This is achieved through utilising variables which are not controlled since the freedom and natural development of actions is what is to be captured in this approach.

Qualitative research possesses the ability to make it easy to handle without confusing its meanings (Atieno, 2009:16). In addition, it has been established that this approach enables breakthroughs and the formation of new findings in situations where too much simplification of information would otherwise lead to no discovery of new phenomenon. Since this approach seeks to develop meanings from the viewpoint of others, as is the purpose of this research study, this characteristic of qualitative approach is useful.

4.7.7   Quality and rigour

As explained by Morse *et al*. (2003), research rigour centres around its suitability to address the aims of the research. Research rigour determines how much the findings of research are deemed trustworthy (Davies & Dodd, 2002). On the other hand, reliability in qualitative research is concerned with whether a similar research study would result in the same findings (Ruigrok, Wicki, & Gibbert, 2008). Tied to these is validity, which is a measure of how much the results of a research are believable, probable, and credible (Bashir *et al*., 2008). This means, therefore, that in the end without rigour qualitative research is not useful.

An adaptation of "The Eight Big-Tent criteria for excellent qualitative research" which was proposed by Tracy (2010) was used to guarantee that this phase of the study provided the required quality in terms of its outcomes. Tracy (2010) proposed that quality can be achieved through the criteria made up of the topics as presented in Table 4 – 7 below and held on to during this phase of the study in order to ensure qualitative best practices were adhered to. Table 4 – 7 explores each criterion in relation to this study.

Table 4- 7:   "Eight 'Big-Tent' Criteria" For Excellent Qualitative Research in Relation to The Research Study (Adapted from Tracy, 2010:839).

Criteria for quality (end goal)	Various means, practices, and methods through which to achieve	Relevance

Criteria for quality (end goal)	Various means, practices, and methods through which to achieve	Relevance
Worthy topic	The theme of the study is; - Relevant; - Timely; - Significant; and - Interesting.	Top management support has been determined to be a major contributor to effective project execution. Top management support in strategy implementation through projects within revenue administrations is, therefore, deemed a worthy topic. Because of the absence of a similar study, this study is deemed important. This study is deemed worthy during this time where the SACU revenue shares are declining and so putting a strain on the achievement of the main aim of revenue administrations which is revenue collection.
Rich rigour	The study makes use of enough, abundant, appropriate, and complex - Theoretical constructs - Data, data collection and data analysis processes.	The research applied constructs and explanations. The researcher used interviews to collect data, and field notes provided abundance and appropriateness.

Criteria for quality (end goal)	Various means, practices, and methods through which to achieve	Relevance
		Sampling was appropriate since relevant participants were interviewed. This was done to the point of saturation. During interviews relevant questions that sought to solicit the required information from participants were asked. Immediately following interviews, the interview transcripts were transcribed.
Sincerity	The study is marked by: - Self-reflexivity; and - Transparency in the usage of methods and challenges thereof.	Throughout the data collection exercise, a reflexivity journal was kept ensuring the researcher's sincerity, authenticity, and genuineness. This journal kept track of his self-reflections, values, goals, and relevant thoughts. Appropriate credit with regards to both respondents and support from colleagues has been given.
Credibility	The study has the following	The process followed in this

Criteria for quality (end goal)	Various means, practices, and methods through which to achieve	Relevance
	characteristics: - Deep descriptions, solid descriptions, explanation of tacit knowledge.	phase of the study highlights that it possesses credibility and authenticity with regard to the outcomes of this phase of the study. Allowance was given to respondents to be research collaborators through their voices in the face-to-face interview stage. Respondents were allowed and able to offer more input during the processes of analysing data.
Resonance	The research outcomes are transferable.	While it is a difficult notion to provide insight effectively from what others have said, the outcomes of this phase of the study will be as representative as possible of what the respondents have said.
Significant contribution	The research outcomes provide significant contribution: - Conceptually/theoretically; - Practically; and - Methodologically.	This research seeks to expand knowledge about top management support practices in strategy implementation though project execution focusing on a new industry in developing countries. As such the study has

Criteria for quality (end goal)	Various means, practices, and methods through which to achieve	Relevance
		expanded knowledge and added to both practice and theory. The study makes use of two research approaches through a mixed methods approach.
Ethical	The study accounts for and addresses all ethically related subjects.	Ethical considerations deemed relevant are detailed in Section 4.11. Throughout the data collection period the researcher was open to the participants. Adherence by the researcher to the North-West University's Research Ethics Code also formed part this research study.
Meaningful coherence	The study: - Achieves its goals; - Makes use of the methods appropriate to its set goals; and - Effectively links the literature, research questions, research outputs and emerging interpretations appropriately.	There has been link of the study's goals with the design, review of literature, information gathering and sensemaking of such information in order to accomplish the study's goals.

Furthermore, and based on Yin (2011), the researcher ensured that all procedures used in this research study are documented so as to ensure reliability. Finally, in agreement with Saunders (2009:327), validity was attained through crafting and asking questions in a clear way.

4.8 INTERIM PHASE: CONCEPTUAL FRAMEWORK DEVELOPMENT AND SURVEY TOOL DEVELOPMENT

The qualitative research approach phase provides information and data leading to the development of a proposed conceptual framework. The Top Management Support Practices Conceptual Framework is an outcome of both the literature and the protocol.

The phase also leads to the development of a survey tool which will be used in the quantitative phase to test the developed framework to develop a final Top Management Support Practices Conceptual Framework for revenue administration in SACU. The development of a survey tool is guided by Carpenter (2018). The design of the tool also takes into consideration the theory and qualitative phase outcomes (DeVellis, 2012). The survey tool is a 5-point Likert type scale type of questionnaire.

4.9 PHASE TWO: QUANTITATIVE RESEARCH APPROACH

In the exploratory sequential mixed methods research approach the second phase is the quantitative phase. This phase of the study utilised a post-positivist, quantitative approach in order to test the outcomes of the previous phase. This phase of the research benefits from the quantitative data methods through testing the framework (Fiedler, Walther, Freytag, & Stryczek, 2002).

4.9.1 Population

According to Leedy and Ormrod (2013), a researcher conducting a descriptive study may need to explain the features of a population. A population sample enables a researcher to make generalisations from the results obtained from the research study (Bryman, 2012). In research studies where the population under study is not large it is recommended that a census, which is a situation where all elements of the population under study are included, be adopted (Blumberg *et al*. 2008).

Census sampling was adopted for this phase in order to test the qualitative results and the conceptual framework developed from Phase One. This approach is adopted owing to the small size of the total population of this research study. Revenue administrations by nature are not very large organisations, and the number of those working in projects is, therefore, not large. The same unit of analysis as discussed in Table 4 – 4 forms the basis of this phase.

4.9.2 Data collection

This phase makes use of a questionnaire survey. This decision is line with the view held by Creswell (2003) that "a survey design provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population and that from sample results the researcher generalises or makes claims about the population." Findings from the phase are expected to complement and verify the results obtained in the previous phase.

Questionnaires were shared with respondents by email. Respondents completed and sent questionnaires back to the researcher. The benefit of this approach is that participants completed the questionnaires at their own convenience and in their own time. The researcher in turn sent these completed questionnaires to the statistician for analysis in line with the study's objectives and methodology.

The questionnaire comprises sections which include:
1. The completion of a consent form; participants will confirm their understanding of the purpose of the interview through selecting the appropriate box/pressing an accept button before moving to the actual questions; and
2. The actual questions for this phase of the research study.

4.9.2.1   Survey questionnaire

Johnson and Christensen (2008) posited that a questionnaire is an information-gathering tool that respondents complete in a research study. A questionnaire is also a collection of questions administered to respondents (Bryman, 2012:715). Tashakkori and Teddlie (2003:304) described three types of questionnaires:
1. A qualitative questionnaire, which normally consist of open-ended questions;
2. A quantitative questionnaire, which normally consists of structured items and questions.

3. A mixed questionnaire, which consists of elements of the qualitative and quantitative questionnaires.

This phase of the research study utilises Likert-style quantitative questionnaires. Bryman (2012:73-74) stated that this type of questionnaires is the common technique used in gathering data. As argued by Kothari and Garg (2014:79), the Likert-style questionnaire comprises itemised rating scales which possess unparalleled advantages from which this phase of the study benefitted. These advantages are:

1. They are relatively easy to develop;
2. They take a short period of time to construct; and
3. They are considered more reliable.

In alignment with the views of Onwuegbuzie and Leech (2006), in order to enhance both validity and reliability in this phase a 4-point Likert scale questionnaire was developed. This 4-point questionnaire included the following categories:

1. Not at all;
2. A little;
3. Some; and
4. A lot.

The development of the questionnaire followed and was aligned to the ten steps in scale development of Carpenter (2018). To ensure ease of reading and completion the questionnaire comprised of various sections in line with the outcome of the previous phase. Pre-testing of the questionnaire was undertaken in an effort to guarantee its reliability and validity.

4.9.2.2   Limitations of questionnaires

Lamberth (1950) and Saris and Gallhofer (2007) have presented arguments that reveal that survey questionnaires have limitations.

Some common limitations are summarised Table 4 – 8, together with how they were addressed in this research study.

Table 4-8:   Limitations of survey questionnaires and how they were addressed (adapted from Lamberth, 1950; Saris & Gallohofer, 2014).

Limitation	How this study addressed this limitation
Some questions may be left unanswered resulting from misrepresentation of facts.	The previous qualitative phase and the mixed method approach will address this issue.
Respondents may not be representative of the sample selected.	No sampling will be done, but the whole census is taken as participants.
Respondents may have varying reading and writing skills which may make comprehension of questions difficult.	Questions will be asked in clear, simple language and be made as short and to the point as possible. A pilot of the questionnaire will also be done to ensure maximum common understanding and interpretation.
The study may have a low response rate resulting from participants not returning questionnaires.	Reminders will be sent to participants.
The participants may not fully express their views owing to the limited space provided on the Likert scale choices.	The previous qualitative phase and the mixed method approach will address this issue.
The Likert scale type of questions may limit answers.	The previous qualitative phase and the mixed method approach will address this issue.
The Likert scale type of questions may not fully capture emotional responses or the feelings of the respondents.	The previous qualitative phase and the mixed method approach will address this issue.
There is possibility of differences in the understanding and interpretation of questions.	Questions will be asked in clear, simple language and be made as short and to the point as possible. A pilot of the questionnaire will also be done to ensure maximum common understanding and interpretation.

4.9.3 Data analysis

Saunders *et al*. (2007:414) postulated that, to make sense out of and receive information from data, they first need to be processed. Data analysis in this quantitative phase included descriptive statistics, Exploratory Data Analysis (EDA) and inferential statistics. Analysis of the data from the questionnaire was attained through the use of Microsoft Excel and SAS which is computer software.

4.9.3.1 Descriptive statistics

Descriptive statistics seeks to give description and characteristics to data (Welman *et al*., 2011). This giving of description and characteristics is attained through the calculation of "statistical means, standard deviations, frequencies, percentages, cumulative frequencies and cumulative percentages." (Welman *et al*., 2011). For the purpose of this phase of the research, descriptive statistics were produced in the form of both charts and tables.

4.9.3.2 Inferential statistics

The second phase of the data analysis involved the use of inferential statistics. As maintained by Salkind (2014:9), inferential statistics are the type of data analysis applied to the statistics used to formulate generalisations about data. Inferential statistics also assess the significance of the data and the results obtained (Blaxter, Hughes & Tight, 2006).

4.9.3.3 Exploratory Data Analysis (EDA)

Furthermore, data analysis through Exploratory Data Analysis (EDA), which makes sense of data through depicting it in graphical representations techniques, was done. This approach made it easy for the researcher to present and explain data.

4.10 RELIABILITY AND VALIDITY

The accuracy of data determines the quality of the outcomes of research (Mugenda & Mugenda, 2003:95). To guarantee the quality of the outcomes of research and ensure the consistency of the validity and reliability of the study process, tests need to be performed (Babbie, Halley, Wagner & Zaino, 2013:16). The outcomes of a research study are

reliable if the same results are obtained from a repeat research study. When the research outcomes represent what pertains in the environment then the research has validity.

In order to ascertain validity, questions which related well to the study's purpose were asked in short questions and were to the point, leaving out leading and ambiguous questions. Careful consideration was taken to guarantee no bias in the formation of the questionnaire.

The questions also addressed the purpose of the research study. The researcher took care to eliminate any leading and ambiguous questions from the questionnaire. Moreover, questions were asked in an unbiased format so as to ensure validity. Finally, in an effort to ensure reliability, the questionnaire was further subjected to reliability tests using Cronbach's Alpha to determine its appropriateness.

4.11 ETHICAL CONSIDERATIONS

As mentioned by Cooper and Schindler (2009), research ethics exist for the purpose of ensuring that participants are not harmed by research activities. In support of this view, Zikmund (2003) stated that participants in research have rights, including those to privacy and confidentially and to participate in the research study voluntarily.

This research study was undertaken based on the ethical foundations of research as espoused by different authors (Miles & Huberman, 1994; Lancaster, 2005; Saunders *et al*., 2009:202), by adhering to the ethical standards of doing the research listed below:

1. All sources used were fully referenced;
2. The research was conducted with care and confidentiality;
3. Participants' information and data were kept private and anonymous;
4. The principle of informed consent was adhered to;
5. During the interview's participants were afforded the freedom of free speech;
6. Respondents were not forced to reply to questions and were made aware of this freedom;
7. Respondents were made aware that discussions would be recorded and that their information would be kept safely; and
8. Respondents were given a confidentiality agreement detailing their rights, which was signed so as to give them assurance.

In addition, in agreement with Creswell (2013:58), ethical clearance was sought from the North-West University. A copy of the University's ethical clearance certificated is attached as Appendix B. Finally, the researcher received permission to undertake research at the two sites, in Lesotho and in Botswana. The letters of authorisation and permission are attached as Appendix A.

4.12 CONCLUSION

This chapter has detailed how information and the analysis thereof in this research study was undertaken. It further elaborated on the methods and approaches used to gain insight into the study's objectives. The chapter also highlighted the weaknesses of the approaches and showed how these weaknesses were addressed and countered. It concluded through demonstrating that the outcomes reached would be trustworthy and of the required quality.

4.13 LINK TO THE NEXT CHAPTER

The following chapter will give particular attention to the interpretation and analysis of the data collected in the qualitative phase of this research.

CHAPTER FIVE – QUALITATIVE DATA PRESENTATION AND INTERPRETATION

5.1   INTRODUCTION

The preceding chapter considered the research methodology followed by this study.   In addition to it re-visiting the questions and objectives of this study, it also considered the underpinning philosophy of this study, its research methods, research strategies and techniques of information gathering and how it will be analysed.

This chapter will present and discuss the data collected from two cases studies, namely BURS and LRA, employing qualitative methods.   The presentation and discussion of this data will follow the conceptual framework developed in Chapter 3, based on an adaptation of Mintzberg's (1973) Managerial Roles by Mech (1997).

The chapter will demonstrate those Top Management Support Practices (TMSP) which have contributed to the effective implementation of strategy through project execution as well as highlighting those TMSP which will best optimise strategy implementation through the execution of projects in revenue administration in SACU.

The chapter will begin with a brief introduction to BURS and LRA.   It will then move on with presentation of data from the two administrations on the current Top Management Support Practices used during strategy execution through projects.   Following this, the chapter will provide a cross case analysis and discussion of those TMSP used during strategy execution through projects followed by those TMSP desired for the effective delivery of strategy through the execution of projects in each of the two administrations.   The chapter will conclude with development of a quantitative questionnaire which will be tested, and the results thereof presented in the next chapter.

5.2   BACKGROUND TO THE TWO REVENUE ADMINISTRATONS (CASES)

This section provides background information on the two cases, the Botswana Unified Revenue Services (BURS) and the Lesotho Revenue Authority (LRA).

5.2.1 Botswana Unified Revenue Services (BURS)

Established in 2004, the main mandate of the Botswana Unified Revenue Services (BURS) is to perform tax assessment and to collect tax revenues on behalf of the Government of Botswana (BURS, 2019). The BURS Act of 2004 empowers it to:

1. Execute and manage revenue laws;
2. Encourage adherence to revenue laws;
3. Continually strive for the enhancement of service rendering to taxpayers with a view to improving the collection of revenue;
4. Put into practice measures which prevent tax evasion and tax fraud;
5. Provide advisory services to the Minister responsible for fiscal affairs with regard to best practices in the collection and management of tax; and
6. Undertake additional, relevant duties in line with any directive from the Minister.

To carry out its mandate, BURS operates a hierarchical structure reporting to the Commissioner General, who is the Chief Accounting Officer, at the top. The Commissioner General, in turn, reports to the Board of Directors. Figure 5 – 1 shows a high-level BURS structure.

Figure 5-1: BURS high-level structure (Source: BURS, 2020)

5.2.2 Lesotho Revenue Authority (LRA)

The Lesotho Revenue Authority (LRA) is an independent entity established by an act of Parliament. Its founding Act is Lesotho Revenue Act Number 14 of 2001 (LRA, 2019). According to this Act, the LRA was established to be the principal organ of tax revenue collection for the government. In addition to the collection of revenue, the LRA also manages revenue laws (LRA, 2019).

At the time of its establishment the LRA subsumed the roles played by the Department of Income Tax, the Department of Sales Tax and the Department of Customs and Excise (LRA, 2019). Since its establishment, in 2003, the LRA has undergone two organisational restructuring journeys. To date, it has adopted a strategy referred to as "*Re A Aha*", translated "We are Building", and it is subsequently aligning is structure to deliver this strategy effectively. It has, because of this strategy, reduced its previous nine operating divisions to four (LRA, 2019). The LRA's structure is as depicted in Figure 5 – 2.
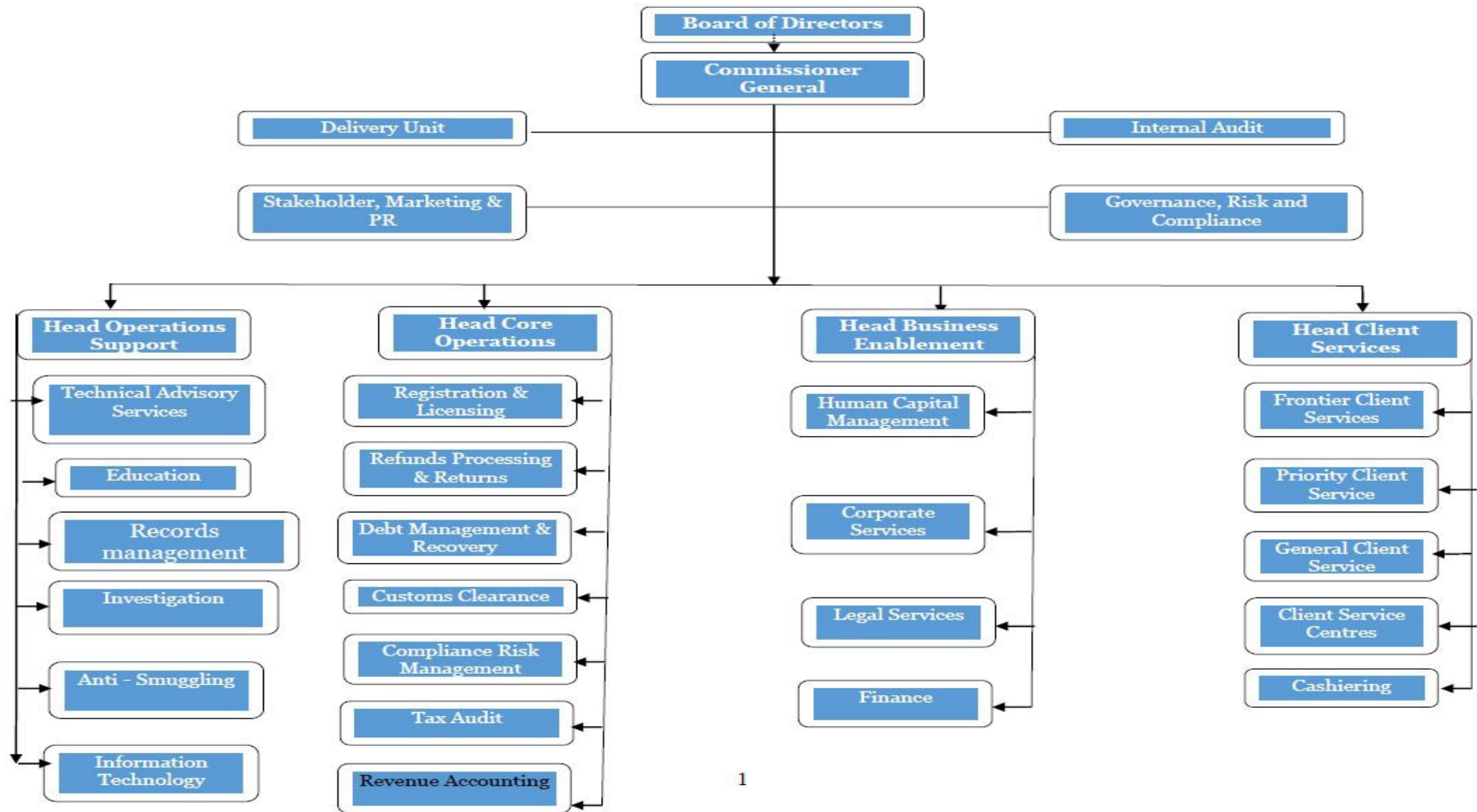
Figure 5-2: LRA high-level structure (LRA, 2019)

5.3   INTERVIEW METHOD

Since the main goal of this study is to develop a TMSP framework in use as well as those which, when used, will result in an optimisation of goals from project execution, information was gathered through making use of face-to-face semi-structured interviews.   These interviews comprised a predetermined combination of both open-ended and closed questions.   Where required, including in the case of closed questions, probing questions were used as follow up to allow for illustrations or examples to support the given answer. It has been shown by Welman *et al*. (2005:163) that face-to-face interviews result in rich information because of the deep engagement between the researcher and the respondents.

The questions which formed the interview were derived from the literature and were based on an adaptation by Mech (1997) of Mintzberg's Managerial Roles (Mintzberg, 1973).   The questions solicited information about those TMSP in use as well as those that respondents felt would be best utilised in the implementation of strategy through the execution of projects by asking questions related to each TMSP to receive the respondents' insight into it.   The interviews took sixty minutes to complete. Respondent feedback was recorded.   In addition, the researcher made notes in the reflexology journal.   After each interview, the researcher transcribed and analysed the recording.

The interviews were undertaken so that the researcher could learn from those directly involved in implementing strategy through projects and those who have a direct relationship with top managers and top management practices in use including those which would be best applied in revenue administrations so as to ensure the effective delivery of strategy through the successful execution of projects.   The opinions of project managers from the two administrations were studied and compared.

The interview guide comprised the following sections:
1. Section A, which introduced the research and sought to establish rapport with the respondent.   This section also described the study's objectives to the respondents. In addition, it highlighted the importance of confidentiality that would be maintained ij respect of information received during this interview and this research study in general.   It finally led to the respondents signing the consent form.
2. Section B comprised questions relevant to the achievement of the study's objectives.

3. Section C enabled the researcher to share additional information and be given more insight from the participants on the general importance of top management support in project execution.

Pursuant to the work of Creswell (2013), the following steps for undertaking qualitative data collection were followed:

1. The respondents were pre-identified. These comprised Project Managers from the two institutions.

2. Based on the determination on the type of interview to be used in this phase of the study, the interviews were conducted through face-to-face meeting with the recording of the respondents' views.

3. The respondents' answers and feedback were audiotaped. This was done in consultation with an agreement by the respondents.

4. Where appropriate, notes were made in the reflextivity journal.

5. Interviews were conducted in quiet and suitable places, mostly in office settings.

6. Consent for the interview was sought from the respondents, and they signed the consent form.

7. The interview was guided by pre-noted questions but with flexibility to discuss and make examples.

8. The researcher probed the respondents as necessary.

9. The researcher was courteous and professional for the whole interview process.

5.4   DATA ANALAYSIS FROM THE INTERVIEW

The purpose of this qualitative data analysis was to establish those Top Management Support Practices necessary for the successful execution of projects in revenue administrations in SACU.   To arrive at the objectives of this section, the researcher interviewed all the selected respondents. As a component of the interview, an explanation of the objective and goal of the research was given to all selected and interviewed respondents. Moreover, the nature of the questions which were going to be asked was highlighted. All respondents were afforded an opportunity to seek clarity through asking questions before the actual interview proceeded. Probing questions were asked where necessary so as to elicit clarity from respondents.   The interview was audio taped. A summary of the respondents in this phase of the study is outlined in Table 4 – 6 in Section 4.7.3.1; ten specialists were interviewed, four of whom work for the BURS and six of whom work for the LRA.

Following the interview, and consistent with the views of Welman *et al*. (2005), the audio tapes were transcribed into text notes before further processing. The notes were read multiple times with the objective of gaining full comprehension of the data. This was followed by a thematic analysis of the transcribed data. Thematic analysis, according to Maguire and Delahunt (2017), is "the process of identifying themes and patterns to arrive at conclusions and address of objectives."

To carry out thematic analyses effectively, Braun and Clarke (2006) detail a six-step framework which was also followed in this research study. These steps are:

1. Step 1: That the researcher become accustomed to the data;
2. Step 2: That the researcher should create codes;
3. Step 3: That the researcher should seek to find themes;
4. Step 4: That the researcher should investigate and analyse the themes;
5. Step 5: That the researcher should define the themes; and
6. Step 6: that the researcher should begin write up based on the themes.

Table 5-1:   Summary of respondents

Organisation	Gender		Number of Years in Projects in Administration	Total Number of Respondents
BURS	Female	1	5 - 6 years	4
	Male	3	5 - 6 years	
			7 – 8 years	
			10 plus years	
LRA	Female	4	3 – 4 years	6
			7 – 8 years	
			9 – 10 years	
			10 plus years	
	Male	2	3 – 4 years	
			5 – 6 years	

5.5 INTERVIEW FINDINGS

The study proposed that top management support, comprising of specific practices (Section 3.9), leads to the successful delivery of projects. This resulted in a proposed preliminary conceptual framework.

The interview followed two directions; firstly, it found from respondents those top management practices observed as being inherently present in top management in revenue administrations in SACU. Secondly, the study sought to find out from respondents those top management practices considered important, whether practised or not, for the successful execution of projects in revenue administrations in SACU.

The interview analysis and findings are discussed under the group headings of an adaptation of the ten Managerial Roles as espoused by Mintzberg (1973) by Mech (1997), which resulted in thirty practices referred to as top management support practices in this study (Figure 3 – 8 in Section 3.9).

5.5.1   Interpersonal Role

5.5.1.1   Figurehead

5.5.1.1.1 Participation in social affairs.

Whereas some top management carries out this practice, there are some top management personnel who do not carry out this practice at all. Some respondents noted that, "*Top management may attend activities depending on the priorities. Sometimes they prioritise other activities over project related events. Since Project Managers are subordinates, they are made to attend these activities without the support of top management because project success is their responsibility.*"

Another respondent commented that, "*where possible top management delegates this activity*". Despite this, some of the respondents still felt that top management do carry out this practice, with one respondent replying, "*yes, the Executive Management Committee (EXCO) usually participates*" whilst another replied, "*yes, though selectively.*"

On whether this practice is preferred for the effective execution of projects, most of the respondents' replies were in the positive and all provided reasons supporting this view. Some of these views are, "*top management should have a collaborative multifunctional*

team such that there is cross pollination of knowledge on projects. This function should not only comprise steering committees." One respondent concluded that, "*top management, besides being guests at closing ceremonies, should ensure that their participation in social affairs is increased and that they are more visible even during the execution process, when there are opportunities to participate since such platforms enable the provision of required guidance in order to ensure that the project plan is efficiently implemented*" which was supported by another respondent who concluded that "*participation in such should be stipulated in top management's performance contracts.*"

5.5.1.1.2 Attention to visitors.

Top management does generally attend to visitors in line with the project stakeholder framework. Some respondents felt that there were no clear or established platforms for this kind of interaction, however, and that such interactions were done depending on Project Manager's expertise in developing a Stakeholder Framework which would act as leverage and force top management to carry out this practice.

Comments from respondents included, "*meeting external stakeholders is at the discretion of individuals in top management. If according to her/him there are other pressing issues he/she will prioritise those over meeting with external stakeholders*" and "*there are no clear or established platforms for this kind of interaction and to a large extent it depends on the experience of the Project Manager.*" Comments further highlighted that not all top management in the selected revenue administrations carry out this practice. Some respondents commented that, at times, the only member of top management who carries out this practice is the relevant Head of Division whose project is being implemented.

On whether this practice is important, respondents replied in the affirmative. Comments included, "*this practice should be made an obligation by being part of the project execution charter or include it in the organisational values*" and "*the organisation should develop a framework which acts as a guide to the implementation of this practice.*"

5.5.1.1.3 Promotion of social events.

Some top management do carry out this practice. This includes being present and participating during the celebration of project milestones. One respondent commented

that, "*whilst top management do perform this practice, it is only in cases where they are invited to celebrate milestones and not at the conceptual stage.*"

Other respondents pointed out that top management deliberately avoid carrying out this practice for various reasons including a lack of confidence brought about by their not understanding the project which is a result also of their not participating in the conceptualisation of the project. Another reason is their total lack of interest which is a result of the project's not being aligned with their interests on an individual and personal level. In such scenarios, "*top management will do anything and everything possible to avoid being associated with the project.*"

Top management ought to conceive, participate in, and make speeches at a variety of social and ceremonial projects related activities. This can be enhanced through their "*being steering committee chairs*", "*being more involved in project execution and oversight and initiating ceremonial social events as part of change management process at the project conception, execution and closure*" and "*through regularly engaging with staff even before conceiving projects so that they gather the main points and improvement areas.*"

5.5.1.2   Leader

5.5.1.2.1 Guidance in activity implementation.

On the issue of top management giving guidance in activity implementation in project-related activities, respondents indicated that there was a deficiency in carrying out this practice. One respondent noted that, "*no proper guidance is given to Project Managers in the implementation of project activities leading to one's wondering how the particular project was conceived in the first place because, for some projects, the initial stages of project implementation come way after the start of the project.*"   Another respondent commented that, "*what top management does is not adequate since it happens only actively during the steering committees.*"   In addition, "*the project execution regime follows a pre-set protocol; there is a Project Sponsor, normally at the level of the Commissioner General, a Project Steering Committee, normally EXCO and Senior Management, a Project Director who is normally supervises Project Manager and the Project Manager. In this protocol, guidance giving is normally at the Project Director level only.*"

On how this practice can be enhanced to support project execution, respondents replied that there should be top management training on their roles regarding strategy execution through projects. This is important "*especially when the organisation has decided to take a project management approach towards strategy implementation.*" Top management should also be "*more accessible through opening direct communication channels*" and "*there should be frequent project progress review meetings where top management participation is compulsory.*"

5.5.1.2.2 Creating a constructive milieu with colleagues and project staff.

Top management do not create constructive milieu in which those implementing projects work. Respondents remarked that "*top management is hardly ever involved with project staff nor do they get an opportunity for discussions of the progress, or feedback, either positive or negative. Top management involvement is mainly when there is a problem or a complaint*" and that "*top management do not really understand their role as Supervisors who are supposed to support and advise as opposed to always giving orders and watching when subordinates struggle.*"

Top management needs to perform this practice. This is the view of most respondents who maintain that "*regular engagements between top management and the project will go a long way to creating a conducive environment for discussions and positive criticism of issues*", "*waiting until things gone wrong does not help at all*" and that "*a celebration of project milestones motivates staff.*"

5.5.1.2.3 Exercise of authority

Top management do not carry out the practice of the exercise of authority through ensuring that subordinates fully understand instructions as well as accepting and following them. The general feeling of the respondents was this is normally left to direct supervisors. One respondent felt that top management's philosophy was that of "*just throw them in the deep end and they will find their way out.*" One respondent felt that top management does not carry out this practice because of its inability give clear instructions to junior staff, a sign of poor communication.

In order to improve and exercise authority through ensuring that subordinates fully understand instructions as well as accepting and following them top management should

always strive towards understanding exactly what is needed. They should undertake frequent staff meetings and ensure that there is an increase in face-to-face interactions.

5.5.1.3   Liaison

5.5.1.3.1 Internal relationships

Top management does very little to maintain a set of formal and informal projects related relationships within the organisation. Besides the structured project-related meetings there is nothing to show that this practice is carried out.

For top management to improve and live this practice respondents offered several solutions. including having formal pre-scheduled meetings meant to discuss projects related issues. Another way is to have informal meetings in the form of either lunches or dinners where discussions are carried out in a more relaxed setting which, in turn, will result in teamwork development and bonding between both the projects staff and top management. These informal settings, it has been argued, will greatly improve trust, teamwork and communication which, in turn, will bring about improved work relationships.

5.5.1.3.2 External networks.

Top management does, to some extent, establish and maintain project-related external contacts and information sources outside the organisation. Respondents felt, though, that this practice was not implemented by all of top management. Some felt that it was practiced only for externally funded projects and as a requirement to meet donors' stipulations; "*external contacts and relationships are only established when they relate to financials, otherwise most contacts and relationships are established and maintained by project managers.*"

For top management to implement this practice, most respondents felt that PMO frameworks should ensure that project steering committee members be comprised mainly of top management. In addition, "*top management should act as project champions and implement project-related communication and change management frameworks.*"

5.5.1.3.3 Dissemination of internal information.

On the practice of the dissemination of internal information and whether top management relay important internal project-related information to employees, most respondents felt that top management do not adequately implement this practice. One respondent noted that, "*if the project does not draft an update, say in a newsletter, and submit it to top management for signature, then there is not information dissemination, and top management will not even seek to find out why that is so.*"

For top management to implement this practice, they should make it a practice to be fully acquainted with the project at any moment. Noting that the project is delivering strategy for top management, it is important for top management to champion the project and communicate all milestones to ensure effective change management. One respondent noted that the implementation of this practice is important in that "*as top management disseminates information within the organisation, even for projects whose consumers are external stakeholders, staff will in turn then also act as change agents and communicate the benefits of the project to external stakeholders.*"

5.5.2 Informational Role

5.5.2.1 Monitor

5.5.2.1.1 Information gathering.

Regarding top management identifying and collecting project-related information relevant to the organisation most respondents felt that top management does not implement this practice.

On how to implement this practice effectively, respondents were of the opinion that top management should engage with the project managers on a regular basis to understand project progress and challenges and "*undertake appropriate research to assist and guide the project manager overcome challenges and hurdles.*"

5.5.2.1.2 Monitoring of internal operations

On whether top management assess project performance in order to make adjustments and changes on time, most respondents believed top management does not implement

this practice. There were cases where respondents felt that this practice equalled project scope adjustment and that top management would always be involved in making adjustments and changes. An example from a respondent related to a project which could not deliver all the functionality before the set go-live date and "*top management decided to go-live with a minimum viable product while additional functionality was being developed on a continuous basis*."

For this practice to be effectively implement "*top management need to be aware of the project in terms of its objectives and where its deliverables are at any particular time so as to make informed decisions and on time*." This requires top management and the project team to meet and engage with one another regularly "*and not only during steering committees*." Because strategy belongs to all top management, it is important that all top management, not only those who either sit in steering committees or whose functional staff operate in projects, know all project portfolio progress.

5.5.2.1.3 Monitoring of external events

Most respondents felt that there is little evidence of this practice being implemented by top management. Respondents felt that this practice was left to project managers to implement.

To implement this practice, according to project managers, top management should engage the use of monitoring and evaluation tools which will assist them keep oversight of events relevant to organisational strategy through project work. When top management does this, they will be able to have enough foresight to make timely and strategic decisions which will benefit projects, for example, through minimising risks.

5.5.2.2 Disseminator

5.5.2.2.1 Information selection

Some respondents believed that top management do implement this practice through their approval of content to be shared. In some instances, top management "*are particular about the information to be shared with staff to the extent that such information has to be approved by top management*."

To effectively this practice effectively, top management need to keep abreast of the project so that at any point in time they can share relevant information. Without taking the reins off the project manager, top management should "*be hands on and take responsibility to initiate awareness campaign activities involving all staff.*" Top management should "*appreciate project communication plans, messages to be communicated, the timing to communicate and the timing to review messages where necessary.*"

5.5.2.2.2 Information sharing

On the practice of information sharing respondents believed project-related information is mostly with the project team. Where top management do share information, most often it is late or it is not shared periodically. On projects related to organisational human talent, though, there is information sharing.

To be effective in this practice, top management needs to develop and own project-related communication plans and commit to the execution of such plans.

5.5.2.2.3 Confirmation of information reception

On this practice, with regard to top management's ensuring that subordinates obtain project-related information so that they can complete their tasks, respondents were of the opinion that subordinates do get project-related information through the project manager and the project team, leading to this practice not being practised by top management. "*The responsibility of communication rests with the project teams; where top management do communicate, they are greatly assisted by the project team*", remarked one responded.

One of the respondents remarked that effective implementation of this practice requires top management to have "*a bird's eye view of all organisational issues, including projects, and they need to help with provision of synergy between projects, or Wildly Important Goals and business as usual, or the whirlwind.*" Top management should also strive to "*establish clear links between project implementation and business through a consistent consultative and collaborative mechanism between the project teams and business.*"

5.5.2.3 Spokesperson

5.5.2.3.1 Preparation of reports and information

On whether top management grants interviews, makes speeches or provides organisational information to external audiences most respondents felt that this was the case. Top management engaged in press conferences and releases as well as face-to-face meetings (?) with external stakeholders. There were cases which reported that top management do not undertake this practice, though, mainly because of *"their lack of confidence in discussing project-related matters"*. In routine time set meetings to discuss projects milestones to the media *"top management left it to the project team to discuss all project-related matters with their role being only to meet and greet."*

This practice requires top management to engage continually with stakeholders as project champions. For this to be achieved, top management should be close to the project to understand it fully.

5.5.2.3.2 Representing the projects office outside of the organisation

Regarding representing the project office outside of the organisation through speaking about organisational project-related issues and history at external events or meetings, at least half of the respondents felt that only a small section of top management does this. Respondents believed this practice is mainly implemented by the top manager who sits in the steering committee or whose business unit the project directly impacts on. A view from one responded was that top management failed to recognise their role within project execution in that top management *"do not find it their responsibility or their role as ambassadors of the organisation and change agents to talk about and represent projects."*

Top management are *"project champions"* and *"they should regard themselves as project spokespersons."* To be able to play this role, however, top management *"should be familiar with project-related information; past, present and future."*

5.5.2.3.3 Representing the projects office inside the organisation

Regarding top management representing the project and the project office inside the organisation through speaking to people outside the project office about project-related issues, respondents believed only a small percentage of top managers did so. Even when

top management do implement this practice respondents believed they always needed the project team to be present "*to support them.*"

Respondents believed top management need to be familiar with projects to be able to discuss projects and "*have the right confidence to discuss projects.*"

5.5.3　Decisional Role

5.5.3.1　Entrepreneur

5.5.3.1.1　Promotion of improvements

Respondents believed that top management do change workflows or cause workflows to change to improve productivity of project actions. This is usually done when the project manager reports on project progress.

For top management to promote improvements in projects they should critique recommendations put forth by the project team. This "*requires that they in turn fully understand the project and relate it to the strategic intent it is seeking to meet.*"

5.5.3.1.2　Proposition of opportunities

Where top management implements this practice, it is normally in cases where there are recommendations from the project team top management. In most cases, however, "*conventional project management practices are used to deliver projects in the organisation with no intervention for improvement coming from top management.*"

To ensure the effective implementation of this practice, top management need to "*understand the project portfolio fully*" as well as "*ensuring that organisations subscribe to project management bodies so as to get documentation on project innovation tools and either attend or let their teams attend project-relevant conferences.*"

5.5.3.1.3　Implementation of new projects

Top management does scan the internal and external environments looking for innovations related to strategy to be implemented as projects. This is done as part of time

set strategic outlooks and planning. This scanning is "*sometimes shallow, though, leading to oversights in planning which are only realised mid-way through project execution.*"

To enhance their implementation of this practice, top management "*should live the culture of innovation and continuous improvement*" and "*should also undertake, thorough research and analysis, to inform the emergent strategic direction as may be necessary.*"

5.5.3.2   Disturbance Handler

5.5.3.2.1 Solution of routine conflicts

On top management's solving conflicts of subordinates and project office staff deriving from everyday situations, respondents believed that top management do not provide solutions to routine conflicts through solving conflicts of subordinates and project office staff deriving from everyday situations. One respondent remarked that "*top management is not eager to solve subordinates' conflicts emanating from an everyday situation. An example would be in project ABC where the IT expert put minimum effort in his stream activities leading to the project missing milestones and with top management not stepping in to assist in having the issue resolved even after getting numerous reports.*"   Another respondent remarked that "*the pilot of a product under project DEF was not successful since officers meant to pilot the product were resistant and, when the matter was escalated to top management, it took them a long time to step in and resolve which led to delays in the project.*"

To enhance the implementation of this practice, top management needs to build and maintain relationships, including informal relationships, with the project team.   Such relationships will make it easy for top management to identify areas prone to result in conflicts and proactively to deal with those and ensure that there are no conflicts. In situations where conflicts do arise, top management needs to be swift and assist the project manager and his team to have such issues resolved so that there is no impact on the project.

5.5.3.2.2 Solution to sudden conflicts

On top management's solving conflicts of subordinates and project office staff deriving from unexpected situations, respondents expressed the view that top management does

not step in on time to resolve conflicts. Respondents were of the view that in most cases the project manager was left to resolve such conflicts.

To bring about an improvement in this practice, top management need to harvest good relationships with the project office staff and the rest of staff and be close to the project. This will ensure that they become aware of issues which may result in conflicts and proactively deal with and resolve them. This can be achieved through top management being "*consistently present to the extent possible, by setting up monitoring visits, both planned and unplanned, and putting themselves in a position to know possible high conflict prone areas in business so as to address them accordingly*."

5.5.3.2.3   Solution of impasses

Top management does put stop to misbehaviour within the project office and in the organisation to resolve impasses notably because "*such issues are the final straw when the project would have hit a dead-end*".

The ideal situation is for conflicts to be resolved before they make project work stop since these impacts negatively on the overall project delivery and in strategy attainment.

5.5.3.3   Resource Allocator

5.5.3.3.1 Scheduling of commitments

On the issue of top management scheduling commitments, respondents were of the opinion that this was so. According to respondents, these resources comprise "*financial and human resources and allocation is usual made before the projects starts*". Despite this observation, respondents also highlighted the need to deploy capable human resources by top management and the need to plan for resource deployment through "*maintaining the planning process and/or finding improvements in the process through continuous reviews for efficiency and relevance*."

5.5.3.3.2 Evaluation of budgets

On the practice of the evaluation of budgets as to whether top management schedules time to decide on the organisation's investments through analysing and selecting projects that demand the application of financial resources, all respondents agreed that top

management does carry out the practice of the implementation of budgets. Respondents noted that "*revenue administrations have structures responsible for appraising and selecting projects*" and that "*during strategy development top management does prioritise project investments*".

To perfect this practice "*in addition to prioritisation that occurs as part of strategic planning, top management should anticipate emerging issues which may warrant strategic shift and be willing to analyse and select afresh as necessary*". In addition, "*there should be time set intervals for evaluation and reporting so as to re-plan and re-direct as necessary*".

5.5.3.3.3 Allocation of resources

On the issue of top management allocating resources to the project office as part of the scheduling of commitments, respondents believed that top management do allocate resources. These resources comprise "*financial and human resources and allocation is usual made before the projects starts*". Despite this provision of resources, however, two respondents noted that "*top management have a tendency to keep on requesting back some human resources and allocating other tasks to them thereby leading to instability within the project these resources work in.*"

To ensure the effective implementation of this practice "*the human resources allocated to projects on a full-time basis should not be burdened with day-to-day office activities. Top Management should therefore be willing to outsource project resources temporarily from outside of the organisation as may be necessary*". This is because in most revenue administrations most project team members come from revenue collection functional areas and get re-deployed back to their functions when the project closes.

5.5.3.4   Negotiator

5.5.3.4.1 Negotiation of cooperation

On the practice of negotiation of cooperation on whether top management represents the project office at various non-routine discussions or negotiations all respondents, but one, could not confirm that this was so. Some respondents noted that, "*in cases requiring top management to represent the project, top management is not interested and would rather direct the project team to do so*". The only respondent who confirmed that top

management implemented this practice remarked that top management does so when such negotiations "*involved decisions or interventions at the highest level*."

For this practice to be implemented, respondents were of the view that top management's role profile should specifically spell out that they need to represent the project office at various non-routine discussions or negotiations as part of their day-to-day work, which is harnessing all efforts toward the attainment of the set strategy.

5.5.3.4.2   Negotiation of agreements

On the practice of negotiation of agreements, respondents remarked that top management were not effectively implementing this practice. Respondents used phrases like *hardly*, *not that effective* and *sometimes, though not effective*, to describe top management's implementation of this practice.

To live this practice, top management should "*play a mediator role to understand both sides and help reach win-win solutions and agreements*". This is because "*their role in to ensure that project implementation is a success no matter what comes up in the environment*".

5.5.3.4.3   Negotiation of transactions

On the practice of negotiating and working with other parties to come to a mutually beneficial agreement, all but one of the respondents replied in the affirmative, confirming that top management do negotiate and work with other parties to come to a mutually beneficial agreement. One respondent noted that "*during project TUR top management negotiated and came to agreement with Clearing Agents and Traders to change certain procedures*". The respondent who did not agree with the rest on implementation of this practice observed that "*during FGH project top management failed to negotiate with IT department for the allocation of IT resources to the project therefore greatly negatively impacting in a negative way*".

For effective implementation of this practice, the project office should develop stakeholder management and a coordination framework and map it against the issues log to enable

top management to note those issues requiring the clearing of the path through negotiations.

5.5.3.5   Summary

In summary, most respondents were of the view that top management support practices were poorly practised or implemented.   Respondents also believed that all top management support practices discussed were important and critical for the successful delivery of projects

5.6 INTERPRETATION OF THE RESULTS AND DISCUSSIONS

This section summarises the respondents' views based on the qualitative instrument/semi structure questionnaire.   The qualitative instrument/semi-structured questionnaire is built from an adaptation of Mintzberg's (1973) managerial roles with constructs by Mech (1997).

The respondents acknowledged that the ten managerial roles with their constructs, also termed practices, were important ingredients required for the effective delivery of projects. Despite the respondents underscoring the importance of these practices, they remarked that, in revenue administrations in SACU, some of the practices were not performed by top management.

In accordance with the view by Wooldridge *et al*. (2008), top management has a pivotal duty in organisational strategy attainment.   Dong *et al*. (2009) expressed the view that top management's roles include the offering of support to subordinates through:

1. Resource provision;
2. Participation; and
3. Involvement.

Strategy implementation, be it through operations or projects, requires resources.   These resources comprise human talent, financial and other relevant resources.   According to Parr and Shanks (2000), top management, as owners of strategy, are responsible and accountable for strategy implementation.

Sarker and Lee (2003) argued that top management presence during the lifecycle of a project is crucial. During this time top management will play various but important roles which include the resolving of problems and the timely re-alignment of non-value adding processes (Sarker & Lee, 2003; Young & Jordan, 2008).

The three elements of support, namely resource provision, participation and involvement, which are roles played by top management link well to the practices under the ten managerial roles as discussed. Resource provision talks to the Resource Allocator Role under the Decisional Role Grouping, directly linking with the practices of the evaluation of budgets and the allocation of resources. Participation relates to all practices in the three groupings, namely Interpersonal, Informational and Decisional role groupings. Differently put, top management implements all the practices. With reference to the Figurehead Role, the Leader Role and the Liaison Role under the Interpersonal Role Grouping, when top management participates and is present in the whole lifecycle of the project, they implement these practices.

Top management's participation in organisational strategy implementation is a non-negotiable constant. Top management are charged with ensuring that the organisational settings in which projects are implemented as part of strategy implementation are as supportive as possible (Bryde, 2005). In addition, Kuen, Suhaiza and Yudi (2009) expressed the view that, during the project execution journey, the presence of top management must be felt.

In addition, Emmanuelides (1993) observed that top management responsibility involves resource mobilisation, the granting of appropriate approvals and delegation for timely decision making. These elements also talk to the practices under the three managerial roles. Furthermore, Hochstein, Tamm and Brenner (2005) agreed that top management tasks include the provision of feedback and guidance throughout the lifecycle of the project which are also tied to managerial roles. Additionally, pursuant to the conclusions by Ernst (2002) and Chollet, Brion, Chauvet, Mothe and Géraudel (2012), top management support involves being present and aware of what goes on as well as providing resources to enable projects to be successfully delivered. Lastly, Dai, Peng and Zhiyuan (2013), summed up that top management roles comprise establishing projects through creating project goals, determining the project budget, and allocating all other project-related resources necessary for the successful delivery of the project.

Based on the feedback from respondents, it can be summed up that top management support practices are important for the successful delivery of projects in revenue administrations in SACU. The interview results show that, despite the belief that top management support practices are important, some of them are not practised. This finding confirms the opinion of Young and Jordan (2008), who concluded that the practicality of an organisation's life is that top management is often not able to support every project in the organisation fully. As discussed in the previous segments of this study, and drawing from assertions made by Mpofu (Mpofu 2010), this non provision of support can further be exacerbated by the fact that top management may not know exactly what to do to support projects.

In accordance with the interview feedback obtained from this qualitative stage of the study, Table 5 – 2 provides a summary of those top management support practices which are carried out in revenue administrations in SACU whilst Table 5 – 3 summarises those Top Management Support Practices considered essential for successful delivery of projects in revenue administrations in SACU.   In these two tables, respondents from LRA are named denoted with an L and those from BURS are denoted with a B. Table 5 – 2 notably shows Top Management Support Practices which are less practised against those which are practised more. Table 5 – 3 demonstrates that all Top Management Support Practices are indeed necessary for the successful delivery of projects and, therefore, the effective delivery of strategy.

Based on Table 5 – 2, amongst the identified Top Management Support Practices, the following practices are least employed by Top Management:
1. Creating a constructive milieu with colleagues and project staff;
2. Exercise of authority;
3. Internal relationships;
4. Dissemination of internal information;
5. Information gathering;
6. Monitoring of external events;
7. Information sharing;
8. Confirmation of information reception;
9. Solution of routine conflicts;
10. Solution of sudden conflicts;
11. Negotiation of cooperation; and
12. Negotiation of agreements.

Table 5-2:   In- use TMSP and Supporting Number of Respondents (Source: Own)

Role Grouping	Role	Practice	Respondents
Interpersonal	Figurehead	Participation in social affairs.	L1, L3, L4, L6, B1, B2, B4
		Attention to visitors.	L2, L3. L5, L6, B1, B2, B3, B4
		Promotion of social events.	L1, L3, L4, L5, B1
	Leader	Guidance in activity implementation.	L1, L3, B1, B4, B6
		Creating a constructive milieu with colleagues and project staff.	L1, B2
		Exercise of authority.	L1, L3, L6, B1
	Liaison	Internal relationships.	L2, L6, B2
		External networks.	L2, L3, L5, B1, B4
		Dissemination of internal information.	L3, B1, B2, B4
Informational	Monitor	Information gathering.	L3, L6, B1, B2,
		Monitoring of internal operations.	L3, L4, L6, B1, B4
		Monitoring of external events.	L3, L4, B1, B4,
	Disseminator	Information selection.	L1, L2, L3, L4, B1, B2, B3
		Information sharing.	L2, L3, L4, B1
		Confirmation of information reception.	L4, B2, L6
	Spokesperson	Preparation of reports and	L3, L4, L5, L6, B1, B2, B3, B4

Role Grouping	Role	Practice	Respondents
		information.	
		Representing the project office outside of the organisation.	L3, L5, B1, B2, B4
		Representing the project office inside the organisation.	L3, L5, L6, B1, B2, B4
Decisional	Entrepreneur	Promotion of improvements.	L2, L3, L4, L6, B1, B4
		Proposition of opportunities.	L3, L6, B1
		Implementation of new projects.	L3, L4, L5, B1, B2, B4
	Disturbance handler	Solution of routine conflicts.	L4, L5, L6, B2
		Solution to sudden conflicts.	L4, L6
		Solution of impasses.	L4, L5, B1, B2, B4
	Resource allocator	Scheduling of commitments.	L2, L3, L4, L5, B1, B2, B4
		Evaluation of budgets.	L2, L3, L4, L5, L6, B1, B2, B4
		Allocation of resources.	L1, L2, L3, L4, L6, B1, B2, B4
	Negotiator	Negotiation of cooperation.	L5
		Negotiation of agreements.	L6, B2, B3
		Negotiation of transactions.	L2, L3, L4, L5, L6, B1, B2, B4, B4

Table 5-3:   Desired TMSP and Supporting Cases (Source: Own)

Role Grouping	Role	Practice	Respondents
Interpersonal	Figurehead	Participation in social affairs.	All
		Attention to visitors.	All
		Promotion of social events.	All
	Leader	Guidance in activity implementation.	All
		Creating a constructive milieu with colleagues and project staff.	All
		Exercise of authority.	All
	Liaison	Internal relationships.	All
		External networks.	All
		Dissemination of internal information.	All
Informational	Monitor	Information gathering.	All
		Monitoring of internal operations.	All
		Monitoring of external events.	All
	Disseminator	Information selection.	All
		Information sharing.	All
		Confirmation of information reception.	All
	Spokesperson	Preparation of reports and information.	All

Role Grouping	Role	Practice	Respondents
		Representing the project office outside of the organisation.	All
		Representing the project office inside the organisation.	All
Decisional	Entrepreneur	Promotion of improvements.	All
		Proposition of opportunities.	All
		Implementation of new projects.	All
	Disturbance handler	Solution of routine conflicts.	All
		Solution to sudden conflicts.	All
		Solution of impasses.	All
	Resource allocator	Scheduling of commitments.	All
		Evaluation of budgets.	All
		Allocation of resources.	All
	Negotiator	Negotiation of cooperation.	All
		Negotiation of agreements.	All
		Negotiation of transactions.	All

5.7 FRAMEWORK FORMULATION

In accordance with findings of the qualitative interviews, the preliminary conceptual framework presented in Section 3.10 is refined and presented as Figure 5 – 3 below with Figure 5 – 4 showing the list of applicable Top Management Support Practices within the context of revenue administrations in SACU.

To recap, it has been put forward, based on the literature, that top management carries out various managerial roles in the context of their daily work. A further analysis of these roles results in specific actions or practices tied to the managerial roles. These roles and the resulting practices apply in operations and in projects as tools used to deliver strategy by top management effectively.
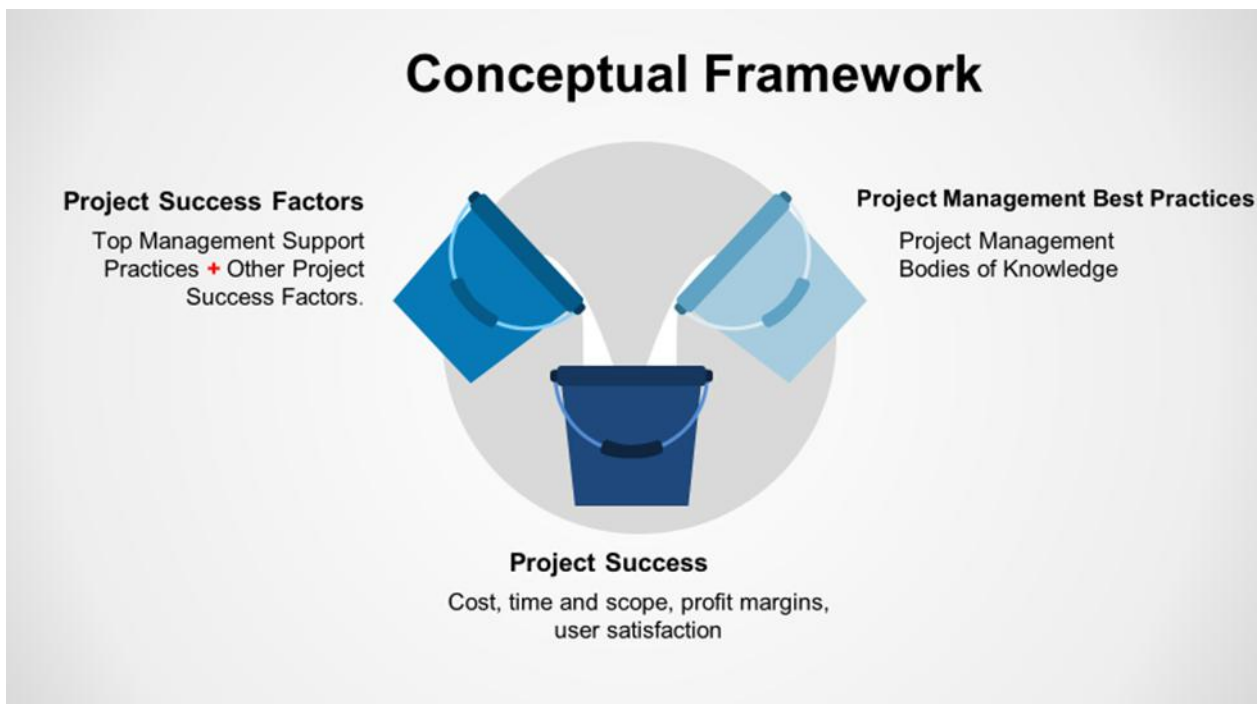
Figure 5- 3:   conceptual framework (Source: Own)
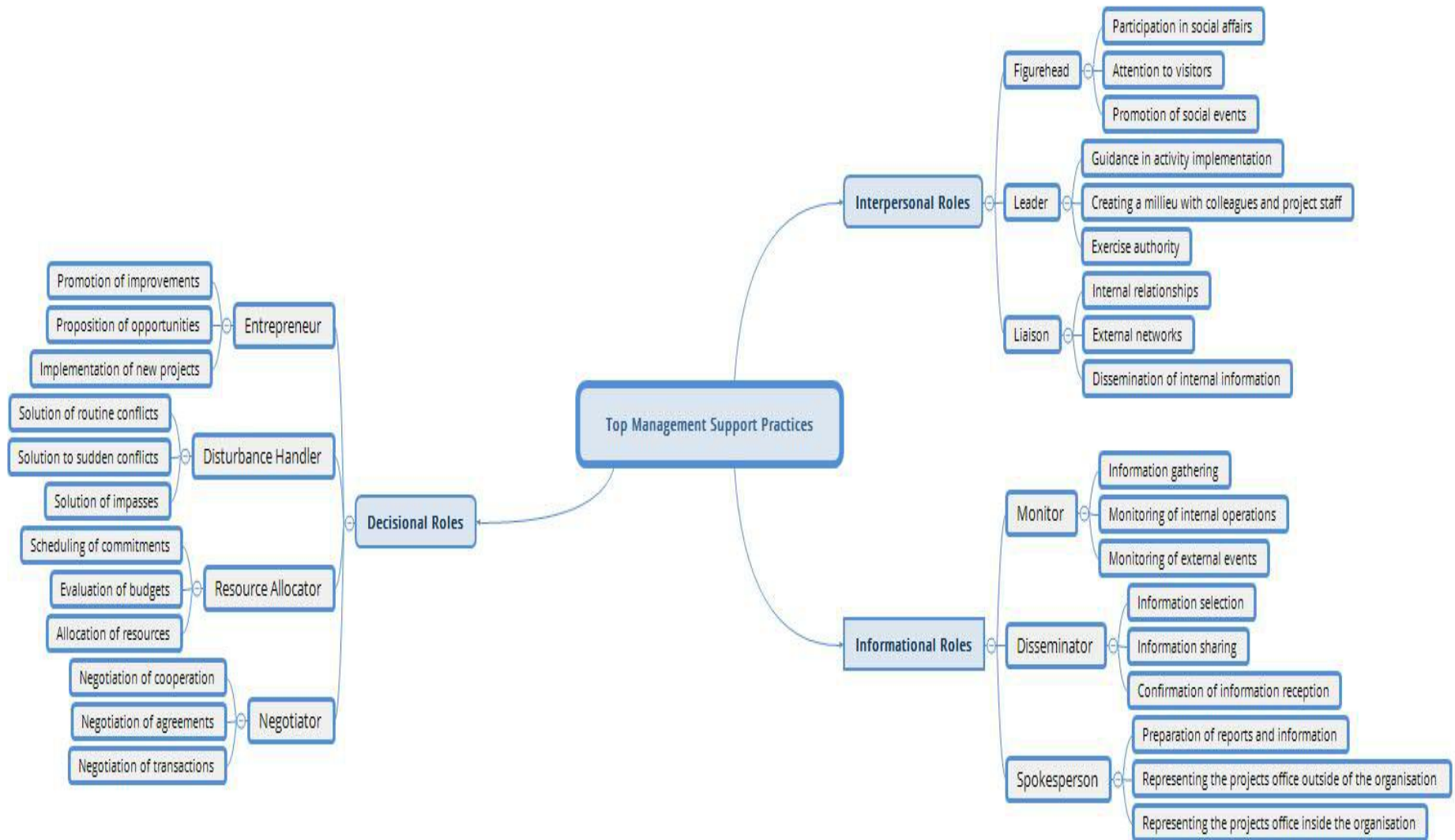
Figure 5- 4:   Proposed conceptual TMSP Framework

5.8   SURVEY TOOL FORMULATION

In addition to formulation of a framework for top management support practices this chapter sought to develop a survey tool which would be tested using quantitative techniques. Based on the outcomes of this phase of the study, a survey tool, which is presented as Appendix D, has been developed.

5.9   CONCLUSION

The chapter set out to test the proposed framework presented in Section 3.10 employing qualitative research techniques. The chapter has attained its aims, testing the framework and developing a provisional framework to be tested through quantitative research techniques.

5.10 LINKS TO THE NEXT CHAPTER

The next chapter re-considers the study's aims and objectives and uses quantitative techniques to test the Top Management Support Practices Framework developed through the review of the appropriate literature and through the qualitative phase of this study to arrive at the final conceptual framework of Top Management Support Practices for the successful delivery of projects in revenue administrations in SACU.

CHAPTER SIX – QUANTITATIVE DATA PRESENTATION AND INTERPRETATION

6.1 CHAPTER LAYOUT

The preceding chapter dealt with a qualitative analysis of data about Top Management Support Practices for the effective execution of projects in revenue administrations, concentrating on BURS and LRA. The chapter analysed responses from research participants comprising project managers from the two respective revenue administrations, formulated conclusions and proposed a conceptual framework. It also assisted with the development of a research questionnaire which would be tested on a sample of project managers to finalise the development of a conceptual framework.

This chapter outlines the quantitative data analysis and interprets respondents' ratings on the research questionnaire developed to investigate Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in Southern African Customs Union (SACU). It analyses data from the study's respondents, namely project managers in BURS and LRA representing revenue administrations in SACU. The chapter also seeks to corroborate the conceptual framework developed in the previous chapter and proposes a final list of Top Management Support Practices essential for the successful execution of projects in revenue administrations in SACU.

This chapter comprises seven components, namely introduction, general/descriptive, inferential, interpretation, reliability testing, framework formulation and conclusion.

6.2 INTRODUCTION

The process of data analysis is concerned with making sense of and interpreting information collected (De Vos & Schulze, 2002:339). Seeking to answer questions and make conclusions regarding the questions posed, data analysis also includes the interpreting and theorising of data which seeks to determine general statements among the various categories of collected data (Schwandt, Miles & Huberman, 2011:6).

The principal purpose of this study is to investigate and explore Top Management Support Practices employed during project execution through the applicability of project management best practices in revenue administrations in SACU so as to develop a framework for Top Management support practices (conceptual framework) which will improve strategy implementation through project execution in the revenue administrations in SACU.

The secondary objectives of this research are to:

1. develop an understanding of Top Management Support Practices essential for the successful execution of projects;
2. discover Top Management support practices primarily employed during project execution in revenue administrations in SACU;
3. establish Top Management support practices considered most essential for successful execution of projects in revenue administrations in SACU; and
4. apply research findings to propose a Top Management support practices framework for effective and successful project execution in revenue administrations in SACU.

A presentation of the data and analysis thereof through several analyses, including appropriate uni-variate, bi-variate and multivariate, will be undertaken.

As a prerequisite to data analysis, and to ensure that collected data is of the required quality, Cant, Strydom, Jooste & Du Plessis (2009) propose that data be prepared through the following steps.

1. Validation of information forming the data set;
2. Editing of this data;
3. Coding of this data;
4. Entry of data; and
5. Cleaning of data.

Social research data analysis involves a set of procedures and measures which are carried out the following order:

1. Data cleansing step;
2. Performing descriptive statistics computations which seek to give descriptions to the information; and

3. Performing inferential statistics computation with a view to testing any assumptions in the study. This is achieved through hypothesis and modelling.

For this study, data collected through questionnaires were analysed through SAS computer software. In order to arrive at corrected affirmations and based on the arguments of Cant *et al*. (2009), the data were cleaned, re-coded and organised. The data were then analysed in the form of descriptive statistics with resulting frequency tables showing distributions of the statement responses. The degree of central tendency and dispersion tests was computed. Finally, descriptive statistics were used to summarise the data.

The collected data were subjected to tests which resulted in both descriptive and inferential statistics to assist in making conclusions and attaining the research objectives.

6.3   METHOD OF ANALYSIS

6.3.1   Data validation and validation of survey results

It is important to ensure the validity and reliability of the structured questionnaire used to investigate Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in the Southern African Customs Union (SACU). Reliability and validity measures are used to select the questions in the questionnaire through improving the accuracy of results (Tavakol & Dennick, 2011:53). Reliability refers to the level of achieving similar results, repeatedly, through use of the research instrument (Twycross & Shields, 2004). On the other hand, validity is concerned with whether what is being measured in research is that which should be measured (Rose & Sullivan, 1996:19). Mugenda & Mugenda (2013) asserted that the manner in which information which forms research data is collected determines the quality and the output of the research. Maina (1997:88) concurred with this assertion and noted that principles of validity and reliability are fundamental cornerstones of a good research study. Leedy and Ormrod (2010:28) described four forms of validity, namely:

1. Face validity, which is an assessment of whether content of the measuring instrument is suitable;
2. Content validity, which measures how well the measuring instrument results in a good representation of what is being measured;
3. Criterion validity, which shows how likely the results from an instrument determine results from another associated instrument; and

4. Construct validity, which shows the level to which an instrument measures what it is measuring.

Leedy and Ormrod (2010:93) also asserted that reliability makes the findings of the research legitimate and justifiable. Bolarinwa (2015) showed that reliability is estimated through the test re-test method, the split halves method and the internal consistency method.

In this study, reliability is addressed in the subsequent phases of data analysis.

6.3.2   Data format

Data collection was through questionnaires which were captured twice in a Microsoft Excel spreadsheet in a format developed for data capturing. The two Microsoft Excel data files were imported into SAS computer data analysis software and compared in order to eliminate capturing mistakes. Where questionnaires showed differences between the two data sets, they were scanned to determine the correct value and then corrected on the dataset which had been captured incorrectly. After the corrections, the two datasets were continuously compared with each other until there were no differences between them. It was then that analysis was done on one of the datasets.

For the questions/statements in the questionnaire the following categorical scales or ordinal scales were used:

Scale 1 – Statements 1 to 30 of Part 2
1. "Not at all" is coded as 1;
2. "A little" is coded as 2;
3. "Some" is coded as 3; and
4. "A lot" is coded as 4.

Scale 2 – Statement 1 of Part 3
1. "Male" is coded as 1; and
2. "Female" is coded as 2.

Scale 3 – Statements 2 and 3 of Part 3
1. "1 to 2 years" is coded as 1;
2. "3 to 4 years" is coded as 2;
3. "5 to 6 years" is coded as 3;

4. "7 to 8 years" is coded as 4;
5. "9 to 10 years" is coded as 5; and
6. "10+ years" is coded as 6.

This information was then analysed by a statistician.

6.3.3   Preliminary analysis

The total number of questionnaires received from respondents was 33 from the 44 which were sent out.

Cronbach Alpha tests, which show how reliable the instrument is, were computed from the statements in the questionnaires which had been posted to the respondents. Cronbach's Alpha is a measure of internal consistency. When data have a low measure of internal consistency, the Cronbach's Alpha will usually be low. For the data collected through the use of questions, computations employing descriptive statistics were done. These statistics resulted in appropriate measurements of means, standard deviations, frequencies, percentages, cumulative frequencies, and cumulative percentages. These measurements are examined in Paragraph 6.5 (and also highlighted as Appendix E).

6.3.4   Inferential statistics

Inferential statistics computed included:
1. **Chi-square tests.**
   A Chi-square test is performed to test the goodness of fit between observed values and the expectation, therefore assessing if the data matches the population. For this study, a Chi-square test was, therefore, performed to determine the association between biographical variables. According to Cooper and Schindler (2014), a low value of a Chi-square translates to a high correlation between the two data sets used.

2. **Cronbach Alpha test**.
   Cooper and Schindler (2001:216-217) asserted that Cronbach's Alpha is a measure which determines how closely related items in a group are related. An Alpha coefficient is a value between 0 and 1 where 0 means that there is no internal reliability whereas 1 means that there is perfect internal reliability. Despite a value

of 1 equating to perfect reliability, Tavakol and Dennick (2011) posited that any value above 0.75 is acceptable as showing a high level of internal reliability.

3. *Kruskal-Wallis test*.

This test, which is calculated through comparing more than one independent sample, is used to determine whether samples are from the same distribution or not (Kruskal & Wallis, 1952).

4. *Mann-Whitney U test or Wilcoxon rank-sum test.*

According to Berry, Mielke and Johnston (2012), the Mann-Whitney U test (also called the Mann-Whitney-Wilcoxon [MWW], Wilcoxon rank-sum test, or Wilcoxon-Mann-Whitney test) "is a non-parametric test for assessing whether two samples of observations come from the same distribution". Nachar (2008:13) stated that this test investigates whether two samples originate from the same distribution.

5. *Analysis of Variance (ANOVA)*.

As outlined by Good (1990), an Analysis of Variance, or ANOVA, is a calculated measure which gives insight into whether the means of a data set "are significantly different from each other."

6.3.5 Technical report with graphical displays

A documentation of the measures in Section 6.4, together with accompanying interpretations, is detailed as Section 6.4 below. The data are analysed, and relevant statistical measurements computed.

6.3.6 Assistance to researcher

The findings from this study are corroborated by the computed statistical measurements which were computed with assistance from a statistician. The research report, as well as interpretations of the results of the computations, are, however, the researcher's own. Prior to submission of the final report, the statistician confirmed, through a validation exercise, his understanding derived from the computations in an effort to exclude any false interpretations.

6.3.7 Sample

The study's population is two revenue administrations (BURS and LRA) out of a possible five revenue administrations in SACU. The researcher indicated that the research study had adopted census sampling. This approach is adopted owing to the small size of the unit of analysis. In addition to the main mandate of revenue administrations which is revenue collection, and not project execution, they are by nature not very large organisations meaning that the number of those working in projects is not large. The unit of analysis is project managers.

6.4 ANALYSIS

33 questionnaires out of the 44 sent out to respondents were returned. These completed and returned questionnaires provided a response rate of 75 percent. Punch (2003:42) proposed that research studies in business management studies should aim for a respondent's response rate of at least 60 percent. This means that the 75 percent return rate is acceptable.

A reliability computation of the statements forming the questions of the questionnaire was done and the results thereof are presented in the Section 6.4.1.

6.4.1 Reliability of the research instrument

The test for reliability was done for the statements forming the questions of the questionnaire. Results of the computation are presented and attached in Appendix E.

The outcome of the computation indicates the correlation between each statement and the total score and the internal consistency of the measurement scale if the respective item was removed from the scale. Alpha value increases when statements are individually removed from the scale with the highest Alpha value. If some statements were removed from the instrument, then the reliability measure of the scale would be higher as presented in Table 6 – 1. In the case where statement Q02 is removed from the scale as presented in Table 6 – 1 then Cronbach Alpha value increases from 0.9281 to 0.9319. However, a deletion as has been described was not done for this study. This is because the measuring instrument was already highly reliable. It must be noted that, if the Cronbach Alpha Coefficient is less than 0.70, the measuring instrument may not be reliable, or it may encompass multi constructs (measure more than one aspect) (Adams & Lawrance, 2014).

6.4.2 Cronbach Alpha testing for all the items

Table 6 – 1 presents the computed Cronbach Alpha Value from the ordinal variables measuring Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in the Southern African Customs Union (SACU). The rest results are presented as Appendix E.

Table 6-1: Cronbach's Alpha Coefficients (Source: Own)

Statements	Variable no.	Correlation with total	Cronbach's Alpha Coefficient
1. Figurehead, participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebrations events.	Q01	0.0513	0.9303
2. Figurehead, performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects related matters.	Q02	0.0092	0.9319
3. Figurehead, conceives, participates in and makes speeches in a variety of social and ceremonial projects related activities.	Q03	0.1282	0.9302
4. Leader, defines work targets and communicates commands and instructions to subordinates.	Q04	0.7664	0.9227
5. Leader, offers positive critique, praises and motivates subordinates.	Q05	0.3114	0.9281
6. Leader, ensures that subordinates fully understand instructions as well as accepting and following them.	Q06	0.5137	0.9261
7. Liaison, develops activities to maintain a set of formal and informal project-related relationships within the organisation.	Q07	0.3201	0.9287
8. Liaison, establishes and maintains project-related external contacts and information sources outside the organisation.	Q08	0.7146	0.9236
9. Liaison, relays important external project-related information to employees.	Q09	0.6562	0.9248
10. Monitors, identifies and collects project-related information relevant to the organisation.	Q10	0.7316	0.9227
11. Monitors, assesses project performance in order to make adjustments and changes.	Q11	0.8177	0.9220
12. Monitors the internal and external environments to ensure that projects are running smoothly.	Q12	0.8241	0.9223
13. Disseminator; sorts out which project-relevant information will be shared with subordinates.	Q13	0.6346	0.9243
14. Disseminator; shares project-relevant information with subordinates.	Q14	0.4388	0.9270
15. Disseminator; ensures that subordinates obtain project-related information so that they can complete their tasks.	Q15	0.4452	0.9269
16. Spokesperson; grants interviews, makes speeches or provides organisation-relevant information to external audiences on project-related issues	Q16	0.5615	0.9254

Statements	Variable no.	Correlation with total	Cronbach's Alpha Coefficient
17. Spokesperson; speaks about projects-related issues and history at events or meetings.	Q17	0.3450	0.9279
18. Spokesperson; speaks to people outside the project office about project-related issues.	Q18	0.4915	0.9264
19. Entrepreneur; changes workflows to improve the productivity of project actions.	Q19	0.5232	0.9259
20. Entrepreneur; seeks innovations that can improve projects in the organisation.	Q20	0.4923	0.9263
21. Entrepreneur; scans the internal and external environments looking for innovations related to strategy to be implemented as projects.	Q21	0.3424	0.9280
22. Disturbance handler; solves conflicts of subordinates and project office staff deriving from everyday situations.	Q22	0.7773	0.9218
23. Disturbance handler; solves conflicts of subordinates and project office staff deriving from unexpected situations.	Q23	0.6558	0.9243
24. Disturbance handler; putting a stop to misbehaviour within the project office or in the organisation.	Q24	0.7005	0.9233
25. Resource allocator; allocating organisational or project office resources.	Q25	0.6612	0.9239
26. Resource allocator; decides on organisation's investments (analyses and selects projects that demand the application of financial resources).	Q26	0.4757	0.9271
27. Resource allocator; allocates financial, material and physical resources to maximise organisational efficiency.	Q27	0.6337	0.9244
28. Negotiator; represents the project office and organisation at various non-routine discussions or negotiations.	Q28	0.6570	0.9246
29. Negotiator; resolves disputes that occur between the project office and other business units.	Q29	0.6141	0.9250
30. Negotiator; negotiates and works with other parties to come to a mutual agreement.	Q30	0.4740	0.9265
Cronbach's Coefficient Alpha for raw variables			**0.9281**
Cronbach's Coefficient Alpha for standardized variable			**0.9264**

For all variables which comprised the test, the Cronbach's Alpha Coefficients are acceptable, highly reliable and consistent. The figures comprise 0.9281 for raw variables and 0.9264 for standardized variables. In line with Cooper and Schindler (2008), variables are acceptable because both their levels are over the 0.70 mark.

6.4.3 Cronbach Alpha testing for all the items in each role

Since the research sought to test different roles (different dimensions) in the project management environment, the results of each role, Interpersonal, Informative and Decisional, were also tested for reliability. The results are highlighted in Table 6 – 2.

Table 6-2:   Reliability tests for the different roles (Own)

Concepts	Cronbach Alpha Coefficients	Internal consistency
1a. Interpersonal roles	0.6036	Questionable
1b. Interpersonal roles without items for Figureheads	0.7838	Acceptable
2. Informative roles	0.8480	Good
3. Decisional roles	0.8803	Good

From Table 6 – 2, the results of the "Interpersonal roles" are better when the items related to "Figureheads" are deleted from the test.

A Factor analysis could not be performed owing to sampling inadequacy (Kaiser's measure of sampling adequacy (KMS) = 0.1882). As explained by Bartholomew, Knott, & Moustaki (2011), factor analysis "is a method of reducing variables to few factors." For exploratory purposes, the factor analysis is included in Appendix E to show the calculation of the KMS.

6.5   DESCRIPTIVE STATISTICS

Table 6 – 3, which is a frequency distribution table, highlights descriptive statistics for the questions and statements from the survey. These statistics considered the whole survey sample. In the table, unknown refers to questions where no feedback or answers were given by respondents. Relevant computer printouts showing computations are attached as Appendix E. Appendix E also includes a highlight of the frequencies in each category as well as a weighted score (weight for a lot = 0.4, weight for some = 0.3, weight for a little = 0.2 and weight for not at all = 0.1) is included in Appendix E in order for the researcher to determine which statements are more important.

6.5.1   Frequency distribution

Table 6-3:   Frequency table for all the variables (Source: Own)

Variables	Categories	Frequency	Percentage out of total

Variables		Categories	Frequency	Percentage out of total
1.	Figurehead, participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebrations events.	Not at all	0	0.0%
		A little	1	3.0%
		Some	9	27.3%
		A lot	23	69.7%
2.	Figurehead, performs routine duties of a ceremonial or social nature such as meeting organisational guests on project-related matters.	Not at all	1	3.0%
		A little	2	6.1%
		Some	16	48.5%
		A lot	14	42.2%
3.	Figurehead, conceives, participates in and makes speeches in a variety of social and ceremonial project-related activities.	Not at all	0	0.0%
		A little	3	9.1%
		Some	11	33.3%
		A lot	19	57.6%
4.	Leader, defines work targets and communicates commands and instructions to subordinates.	Not at all	1	3.0%
		A little	3	9.1%
		Some	13	39.4%
		A lot	16	48.5%
5.	Leader, offers positive critique, praises and motivates subordinates.	Not at all	0	0.0%
		A little	1	3.0%
		Some	9	27.3%
		A lot	23	69.7%
6.	Leader, ensures that subordinates fully understand instructions as well as accepting and following them.	Not at all	0	0.0%
		A little	2	6.1%
		Some	9	27.3%
		A lot	22	66.7%
7.	Liaison, develops activities to maintain a set of formal and informal project-related relationships within the organisation.	Not at all	1	3.0%
		A little	6	18.2%
		Some	14	42.4%
		A lot	12	36.4%
8.	Liaison, establishes and maintains project-related external contacts and information sources outside the organisation.	Not at all	1	3.0%
		A little	2	6.1%
		Some	17	51.5%
		A lot	13	39.4%
9.	Liaison, relays important external project-related information to employees.	Not at all	0	0.0%
		A little	2	6.1%
		Some	18	54.6%
		A lot	13	39.4%

Variables	Categories	Frequency	Percentage out of total
10. Monitors, identifies and collects project-related information relevant to the organisation.	Not at all	3	9.1%
	A little	3	9.1%
	Some	11	33.3%
	A lot	16	48.5%
11. Monitors, assesses project performance in order to make adjustments and changes.	Not at all	0	0.0%
	A little	6	18.2%
	Some	10	30.3%
	A lot	17	51.5%
12. Monitors the internal and external environments to ensure that projects are running smoothly.	Not at all	0	0.0%
	A little	5	15.2%
	Some	10	30.3%
	A lot	17	51.5%
	Unknown	1	3.0%
13. Disseminator; sorts out which project-relevant information will be shared with subordinates.	Not at all	3	9.1%
	A little	3	9.1%
	Some	14	42.4%
	A lot	13	39.4%
14. Disseminator; shares project-relevant information with subordinates.	Not at all	2	6.1%
	A little	0	0.0%
	Some	9	27.3%
	A lot	22	66.7%
15. Disseminator; ensures that subordinates obtain project-related information so that they can complete their tasks.	Not at all	2	6.1%
	A little	0	0.0%
	Some	9	27.3%
	A lot	22	66.7%
16. Spokesperson; grants interviews, makes speeches or provides organisation-relevant information to external audiences on project-related issues.	Not at all	2	6.1%
	A little	4	12.1%
	Some	14	42.4%
	A lot	13	39.4%
17. Spokesperson; speaks about project-related issues and history at events or meetings.	Not at all	0	0.0%
	A little	4	12.1%
	Some	16	48.5%
	A lot	13	39.4%
18. Spokesperson; speaks to people outside the project office about project-related issues.	Not at all	0	0.0%
	A little	2	6.1%
	Some	15	45.4%

Variables	Categories	Frequency	Percentage out of total
	A lot	16	48.5%
19. Entrepreneur; changes workflows to improve productivity of project actions.	Not at all	2	6.1%
	A little	6	18.2%
	Some	18	54.6%
	A lot	6	18.2%
	Unknown	1	3.0%
20. Entrepreneur; seeks innovations that can improve projects in the organisation.	Not at all	0	0.0%
	A little	5	15.2%
	Some	18	54.6%
	A lot	10	30.3%
21. Entrepreneur; scans the internal and external environments looking for innovations relative to strategy to be implemented as projects.	Not at all	0	0.0%
	A little	4	12.1%
	Some	6	18.2%
	A lot	23	69.7%
22. Disturbance handler; solves conflicts of subordinates and project office staff deriving from everyday situations.	Not at all	6	18.2%
	A little	2	6.1%
	Some	10	30.3%
	A lot	15	45.4%
23. Disturbance handler; solves conflicts of subordinates and project office staff deriving from unexpected situations.	Not at all	0	0.0%
	A little	5	15.2%
	Some	12	36.4%
	A lot	16	48.5%
24. Disturbance handler; putting a stop to misbehaviour within the project office or in the organisation.	Not at all	2	6.1%
	A little	4	12.1%
	Some	9	27.3%
	A lot	18	54.6%
25. Resource allocator; allocating organisational or project office resources.	Not at all	3	9.1%
	A little	0	0.0%
	Some	10	30.3%
	A lot	20	60.6%
26. Resource allocator; decides on organisation's investments (analyses and selects projects that demand the application of financial resources).	Not at all	4	12.1%
	A little	3	9.1%
	Some	10	30.3%
	A lot	16	48.5%
27. Resource allocator; allocates financial, material and physical resources to maximise organisational efficiency.	Not at all	3	9.1%
	A little	5	15.2%

Variables	Categories	Frequency	Percentage out of total
	Some	5	15.2%
	A lot	20	60.6%
28. Negotiator; represents the project office and organisation in various non-routine discussions or negotiations.	Not at all	0	0.0%
	A little	3	9.1%
	Some	17	51.5%
	A lot	13	39.4%
29. Negotiator; resolves disputes that occur between the project office and other business units.	Not at all	0	0.0%
	A little	3	9.1%
	Some	15	45.4%
	A lot	15	45.4%
30. Negotiator; negotiates and works with other parties to come to a mutual agreement.	Not at all	0	0.0%
	A little	2	6.1%
	Some	8	24.2%
	A lot	23	69.7%
Demographic variables			
1. What is your gender?	Male	20	60.6%
	Female	13	39.4%
2. For how many years have you worked for your current employer?	1-2 years	0	0.0%
	3-4 years	1	3.0%
	5-6 years	4	12.1%
	7-8 years	2	6.1%
	9-10 years	1	3.0%
	10+ years	25	75.8%
3. For how long have you managed or been involved in projects in your organisation?	1-2 years	2	6.1%
	3-4 years	8	24.2%
	5-6 years	8	24.2%
	7-8 years	5	15.2%
	9-10 years	1	3.0%
	10+ years	9	27.3%

6.5.2 Central tendency of measuring variables

Table 6- 4: Descriptive statistics of measuring variables

Variable	N	Mean	Standard Deviation	Minimum	Maximum	Range

Variable	N	Mean	Standard Deviation	Minimum	Maximum	Range
1. Figurehead, participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebration events.	33	3.67	0.5401	2.00	4.00	2.00
2. Figurehead, performs routine duties of a ceremonial or social nature such as meeting organisational guests on project-related matters.	33	3.30	0.7282	1.00	4.00	3.00
3. Figurehead, conceives, participates in and makes speeches in a variety of social and ceremonial project-related activities.	33	3.48	0.6671	2.00	4.00	2.00
4. Leader, defines work targets and communicates commands and instructions to subordinates.	33	3.33	0.7773	1.00	4.00	3.00
5. Leader, offers positive critique, praises and motivates subordinates.	33	3.67	0.5401	2.00	4.00	2.00
6. Leader, ensures that subordinates fully understand instructions as well as accepting and following them.	33	3.61	0.6093	2.00	4.00	2.00
7. Liaison, develops activities to maintain a set of formal and informal project-related relationships within the organisation.	33	3.12	0.8200	1.00	4.00	3.00
8. Liaison, establishes and maintains project-related external contacts and information sources outside the organisation.	33	3.27	0.7191	1.00	4.00	3.00
9. Liaison, relays important external project-related information to employees.	33	3.33	0.5951	2.00	4.00	2.00
10. Monitors, identifies and collects project-related information relevant to the organisation.	33	3.21	0.9604	1.00	4.00	3.00
11. Monitors, assesses projects' performance in order to make adjustments and changes.	33	3.33	0.7773	2.00	4.00	2.00
12. Monitors the internal and external environments to ensure that projects are running smoothly.	32	3.38	0.7513	2.00	4.00	2.00
13. Disseminator; sorts out which project-relevant information will be shared with subordinates.	33	3.12	0.9273	1.00	4.00	3.00
14. Disseminator; shares project-relevant information with subordinates.	33	3.54	0.7942	1.00	4.00	3.00
15. Disseminator; ensures that subordinates obtain project-related information so that they can complete their tasks.	33	3.54	0.7942	1.00	4.00	3.00
16. Spokesperson; grants interviews, makes speeches or provides organisationally relevant information to external audiences on project-related issues.	33	3.15	0.8704	1.00	4.00	3.00
17. Spokesperson; speaks about project-related issues and history at events or meetings.	33	3.27	0.6742	2.00	4.00	2.00
18. Spokesperson; speaks to people outside the project office about project-related issues.	33	3.42	0.6139	2.00	4.00	2.00
19. Entrepreneur; changes workflows to improve the productivity of project actions.	32	2.88	0.7931	1.00	4.00	3.00

Variable	N	Mean	Standard Deviation	Minimum	Maximum	Range
20. Entrepreneur; seeks innovations that can improve projects in the organisation.	33	3.15	0.6671	2.00	4.00	2.00
21. Entrepreneur; scans the internal and external environments looking for innovations related to strategy to be implemented as projects.	33	3.58	0.7084	2.00	4.00	2.00
22. Disturbance handler; solves conflicts of subordinates and project office staff deriving from everyday situations.	33	3.03	1.1315	1.00	4.00	3.00
23. Disturbance handler; solves conflicts of subordinates and project office staff deriving from unexpected situations.	33	3.33	0.7360	2.00	4.00	2.00
24. Disturbance handler; putting a stop to misbehaviour within the project office or in the organisation.	33	3.30	0.9180	1.00	4.00	3.00
25. Resource allocator; allocating organisational or project office resources.	33	3.42	0.9024	1.00	4.00	3.00
26. Resource allocator; decides on organisation's investments (analyses and selects projects that demand the application of financial resources).	33	3.15	1.0344	1.00	4.00	3.00
27. Resource allocator; allocates financial, material and physical resources to maximise organisational efficiency.	33	3.27	1.0390	1.00	4.00	3.00
28. Negotiator; represents the project office and organisation at various non-routine discussions or negotiations.	33	3.30	0.6366	2.00	4.00	2.00
29. Negotiator; resolves disputes that occur between the project office and other business units.	33	3.36	0.6528	2.00	4.00	2.00
30. Negotiator; negotiates and works with other parties to come to a mutual agreement.	33	3.63	0.6030	2.00	4.00	2.00

Table 6 – 4 is a further description of the ordinal variables to determine their central tendency and range. It should be noted that the higher the average the more Top Management needs to perform the function in relation to project execution.

6.5.3   Graphical display of demographic variables
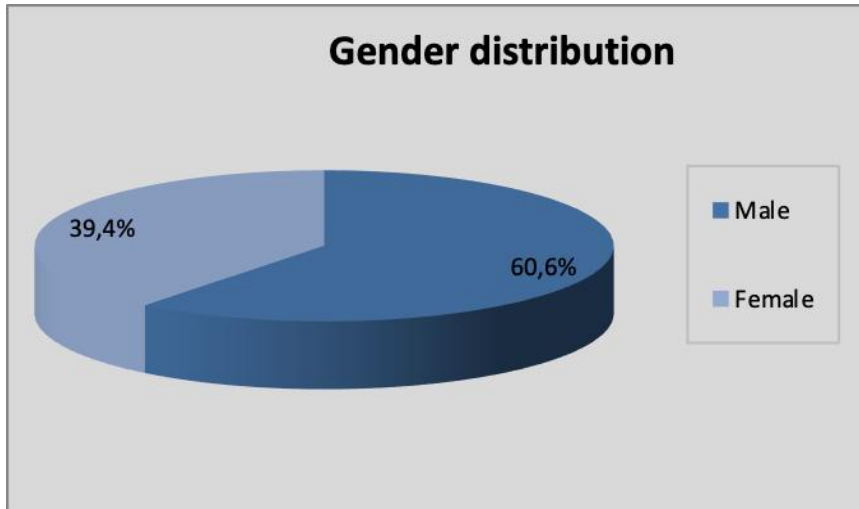
Figure 6- 1:   Pie with 3D visual effect showing gender distribution

In line with Figure 6 – 1, the genders are almost equally distributed. There is no statistically huge gap between the ratio of males and females in the survey. (Chi-square value=1.4848; df=1; P-value=0.2230).
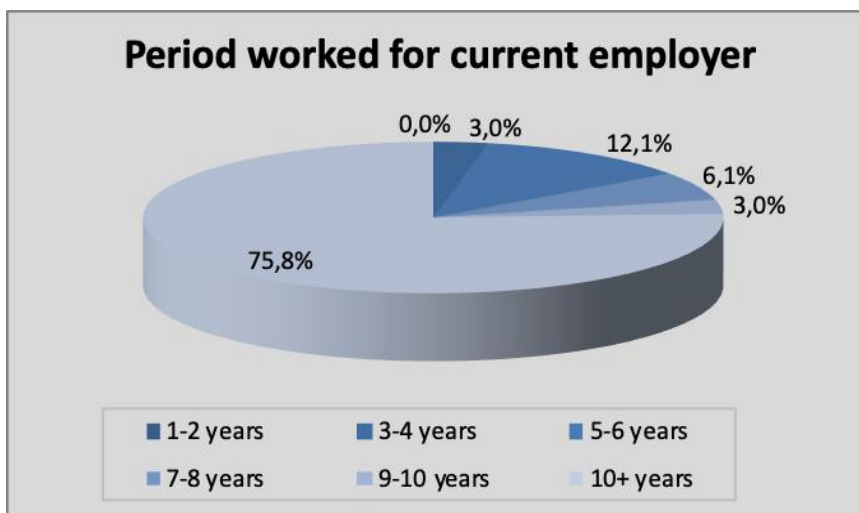
Figure 6- 2:   Pie with 3D visual effect showing period working for current employer

According to Figure 6 – 2 there are statistically significant more respondents (75.8%) who have worked for their current employer for more than 10 years than respondents who have worked for lesser periods for their current employer (DF=4, Chi-Square value=65.0303, P-Value=<0.0001***).
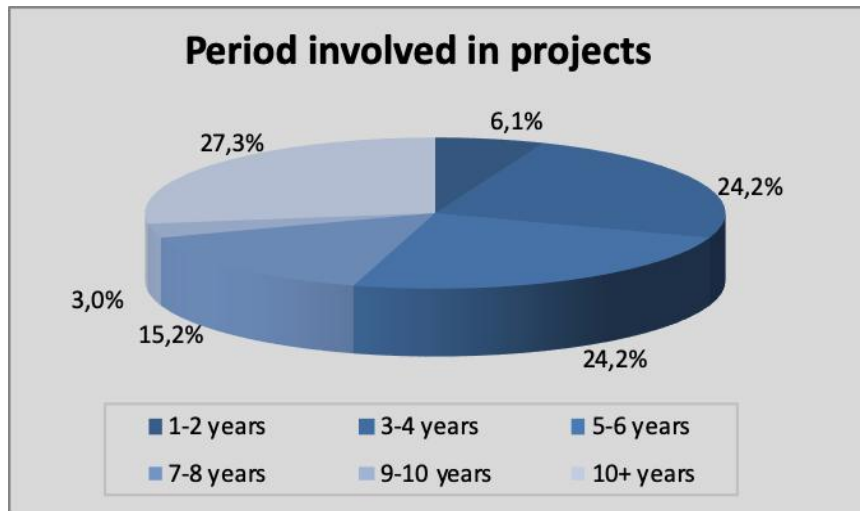
Figure 6-3:   Pie with 3D visual effect showing period involved in projects

According to Figure 6 – 3, there is no period in which the respondents are involved in projects that includes statistically significant more respondents.

6.1% of the respondents have been involved in projects for 1-2 years, 24.2% have been involved for 3-4 years, 24.2% have been involved for 5-6 years, 15.2% have been involved for 7-8 years, 3.0% have been involved for 9-10 years and 27.3% have been involved for more than 10 years (DF=5, Chi-Square value=10.4545, P-Value=0.0633).

6.5.4   Graphical display of measuring variables
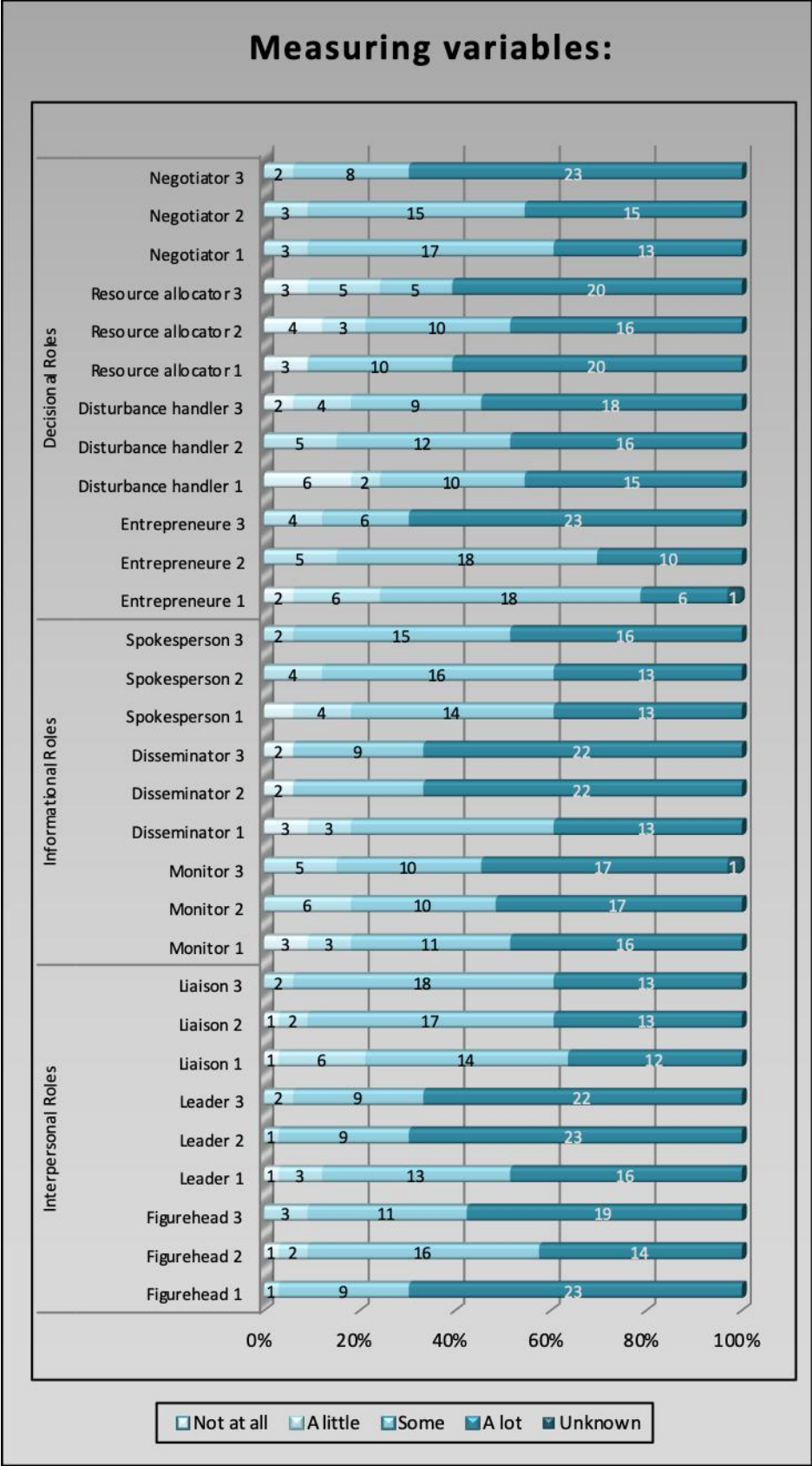
Figure 6-4: **100% stack bar showing the distribution for the measuring variables**

According to Figure 6 – 4, for the Interpersonal roles of Figureheads the results are as follows:

1. 69.7% of the respondents indicated that Figureheads in their organisation need to participate in a variety of symbolic, social and ceremonial activities, such as attending project closure celebrations events a lot, 27.3% indicated some, and 3.0% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=22.5455; df=2; P-Value<0.0001***).

2. 42.4% of the respondents indicated that Figureheads in their organisation need to perform routine duties of a ceremonial or social nature, such as meeting organisational guests on project-related matters, a lot, 48.5% indicated some, 6.1% indicated a little and 3.0% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=22.3939; df=3; P-Value<0.0001***).

3. 57.6% of the respondents indicated that Figureheads in their organisation need to conceive, participate in and make speeches in a variety of social and ceremonial project-related activities a lot, 33.3% indicated some and 9.1% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated a little (Chi-square Value=11.6364; df=2; P-Value=0.0030**).

According to Figure 6 – 4, for the Interpersonal roles of Leaders the results are as follows:

1. 48.5% of the respondents indicated that Leaders in their organisation need to define work targets and communicate commands and instructions to subordinates a lot, 39.4% indicated some, 9.1% indicated a little and 3.0% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=19.7273; df=3; P-Value=0.0002***).

2. 69.7% of the respondents indicated that Leaders in their organisation need to offer positive critique, praise and motivate subordinates a lot, 27.3% indicated some and 3.0% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=22.5455; df=2; P-Value<0.0001***).

3. 66.7% of the respondents indicated that Leaders in their organisation need to ensure that subordinates fully understand instructions as well as accepting and

following them a lot, 27.3% indicated some and 6.1% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=18.7273; df=2; P-Value<0.0001***).

According to Figure 6 – 4, for the Interpersonal roles of Liaison people (?) the results are as follows:

1. 36.4% of the respondents indicated that Liaison people in their organisation need to develop activities to maintain a set of formal and informal project-related relationships within the organisation a lot, 42.4% indicated some, 182% indicated a little and 3.0% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=12.6970; df=3; P-Value= 0.0053**).

2. 39.4% of the respondents indicated that Liaison people in their organisation need to establish and maintain project-related external contacts and information sources outside the organisations a lot, 51.5% indicated some, 6.1% indicated a little and 3.0% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all. (Chi-square Value=23.1212; df=3; P-Value< 0.0001***).

3. 39.4% of the respondents indicated that Liaison people in their organisation need to relay important external project-related information to employees a lot, 54.6% indicated some and 6.1% indicated a little. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little (Chi-square Value=12.1818; df=2; P-Value=0.0023**).

According to Figure 6 – 4, for the Informational roles of Monitors the results are as follows:

1. 48.5% of the respondents indicated that Monitors in their organisation need to identify and collect project-related information relevant to the organisation a lot, 33.3% indicated some, 9.1% indicated a little and 9.1% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=14.8788; df=3; P-Value=0.0019**).

2. 51.5% of the respondents indicated that Monitors in their organisation need to assess project performance in order to make adjustments and changes a lot, 30.3% indicated some and 18.2% indicated a little. There is not statistically considerable difference in the ratios as the null hypothesis could not be rejected (Chi-square Value=5.6364; df=2; P-Value=0.0597).

3. 51.5% of the respondents indicated that Monitors in their organisation need to monitor the internal and external environments to ensure that projects are running smoothly a lot, 30.3% indicated some, 15.2% indicated a little and 3.0% indicated not at all. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little or not at all (Chi-square Value=6.8125; df=2; P-Value=0.0332*).

According to Figure 6 – 4, for the Informational roles of Disseminators the results are as follows:

1. 39.4% of the respondents indicated that Disseminators in their organisation need to sort out which project-relevant information will be shared with subordinates a lot, 42.4% indicated some, 9.1% indicated a little and 9.1 indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=13.4242; df=3; P-Value=0.0038**).

2. 66.7% of the respondents indicated that Disseminators in their organisation need to share project-relevant information with subordinates a lot, 27.3% indicated some and 6.1% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=18.7273; df=2; P-Value<0.0001***).

3. 66.7% of the respondents indicated that Disseminators in their organisation need to ensure that subordinates obtain project-related information so that they can complete their tasks a lot, 27.3% indicated some and 6.1% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=18.7273; df=2; P-Value<0.0001***).

According to Figure 6 – 4, for the Informational roles of Spokespersons the results are as follows:

1. 39.4% of the respondents indicated that Spokespersons in their organisation need to grant interviews, make speeches or provide organisation-relevant information to external audiences on project-related issues a lot, 42.4% indicated some, 12.1% indicated a little and 6.1% indicated not at all. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=13.6667; df=3; P-Value=0.0034**).

2. 39.4% of the respondents indicated that Spokespersons in their organisation need to speak about project-related issues and history at events or meetings a lot, 48.5% indicated some and 12.1% indicated a little. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little (Chi-square Value=7.0909; df=2; P-Value=0.0289*).

3. 48.5% of the respondents indicated that Spokespersons in their organisation need to speak to people outside the project office about project-related issues a lot, 45.4% indicated some and 6.1% indicated a little. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little (Chi-square Value=11.0909; df=2; P-Value=0.0039**).

According to Figure 6 – 4, for the Decisional roles of Entrepreneurs the results are as follows:

1. 18.2% of the respondents indicated that Entrepreneurs in their organisation need to change workflows to improve the productivity of project actions a lot, 54.5% indicated some, 18.2% indicated a little and 6.1% indicated not at all. There are statistically significantly more respondents who indicated some than those who indicated a lot or a little or not at all (Chi-square Value=18.0000; df=3; P-Value=0.0004***).

2. 30.3% of the respondents indicated that Entrepreneurs in their organisation need to seek innovations that can improve projects in the organisation a lot, 54.6% indicated some and 15.2% indicated a little. There are statistically significantly more respondents who indicated some than those who indicated a lot or a little (Chi-square Value=7.8182; df=2; P-Value=0.0201*).

3. 69.7% of the respondents indicated that Entrepreneurs in their organisation need to scan the internal and external environments looking for innovations related to strategy to be implemented as projects a lot, 18.2% indicated some and 12.1% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little. (Chi-square Value=19.8182; df=2; P-Value<0.0001***)

According to Figure 6 – 4, for the Decisional roles of Disturbance Handlers the results are as follows:

1. 45.4% of the respondents indicated that Disturbance Handlers in their organisation need to solve conflicts of subordinates and project office staff deriving from everyday situations a lot, 30.3% indicated some, 6.1% indicated a little and 18.2% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=11.2424; df=3; P-Value=0.0105*).

2. 48.5% of the respondents indicated that Disturbance Handlers in their organisation need to solve conflicts of subordinates and project office staff conflicts deriving from unexpected situations a lot, 36.4% indicated some and 15.2% indicated a little. The difference in proportions is not statistically significant, as the null hypothesis could not be rejected (Chi-square Value=5.6364; df=2; P-Value=0.0597).

3. 54.6% of the respondents indicated that Disturbance Handlers in their organisation need to put a stop to misbehaviour within the project office or in the organisation a lot, 27.3% indicated some, 12.1% indicated a little and 6.1% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=18.5152; df=3; P-Value=0.0003***).

According to Figure 6 – 4, for the Decisional roles of Resource Allocators the results are as follows:

1. 60.6% of the respondents indicated that Resource Allocators in their organisation need to allocate organisational or project office resources a lot, 30.3% indicated some and 9.1% indicated a little. There are statistically significantly more

respondents who indicated a lot than those who indicated some or a little (Chi-square Value=13.2727; df=2; P-Value=0.0013**).

2. 48.5% of the respondents indicated that Resource Allocators in their organisation need to decide on the organisation's investments (analyses and select projects that demand application of financial resources) a lot, 30.3% indicated some, 9.1% indicated a little and 12.1% indicated not at all. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little or not at all (Chi-square Value=13.1818; df=3; P-Value=0.0043**).

3. 60.6% of the respondents indicated that Resource Allocators in their organisation need to allocate financial, material and physical resources to maximise organisational efficiency a lot, 15.1% indicated some, 15.1% indicated a little and 9.1% indicated not at all. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little or not at all (Chi-square Value=22.6364; df=3; P-Value<0.0001***).

According to Figure 6 – 4, for the Decisional roles of Negotiators the results are as follows:

1. 39.4% of the respondents indicated that Negotiators in their organisation need to represent the project office and organisation at various non-routine discussions or negotiations a lot, 51.5% indicated some and 9.1% indicated a little. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little (Chi-square Value=9.4545; df=2; P-Value-0.0089**).

2. 45.4% of the respondents indicated that Negotiators in their organisation need to resolve disputes that occur between the project office and other business units a lot, 45.4% indicated some and 9.1% indicated a little. There are statistically significantly more respondents who indicated a lot or some than those who indicated a little (Chi-square Value=8.7273; df=2; P-Value-0.0127*).

3. 69.7% of the respondents indicated that Negotiators in their organisation need to negotiate and work with other parties to come to a mutual agreement a lot, 24.2% indicated some and 6.1% indicated a little. There are statistically significantly more respondents who indicated a lot than those who indicated some or a little (Chi-square Value=21.2727; df=2; P-Value<0.0001***).

6.6 INFERENTIAL STATISTICS

The following few paragraphs give some background on the null hypothesis. They seek to shed light on the meaning of a rejection or an acceptance of the null hypothesis. A null hypothesis is a hypothesis indicating that there is no significant relationship between variables (Cooper & Schindler, 2001:509). The alternative to this statement is one which considers that there is a relationship between the variables.

Price, Jhangiani, and Chiang (2015) posited that, to determine the null hypothesis, a researcher undertakes the following steps:
1. Assume that the null hypothesis holds;
2. Calculate the probability of the relationship when the null hypothesis hold; and
3. Reject the null hypothesis where the probability value is extremely low and opt for the alternative hypothesis. Accept the null hypothesis when the probability rate is not extremely low.

The probability value, or P-value, shows the chances that the association between variables is not a result of chance. For the purposes of this research study, the P-value was derived from computations using SAS, which is statistical analysis computer software. The confidence interval was set at 95% (meaning that $p \leq 0.05$). According to Cooper and Schindler (2001:509), a 95% confidence level "represents the probability of a Type 1 error that must be assumed if the null hypothesis is rejected."

Only the statistically-significantly differences are discussed in the following paragraphs. Nonetheless, all the comparison statistics are attached in Appendix E.

6.6.1 Hypothesis testing

Firstly, testing was done with a view of establishing whether there is a relationship in the demographic variables. Testing was also done in order to determine whether the different demographic clusters differ within the realm of project execution in their organisation and the extent to which they feel their Top Management needs to perform the function in relation to project execution.

6.6.2 Association between demographic variables

A Chi-square test was used to calculate the P-value so as to ascertain the existence of any relationship between the biographical variables.

The following Hypotheses are going to be tested:

Hypothesis A

H_0 = the proportion of respondents who selected the different categories is equal. ($p_1 = p_2 = p_3$)

H_1 = the proportion of respondents who selected the different categories is not equal. ($p_1 \neq p_2 \neq p_3$)

The sample size, which is not so large, necessitated that an aggregation of some categories be done in order to ensure that the use the chi-square test be valid. The Chi-square test will be invalid where the expected frequencies of the cells are small (Yates, Moore, & McCabe, 1999:734).

In this data set, for the demographic variable "How long have you worked for your current employer?" the period groups are aggregated to form the two groups "≤ 10 years" and "> 10 years" and for the demographic variable "How long have you managed or been involved in projects in your organisation?" the period groups are aggregated to form the two groups "≤ 6 years" and "> 6 years". Owing to some categories still having an expected count of less than 5 the exact tests are also performed. It can, therefore, be concluded that there is no statistically significant association between the demographic variables.

6.6.3   Difference between demographic variables with respect to the measuring instrument

To determine whether there is a difference between the demographic variables with respect to the measuring instrument mean scores, a Kruskal-Wallis test is used. This is due to the small size of the data and also to counter any effect which may be brought about by the measuring variables not being normally distributed.

The following Hypotheses are going to be tested:

Hypothesis B

H_0 = the mean score in the different categories is equal. ($MS_1 = MS_2 = MS_3$)

H_1 = the mean score of the different categories is not equal. ($MS_1 \neq MS_2 \neq MS_3$)

The demographic variables with the aggregated categories as per discussion in paragraph 4.2.1 are used.

6.6.3.1 Gender versus the measuring instrument

Table 6-5: Statistically significant Kruskal Wallis tests

Question/Statement	Sample Size	Chi-Square	DF	P-Value
4. Leader, defines work targets and communicates commands and instructions to subordinates.	33	7.3875	1	0.0066**
11. Monitor, assesses project's performance in order to make adjustments and changes.	33	7.7846	1	0.0053**
12. Monitor, monitors the internal and external environments to ensure that projects are running smoothly.	33	7.1561	1	0.0075**
13. Disseminator; sorts out which project-relevant information will be shared with subordinates.	33	4.0970	1	0.0430*
27. Resource allocator; allocates financial, material and physical resources to maximise organisational efficiency.	33	3.8924	1	0.0485*

Table 6-6: Mean scores for the gender categories

Question/Statement	Male		Female	
	N	Mean Score	N	Mean Score
4. Leader, defines work targets and communicates commands and instructions to subordinates.	20	13.65	13	22.15
11. Monitor, assesses project's performance in order to make adjustments and changes.	20	13.55	13	22.31
12. Monitor, monitors the internal and external environments to ensure that projects are running smoothly.	19	13.18	13	21.35
13. Disseminator; sorts out which project-relevant information will be shared with subordinates.	20	14.45	13	20.92
27. Resource allocator; allocates financial, material and physical resources to maximise organisational efficiency.	20	14.65	13	20.62

Female respondents scored the above-mentioned statements statistically significantly higher than male respondents. This means that there are more female respondent with the

perception that Top Management needs to perform above mentioned functions a lot in relation to project execution than the male respondents.
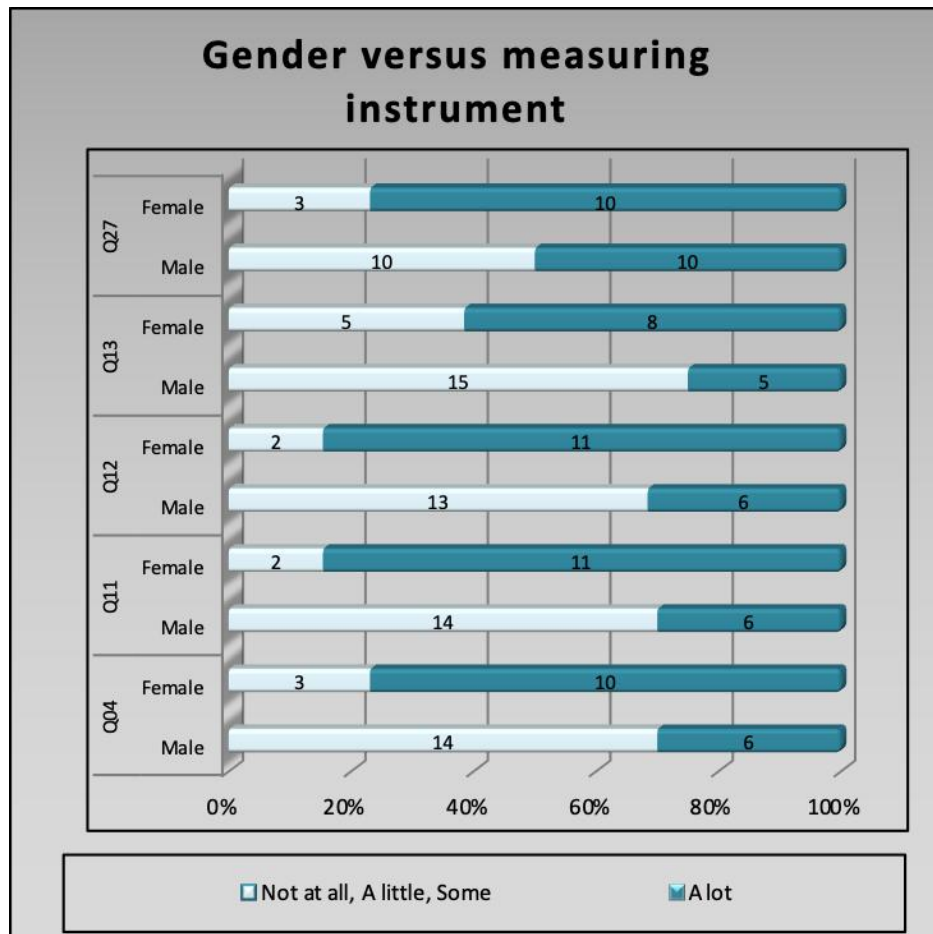
Figure 6-4: **100% stack bar showing gender versus measuring instrument**

From Figure 6 – 4, the above graph and the statistical analysis, the following conclusions can be made:

1. Statistically significantly more females than males believe that, in their organisation, a leader needs to define work targets and communicate commands and instructions to subordinates a lot.
2. Statistically significant more females than males believe that, in their organisation, a monitor needs to assess project performance in order to make adjustments and changes a lot.
3. Statistically significant more females than males believe that, in their organisation, a monitor needs to monitor the internal and external environments to ensure that projects are running smoothly a lot.

4. Statistically significant more females than males believe that, in their organisation, a disseminator needs to sort out which project-relevant information will be shared with subordinates a lot.

5. Statistically significant more females than males believe that, in their organisation, a resource allocator needs to allocate financial, material and physical resources to maximise organisational efficiency a lot.

6.6.3.2   Period worked in revenue administration versus the measuring instrument

There are no statistical differences between the periods the respondents have worked for their current employer and any of the measuring statements.

6.6.3.3   Period managing or being involved in projects versus the measuring instrument

Table 6-7:   Statistically significant Kruskal Wallis tests

Question/Statement	Sample Size	Chi-Square	DF	P-Value
18. Spokesperson; speaks to people outside the project office about project-related issues.	33	10.8205	1	0.0010**
30. Negotiator; negotiates and works with other parties to come to a mutual agreement.	33	5.9959	1	0.0143*

Table 6-8:   Mean scores for the period categories

Question/Statement	≤ 6 years		>6 years	
	N	Mean Score	N	Mean Score
18. Spokesperson; speaks to people outside the project office about project-related issues.	18	12.50	15	22.40
30. Negotiator; negotiates and works with other parties to come to a mutual agreement.	18	13.97	15	20.63

The respondents who manage or have been involved in projects for more than six years scored the above-mentioned statements statistically significantly more highly than the respondents who manage or have been involved in projects for fewer than and equal to six

years. This means that the respondents who manage or have been involved in projects for more than six year are more likely to perceive that Top Management needs to perform the above-mentioned functions a lot in relation to project execution than the respondents who manage or have been involved in projects for fewer than or equal to six years.
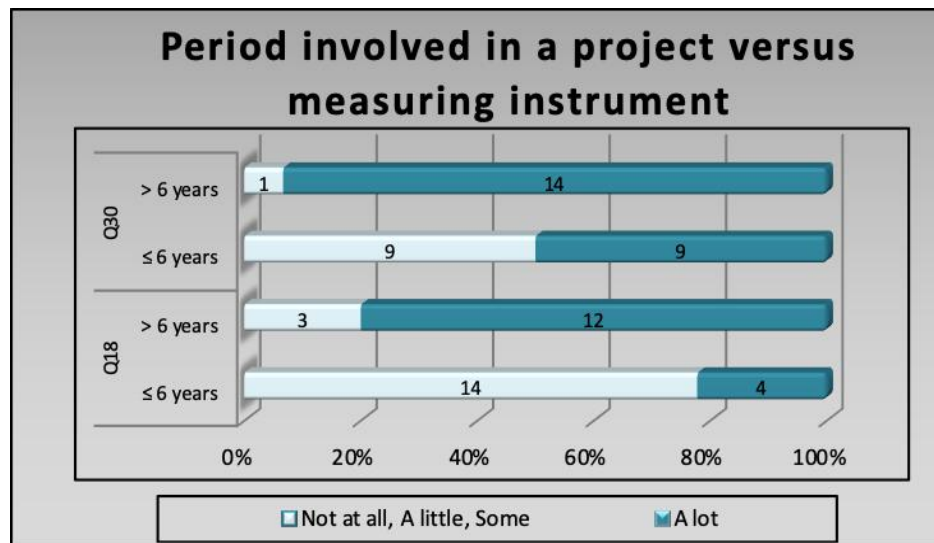
Figure 6-5: **100% stack bar showing period involved in project management versus measuring instrument**

From the above graph and the statistical analysis, the following conclusions can be drawn:

1. Statistically significant more respondents who manage or have been involved in projects for more than six years perceive that, in their organisation, a Spokesperson needs to speak to people outside the projects office about projects related issues a lot than respondents who manage or have been involved in projects for six years or fewer.

2. Statistically significant more respondents who manage or have been involved in projects for more than six years perceive that in their organisation a Negotiator needs to negotiate and work with other parties to come to a mutual agreement a lot than respondents who manage or have been involved in projects for six years or fewer.

6.7 DISCUSSION OF FINDINGS

The sections below will discuss findings from the quantitative analysis leg of this study.

6.7.1 Demographic variables

Based on the findings of this survey with reference to the demographic variables in the questionnaire, it can be summed up that:

1. The genders of respondents are equally distributed;
2. Most of the respondents in this survey have worked for more than 10 years in their respective organisations; and
3. The respondents are equally distributed between the period groups during which they have been managing or involved with projects.

6.7.2 Top Management support practices

This section summarises the analysis from a survey tool on Top Management support practices, based on the adaption of Mintzberg's (1973) Managerial Roles by Mech (1997).

6.7.2.1 Interpersonal roles

Based on the findings of this survey, with reference to the measuring variables in the questionnaire, it can be summed up that:

1. For the Interpersonal roles of figureheads, the results are as follows:
   i. There are statistically significantly more respondents who indicated that figureheads in their organisation need to participate in a variety of symbolic, social and ceremonial activities, such as attending project closure celebrations events, a lot than those who indicated some or a little.
   ii. There are statistically significantly more respondents who indicated that figureheads in their organisation need to perform routine duties of a ceremonial or social nature, such as meeting organisational guests on project-related matters, a lot or some than than who indicated a little or not at all.
   iii. There are statistically significantly more respondents who indicated that figureheads in their organisation need to conceive, participate in and make speeches in a variety of social and ceremonial project-related activities a lot than those who indicated some or a little.

2. For the Interpersonal roles of Leaders, the results are as follows:
   i. There are statistically significantly more respondents who indicated that leaders in their organisation need to define work targets and communicate commands and instructions to subordinates a lot or some than those who

indicated a little or not at all. There are more females than males who indicated a lot with respect to this statement.

ii. There are statistically significantly more respondents who indicated that leaders in their organisation need to offer positive critique, praises and motivates subordinates a lot than those who indicated some or a little.

iii. There are statistically significantly more respondents who indicated that leaders in their organisation need to ensure that subordinates fully understand instructions as well as accepting and following them a lot than those who indicated some or a little.

3. For the Interpersonal roles of Liaisons, the results are as follows:

i. There are statistically significantly more respondents who indicated that liaisons in their organisation need to develop activities to maintain a set of formal and informal project-related relationships within the organisation a lot or some than those who indicated a little or not at all.

ii. There are statistically significantly more respondents who indicated that liaisons in their organisation need to establish and maintain project-related external contacts and information sources outside the organisations a lot or some than those who indicated a little or not at all.

iii. There are statistically significantly more respondents who indicated that liaisons in their organisation need to relay important external project-related information to employees a lot or some than those who indicated a little.

6.7.2.2 Informational roles

Based on the findings of this survey with reference to the measuring variables in the questionnaire, it can be summed up that:

1. For the Informational roles of Monitors the results are as follows:

i. There are statistically significantly more respondents who indicated that monitors in their organisation need to identify with and collect project-related information relevant to the organisation a lot or some than those who indicated a little or not at all.

ii. There are not statistically significantly differences between the respondents who indicated that monitors in their organisation need to assess project-performance in order to make adjustments and changes a lot or some or a

little. There are statistically significantly more females than males who indicated a lot with respect to this statement.

   iii. There are statistically significantly more respondents who indicated that monitors in their organisation need to monitor the internal and external environments to ensure that projects are running smoothly a lot than those who indicated some or a little or not at all. There are statistically significantly more females than males who indicated a lot with respect to this statement.

2. For the Informational roles of Disseminators, the results are as follows:

   i. There are statistically significantly more respondents who indicated that disseminators in their organisation need to sort out which project-relevant information will be shared with subordinates a lot or some than those who indicated a little or not at all. There are statistically significantly more females than males who indicated a lot with respect to this statement.

   ii. There are statistically significantly more respondents who indicated that disseminators in their organisation need to share project-relevant information with subordinates a lot than those who indicated some or a little.

   iii. There are statistically significantly more respondents who indicated that disseminators in their organisation need to ensure that subordinates obtain project-related information so that they can complete their tasks a lot than those who indicated some or a little.

3. For the Informational roles of Spokespersons, the results are as follows:

   i. There are statistically significantly more respondents who indicated that spokespersons in their organisation need to grant interviews, make speeches or provide organisation-relevant information to external audiences on project-related issues a lot than those who indicated some or a little.

   ii. There are statistically significantly more respondents who indicated that spokespersons in their organisation need to speak about project-related issues and history at events or meetings a lot or some than those who indicated a little.

   iii. There are statistically significantly more respondents who indicated that spokespersons in their organisation need to speak to people outside the project office about project-related issues a lot or some than those who indicated a little or not at all. There are statistically significant more respondents who have managed or been involved in projects for more than

six years than those who have been involved for less than or exactly six years who indicated a lot.

6.7.2.3 Decisional roles

Based on the findings of this survey with reference to the measuring variables in the questionnaire, it can be summed up that:

1. For Decisional roles of Entrepreneurs, the results are as follows:
    i. There are statistically significantly more respondents who indicated that entrepreneurs in their organisation need to change workflows to improve the productivity of project actions some than who indicated a lot, or a little, or not at all.
    ii. There are statistically significantly more respondents who indicated that entrepreneurs in their organisation need to seek innovations that can improve projects in the organisation some than those who indicated a lot, or a little.
    iii. There are statistically significantly more respondents who indicated that entrepreneurs in their organisation need to scan the internal and external environments looking for innovations related to strategy to be implemented as projects a lot than those who indicated some or a little.

2. For the Decisional roles of Disturbance Handlers, the results are as follows:
    i. There are statistically significantly more respondents who indicated that disturbance handlers in their organisation need to solve the conflicts of subordinates and project office staff deriving from everyday situations a lot or some than those who indicated a little or not at all.
    ii. There are not statistically significantly differences between the respondents who indicated that monitors in their organisation need to solve conflicts of subordinates and project office staff deriving from unexpected situations a lot, or some, or a little.
    iii. There are statistically significantly more respondents who indicated that disturbance handlers in their organisation need to put a stop to misbehaviour within the project office or in the organisation a lot or some than those who indicated a little or not at all.

3. For the Decisional roles of Resource Allocators, the results are as follows:

i. There are statistically significantly more respondents who indicated that resource allocators in their organisation need to allocate organisational or project office resources a lot than those who indicated some or a little.

ii. There are statistically significantly more respondents who indicated that resource allocators in their organisation need to decide on the organisation's investments (analyses and selects projects that demand the application of financial resources) a lot or some than those who indicated or a little or not at all.

iii. There are statistically significantly more respondents who indicated that resource allocators in their organisation need to allocate financial, material and physical resources to maximise organisational efficiency a lot than those who indicated some, or a little, or not at all. There are statistically significantly more females than males who indicated a lot with respect to this statement.

4. For the Decisional roles of Negotiators, the results are as follows:

i. There are statistically significantly more respondents who indicated that negotiators in their organisation need to represent the project office and organisation at various non-routine discussions or negotiations a lot or some than those who indicated a little.

ii. There are statistically significantly more respondents who indicated that negotiators in their organisation need to resolve disputes that occur between the project office and other business units a lot or some than those who indicated a little.

iii. There are statistically significantly more respondents who indicated that negotiators in their organisation need to negotiate and work with other parties to come to a mutual agreement a lot than those who indicated some or a little. There are statistically significant more respondents who have managed or been involved in projects for more than six years than those who have been involved for less than or exactly six years who indicated a lot.

6.8   CONCLUSION

This chapter has tested the framework for Top Management Support Practices developed from the literature review and tested through a qualitative study.   The results, though generally similar, have removed two practices from the top management support practices, namely Monitoring of internal operations and Solutions of sudden conflicts.   This means that the list of what top management ought to do in their support of projects regarding both the monitoring of internal operations and solutions to sudden conflicts are not so significant.

6.9   LINKS TO THE NEXT CHAPTER

Moving on from the findings from the two phases, qualitative and quantitative, the next chapter presents the proposed conceptual framework and a final list of Top Management Support Practices essential for the successful execution of projects in revenue administrations in SACU which will be proposed.

CHAPTER SEVEN – FINDINGS AND THE PRESENTATION OF A CONCEPTUAL FRAMEWORK

7.1 CHAPTER LAYOUT

The previous chapter tested and confirmed this study's qualitative phase findings through computations by statistical techniques. This chapter highlights the outcomes from the survey tool and confirms the conceptual framework based on these outcomes.

This chapter is divided into three sections, comprising chapter layout, findings and the development of the conceptual framework.

7.2 FINDINGS

The conceptual framework proposed from the literature review in Section 3.9 considered Top Management support practices for successful execution of projects in revenue administrations in SACU based on the adaptation of Mintzberg's (1973) Managerial Roles by Mech (1997). The research findings from a qualitative analysis of the opinions of project managers relative to what constitutes best Top Management support practices for the successful execution of projects in revenue administrations in SACU based on Mintzberg's Managerial Roles (1973) Managerial Roles as adapted by Mech (1997) were presented in Section 5 – 7.

Following from Section 4.9, the previous chapter has, through the use of a survey tool, further analysed the view of project managers of what constitutes Top Management Support Practices for the successful execution of projects in revenue administrations in SACU. Based on the outcomes from the survey tool and in Chapter 6, Table 7 – 1 below provides a list of those Top Management Support Practices (with their relevant managerial roles) which have emerged as those most desirable and essential for executing strategy successfully through projects in revenue administrations in SACU.

Table 7-1:   List of Top Management Support Practices essential for successful execution of projects in revenue administrations in SACU

Role Grouping	Role	Practice
Interpersonal	Figurehead	Participation in social affairs.
		Attention to visitors.
		Promotion of social events.
	Leader	Guidance in activity implementation.
		Creating a constructive milieu with colleagues and project staff.
		Exercise of authority.
	Liaison	Internal relationships.
		External networks.
		Dissemination of internal information.
Informational	Monitor	Information gathering.
		Monitoring of external events.
	Disseminator	Information selection.
		Information sharing.
		Confirmation of information reception.
	Spokesperson	Preparation of reports and information.
		Representing the project office outside of the organisation.
		Representing the project office inside the organisation.
Decisional	Entrepreneur	Promotion of improvements.
		Proposition of opportunities.
		Implementation of new projects.

Role Grouping	Role	Practice
	Disturbance handler	Solution of routine conflicts.
		Solution of impasses.
	Resource allocator	Scheduling of commitments.
		Evaluation of budgets.
		Allocation of resources.
	Negotiator	Negotiation of cooperation.
		Negotiation of agreements.
		Negotiation of transactions.

As a further result of testing, the most useful top management support practices, in line with Section 4.9, have been established. Table 7 – 2 highlights those Top Management Support Practices which have emerged as not being essential for the successful execution of projects in revenue administrations in SACU and these are:

Table 7-2:   List of Top Management Support Practices not essential for successful execution of projects in revenue administrations in SACU

Role Grouping	Role	Practice
Informational	Monitor	Monitoring of internal operations.
Decisional	Disturbance handler	Solution to sudden conflicts.

7.3   DEVELOPMENT OF A CONCEPTUAL FRAMEWORK

Based on the findings in Chapter 6, on Top Management Support practices, the proposed conceptual framework proposed in Section 3.9 and developed in Section 5.7 is presented as Figure 7 – 1 below. Consequently, the analysis done in Chapter 6has refined the conceptual framework developed based on the most desired Top Management Support Practices as represented as in Figure 7 – 1 and Figure 7 – 2 below.

Figure 7- 1: **Conceptual Top Management Support Framework for Successful Delivery of Projects in Revenue Administrations in SACU**
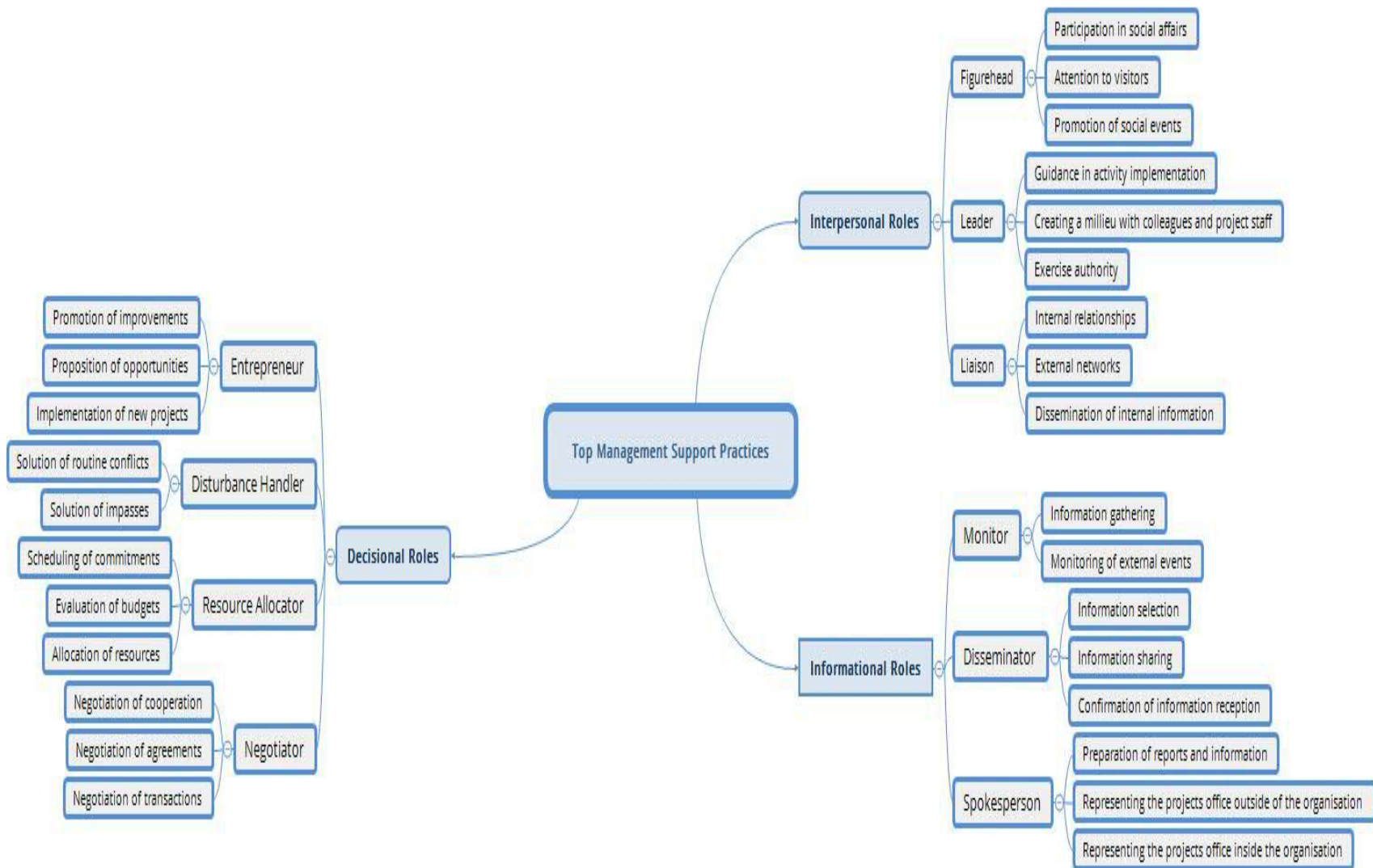
Figure 7-2:   Top Management Support Practices Required for Successful Delivery of Projects in Revenue Administrations in SACU

7.4 CONCLUSIONS

This chapter has sought to present in summary form the results from the quantitative aspect of this research study. It has presented the findings and final list of practices deemed to be most important from the project managers' viewpoint. It has also highlighted those practices which project managers considered to be not so important for the effective delivery of projects in revenue administrations in SACU. Finally, the chapter presented a conceptual framework with accompanying Top Management Support Practices as elicited from the survey too.

7.5 LINK TO THE NEXT CHAPTER

The next chapter will conclude this research study by revisiting the study's research questions and objectives and showing how these have been answered and achieved. The chapter presents the final proposed conceptual framework. The chapter will also show the contribution of this study, highlight limitations, and discuss possible future studies around the theme of this study.

CHAPTER EIGHT – CONCLUSIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

The goal of this chapter is to present conclusions and recommendations emanating from this research study. The purpose of this research study was to explore and discover tools in the form of Top Management Support Practices which could be used to ensure the effective delivery of projects in revenue administrations in SACU. Organisations are continuing to deliver their strategies through projects. Despite this, there is still a high level of project failure. Whereas studies have been undertaken which have focussed on what factors constitute the success of effective project delivery, some research is still required to concretise, for example, the specific practices comprising Top Management support.

This research study posed three questions and had four objectives. Mixed Methods Research (MMR) was used to answer the study's research questions and arrive at its objectives. The researcher developed a framework from the literature review, confirmed it with a qualitative research study and tested it quantitatively in order to meet the last objective of the study. Based on this study's findings, when the proposed framework with specific Top Management Support Practices are employed in revenue administrations in SACU, project success will be realised.

The following sections will look again at the study's questions and objectives and show how each has been answered and met by the study. It will go on to present the framework developed, offer recommendations, including with regard to possible future areas of research and it will offer conclusions.

8.2 CONCLUSIONS

This part will concentrate on concluding this study through re-visiting the questions and objectives and through dwelling on its limitation. The section will also include an evaluation of this study as well as showing how it has contributed to knowledge.

8.2.1 Research questions

The research asked **What constitutes top management support practices for successful project execution in revenue administrations in SACU** as its primary research question.

The sub-questions to be addressed to assist in the answering of the research question comprised of the following:

1. What constitutes Top Management Support Practices for project execution in revenue administrations in SACU?
2. Which Top Management Support Practices are emphasised during project execution in revenue administrations in SACU?
3. Which Top Management Support Practices will best optimise project execution in revenue administrations in SACU?

8.2.2 Research objectives

The primary objective of this research was to contribute to the body of knowledge through investigating and exploring top management support practices employed during project execution through the application of project management best practices in revenue administrations in SACU so as to develop a top management support practices framework (conceptual framework) which will improve strategy implementation through project execution in in revenue administrations in SACU.

The secondary objectives were to:

1. develop an understanding of Top Management Support Practices essential for successful execution of projects;
2. discover Top Management Support Practices primarily employed during project execution in revenue administrations in SACU;
3. establish Top Management Support Practices considered most effective for the successful execution of projects in revenue administrations in SACU; and
4. apply the research findings to propose a Top Management Support Practices Framework for effective and successful project execution in revenue administrations in SACU.

The following sections will dwell on each objective and show how this study has resolved it.

8.2.2.1   To develop an understanding of Top Management Support Practices essential for the successful execution of projects.

1. Definitions of top management support are derived from the behaviour of the top manager and the perceptions of the top manager. To arrive at the objectives of this study, the researcher settled on studying activities carried out by top management based on the behaviour of the top manager. This was achieved through employing an adaptation of Mintzberg's Managerial Roles (1973) by Mech (1997). These activities, also referred to as Top Management Support Practices, are presented together with their constructs in Table 8 – 1 below.

Table 8-1:   Top Management Support Practices essential for successful execution of projects

Role	Construct	Description
Figurehead	Participation in social affairs.	Participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebrations events.
	Attention to visitors.	Performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects related matters.
	Promotion of social events.	Conceives, participates in and makes speeches in a variety of social and ceremonial projects related activities.
Leader	Guidance in activity implementation.	Defines work targets and communicates commands and instructions to subordinates.
	Creating a constructive milieu with colleagues and	Offers positive critiques, praises and motivates

Role	Construct	Description
	project staff.	subordinates.
	Exercise of authority.	Makes sure that subordinates fully understand instructions as well as accepting and following them.
Liaison	Internal relationships.	Develops activities to maintain a set of formal and informal project-related relationships within the organisation.
	External networks.	Establishes and maintains project-related external contacts and information sources outside the organisation.
	Dissemination of internal information.	Relays important external project-related information to employees.
Monitor	Information gathering.	Identifies and collects project-related information relevant to the organisation.
	Monitoring of internal operations.	Assesses project performance in order to make adjustments and changes.
	Monitoring of external events.	Monitoring the internal and external environment to make sure that projects are running smoothly.
Disseminator	Information selection.	Sorts out which project-relevant information will

Role	Construct	Description
		be shared with subordinates.
	Information sharing.	Shares project-relevant information with subordinates.
	Confirmation of information reception.	Ensures that subordinates obtain project-related information so that they can complete their tasks.
Spokesperson	Preparation of reports and information.	Grants interviews, makes speeches, or provides organisational information to external audiences on project-related issues.
	Representing the project office outside of the organisation.	Speaks about project-related issues and history at events or meetings.
	Representing the project office inside the organisation.	Speaks to people outside the project office about project-related issues.
Entrepreneur	Promotion of improvements.	Changes workflows to improve the productivity of project actions.
	Proposition of opportunities.	Seeks innovations that can improve projects in the organisation.
	Implementation of new projects.	Scans the internal and external environment looking for innovations related to strategy to be implemented as

Role	Construct	Description
		projects.
Disturbance handler	Solution of routine conflicts.	Solves conflicts of subordinates and project office staff deriving from everyday situations.
	Solution to sudden conflicts.	Solves conflicts of subordinates and project office staff conflicts deriving from unexpected situations.
	Solution of impasses.	Putting a stop to misbehaviour within the project office or in the organisation.
Resource allocator	Scheduling of commitments.	Allocation of project office resources.
	Evaluation of budgets.	Decides on organisation's investments (analyses and selects projects that demand the application of financial resources).
	Allocation of resources.	Allocates financial, material and physical resources to maximise organisational efficiency.
Negotiator	Negotiation of cooperation.	Represents the project office and organisation at various non-routine discussions or negotiations.
	Negotiation of agreements.	Resolves problems that occur between the project office and other business units.

Role	Construct	Description
	Negotiation of transactions.	Negotiates and works with other parties to come to an agreement.

The researcher has met this objective, with this study finding that top management does a plethora of activities, termed 'practices' in this study, as part of their role in supporting project execution, as presented in Table 8 – 1 above.

8.2.2.2   To discover Top Management support practices primarily employed during project execution in revenue administrations in SACU.

The study also sought to discover Top Management Support Practices most employed in support of project execution in revenue administrations in SACU. This research study found that Top Management Support Practices primarily used in project execution were those presented in Table 8 – 2 below.

Table 8-2:   Top Management Support Practices Mostly Used In Project Execution

Role Grouping	Role	Practice
Interpersonal	Figurehead	Participation in social affairs.
		Attention to visitors.
		Promotion of social events.
	Leader	Guidance in activity implementation.
		Creating a constructive milieu with colleagues and project staff
		Exercise of authority.
	Liaison	Internal relationships.
		External networks.
		Dissemination of internal information.
Informational	Monitor	Information gathering.
		Monitoring of internal

Role Grouping	Role	Practice
		operations.
		Monitoring of external events.
	Disseminator	Information selection.
		Information sharing.
		Confirmation of information reception.
	Spokesperson	Preparation of reports and information.
		Representing the project office outside of the organisation.
		Representing the project office inside the organisation.
Decisional	Entrepreneur	Promotion of improvements.
		Proposition of opportunities.
		Implementation of new projects.
	Disturbance handler	Solution of routine conflicts.
		Solution to sudden conflicts.
		Solution of impasses.
	Resource allocator	Scheduling of commitments.
		Evaluation of budgets.
		Allocation of resources.
	Negotiator	Negotiation of cooperation.
		Negotiation of agreements.
		Negotiation of transactions.

8.2.2.3 To establish Top Management Support Practices considered most essential for the successful execution of projects in revenue administrations in SACU.

To meet this objective, the study, at the qualitative phase, confirmed the list of practices considered most desirable for the successful delivery of projects in revenue administrations in SACU. These practices are presented in Table 8 – 3 below. This study used the findings in Table 8 – 2 above to develop a survey tool which was quantitatively tested. The results of the survey showed the Top Management Support Practices considered essential. These are summarised in Table 8 – 3 below. The researcher has, therefore, met this objective.

Table 8-3: To establish Top Management Support Practices considered most essential for successful execution of projects

Role Grouping	Role	Practice
Interpersonal	Figurehead	Participation in social affairs.
		Attention to visitors.
		Promotion of social events.
	Leader	Guidance in activity implementation.
		Creating a constructive milieu with colleagues and project staff.
		Exercise of authority.
	Liaison	Internal relationships.
		External networks.
		Dissemination of internal information.
Informational	Monitor	Information gathering.
		Monitoring of external events.
	Disseminator	Information selection.
		Information sharing.
		Confirmation of information reception.

Role Grouping	Role	Practice
	Spokesperson	Preparation of reports and information.
		Representing the project office outside of the organisation.
		Representing the project office inside the organisation.
Decisional	Entrepreneur	Promotion of improvements.
		Proposition of opportunities.
		Implementation of new projects.
	Disturbance handler	Solution of routine conflicts.
		Solution of impasses.
	Resource allocator	Scheduling of commitments.
		Evaluation of budgets.
		Allocation of resources.
	Negotiator	Negotiation of cooperation.
		Negotiation of agreements.
		Negotiation of transactions.

8.2.2.4   To apply research findings to propose a Top Management Support Practices framework for effective and successful project execution in revenue administrations in SACU.

The researcher has met this objective. The study developed a conceptual framework based on the literature review presented as Figure 8 – 1 below with Top Management Support Practices presented as Figure 8 – 2.

Figure 8- 1:   Top Management Support Practices Framework

Figure 8- 2:   Top Management Support Practices

8.2.3 Limitations of the study

This study, including the data collection section, took place when the two selected revenue administrations were undergoing restructuring. Whilst these restructuring programmes have not directly impacted on the PMOs or changed them, some of the personnel in these offices were new. To manage the negative impact which could have been brought about by new personnel with no long-term experience and knowledge in project work, the study purposely selected those with some level of experience in projects.

SACU comprises of five revenue administrations. Owing to the time required and the financial requirement to study the five administrations, the researcher decided to study only two administrations. The cross country and revenue administrations results should, however, be representative of SACU, noting that these revenue administrations have similarities in strategy including having undertaken a common regional bloc modernisation journey.

Revenue administrations in SACU are functional organisations which exist to collect revenue. Their PMOs and the number of personnel involved in project execution is not large. This gave rise to a small sample size, especially in Phase Two of the study, which is the Quantitative Phase. To counter this limitation the researcher decided to interview all PMO staff.

8.2.4 Contribution to knowledge

The subsequent contributions to the body of knowledge are derived from this study:

1. The researcher has contributed to the project management body of knowledge and the practice thereof through the development of a conceptual framework with relevant Top Management Support Practices which can be used for strategy implementation through project execution in revenue administrations in SACU.

2. With the study focussing on the role of Top Management, who are an organisation's leadership, the researcher has contributed to the body of the knowledge of business leadership.

3. The researcher has used Mintzberg Managerial Roles (1973), as adapted by Mech (1997). This adaption by Mech (1997) has previously been used only in studies in

education management. The study was able to employ the same constructs in relation to business management studies to develop a new conceptual framework.

4. Through the employment of this adaption of Mintzberg Managerial Roles (1973) by Mech (1997) the study enhanced further the understanding of the behaviour-based definition of top management support through empirical investigation.

5. The researcher developed a survey tool which was successfully tested for reliability. This survey tool, presented in Annex D, passed the reliability test and was deemed reliable. This survey tool can be used to study top management support practices in business management.

8.2.5   Further research possibilities

The researcher has noted further research possibilities:

1. The study was premised on the viewpoint of project managers. A possible avenue is to undertake a similar study with top management but from the viewpoint of top management to see whether the same Top Management Support Practices will emerge.

2. Another possible research avenue is to work towards identifying the Top Management Support Practices by order of importance in order to assist top managers leverage their efforts where it is most required.

8.3   RECOMMENDATIONS

The following recommendation are made:
1. That Top Management Support Practices framework for successful delivery of projects is a presented in the Figure 8 – 3 below.

2. That Top Management Support Practices suitable for effective delivery of projects in revenue administrations in SACU comprises the list in the Figure 8 – 4 below.

3. That corresponding explanations of Top Management Support Practices essential for effective delivery of projects in revenue administrations in SACU comprises the list in the Table 8 – 4 below.

Conceptual Framework

Project Success Factors

Top Management Support Practices **+** Other Project Success Factors.

Project Management Best Practices

Project Management Bodies of Knowledge

Project Success

Cost, time and scope, profit margins, user satisfaction

Figure 8- 3: Top Management Support Practices framework for successful delivery of projects in SACU
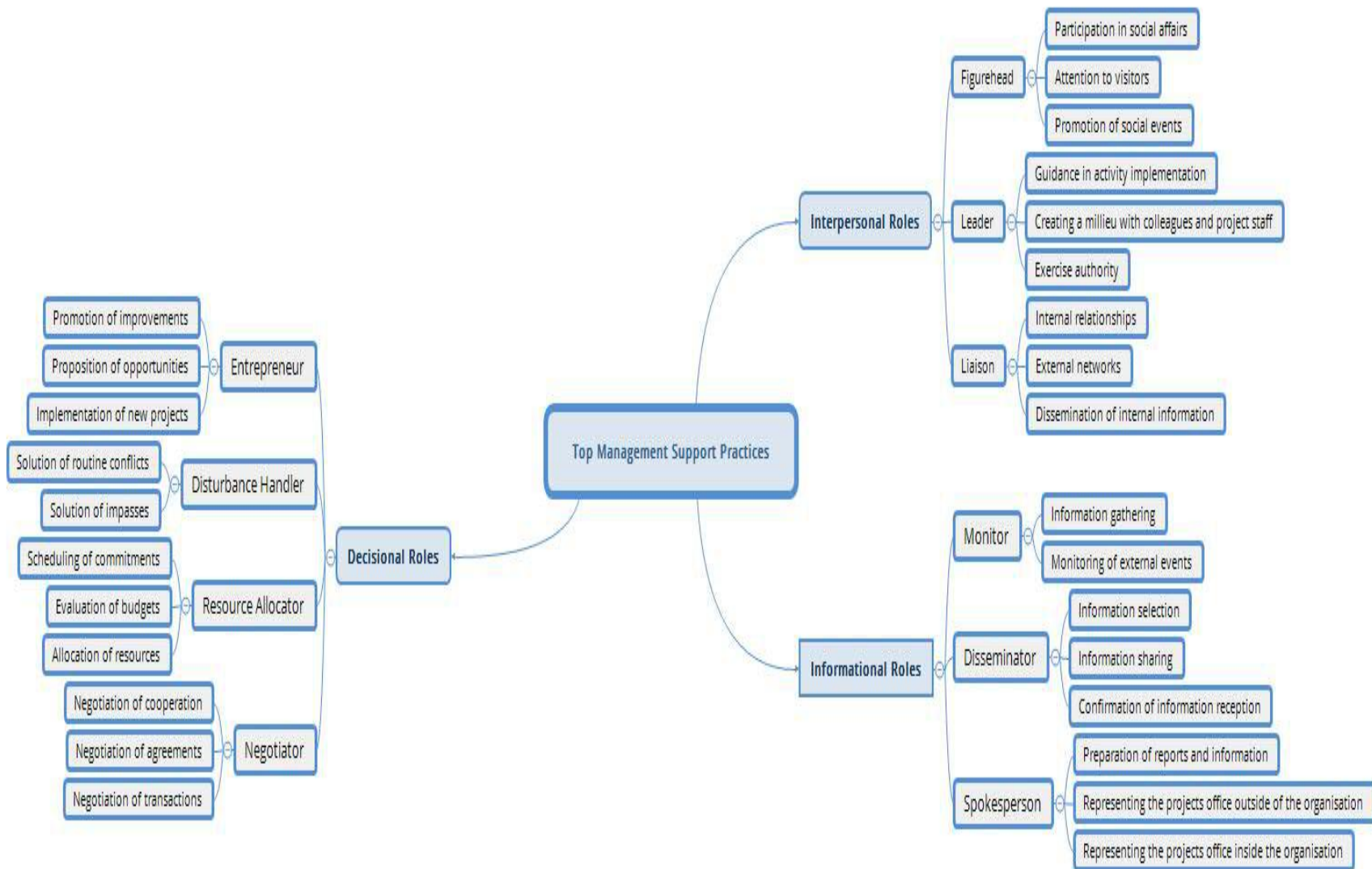
Figure 8- 4:   Top Management Support Practices Essential for successful delivery of projects in SACU

Table 8-4:   Top Management Support Practices essential for effective delivery of projects in revenue administrations in SACU

Role Grouping	Role	Practice
Interpersonal	Figurehead	Participation in social affairs.
		Attention to visitors.
		Promotion of social events.
	Leader	Guidance in activity implementation.
		Creating a constructive milieu with colleagues and project staff.
		Exercise of authority.
	Liaison	Internal relationships.
		External networks.
		Dissemination of internal information.
Informational	Monitor	Information gathering.
		Monitoring of external events.
	Disseminator	Information selection.
		Information sharing.
		Confirmation of information reception.
	Spokesperson	Preparation of reports and information.
		Representing the project office outside of the organisation.
		Representing the project office inside the

Role Grouping	Role	Practice
		organisation.
Decisional	Entrepreneur	Promotion of improvements.
		Proposition of opportunities.
		Implementation of new projects.
	Disturbance handler	Solution of routine conflicts.
		Solution of impasses.
	Resource allocator	Scheduling of commitments.
		Evaluation of budgets.
		Allocation of resources.
	Negotiator	Negotiation of cooperation.
		Negotiation of agreements.
		Negotiation of transactions.

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APPENDICES

APPENDIX A   PERMISSION TO CONDUCT RESEARCH

APPENDIX A1   Lesotho Revenue Authority Permission Letter

Physical Address

Finance House
P.O.Box 1085
High Court Road
Maseru 100

Chief Human Resources Officer
Lesotho Revenue Authority
Tel: + (00266)2231 3083
Fax: + (00266)2231 3107

Email: hr@lra.org.ls
Lesotho, Southern Africa
Website: www.lra.org.ls

Serving You – Serving the Nation
Re Sebeletsa Uena – Re Sebeletsa Sechaba

13 December 2018

Our ref: LRA/HR/TRN
Your ref:

Mr. Tseko Nyesemane
P.O. Box 13769
Maseru - 100
Lesotho

Dear Mr. Nyesemane

APPLICATION TO CONDUCT ACADEMIC RESEARCH

Your letter bears reference.

Your request to be allowed and provided with the necessary information for your academic research has been approved subject to protection of sensitive information and use of employer and employee names.

Please note that the Lesotho Revenue Authority will require a copy of your academic research once completed.

I take this opportunity to wish you good luck with your research.

Yours faithfully,

Mpho Mpesela (Ms.)
ACTING HEAD OF HUMAN CAPITAL

APPENDIX A2   Republic of Botswana Permission Letter

Telephone : 3655400 / 3655483
Fax : 3914271
E-mail: botsamote@gov.bw

REPUBLIC OF BOTSWANA

Block 6, Government Enclave, Headquarters
Private Bag 00517 Gaborone

MINISTRY OF TERTIARY EDUCATION, RESEARCH, SCIENCE AND TECHNOLOGY

REF: MOTE 1/18/6 VII (15)

27 March 2019

Tseko Nyesemane
P O Box 13769
Maseru 100
Lesotho

Dear Sir/Madam

APPLICATION FOR RESEARCH PERMIT
"A FRAMEWORK FOR TOP MANAGEMENT SUPPORT PRATICES FOR SUCCESSFUL DELIVERY OF PROJECTS IN REVENUE ADMINISTRATIONS IN SACU"

Reference is made to your application on the above captioned matter.

Your application for Research Permit for the proposed research titled: **'A Framework for Top Management Support Practices for Successful Delivery of Projects in Revenue Administration in SACU** 'has been granted. The permit is valid for one (1) year. You are kindly advised to peruse section 4.4 to 5.0 of the 'Guidelines for Application for Research Permit' in Botswana.

Any changes in the proposed research should be communicated, without fail, to the Permanent Secretary, Ministry of Tertiary Education Research Science and Technology citing above reference.

By copy of this letter, the Director of Research Science and Technology is advised to take note of this development and ensure that deliverables to government are timely met.

Yours faithfully

Kekgonne E. Baipoledi
For/Permanent Secretary

cc: **Director of Research Science and Technology**

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BOTSWANA

APPENDIX B   ETHICAL CLEARANCE

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT ®

Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: http://www.nwu.ac.za

18 June 2019

Per e-mail
Dear T Nyesemane,

FEEDBACK POST FACTO: ETHICS APPLICATION 18062019: T Nyesemane (29682835)(NWU-00685-19-A4) PhD in Business Management

Your ethics application on*, A framework for top management support practices for successful delivery of projects in revenue administrations in SACU,* that served on the Post Facto meeting of 18 June 2019 refers.

Outcome:

Approved as a minimal risk study. A number **NWU-00685-19-A4** is given for three years of ethics clearance.

Kind regards,

Prof Jan Meyer
Chairperson: Post Facto Ethics
FEMS

APPENDIX C   ORGANISATIONAL STRUCTURES

APPENDIX C1   Botswana Unified Revenue Services (BURS)
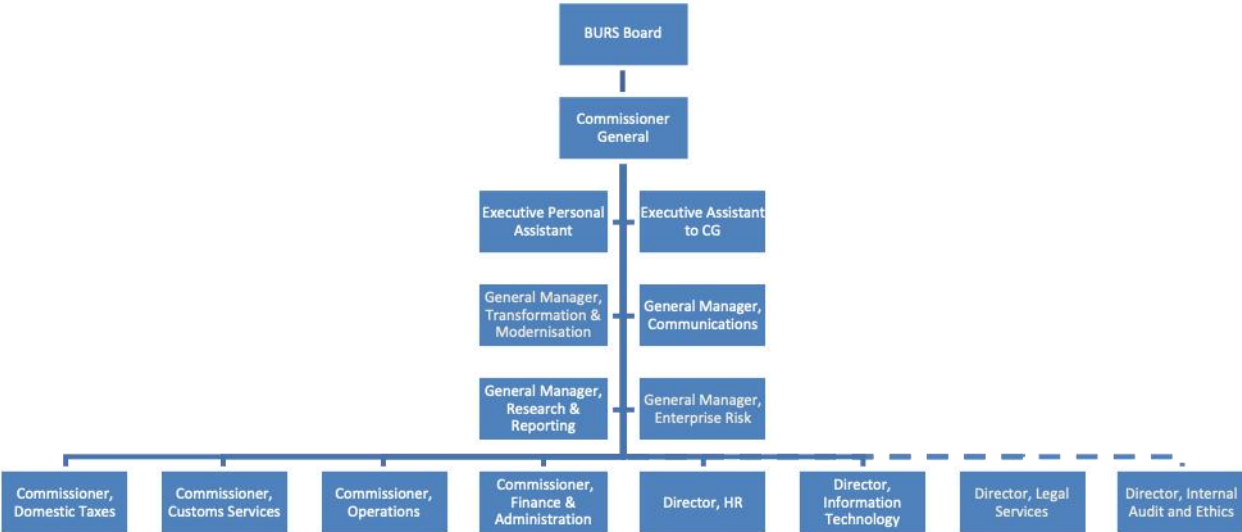
APPENDIX C2   Lesotho Revenue Authority (LRA)
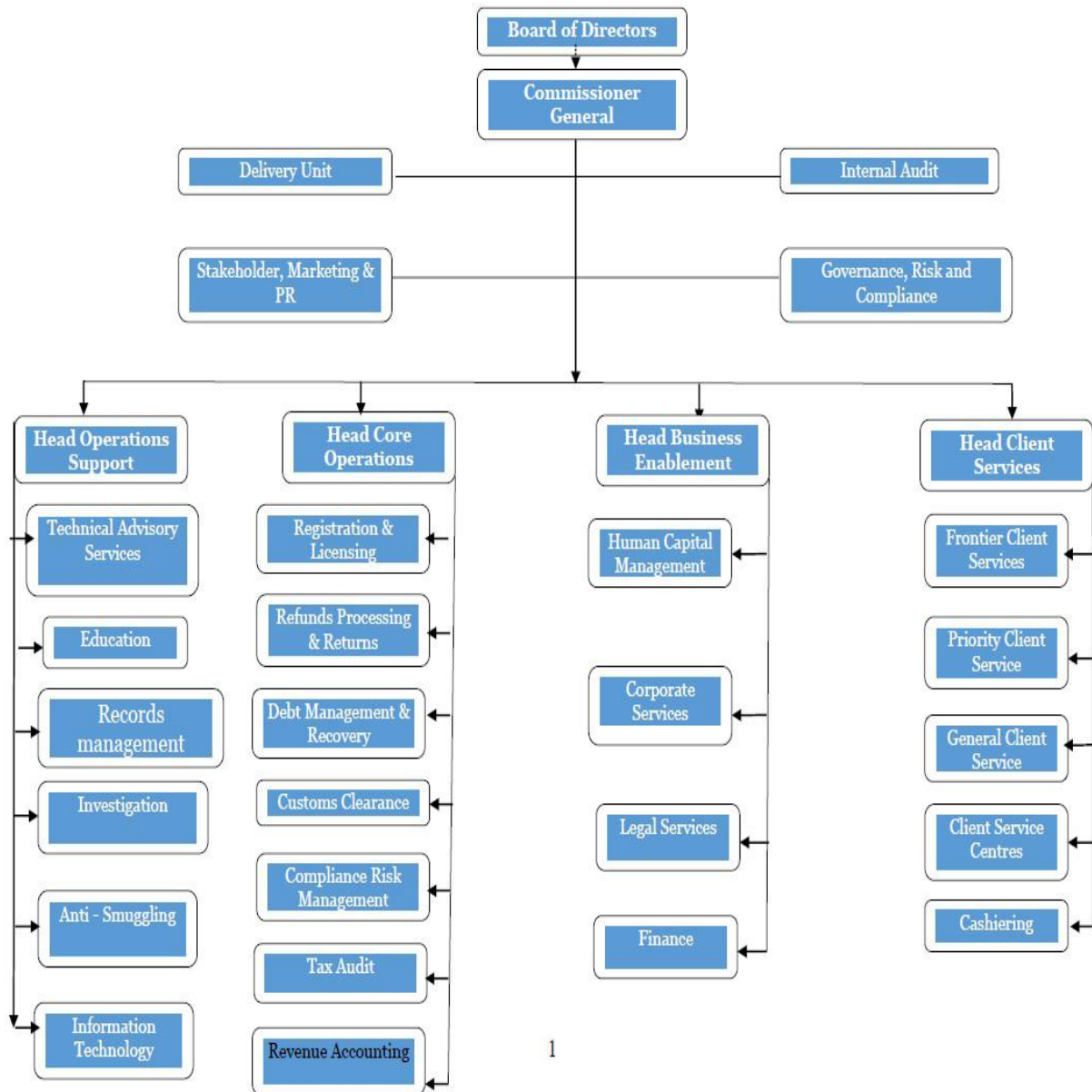
APPENDIX D   SURVEY TOOL

Questionnaire for the Investigation of Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in the Southern African Customs Union (SACU).

School of Business and Governance
North-West University

Researcher T Nyesemane
Promoter: Prof. J.A. Meyer
Co-Promoter: Dr. S. Kopung

Note to the respondent

- We need your help to understand Top Management Support Practices for Successful Delivery of Projects in Revenue Administrations in Southern African Customs Union (SACU).

- Your participation in completing this questionnaire is voluntary.

- What you say in this questionnaire will remain private and confidential. No one will be able to trace your opinions back to you as a person.

The questionnaire has three parts:

Part 1 seeks permission to use your responses for academic research.

Part 2 asks questions relating to Top Management Support Practices for Successful Delivery of Projects in your organisation.

Part 3 asks general personal particulars like your age, gender etc.

How to complete the questionnaire

1. The questions describe basic managerial functions that are representative of most top management/senior management in organisations. These functions are based on The Nature of Managerial Work as espoused by Henry Mintzberg in 1973.

2. Please give your opinion on every statement. If you find that choices do not adequately indicate your opinion use the one that is closest to the way you feel. Please check only one response for each item on each row.

Part 2

The following questions describe basic managerial functions that are representative of most top management/senior management in organisations.

Within the realm of projects execution in your organisation, please read each statement carefully and use the four-category rating scale to indicate the extent to which you feel your top management/senior management needs to perform the function in relation to project execution.

Role	Not at all 1	A little 2	Some 3	A lot 4
Figurehead				
1. Participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebrations events.				
2. Performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects related matters.				
3. Conceives, participates in and makes speeches in a variety of social and ceremonial projects related activities.				
Leader				
4. Defines work targets and communicates commands and instructions to subordinates.				

Role	Not at all 1	A little 2	Some 3	A lot 4
5. Offers positive critique, praises and motivates subordinates.				
6. Ensures that subordinates fully understand instructions as well as accept and follow them.				

Liaison

Role	Not at all 1	A little 2	Some 3	A lot 4
7. Develops activities to maintain a set of formal and informal projects related relationships within the organisation.				
8. Establishes and maintains projects related external contacts and information sources outside the organisations.				
9. Relays important external projects related information to employees.				

Monitor

Role	Not at all 1	A little 2	Some 3	A lot 4
10. Identifies and collects projects related information relevant to the organisation.				
11. Assesses projects performance in order to make adjustments and changes.				
12. Monitors the internal and external environments to ensure that projects are running smoothly.				

Disseminator

Role	Not at all	A little	Some	A lot
13. Sorts out which projects relevant information will be shared with subordinates.				
14. Shares projects relevant information with				

Role	Not at all 1	A little 2	Some 3	A lot 4
subordinates.				
15. Ensures that subordinates obtain projects related information so that they can complete their tasks.				

Spokesperson

	Not at all 1	A little 2	Some 3	A lot 4
16. Grants interviews, makes speeches or provides organisation relevant information to external audiences on projects related issues.				
17. Speaks about projects related issues and history at events or meetings.				
18. Speaks to people outside the projects office about projects related issues.				

Entrepreneur

	Not at all 1	A little 2	Some 3	A lot 4
19. Changes workflows to improve productivity of project actions.				
20. Seeks innovations that can improve projects in the organisation.				
21. Scans the internal and external environments looking for new innovations related to strategy to be implemented as projects.				

Disturbance handler

	Not at all 1	A little 2	Some 3	A lot 4
22. Solves subordinates' and project office staff conflicts deriving from everyday situations.				
23. Solves subordinates' and project office staff conflicts deriving from unexpected situations.				
24. Putting a stop to misbehaviour within the				

Role	Not at all 1	A little 2	Some 3	A lot 4
project's office or in the organisation.				

Resource allocator

	Not at all 1	A little 2	Some 3	A lot 4
25. Allocating organisational or projects office resources.				
26. Decides on organisation's investments (analyses and selects projects that demand application of financial resources).				
27. Allocates financial, material and physical resources to maximise organisational efficiency				

Negotiator

	Not at all 1	A little 2	Some 3	A lot 4
28. Represents the projects office and organisation at various non-routine discussions or negotiations.				
29. Resolves disputes that occur between the project's office and other business units.				
30. Negotiates and works with other parties to come to a mutual agreement.				

Part 3

Please answer the following general questions

1. What is your gender?

Male	
Female	

2. How many years have you worked for your current employer?

1 – 2 years	
3 – 4 years	

5 – 6 years	
7 – 8 years	
9 – 10 years	
10+ years	

3. How long have you managed or been involved in projects in your organisation?

1 – 2 years	
3 – 4 years	
5 – 6 years	
7 – 8 years	
9 – 10 years	
10+ years	

If you have questions, please do not hesitate to contact me at the e-mail address listed below. Please return completed questionnaires to me at t.nyesemane@lra.org.ls or nyesemane@gmail.com

Thank you for completing this questionnaire.

APPENDIX E   SAS COMPUTER RESULTS

APPENDIX E1   Cronbach Alpha Coefficient Test for Internal Consistency

F1.1   For all the items (statements) in the questionnaire referring to the measuring variables

The CORR Procedure

30 Variables:	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10	Q11	Q12	Q13
	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
	Q27	Q28	Q29	Q30									

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Q01	31	3.67742	0.54081	114.00000	2.00000	4.00000	Q01
Q02	31	3.29032	0.73908	102.00000	1.00000	4.00000	Q02
Q03	31	3.48387	0.67680	108.00000	2.00000	4.00000	Q03
Q04	31	3.35484	0.79785	104.00000	1.00000	4.00000	Q04
Q05	31	3.67742	0.54081	114.00000	2.00000	4.00000	Q05
Q06	31	3.58065	0.62044	111.00000	2.00000	4.00000	Q06
Q07	31	3.12903	0.84624	97.00000	1.00000	4.00000	Q07
Q08	31	3.25806	0.72882	101.00000	1.00000	4.00000	Q08
Q09	31	3.32258	0.59928	103.00000	2.00000	4.00000	Q09
Q10	31	3.16129	0.96943	98.00000	1.00000	4.00000	Q10
Q11	31	3.35484	0.79785	104.00000	2.00000	4.00000	Q11
Q12	31	3.41935	0.71992	106.00000	2.00000	4.00000	Q12
Q13	31	3.09677	0.94357	96.00000	1.00000	4.00000	Q13
Q14	31	3.54839	0.80989	110.00000	1.00000	4.00000	Q14
Q15	31	3.54839	0.80989	110.00000	1.00000	4.00000	Q15
Q16	31	3.19355	0.87252	99.00000	1.00000	4.00000	Q16
Q17	31	3.25806	0.68155	101.00000	2.00000	4.00000	Q17
Q18	31	3.48387	0.56985	108.00000	2.00000	4.00000	Q18
Q19	31	2.87097	0.80589	89.00000	1.00000	4.00000	Q19
Q20	31	3.16129	0.68784	98.00000	2.00000	4.00000	Q20
Q21	31	3.58065	0.71992	111.00000	2.00000	4.00000	Q21
Q22	31	2.96774	1.13970	92.00000	1.00000	4.00000	Q22
Q23	31	3.29032	0.73908	102.00000	2.00000	4.00000	Q23
Q24	31	3.25806	0.92979	101.00000	1.00000	4.00000	Q24
Q25	31	3.41935	0.92283	106.00000	1.00000	4.00000	Q25

Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Q26	31	3.12903	1.05647	97.00000	1.00000	4.00000	Q26
Q27	31	3.29032	1.03902	102.00000	1.00000	4.00000	Q27
Q28	31	3.25806	0.63075	101.00000	2.00000	4.00000	Q28
Q29	31	3.38710	0.66720	105.00000	2.00000	4.00000	Q29
Q30	31	3.64516	0.60819	113.00000	2.00000	4.00000	Q30

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.928113
Standardized	0.926430

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q01	0.051341	0.930283	0.054995	0.930089	Q01
Q02	0.009195	0.931916	0.021833	0.930502	Q02
Q03	0.128185	0.930216	0.108543	0.929418	Q03
Q04	0.766451	0.922666	0.730971	0.921305	Q04
Q05	0.311429	0.928057	0.349821	0.926343	Q05
Q06	0.513692	0.926124	0.553157	0.923683	Q06
Q07	0.320117	0.928670	0.332487	0.926567	Q07
Q08	0.714639	0.923594	0.697054	0.921762	Q08
Q09	0.656178	0.924764	0.663859	0.922208	Q09
Q10	0.731637	0.922741	0.717684	0.921484	Q10
Q11	0.817677	0.921977	0.798884	0.920384	Q11
Q12	0.824087	0.922309	0.829622	0.919964	Q12
Q13	0.634654	0.924302	0.605037	0.922994	Q13
Q14	0.438785	0.926992	0.443147	0.925130	Q14
Q15	0.445241	0.926907	0.447725	0.925070	Q15
Q16	0.561468	0.925378	0.567142	0.923498	Q16
Q17	0.344962	0.927899	0.325372	0.926659	Q17
Q18	0.491493	0.926430	0.501127	0.924370	Q18
Q19	0.523156	0.925881	0.532996	0.923950	Q19
Q20	0.492269	0.926275	0.507811	0.924282	Q20
Q21	0.342391	0.928003	0.393959	0.925771	Q21
Q22	0.777328	0.921845	0.755482	0.920973	Q22
Q23	0.655788	0.924278	0.653089	0.922353	Q23
Q24	0.700515	0.923284	0.680398	0.921986	Q24
Q25	0.661180	0.923897	0.621004	0.922782	Q25
Q26	0.475705	0.927139	0.471959	0.924753	Q26

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q27	0.633743	0.924384	0.622004	0.922768	Q27
Q28	0.657005	0.924626	0.659482	0.922267	Q28
Q29	0.614066	0.924961	0.615210	0.922859	Q29
Q30	0.474000	0.926538	0.493324	0.924472	Q30

Pearson Correlation Coefficients, N = 31 Prob > |r| under H0: Rho=0											
	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10	Q11
Q01 Q01	1.00000	0.32551 0.0739	0.53173 0.0021	0.11962 0.5216	-0.02574 0.8907	-0.01923 0.9182	-0.41586 0.0200	-0.03546 0.8498	-0.07963 0.6703	-0.02461 0.8954	-0.03489 0.8522
Q02 Q02	0.32551 0.0739	1.00000	0.37618 0.0370	-0.01094 0.9534	-0.00807 0.9656	0.12897 0.4893	-0.43496 0.0145	-0.20561 0.2672	0.00728 0.9690	-0.16058 0.3882	-0.06747 0.7184
Q03 Q03	0.53173 0.0021	0.37618 0.0370	1.00000	0.35047 0.0532	-0.19683 0.2886	-0.29448 0.1078	-0.28724 0.1172	0.00872 0.9629	-0.15111 0.4171	-0.07211 0.6999	0.10355 0.5794
Q04 Q04	0.11962 0.5216	-0.01094 0.9534	0.35047 0.0532	1.00000	0.04236 0.8210	0.17595 0.3437	0.17678 0.3414	0.58249 0.0006	0.44978 0.0111	0.61309 0.0002	0.68581 <0.0001
Q05 Q05	-0.02574 0.8907	-0.00807 0.9656	-0.19683 0.2886	0.04236 0.8210	1.00000	0.77551 <0.0001	0.38532 0.0323	0.13367 0.4734	0.53747 0.0018	0.03897 0.8351	0.19687 0.2885
Q06 Q06	-0.01923 0.9182	0.12897 0.4893	-0.29448 0.1078	0.17595 0.3437	0.77551 <0.0001	1.00000	0.42393 0.0175	0.32102 0.0783	0.64490 <0.0001	0.39330 0.0286	0.44530 0.0121
Q07 Q07	-0.41586 0.0200	-0.43496 0.0145	-0.28724 0.1172	0.17678 0.3414	0.38532 0.0323	0.42393 0.0175	1.00000	0.48467 0.0057	0.44101 0.0130	0.46137 0.0090	0.37426 0.0381
Q08 Q08	-0.03546 0.8498	-0.20561 0.2672	0.00872 0.9629	0.58249 0.0006	0.13367 0.4734	0.32102 0.0783	0.48467 0.0057	1.00000	0.48991 0.0051	0.74116 <0.0001	0.69714 <0.0001
Q09 Q09	-0.07963 0.6703	0.00728 0.9690	-0.15111 0.4171	0.44978 0.0111	0.53747 0.0018	0.64490 <0.0001	0.44101 0.0130	0.48991 0.0051	1.00000	0.53860 0.0018	0.51949 0.0027
Q10 Q10	-0.02461 0.8954	-0.16058 0.3882	-0.07211 0.6999	0.61309 0.0002	0.03897 0.8351	0.39330 0.0286	0.46137 0.0090	0.74116 <0.0001	0.53860 0.0018	1.00000	0.74238 <0.0001
Q11 Q11	-0.03489 0.8522	-0.06747 0.7184	0.10355 0.5794	0.68581 <0.0001	0.19687 0.2885	0.44530 0.0121	0.37426 0.0381	0.69714 <0.0001	0.51949 0.0027	0.74238 <0.0001	1.00000
Q12 Q12	-0.06904 0.7121	0.01415 0.9398	0.04855 0.7954	0.54476 0.0015	0.44465 0.0122	0.70535 <0.0001	0.51008 0.0034	0.61275 0.0002	0.60314 0.0003	0.75957 <0.0001	0.77690 <0.0001
Q13 Q13	-0.13275 0.4765	-0.18503 0.3190	0.02862 0.8785	0.74987 <0.0001	-0.00211 0.9910	0.18551 0.3177	0.31780 0.0815	0.64107 0.0001	0.41454 0.0204	0.74763 <0.0001	0.66131 <0.0001
Q14 Q14	-0.03928 0.8338	-0.21916 0.2362	-0.25698 0.1628	0.25627 0.1641	0.11293 0.5453	0.47292 0.0072	0.57422 0.0007	0.48639 0.0055	0.31016 0.0895	0.64780 <0.0001	0.51420 0.0031
Q15 Q15	-0.11538 0.5365	-0.21916 0.2362	-0.19617 0.2902	0.25627 0.1641	0.11293 0.5453	0.47292 0.0072	0.62286 0.0002	0.48639 0.0055	0.31016 0.0895	0.64780 <0.0001	0.56579 0.0009
Q16 Q16	0.20737 0.2630	0.22010 0.2341	0.28770 0.1166	0.56842 0.0008	0.41929 0.0189	0.27808 0.1298	-0.03495 0.8519	0.33818 0.0628	0.25911 0.1593	0.15891 0.3932	0.42477 0.0172
Q17 Q17	-0.03792 0.8395	0.37570 0.0373	0.29838 0.1030	0.31639 0.0829	0.14295 0.4430	0.02797 0.8813	-0.23304 0.2071	0.12988 0.4862	0.11583 0.5349	-0.01465 0.9377	0.25509 0.1661
Q18 Q18	0.30704 0.0929	0.20935 0.2583	0.15055 0.4189	0.34293 0.0589	0.41520 0.0202	0.31021 0.0894	-0.13379 0.4731	0.17087 0.3581	0.21096 0.2546	0.21605 0.2431	0.26961 0.1424
Q19 Q19	0.05428 0.7718	-0.10290 0.5817	-0.12617 0.4988	0.33279 0.0674	0.20724 0.2633	0.42150 0.0182	0.56288 0.0010	0.62610 0.0002	0.29611 0.1058	0.71019 <0.0001	0.43648 0.0141

	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10	Q11
Q20 Q20	0.05492 0.7692	0.03596 0.8477	-0.10163 0.5864	0.25668 0.1634	0.32375 0.0756	0.39810 0.0266	0.30665 0.0934	0.57913 0.0006	0.27390 0.1360	0.40959 0.0221	0.25668 0.1634
Q21 Q21	0.06904 0.7121	0.11115 0.5517	-0.11696 0.5309	0.03557 0.8493	0.75397 <.0001	0.71257 <.0001	0.20121 0.2778	0.08607 0.6452	0.47852 0.0065	0.05238 0.7796	0.15164 0.4155
Q22 Q22	-0.01745 0.9258	-0.02808 0.8808	0.06412 0.7318	0.70951 <.0001	-0.07153 0.7022	0.21593 0.2433	0.17727 0.3401	0.61230 0.0003	0.50378 0.0039	0.75911 <.0001	0.67285 <.0001
Q23 Q23	-0.00807 0.9656	-0.09843 0.5984	0.04299 0.8184	0.44129 0.0130	0.07533 0.6871	0.34705 0.0558	0.31118 0.0884	0.41321 0.0209	0.45884 0.0094	0.63032 0.0001	0.49782 0.0044
Q24 Q24	-0.09409 0.6146	0.08137 0.6635	0.27168 0.1393	0.63632 0.0001	0.10478 0.5748	0.19385 0.2961	-0.00137 0.9942	0.43953 0.0134	0.44384 0.0124	0.43303 0.0150	0.59139 0.0005
Q25 Q25	-0.05386 0.7735	-0.08671 0.6428	0.25135 0.1726	0.83244 <.0001	0.01293 0.9450	0.02629 0.8883	0.09914 0.5957	0.62670 0.0002	0.41025 0.0219	0.44351 0.0125	0.60607 0.0003
Q26 Q26	0.30865 0.0911	0.29195 0.1110	0.60905 0.0003	0.57661 0.0007	0.07528 0.6873	-0.01640 0.9302	-0.16838 0.3652	0.21506 0.2453	0.19531 0.2924	0.10919 0.5587	0.45797 0.0096
Q27 Q27	0.17222 0.3542	0.14702 0.4300	0.31499 0.0844	0.71600 <.0001	0.11290 0.5454	0.14345 0.4414	-0.08194 0.6613	0.42598 0.0169	0.54051 0.0017	0.38217 0.0339	0.59537 0.0004
Q28 Q28	0.05674 0.7618	-0.02307 0.9020	0.08816 0.6372	0.40810 0.0227	0.15446 0.4067	0.28575 0.1192	0.31023 0.0894	0.50289 0.0039	0.56608 0.0009	0.47480 0.0070	0.47434 0.0070
Q29 Q29	0.08046 0.6670	0.10249 0.5833	0.01429 0.9392	0.54740 0.0014	0.17284 0.3525	0.40521 0.0237	0.08570 0.6467	0.26756 0.1456	0.59432 0.0004	0.41561 0.0201	0.54740 0.0014
Q30 Q30	-0.15692 0.3992	-0.20812 0.2612	-0.21682 0.2414	0.13074 0.4833	0.34980 0.0537	0.47588 0.0068	0.48052 0.0062	0.43907 0.0135	0.41597 0.0199	0.38299 0.0335	0.47421 0.0070

	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22
Q01 Q01	-0.06904 0.7121	-0.13275 0.4765	-0.03928 0.8338	-0.11538 0.5365	0.20737 0.2630	-0.03792 0.8395	0.30704 0.0929	0.05428 0.7718	0.05492 0.7692	0.06904 0.7121	-0.01745 0.9258
Q02 Q02	0.01415 0.9398	-0.18503 0.3190	-0.21916 0.2362	-0.21916 0.2362	0.22010 0.2341	0.37570 0.0373	0.20935 0.2583	-0.10290 0.5817	0.03596 0.8477	0.11115 0.5517	-0.02808 0.8808
Q03 Q03	0.04855 0.7954	0.02862 0.8785	-0.25698 0.1628	-0.19617 0.2902	0.28770 0.1166	0.29838 0.1030	0.15055 0.4189	-0.12617 0.4988	-0.10163 0.5864	-0.11696 0.5309	0.06412 0.7318
Q04 Q04	0.54476 0.0015	0.74987 <.0001	0.25627 0.1641	0.25627 0.1641	0.56842 0.0008	0.31639 0.0829	0.34293 0.0589	0.33279 0.0674	0.25668 0.1634	0.03557 0.8493	0.70951 <.0001
Q05 Q05	0.44465 0.0122	-0.00211 0.9910	0.11293 0.5453	0.11293 0.5453	0.41929 0.0189	0.14295 0.4430	0.41520 0.0202	0.20724 0.2633	0.32375 0.0756	0.75397 <.0001	-0.07153 0.7022
Q06 Q06	0.70535 <.0001	0.18551 0.3177	0.47292 0.0072	0.47292 0.0072	0.27808 0.1298	0.02797 0.8813	0.31021 0.0894	0.42150 0.0182	0.39810 0.0266	0.71257 <.0001	0.21593 0.2433
Q07 Q07	0.51008 0.0034	0.31780 0.0815	0.57422 0.0007	0.62286 0.0002	-0.03495 0.8519	-0.23304 0.2071	-0.13379 0.4731	0.56288 0.0010	0.30665 0.0934	0.20121 0.2778	0.17727 0.3401
Q08 Q08	0.61275 0.0002	0.64107 0.0001	0.48639 0.0055	0.48639 0.0055	0.33818 0.0628	0.12988 0.4862	0.17087 0.3581	0.62610 0.0002	0.57913 0.0006	0.08607 0.6452	0.61230 0.0003
Q09 Q09	0.60314 0.0003	0.41454 0.0204	0.31016 0.0895	0.31016 0.0895	0.25911 0.1593	0.11583 0.5349	0.21096 0.2546	0.29611 0.1058	0.27390 0.1360	0.47852 0.0065	0.50378 0.0039
Q10 Q10	0.75957 <.0001	0.74763 <.0001	0.64780 <.0001	0.64780 <.0001	0.15891 0.3932	-0.01465 0.9377	0.21605 0.2431	0.71019 <.0001	0.40959 0.0221	0.05238 0.7796	0.75911 <.0001
Q11 Q11	0.77690 <.0001	0.66131 <.0001	0.51420 0.0031	0.56579 0.0009	0.42477 0.0172	0.25509 0.1661	0.26961 0.1424	0.43648 0.0141	0.25668 0.1634	0.15164 0.4155	0.67285 <.0001
Q12 Q12	1.00000	0.57619 0.0007	0.67867 <.0001	0.73584 <.0001	0.34408 0.0580	0.17970 0.3334	0.30142 0.0994	0.61346 0.0002	0.46469 0.0084	0.41494 0.0203	0.62643 0.0002

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	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22
Q13 Q13	0.57619 0.0007	1.00000	0.45167 0.0108	0.45167 0.0108	0.25991 0.1579	0.16720 0.3686	0.21998 0.2344	0.45533 0.0101	0.23195 0.2093	-0.13455 0.4705	0.71592 <.0001
Q14 Q14	0.67867 <.0001	0.45167 0.0108	1.00000	0.94918 <.0001	-0.10804 0.5629	-0.26493 0.1498	-0.08854 0.6358	0.67381 <.0001	0.37446 0.0379	0.06455 0.7301	0.41705 0.0196
Q15 Q15	0.73584 <.0001	0.45167 0.0108	0.94918 <.0001	1.00000	-0.10804 0.5629	-0.20454 0.2697	-0.08854 0.6358	0.62274 0.0002	0.31463 0.0847	0.06455 0.7301	0.38093 0.0345
Q16 Q16	0.34408 0.0580	0.25991 0.1579	-0.10804 0.5629	-0.10804 0.5629	1.00000	0.75401 <.0001	0.74394 <.0001	0.08411 0.6528	0.27950 0.1278	0.34579 0.0567	0.34169 0.0599
Q17 Q17	0.17970 0.3334	0.16720 0.3686	-0.26493 0.1498	-0.20454 0.2697	0.75401 <.0001	1.00000	0.61185 0.0003	-0.24079 0.1919	0.05046 0.7875	0.15998 0.3900	0.22564 0.2223
Q18 Q18	0.30142 0.0994	0.21998 0.2344	-0.08854 0.6358	-0.08854 0.6358	0.74394 <.0001	0.61185 0.0003	1.00000	0.14048 0.4510	0.30450 0.0958	0.42985 0.0158	0.33278 0.0674
Q19 Q19	0.61346 0.0002	0.45533 0.0101	0.67381 <.0001	0.62274 0.0002	0.08411 0.6528	-0.24079 0.1919	0.14048 0.4510	1.00000	0.70026 <.0001	0.19090 0.3036	0.50340 0.0039
Q20 Q20	0.46469 0.0084	0.23195 0.2093	0.37446 0.0379	0.31463 0.0847	0.27950 0.1278	0.05046 0.7875	0.30450 0.0958	0.70026 <.0001	1.00000	0.47772 0.0066	0.38955 0.0303
Q21 Q21	0.41494 0.0203	-0.13455 0.4705	0.06455 0.7301	0.06455 0.7301	0.34579 0.0567	0.15998 0.3900	0.42985 0.0158	0.19090 0.3036	0.47772 0.0066	1.00000	0.10484 0.5746
Q22 Q22	0.62643 0.0002	0.71592 <.0001	0.41705 0.0196	0.38093 0.0345	0.34169 0.0599	0.22564 0.2223	0.33278 0.0674	0.50340 0.0039	0.38955 0.0303	0.10484 0.5746	1.00000
Q23 Q23	0.64063 0.0001	0.43635 0.0141	0.50479 0.0038	0.50479 0.0038	0.11672 0.5318	-0.02135 0.9093	0.28850 0.1155	0.51271 0.0032	0.42938 0.0159	0.29909 0.1022	0.80294 <.0001
Q24 Q24	0.53011 0.0022	0.46451 0.0085	0.02713 0.8848	0.07140 0.7027	0.55270 0.0013	0.52261 0.0026	0.38559 0.0322	0.17938 0.3343	0.29759 0.1040	0.31646 0.0828	0.76306 <.0001
Q25 Q25	0.37873 0.0356	0.64090 0.0001	0.08345 0.6554	0.08345 0.6554	0.64101 0.0001	0.56417 0.0009	0.36192 0.0454	0.12000 0.5202	0.20497 0.2687	-0.07769 0.6778	0.64715 <.0001
Q26 Q26	0.27710 0.1313	0.18769 0.3120	-0.12441 0.5049	-0.08546 0.6476	0.65907 <.0001	0.69291 <.0001	0.44652 0.0118	-0.13640 0.4644	0.06215 0.7398	0.11734 0.5296	0.30810 0.0918
Q27 Q27	0.32200 0.0773	0.37839 0.0358	-0.11628 0.5333	-0.11628 0.5333	0.63456 0.0001	0.54967 0.0014	0.48670 0.0055	-0.03339 0.8585	0.07222 0.6994	0.12363 0.5076	0.54300 0.0016
Q28 Q28	0.48780 0.0054	0.34869 0.0545	0.43151 0.0154	0.36625 0.0427	0.20906 0.2590	0.15008 0.4203	0.19744 0.2870	0.39557 0.0276	0.43868 0.0136	0.31968 0.0796	0.56839 0.0009
Q29 Q29	0.41414 0.0205	0.36209 0.0453	0.14924 0.4230	0.14924 0.4230	0.26783 0.1452	0.13951 0.4541	0.36765 0.0419	0.15798 0.3960	0.14995 0.4207	0.34922 0.0542	0.58683 0.0005
Q30 Q30	0.42731 0.0165	0.23609 0.2010	0.34055 0.0608	0.34055 0.0608	0.13374 0.4732	-0.01297 0.9448	0.31956 0.0797	0.37953 0.0352	0.30073 0.1002	0.41012 0.0219	0.36765 0.0419

Pearson Correlation Coefficients, N = 31
Prob > |r| under H0: Rho=0

	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q01 Q01	-0.00807 0.9656	-0.09409 0.6146	-0.05386 0.7735	0.30865 0.0911	0.17222 0.3542	0.05674 0.7618	0.08046 0.6670	-0.15692 0.3992
Q02 Q02	-0.09843 0.5984	0.08137 0.6635	-0.08671 0.6428	0.29195 0.1110	0.14702 0.4300	-0.02307 0.9020	0.10249 0.5833	-0.20812 0.2612
Q03 Q03	0.04299 0.8184	0.27168 0.1393	0.25135 0.1726	0.60905 0.0003	0.31499 0.0844	0.08816 0.6372	0.01429 0.9392	-0.21682 0.2414
Q04 Q04	0.44129 0.0130	0.63632 0.0001	0.83244 <.0001	0.57661 0.0007	0.71600 <.0001	0.40810 0.0227	0.54740 0.0014	0.13074 0.4833
Q05 Q05	0.07533 0.6871	0.10478 0.5748	0.01293 0.9450	0.07528 0.6873	0.11290 0.5454	0.15446 0.4067	0.17284 0.3525	0.34980 0.0537

	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q06	0.34705	0.19385	0.02629	-0.01640	0.14345	0.28575	0.40521	0.47588
Q06	0.0558	0.2961	0.8883	0.9302	0.4414	0.1192	0.0237	0.0068
Q07	0.31118	-0.00137	0.09914	-0.16838	-0.08194	0.31023	0.08570	0.48052
Q07	0.0884	0.9942	0.5957	0.3652	0.6613	0.0894	0.6467	0.0062
Q08	0.41321	0.43953	0.62670	0.21506	0.42598	0.50289	0.26756	0.43907
Q08	0.0209	0.0134	0.0002	0.2453	0.0169	0.0039	0.1456	0.0135
Q09	0.45884	0.44384	0.41025	0.19531	0.54051	0.56608	0.59432	0.41597
Q09	0.0094	0.0124	0.0219	0.2924	0.0017	0.0009	0.0004	0.0199
Q10	0.63032	0.43303	0.44351	0.10919	0.38217	0.47480	0.41561	0.38299
Q10	0.0001	0.0150	0.0125	0.5587	0.0339	0.0070	0.0201	0.0335
Q11	0.49782	0.59139	0.60607	0.45797	0.59537	0.47434	0.54740	0.47421
Q11	0.0044	0.0005	0.0003	0.0096	0.0004	0.0070	0.0014	0.0070
Q12	0.64063	0.53011	0.37873	0.27710	0.32200	0.48780	0.41414	0.42731
Q12	0.0001	0.0022	0.0356	0.1313	0.0773	0.0054	0.0205	0.0165
Q13	0.43635	0.46451	0.64090	0.18769	0.37839	0.34869	0.36209	0.23609
Q13	0.0141	0.0085	0.0001	0.3120	0.0358	0.0545	0.0453	0.2010
Q14	0.50479	0.02713	0.08345	-0.12441	-0.11628	0.43151	0.14924	0.34055
Q14	0.0038	0.8848	0.6554	0.5049	0.5333	0.0154	0.4230	0.0608
Q15	0.50479	0.07140	0.08345	-0.08546	-0.11628	0.36625	0.14924	0.34055
Q15	0.0038	0.7027	0.6554	0.6476	0.5333	0.0427	0.4230	0.0608
Q16	0.11672	0.55270	0.64101	0.65907	0.63456	0.20906	0.26783	0.13374
Q16	0.5318	0.0013	0.0001	<.0001	0.0001	0.2590	0.1452	0.4732
Q17	-0.02135	0.52261	0.56417	0.69291	0.54967	0.15008	0.13951	-0.01297
Q17	0.9093	0.0026	0.0009	<.0001	0.0014	0.4203	0.4541	0.9448
Q18	0.28850	0.38559	0.36192	0.44652	0.48670	0.19744	0.36765	0.31956
Q18	0.1155	0.0322	0.0454	0.0118	0.0055	0.2870	0.0419	0.0797
Q19	0.51271	0.17938	0.12000	-0.13640	-0.03339	0.39557	0.15798	0.37953
Q19	0.0032	0.3343	0.5202	0.4644	0.8585	0.0276	0.3960	0.0352
Q20	0.42938	0.29759	0.20497	0.06215	0.07222	0.43868	0.14995	0.30073
Q20	0.0159	0.1040	0.2687	0.7398	0.6994	0.0136	0.4207	0.1002
Q21	0.29909	0.31646	-0.07769	0.11734	0.12363	0.31968	0.34922	0.41012
Q21	0.1022	0.0828	0.6778	0.5296	0.5076	0.0796	0.0542	0.0219
Q22	0.80294	0.76306	0.64715	0.30810	0.54300	0.56839	0.58683	0.36765
Q22	<.0001	<.0001	<.0001	0.0918	0.0016	0.0009	0.0005	0.0419
Q23	1.00000	0.61494	0.30427	0.07850	0.27725	0.62047	0.57567	0.53345
Q23		0.0002	0.0961	0.6747	0.1310	0.0002	0.0007	0.0020
Q24	0.61494	1.00000	0.68548	0.54185	0.67895	0.50787	0.53212	0.28522
Q24	0.0002		<.0001	0.0016	<.0001	0.0035	0.0021	0.1199
Q25	0.30427	0.68548	1.00000	0.66064	0.80743	0.38054	0.37722	0.09579
Q25	0.0961	<.0001		<.0001	<.0001	0.0347	0.0364	0.6082
Q26	0.07850	0.54185	0.66064	1.00000	0.75427	0.34854	0.35238	-0.03012
Q26	0.6747	0.0016	<.0001		<.0001	0.0547	0.0519	0.8722
Q27	0.27725	0.67895	0.80743	0.75427	1.00000	0.44135	0.64990	0.22121
Q27	0.1310	<.0001	<.0001	<.0001		0.0129	<.0001	0.2317
Q28	0.62047	0.50787	0.38054	0.34854	0.44135	1.00000	0.62599	0.59423
Q28	0.0002	0.0035	0.0347	0.0547	0.0129		0.0002	0.0004
Q29	0.57567	0.53212	0.37722	0.35238	0.64990	0.62599	1.00000	0.59622
Q29	0.0007	0.0021	0.0364	0.0519	<.0001	0.0002		0.0004
Q30	0.53345	0.28522	0.09579	-0.03012	0.22121	0.59423	0.59622	1.00000
Q30	0.0020	0.1199	0.6082	0.8722	0.2317	0.0004	0.0004	

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E1.2 For items (statements) referring to each of the constructs measuring the roles

E.1.2.1 Interpersonal roles

The CORR Procedure

9 Variables:	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Q01	33	3.66667	0.54006	121.00000	2.00000	4.00000	Q01
Q02	33	3.30303	0.72822	109.00000	1.00000	4.00000	Q02
Q03	33	3.48485	0.66714	115.00000	2.00000	4.00000	Q03
Q04	33	3.33333	0.77728	110.00000	1.00000	4.00000	Q04
Q05	33	3.66667	0.54006	121.00000	2.00000	4.00000	Q05
Q06	33	3.60606	0.60927	119.00000	2.00000	4.00000	Q06
Q07	33	3.12121	0.81997	103.00000	1.00000	4.00000	Q07
Q08	33	3.27273	0.71906	108.00000	1.00000	4.00000	Q08
Q09	33	3.33333	0.59512	110.00000	2.00000	4.00000	Q09

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.603552
Standardized	0.619208

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q01	0.087378	0.617427	0.099296	0.639716	Q01
Q02	-.027398	0.659221	0.011384	0.659596	Q02
Q03	0.051693	0.633800	0.045117	0.652062	Q03
Q04	0.479840	0.514560	0.463404	0.548511	Q04
Q05	0.391033	0.554959	0.407138	0.563577	Q05
Q06	0.519374	0.517942	0.536770	0.528308	Q06
Q07	0.173327	0.613664	0.180379	0.620664	Q07
Q08	0.483212	0.517545	0.453172	0.551278	Q08
Q09	0.614674	0.494974	0.608435	0.507952	Q09

Pearson Correlation Coefficients, N = 33 Prob > |r| under H0: Rho=0								
	Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09

	Pearson Correlation Coefficients, N = 33 Prob > |r| under H0: Rho=0								
	Q01	**Q02**	**Q03**	**Q04**	**Q05**	**Q06**	**Q07**	**Q08**	**Q09**
Q01 Q01	1.00000	0.26486 0.1363	0.46258 0.0067	0.12407 0.4915	0.03571 0.8436	-0.03166 0.8612	-0.39989 0.0211	0.00000 1.0000	-0.03241 0.8579
Q02 Q02	0.26486 0.1363	1.00000	0.39569 0.0226	-0.01840 0.9190	-0.05297 0.7697	0.13660 0.4485	-0.42978 0.0126	-0.22244 0.2134	-0.02404 0.8944
Q03 Q03	0.46258 0.0067	0.39569 0.0226	1.00000	0.34149 0.0518	-0.23129 0.1953	-0.28423 0.1089	-0.28217 0.1116	-0.02369 0.8959	-0.18366 0.3063
Q04 Q04	0.12407 0.4915	-0.01840 0.9190	0.34149 0.0518	1.00000	0.04963 0.7839	0.15397 0.3923	0.17978 0.3168	0.55912 0.0007	0.42786 0.0130
Q05 Q05	0.03571 0.8436	-0.05297 0.7697	-0.23129 0.1953	0.04963 0.7839	1.00000	0.72812 <.0001	0.37636 0.0309	0.16094 0.3709	0.55097 0.0009
Q06 Q06	-0.03166 0.8612	0.13660 0.4485	-0.28423 0.1089	0.15397 0.3923	0.72812 <.0001	1.00000	0.41133 0.0174	0.32423 0.0656	0.63203 <.0001
Q07 Q07	-0.39989 0.0211	-0.42978 0.0126	-0.28217 0.1116	0.17978 0.3168	0.37636 0.0309	0.41133 0.0174	1.00000	0.47220 0.0055	0.42693 0.0132
Q08 Q08	0.00000 1.0000	-0.22244 0.2134	-0.02369 0.8959	0.55912 0.0007	0.16094 0.3709	0.32423 0.0656	0.47220 0.0055	1.00000	0.51119 0.0024
Q09 Q09	-0.03241 0.8579	-0.02404 0.8944	-0.18366 0.3063	0.42786 0.0130	0.55097 0.0009	0.63203 <.0001	0.42693 0.0132	0.51119 0.0024	1.00000

E1.3 Interpersonal roles without item 1, 2 and 3

The CORR Procedure

6 Variables:	Q04	Q05	Q06	Q07	Q08	Q09

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Q04	33	3.33333	0.77728	110.00000	1.00000	4.00000	Q04
Q05	33	3.66667	0.54006	121.00000	2.00000	4.00000	Q05
Q06	33	3.60606	0.60927	119.00000	2.00000	4.00000	Q06
Q07	33	3.12121	0.81997	103.00000	1.00000	4.00000	Q07
Q08	33	3.27273	0.71906	108.00000	1.00000	4.00000	Q08
Q09	33	3.33333	0.59512	110.00000	2.00000	4.00000	Q09

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.783828
Standardized	0.798423

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q04	0.375555	0.795064	0.363803	0.809505	Q04
Q05	0.484960	0.764031	0.513661	0.776417	Q05
Q06	0.598090	0.737913	0.638094	0.747183	Q06
Q07	0.506932	0.762690	0.513840	0.776376	Q07
Q08	0.598238	0.734242	0.565123	0.764524	Q08
Q09	0.726607	0.710123	0.741052	0.721743	Q09

Pearson Correlation Coefficients, N = 33 Prob > |r| under H0: Rho=0						
	Q04	Q05	Q06	Q07	Q08	Q09
Q04 Q04	1.00000	0.04963 0.7839	0.15397 0.3923	0.17978 0.3168	0.55912 0.0007	0.42786 0.0130
Q05 Q05	0.04963 0.7839	1.00000	0.72812 <.0001	0.37636 0.0309	0.16094 0.3709	0.55097 0.0009
Q06 Q06	0.15397 0.3923	0.72812 <.0001	1.00000	0.41133 0.0174	0.32423 0.0656	0.63203 <.0001
Q07 Q07	0.17978 0.3168	0.37636 0.0309	0.41133 0.0174	1.00000	0.47220 0.0055	0.42693 0.0132

Pearson Correlation Coefficients, N = 33 Prob > |r| under H0: Rho=0						
	Q04	**Q05**	**Q06**	**Q07**	**Q08**	**Q09**
Q08 Q08	0.55912 0.0007	0.16094 0.3709	0.32423 0.0656	0.47220 0.0055	1.00000	0.51119 0.0024
Q09 Q09	0.42786 0.0130	0.55097 0.0009	0.63203 <.0001	0.42693 0.0132	0.51119 0.0024	1.00000

E1.4 Informational roles

The CORR Procedure

9 Variables:	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Q10	32	3.18750	0.96512	102.00000	1.00000	4.00000	Q10
Q11	32	3.34375	0.78738	107.00000	2.00000	4.00000	Q11
Q12	32	3.37500	0.75134	108.00000	2.00000	4.00000	Q12
Q13	32	3.12500	0.94186	100.00000	1.00000	4.00000	Q13
Q14	32	3.53125	0.80259	113.00000	1.00000	4.00000	Q14
Q15	32	3.53125	0.80259	113.00000	1.00000	4.00000	Q15
Q16	32	3.15625	0.88388	101.00000	1.00000	4.00000	Q16
Q17	32	3.25000	0.67202	104.00000	2.00000	4.00000	Q17
Q18	32	3.43750	0.61892	110.00000	2.00000	4.00000	Q18

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.848051
Standardized	0.845361

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q10	0.700729	0.816402	0.676452	0.816827	Q10
Q11	0.817346	0.805778	0.803633	0.802659	Q11
Q12	0.829463	0.805975	0.829296	0.799732	Q12
Q13	0.616888	0.826877	0.595666	0.825536	Q13
Q14	0.547314	0.833998	0.519434	0.833551	Q14
Q15	0.577514	0.830897	0.552744	0.830073	Q15
Q16	0.400166	0.850635	0.454976	0.840176	Q16
Q17	0.240344	0.859810	0.256690	0.859710	Q17
Q18	0.382894	0.848107	0.398140	0.845905	Q18

Pearson Correlation Coefficients, N = 32 Prob > |r| under H0: Rho=0								
	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18
Q10 Q10	1.00000	0.71899 <.0001	0.65616 <.0001	0.75410 <.0001	0.61687 0.0002	0.61687 0.0002	0.11581 0.5279	-0.02487 0.8925	0.12826 0.4842

	Pearson Correlation Coefficients, N = 32 Prob > |r| under H0: Rho=0								
	Q10	**Q11**	**Q12**	**Q13**	**Q14**	**Q15**	**Q16**	**Q17**	**Q18**
Q11 Q11	0.71899 <.0001	1.00000	0.75657 <.0001	0.63616 <.0001	0.51844 0.0024	0.56948 0.0007	0.43020 0.0140	0.25910 0.1522	0.27719 0.1246
Q12 Q12	0.65616 <.0001	0.75657 <.0001	1.00000	0.47863 0.0056	0.67536 <.0001	0.72886 <.0001	0.39466 0.0254	0.19166 0.2933	0.39887 0.0237
Q13 Q13	0.75410 <.0001	0.63616 <.0001	0.47863 0.0056	1.00000	0.42140 0.0163	0.42140 0.0163	0.20827 0.2527	0.15289 0.4035	0.12451 0.4972
Q14 Q14	0.61687 0.0002	0.51844 0.0024	0.67536 <.0001	0.42140 0.0163	1.00000	0.94992 <.0001	-0.07531 0.6820	-0.25418 0.1604	-0.02841 0.8773
Q15 Q15	0.61687 0.0002	0.56948 0.0007	0.72886 <.0001	0.42140 0.0163	0.94992 <.0001	1.00000	-0.07531 0.6820	-0.19438 0.2864	-0.02841 0.8773
Q16 Q16	0.11581 0.5279	0.43020 0.0140	0.39466 0.0254	0.20827 0.2527	-0.07531 0.6820	-0.07531 0.6820	1.00000	0.74673 <.0001	0.75551 <.0001
Q17 Q17	-0.02487 0.8925	0.25910 0.1522	0.19166 0.2933	0.15289 0.4035	-0.25418 0.1604	-0.19438 0.2864	0.74673 <.0001	1.00000	0.58168 0.0005
Q18 Q18	0.12826 0.4842	0.27719 0.1246	0.39887 0.0237	0.12451 0.4972	-0.02841 0.8773	-0.02841 0.8773	0.75551 <.0001	0.58168 0.0005	1.00000

E1.5 Decisional roles

Decisional Roles

The CORR Procedure

12 Variables:	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30

Simple Statistics							
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Q19	32	2.87500	0.79312	92.00000	1.00000	4.00000	Q19
Q20	32	3.15625	0.67725	101.00000	2.00000	4.00000	Q20
Q21	32	3.59375	0.71208	115.00000	2.00000	4.00000	Q21
Q22	32	3.00000	1.13592	96.00000	1.00000	4.00000	Q22
Q23	32	3.31250	0.73780	106.00000	2.00000	4.00000	Q23
Q24	32	3.28125	0.92403	105.00000	1.00000	4.00000	Q24
Q25	32	3.43750	0.91361	110.00000	1.00000	4.00000	Q25
Q26	32	3.15625	1.05063	101.00000	1.00000	4.00000	Q26
Q27	32	3.31250	1.02980	106.00000	1.00000	4.00000	Q27
Q28	32	3.28125	0.63421	105.00000	2.00000	4.00000	Q28
Q29	32	3.37500	0.65991	108.00000	2.00000	4.00000	Q29
Q30	32	3.65625	0.60158	117.00000	2.00000	4.00000	Q30

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.880287
Standardized	0.883415

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q19	0.356477	0.882623	0.396776	0.884485	Q19
Q20	0.435068	0.878014	0.462708	0.880853	Q20
Q21	0.320014	0.883524	0.359158	0.886530	Q21
Q22	0.793464	0.855715	0.788539	0.862022	Q22
Q23	0.686291	0.865350	0.707914	0.866821	Q23
Q24	0.794492	0.856496	0.760254	0.863716	Q24
Q25	0.647322	0.866336	0.580955	0.874191	Q25
Q26	0.462841	0.880168	0.420523	0.883183	Q26
Q27	0.674078	0.864697	0.629764	0.871385	Q27
Q28	0.715041	0.865762	0.736194	0.865149	Q28

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Q29	0.650603	0.868235	0.654335	0.869959	Q29
Q30	0.471450	0.876605	0.515780	0.877887	Q30

Pearson Correlation Coefficients, N = 32 Prob > |r| under H0: Rho=0											
	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q19 Q19	1.00000	0.69814 <.0001	0.19277 0.2905	0.50128 0.0035	0.50992 0.0029	0.18157 0.3200	0.12243 0.5044	-0.13065 0.4760	-0.02962 0.8721	0.39281 0.0262	0.15408 0.3998	0.38031 0.0318
Q20 Q20	0.69814 <.0001	1.00000	0.47032 0.0066	0.37738 0.0332	0.41559 0.0180	0.28834 0.1095	0.19876 0.2755	0.05525 0.7639	0.06649 0.7177	0.42011 0.0167	0.15338 0.4020	0.29444 0.1019
Q21 Q21	0.19277 0.2905	0.47032 0.0066	1.00000	0.11964 0.5143	0.31084 0.0833	0.32633 0.0683	-0.06508 0.7234	0.13070 0.4758	0.13472 0.4623	0.33260 0.0629	0.33466 0.0612	0.41653 0.0177
Q22 Q22	0.50128 0.0035	0.37738 0.0332	0.11964 0.5143	1.00000	0.80829 <.0001	0.76832 <.0001	0.65275 <.0001	0.32435 0.0701	0.55153 0.0011	0.58211 0.0005	0.55943 0.0009	0.37765 0.0331
Q23 Q23	0.50992 0.0029	0.41559 0.0180	0.31084 0.0833	0.80829 <.0001	1.00000	0.62398 0.0001	0.31705 0.0770	0.10144 0.5807	0.29189 0.1050	0.63338 <.0001	0.54659 0.0012	0.54055 0.0014
Q24 Q24	0.18157 0.3200	0.28834 0.1095	0.32633 0.0683	0.76832 <.0001	0.62398 0.0001	1.00000	0.69019 <.0001	0.55137 0.0011	0.68436 <.0001	0.52121 0.0022	0.50918 0.0029	0.29560 0.1005
Q25 Q25	0.12243 0.5044	0.19876 0.2755	-0.06508 0.7234	0.65275 <.0001	0.31705 0.0770	0.69019 <.0001	1.00000	0.66584 <.0001	0.81003 <.0001	0.39319 0.0260	0.36116 0.0423	0.10638 0.5623
Q26 Q26	-0.13065 0.4760	0.05525 0.7639	0.13070 0.4758	0.32435 0.0701	0.10144 0.5807	0.55137 0.0011	0.66584 <.0001	1.00000	0.75842 <.0001	0.36763 0.0385	0.33150 0.0638	-0.01435 0.9378
Q27 Q27	-0.02962 0.8721	0.06649 0.7177	0.13472 0.4623	0.55153 0.0011	0.29189 0.1050	0.68436 <.0001	0.81003 <.0001	0.75842 <.0001	1.00000	0.45379 0.0091	0.62895 0.0001	0.23106 0.2032
Q28 Q28	0.39281 0.0262	0.42011 0.0167	0.33260 0.0629	0.58211 0.0005	0.63338 <.0001	0.52121 0.0022	0.39319 0.0260	0.36763 0.0385	0.45379 0.0091	1.00000	0.58771 0.0004	0.59978 0.0003
Q29 Q29	0.15408 0.3998	0.15338 0.4020	0.33466 0.0612	0.55943 0.0009	0.54659 0.0012	0.50918 0.0029	0.36116 0.0423	0.33150 0.0638	0.62895 0.0001	0.58771 0.0004	1.00000	0.57896 0.0005
Q30 Q30	0.38031 0.0318	0.29444 0.1019	0.41653 0.0177	0.37765 0.0331	0.54055 0.0014	0.29560 0.1005	0.10638 0.5623	-0.01435 0.9378	0.23106 0.2032	0.59978 0.0003	0.57896 0.0005	1.00000

APPENDIX E2   DESCRIPTIVE STATISTICS

E2.1   Frequency distribution of all the variables

Frequency analysis

The FREQ Procedure

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Q01				
Q01	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	1	3.03	1	3.03
Some	9	27.27	10	30.30
A lot	23	69.70	33	100.00

Chi-Square	22.5455
DF	2
Pr > ChiSq	<.0001

Deviations of Q01
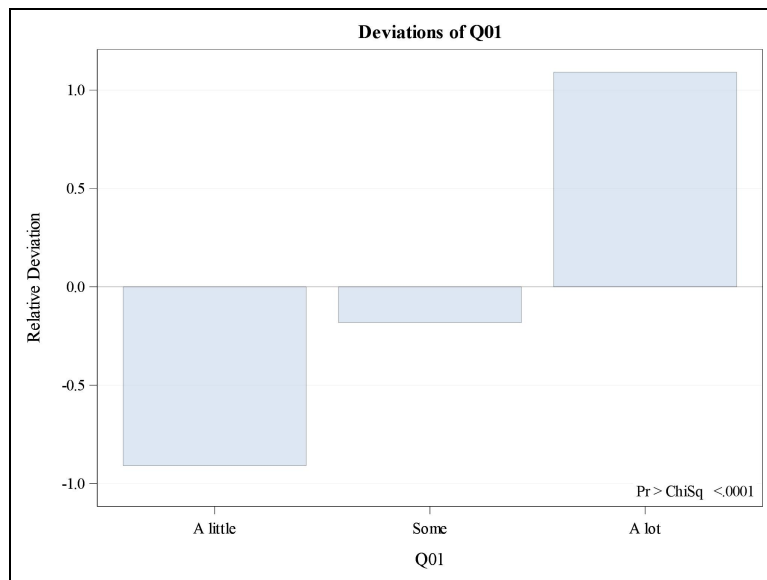
Sample Size = 33

Q02				
Q02	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	1	3.03	1	3.03
A little	2	6.06	3	9.09
Some	16	48.48	19	57.58
A lot	14	42.42	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	22.3939
DF	3
Pr > ChiSq	<.0001

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Deviations of Q02
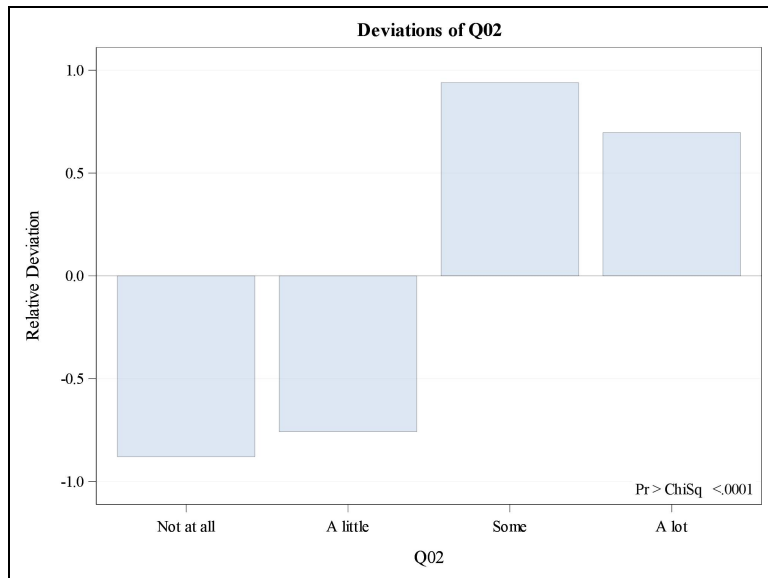
Sample Size = 33

Q03				
Q03	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	3	9.09	3	9.09
Some	11	33.33	14	42.42
A lot	19	57.58	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	11.6364
DF	2
Pr > ChiSq	0.0030

Deviations of Q03
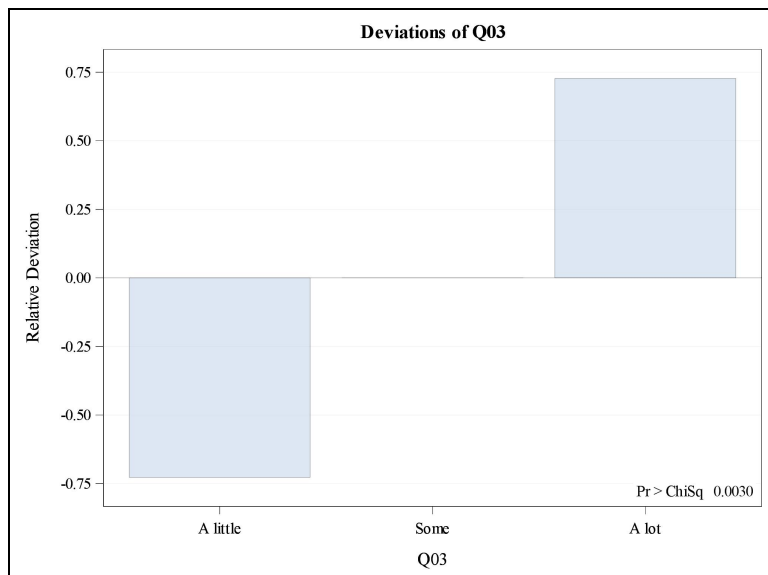
Sample Size = 33

Chi-Square Test for Equal Proportions	
Chi-Square	19.7273
DF	3
Pr > ChiSq	0.0002

Q04				
Q04	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	1	3.03	1	3.03
A little	3	9.09	4	12.12
Some	13	39.39	17	51.52
A lot	16	48.48	33	100.00

Deviations of Q04
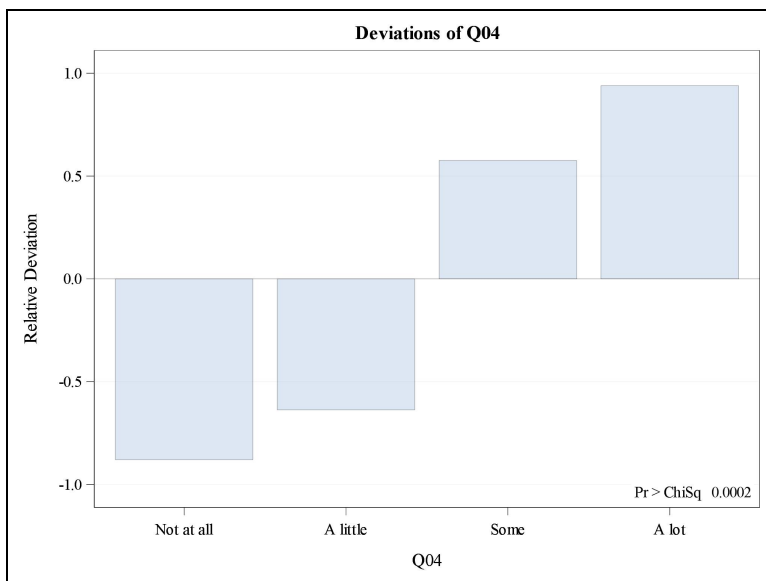
Sample Size = 33

Q05				
Q05	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	1	3.03	1	3.03
Some	9	27.27	10	30.30
A lot	23	69.70	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	22.5455
DF	2

Chi-Square Test for Equal Proportions	
Pr > ChiSq	<.0001

Deviations of Q05

Pr > ChiSq <.0001
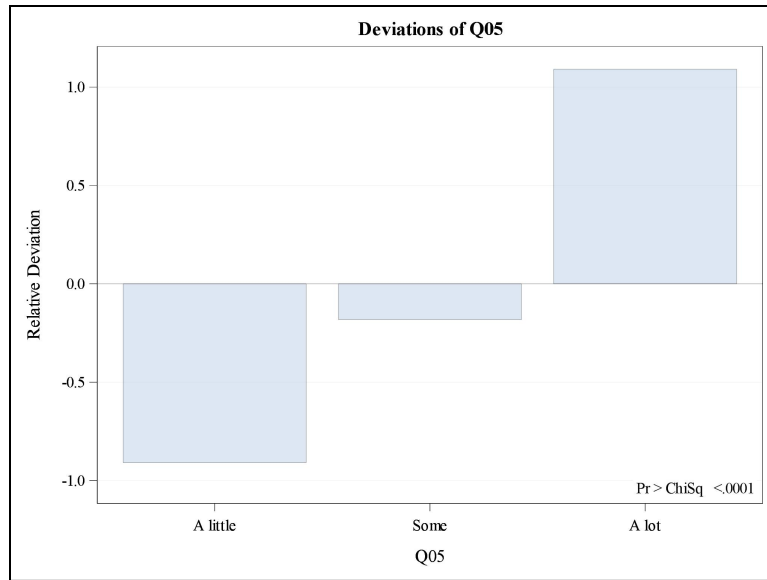
Sample Size = 33

Q06				
Q06	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	2	6.06	2	6.06
Some	9	27.27	11	33.33
A lot	22	66.67	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	18.7273
DF	2
Pr > ChiSq	<.0001

Chi-Square Test for Equal Proportions	
Chi-Square	12.6970
DF	3
Pr > ChiSq	0.0053

Sample Size = 33

Q07				
Q07	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	1	3.03	1	3.03
A little	6	18.18	7	21.21
Some	14	42.42	21	63.64
A lot	12	36.36	33	100.00

Sample Size = 33

Q08

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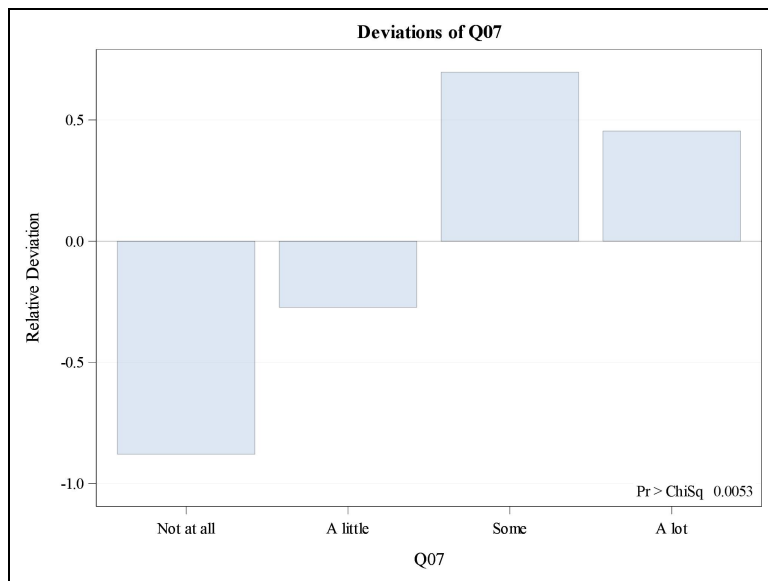
Chi-Square Test for Equal Proportions	
Chi-Square	23.1212
DF	3
Pr > ChiSq	<.0001

Q08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	1	3.03	1	3.03
A little	2	6.06	3	9.09
Some	17	51.52	20	60.61
A lot	13	39.39	33	100.00

Deviations of Q08
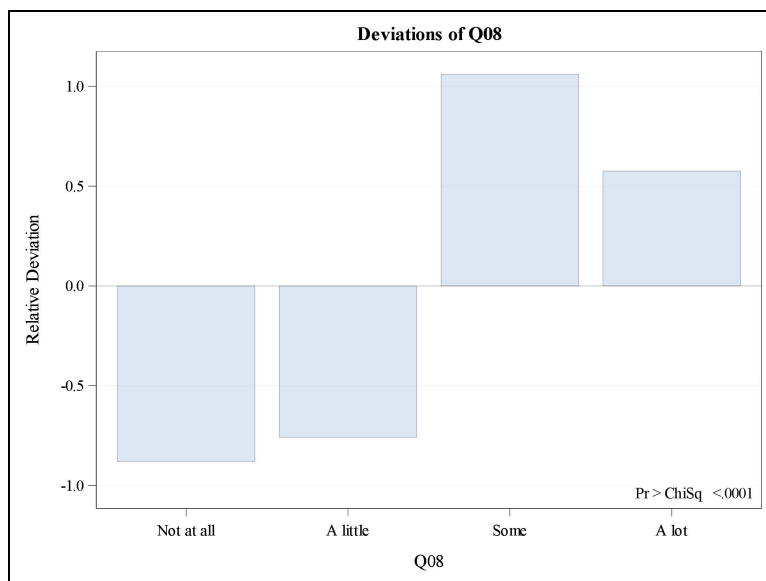
Sample Size = 33

Q09				
Q09	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	2	6.06	2	6.06
Some	18	54.55	20	60.61
A lot	13	39.39	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	12.1818
DF	2
Pr > ChiSq	0.0023

Deviations of Q09
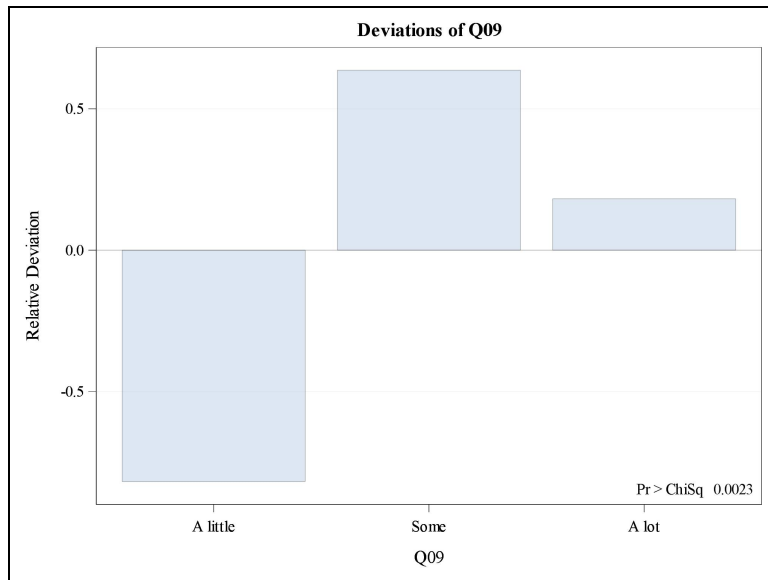
Sample Size = 33

Q10				
Q10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	3	9.09	3	9.09
A little	3	9.09	6	18.18
Some	11	33.33	17	51.52
A lot	16	48.48	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	14.8788
DF	3
Pr > ChiSq	0.0019

Deviations of Q10

279
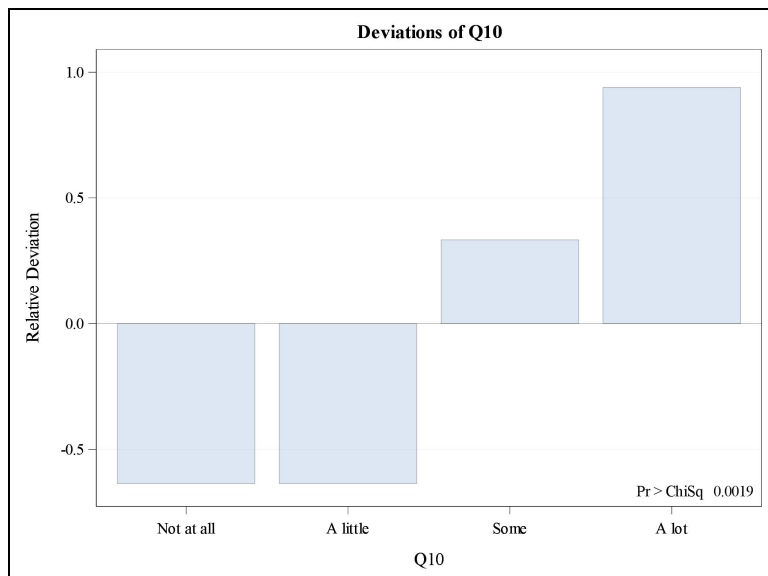
Q11				
Q11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	6	18.18	6	18.18
Some	10	30.30	16	48.48
A lot	17	51.52	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	5.6364
DF	2
Pr > ChiSq	0.0597

Deviations of Q11
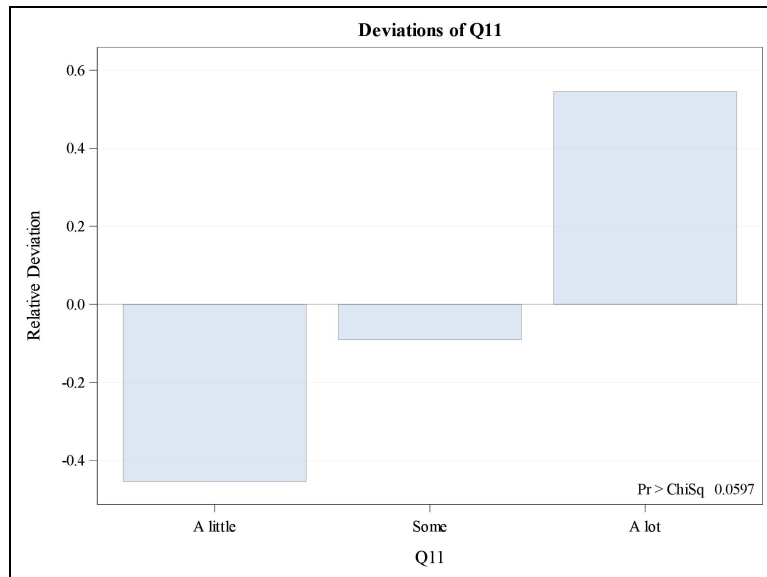
Sample Size = 33

Q12				
Q12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	5	15.63	5	15.63
Some	10	31.25	15	46.88
A lot	17	53.13	32	100.00
Frequency Missing = 1				

Chi-Square Test for Equal Proportions	
Chi-Square	6.8125

Chi-Square Test for Equal Proportions	
DF	2
Pr > ChiSq	0.0332

Deviations of Q12
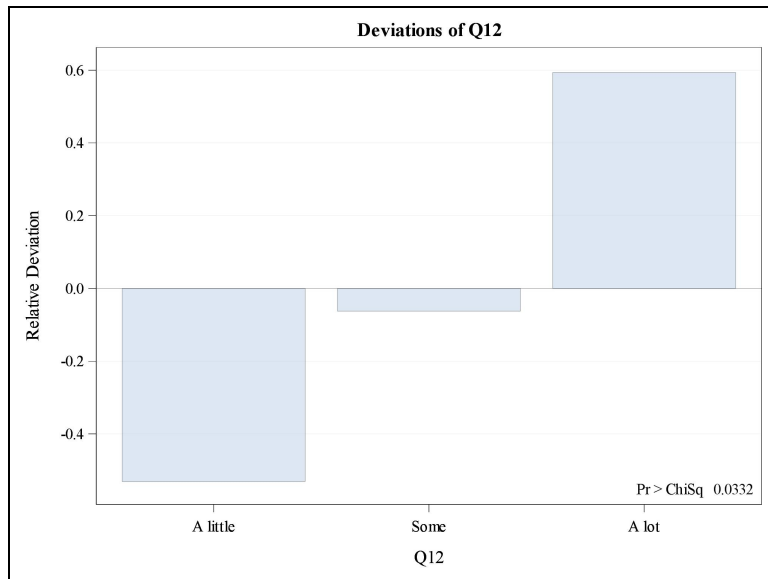
Effective Sample Size = 32
Frequency Missing = 1

Q13				
Q13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	3	9.09	3	9.09
A little	3	9.09	6	18.18
Some	14	42.42	20	60.61
A lot	13	39.39	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	13.4242
DF	3
Pr > ChiSq	0.0038

Deviations of Q13
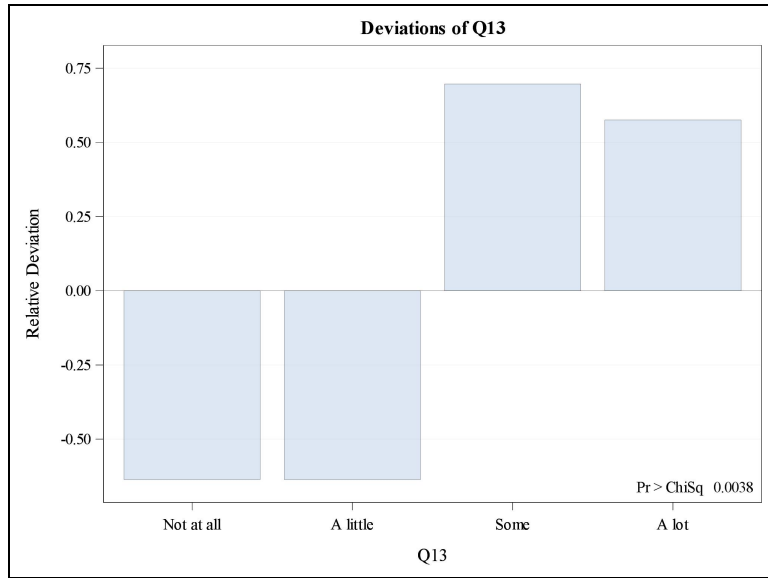
Sample Size = 33

Q14				
Q14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	2	6.06	2	6.06
Some	9	27.27	11	33.33
A lot	22	66.67	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	18.7273
DF	2
Pr > ChiSq	<.0001

Deviations of Q14

Sample Size = 33

282

Q15				
Q15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	2	6.06	2	6.06
Some	9	27.27	11	33.33
A lot	22	66.67	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	18.7273
DF	2
Pr > ChiSq	<.0001

Deviations of Q15

Sample Size = 33

Q16				
Q16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	2	6.06	2	6.06
A little	4	12.12	6	18.18
Some	14	42.42	20	60.61
A lot	13	39.39	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	13.6667
DF	3

Chi-Square Test for Equal Proportions	
Pr > ChiSq	0.0034

Deviations of Q16
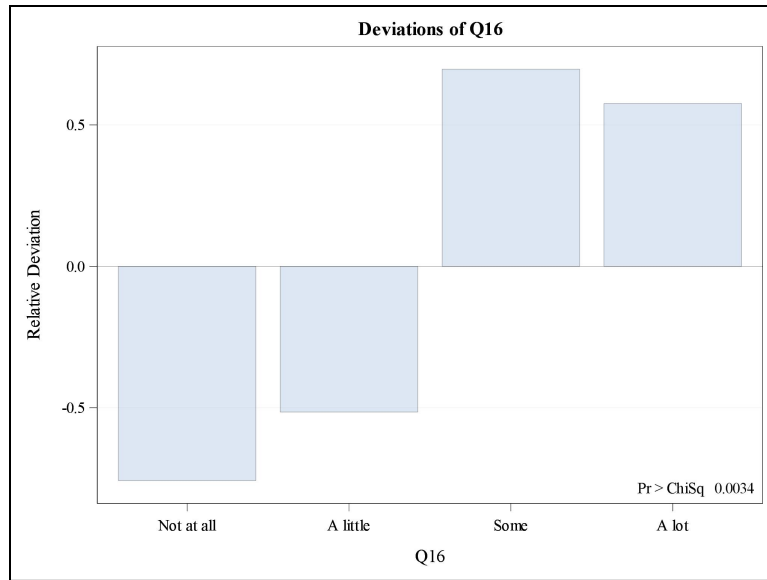
Sample Size = 33

Q17				
Q17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	4	12.12	4	12.12
Some	16	48.48	20	60.61
A lot	13	39.39	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	7.0909
DF	2
Pr > ChiSq	0.0289
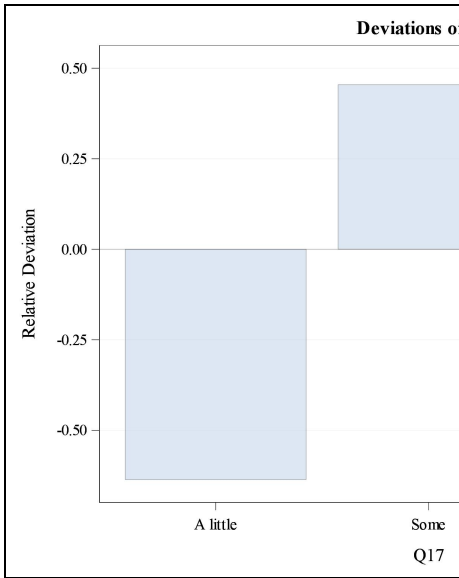
Chi-Square Test for Equal Proportions	
Chi-Square	11.0909
DF	2
Pr > ChiSq	0.0039

Sample Size = 33

Q18				
Q18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	2	6.06	2	6.06
Some	15	45.45	17	51.52
A lot	16	48.48	33	100.00

Deviations of Q18
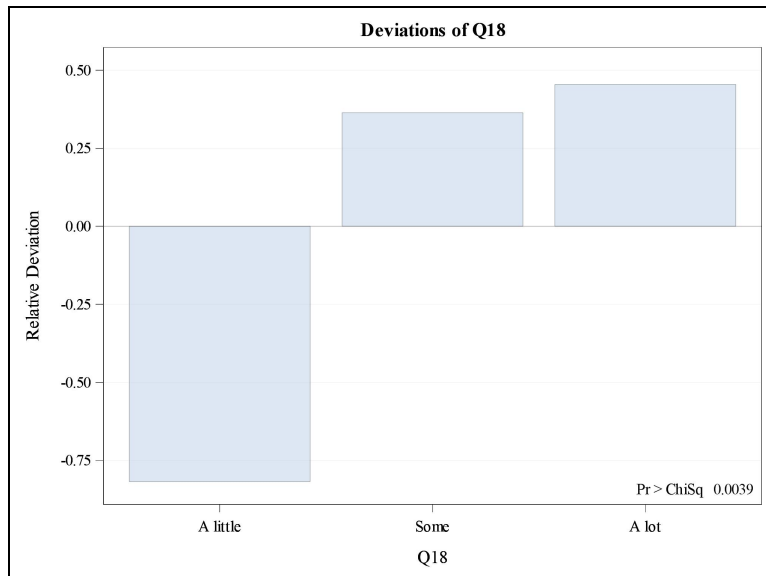
Sample Size = 33

Q19				
Q19	Frequency	Percent	Cumulative Frequency	Cumulative Percent

Q19				
Q19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	2	6.25	2	6.25
A little	6	18.75	8	25.00
Some	18	56.25	26	81.25
A lot	6	18.75	32	100.00
Frequency Missing = 1				

Chi-Square Test for Equal Proportions	
Chi-Square	18.0000
DF	3
Pr > ChiSq	0.0004
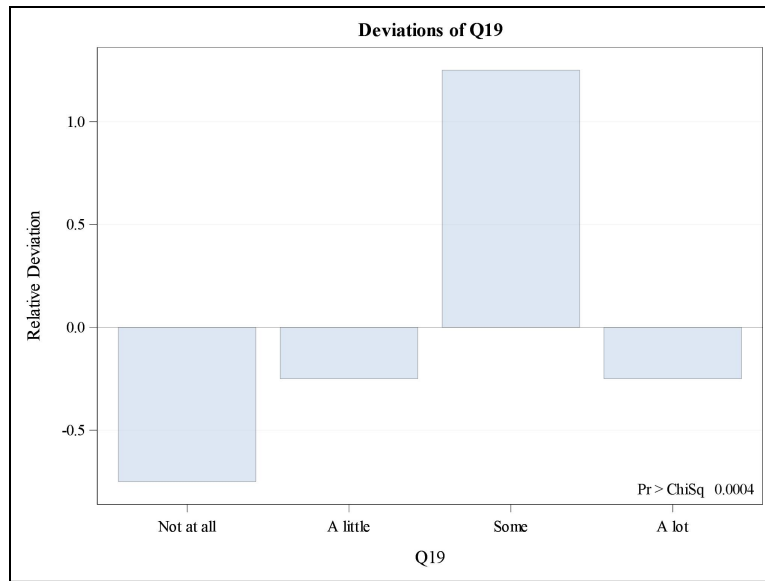
Effective Sample Size = 32
Frequency Missing = 1

Q20				
Q20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	5	15.15	5	15.15
Some	18	54.55	23	69.70
A lot	10	30.30	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	7.8182
DF	2

Chi-Square Test for Equal Proportions	
Pr > ChiSq	0.0201

Deviations of Q20

Pr > ChiSq 0.0201
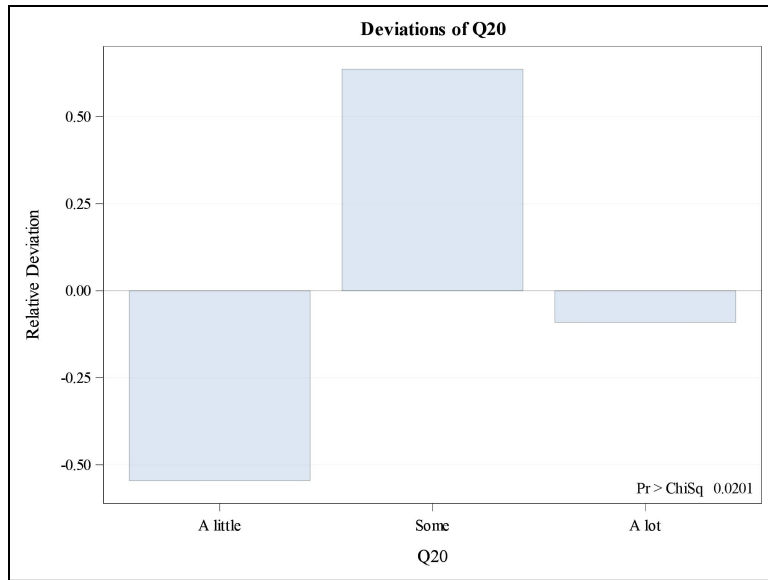
Sample Size = 33

Q21				
Q21	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	4	12.12	4	12.12
Some	6	18.18	10	30.30
A lot	23	69.70	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	19.8182
DF	2
Pr > ChiSq	<.0001

Deviations of Q21
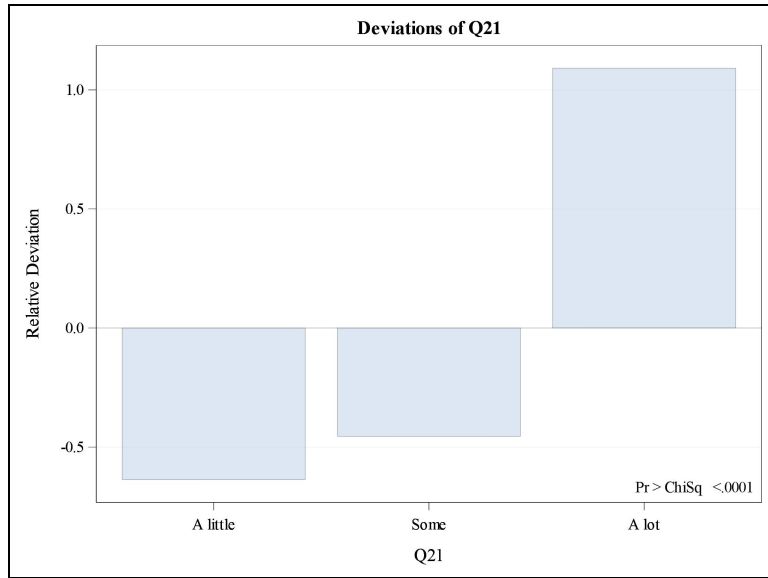
Sample Size = 33

Q22				
Q22	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	6	18.18	6	18.18
A little	2	6.06	8	24.24
Some	10	30.30	18	54.55
A lot	15	45.45	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	11.2424
DF	3
Pr > ChiSq	0.0105

Deviations of Q22
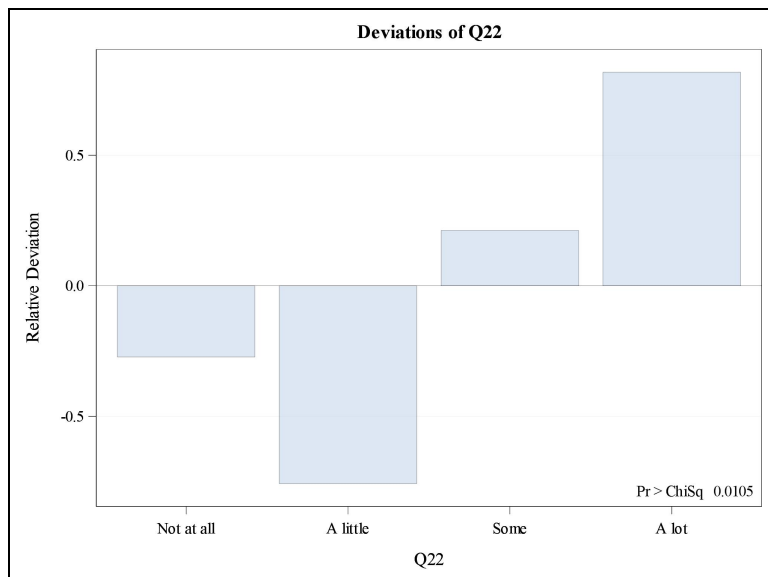
Q23				
Q23	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	5	15.15	5	15.15
Some	12	36.36	17	51.52
A lot	16	48.48	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	5.6364
DF	2
Pr > ChiSq	0.0597
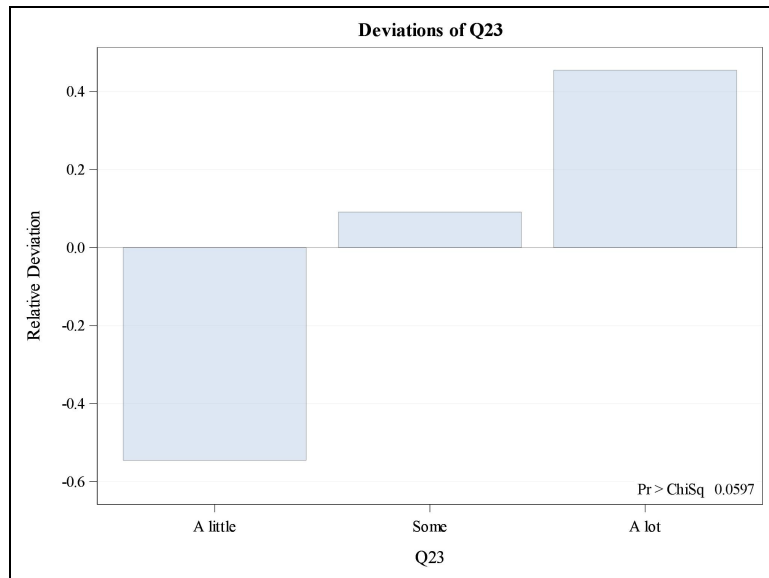
Sample Size = 33

Q24				
Q24	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	2	6.06	2	6.06
A little	4	12.12	6	18.18
Some	9	27.27	15	45.45
A lot	18	54.55	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	18.5152

Chi-Square Test for Equal Proportions	
DF	3
Pr > ChiSq	0.0003

Deviations of Q24
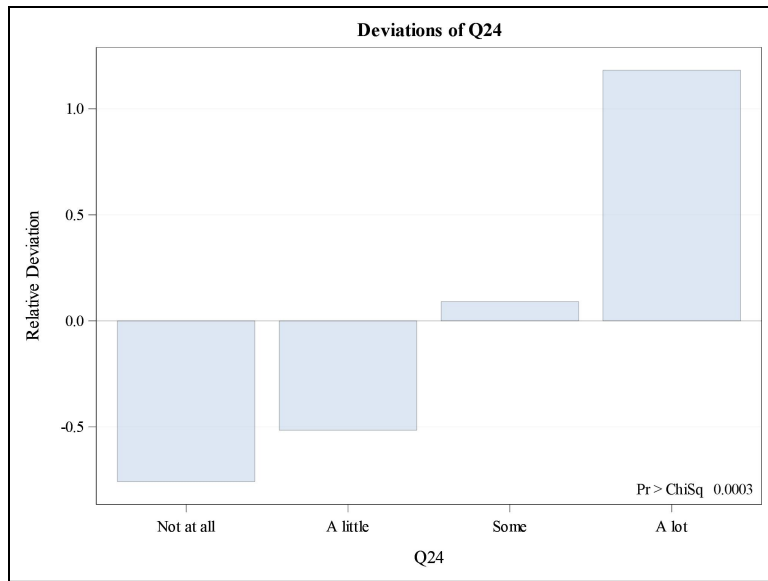
Sample Size = 33

Q25				
Q25	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	3	9.09	3	9.09
Some	10	30.30	13	39.39
A lot	20	60.61	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	13.2727
DF	2
Pr > ChiSq	0.0013

Deviations of Q25

Pr > ChiSq 0.0013
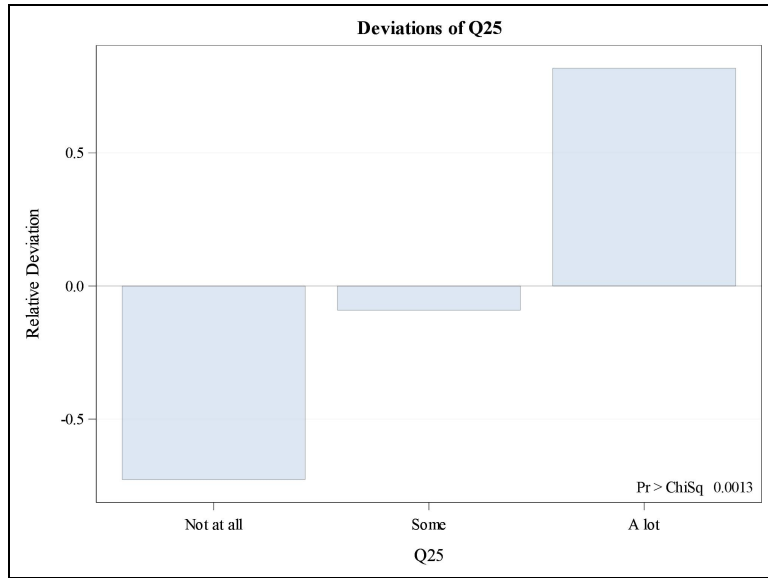
Sample Size = 33

Q26				
Q26	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	4	12.12	4	12.12
A little	3	9.09	7	21.21
Some	10	30.30	17	51.52
A lot	16	48.48	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	13.1818
DF	3
Pr > ChiSq	0.0043

Deviations of Q26
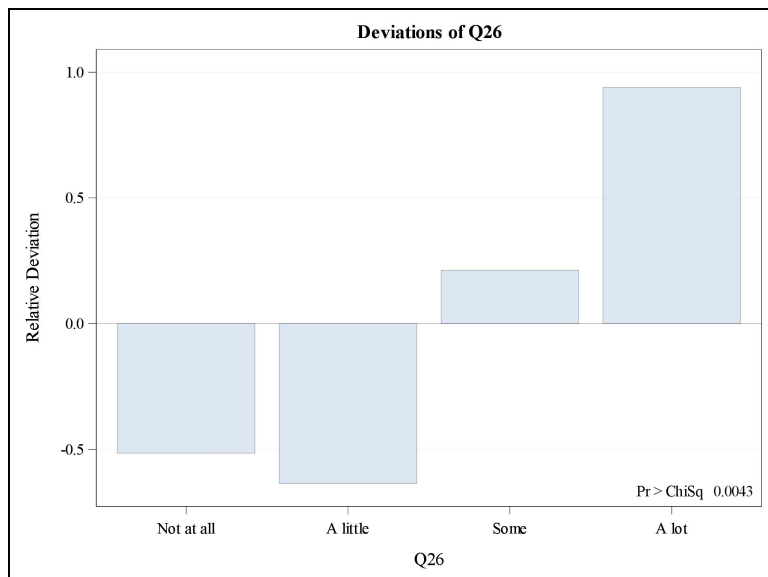
Pr > ChiSq 0.0043

Q27				
Q27	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Not at all	3	9.09	3	9.09
A little	5	15.15	8	24.24
Some	5	15.15	13	39.39
A lot	20	60.61	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	22.6364
DF	3
Pr > ChiSq	<.0001

Deviations of Q27
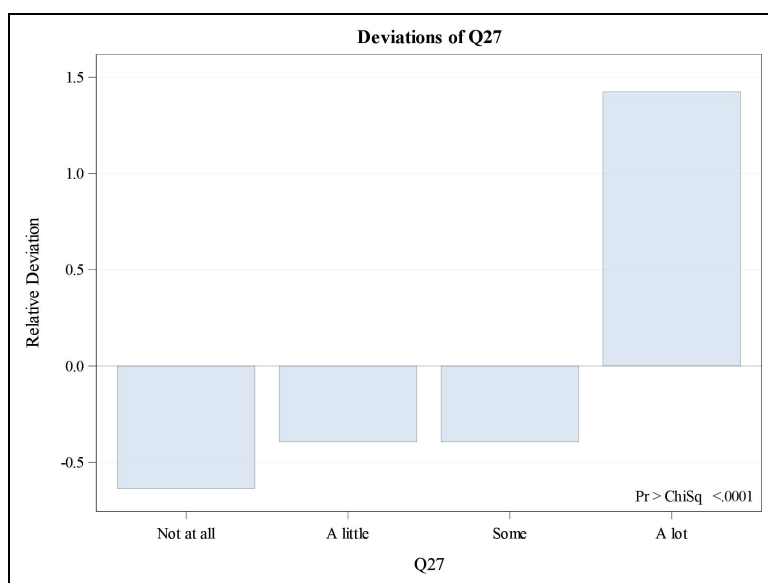
Q28				
Q28	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	3	9.09	3	9.09
Some	17	51.52	20	60.61
A lot	13	39.39	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	9.4545

Chi-Square Test for Equal Proportions	
DF	2
Pr > ChiSq	0.0089

Deviations of Q28
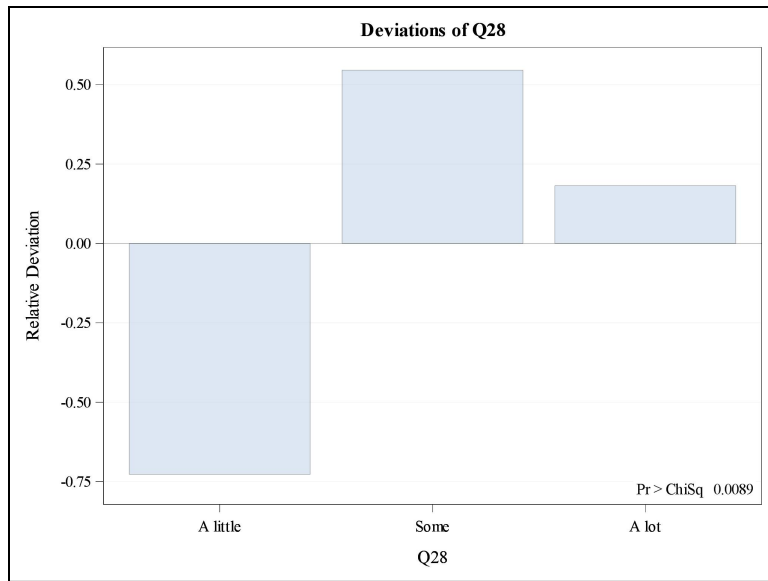
Sample Size = 33

Q29				
Q29	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	3	9.09	3	9.09
Some	15	45.45	18	54.55
A lot	15	45.45	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	8.7273
DF	2
Pr > ChiSq	0.0127

Deviations of Q29
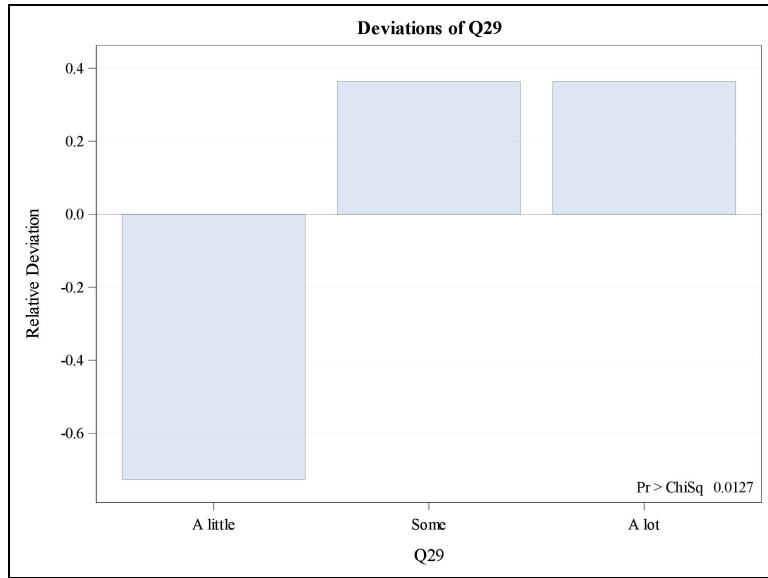
Sample Size = 33

Q30				
Q30	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A little	2	6.06	2	6.06
Some	8	24.24	10	30.30
A lot	23	69.70	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	21.2727
DF	2
Pr > ChiSq	<.0001

Deviations of Q30

Sample Size = 33

294
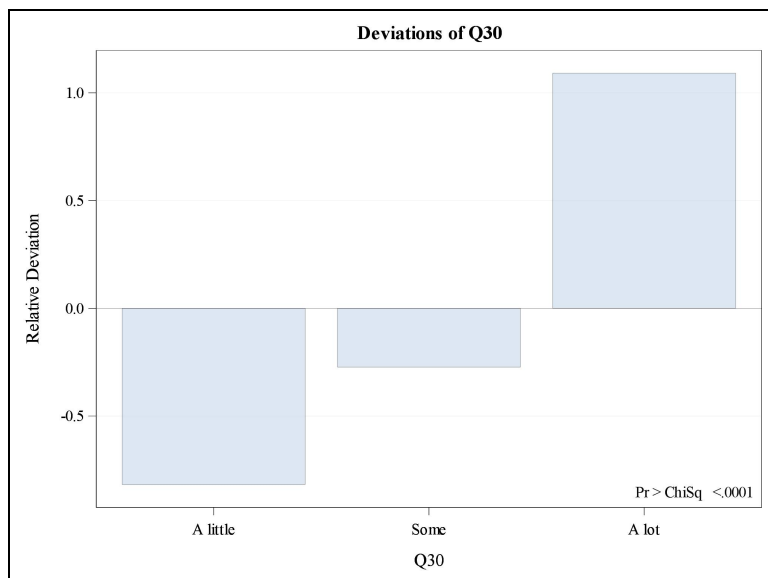
D1				
D1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Male	20	60.61	20	60.61
Female	13	39.39	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	1.4848
DF	1
Pr > ChiSq	0.2230
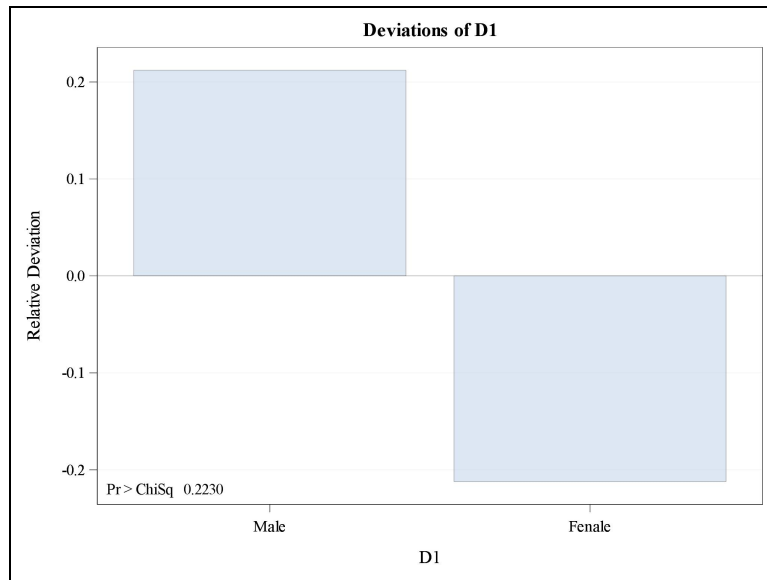
Sample Size = 33

D2				
D2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
3*4 years	1	3.03	1	3.03
5-6 years	4	12.12	5	15.15
7-8 years	2	6.06	7	21.21
9-10 years	1	3.03	8	24.24
10+ years	25	75.76	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	65.0303
DF	4

Chi-Square Test for Equal Proportions	
Pr > ChiSq	<.0001

Deviations of D2
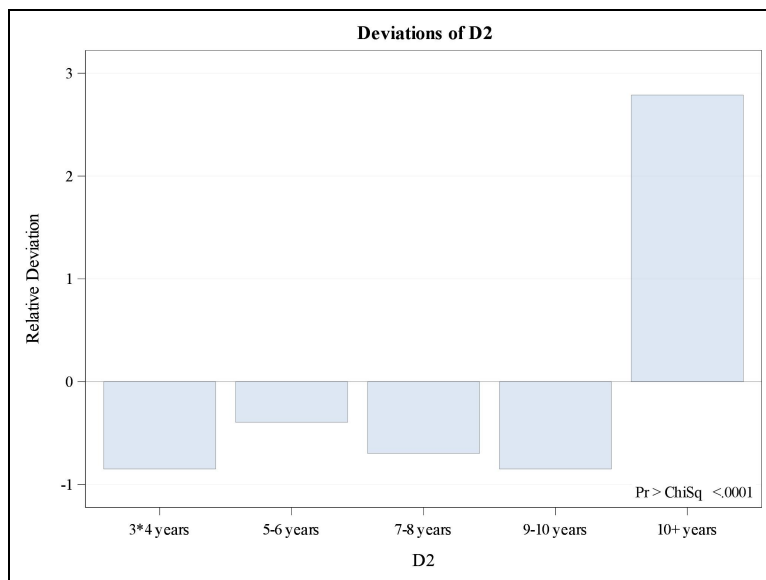
Sample Size = 33

D3				
D3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1-2 years	2	6.06	2	6.06
3*4 years	8	24.24	10	30.30
5-6 years	8	24.24	18	54.55
7-8 years	5	15.15	23	69.70
9-10 years	1	3.03	24	72.73
10+ years	9	27.27	33	100.00

Chi-Square Test for Equal Proportions	
Chi-Square	10.4545
DF	5
Pr > ChiSq	0.0633

Deviations of D3
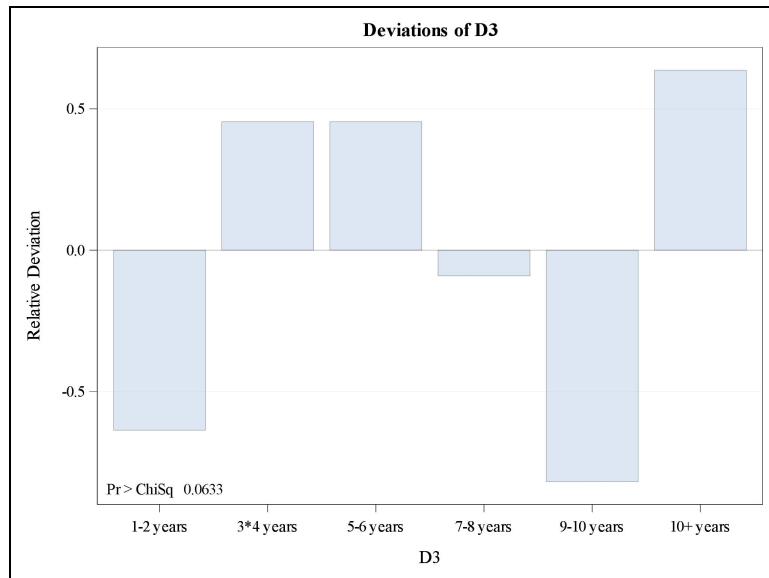
Sample Size = 33

E2.2 Central tendency for all the ordinal variables

The MEANS Procedure

Variable	N	Mean	Std Dev	Std Error	Median	Minimum	Maximum	Range
Q01	33	3.6666667	0.5400617	0.0940127	4.0000000	2.0000000	4.0000000	2.0000000
Q02	33	3.3030303	0.7282191	0.1267667	3.0000000	1.0000000	4.0000000	3.0000000
Q03	33	3.4848485	0.6671400	0.1161342	4.0000000	2.0000000	4.0000000	2.0000000
Q04	33	3.3333333	0.7772816	0.1353074	3.0000000	1.0000000	4.0000000	3.0000000
Q05	33	3.6666667	0.5400617	0.0940127	4.0000000	2.0000000	4.0000000	2.0000000
Q06	33	3.6060606	0.6092718	0.1060606	4.0000000	2.0000000	4.0000000	2.0000000
Q07	33	3.1212121	0.8199686	0.1427382	3.0000000	1.0000000	4.0000000	3.0000000
Q08	33	3.2727273	0.7190587	0.1251721	3.0000000	1.0000000	4.0000000	3.0000000
Q09	33	3.3333333	0.5951190	0.1035969	3.0000000	2.0000000	4.0000000	2.0000000
Q10	33	3.2121212	0.9603898	0.1671824	3.0000000	1.0000000	4.0000000	3.0000000
Q11	33	3.3333333	0.7772816	0.1353074	4.0000000	2.0000000	4.0000000	2.0000000
Q12	32	3.3750000	0.7513429	0.1328199	4.0000000	2.0000000	4.0000000	2.0000000
Q13	33	3.1212121	0.9272802	0.1614188	3.0000000	1.0000000	4.0000000	3.0000000
Q14	33	3.5454545	0.7941548	0.1382446	4.0000000	1.0000000	4.0000000	3.0000000
Q15	33	3.5454545	0.7941548	0.1382446	4.0000000	1.0000000	4.0000000	3.0000000
Q16	33	3.1515152	0.8703883	0.1515152	3.0000000	1.0000000	4.0000000	3.0000000
Q17	33	3.2727273	0.6741999	0.1173631	3.0000000	2.0000000	4.0000000	2.0000000
Q18	33	3.4242424	0.6139169	0.1068692	3.0000000	2.0000000	4.0000000	2.0000000
Q19	32	2.8750000	0.7931155	0.1402043	3.0000000	1.0000000	4.0000000	3.0000000
Q20	33	3.1515152	0.6671400	0.1161342	3.0000000	2.0000000	4.0000000	2.0000000
Q21	33	3.5757576	0.7084447	0.1233244	4.0000000	2.0000000	4.0000000	2.0000000
Q22	33	3.0303030	1.1315048	0.1969697	3.0000000	1.0000000	4.0000000	3.0000000
Q23	33	3.3333333	0.7359801	0.1281177	3.0000000	2.0000000	4.0000000	2.0000000
Q24	33	3.3030303	0.9180430	0.1598108	4.0000000	1.0000000	4.0000000	3.0000000
Q25	33	3.4242424	0.9024378	0.1570943	4.0000000	1.0000000	4.0000000	3.0000000
Q26	33	3.1515152	1.0344447	0.1800737	3.0000000	1.0000000	4.0000000	3.0000000
Q27	33	3.2727273	1.0390118	0.1808687	4.0000000	1.0000000	4.0000000	3.0000000
Q28	33	3.3030303	0.6366341	0.1108238	3.0000000	2.0000000	4.0000000	2.0000000
Q29	33	3.3636364	0.6527912	0.1136364	3.0000000	2.0000000	4.0000000	2.0000000
Q30	33	3.6363636	0.6030227	0.1049728	4.0000000	2.0000000	4.0000000	2.0000000

APPENDIX E3   FACTOR ANALYSIS

The FACTOR Procedure

Input Data Type	Raw Data
Number of Records Read	33
Number of Records Used	31
N for Significance Tests	31

Means and Standard Deviations from 31 Observations		
Variable	Mean	Std Dev
Q01	3.6774194	0.5408078
Q02	3.2903226	0.7390782
Q03	3.4838710	0.6768046
Q04	3.3548387	0.7978466
Q05	3.6774194	0.5408078
Q06	3.5806452	0.6204404
Q07	3.1290323	0.8462441
Q08	3.2580645	0.7288229
Q09	3.3225806	0.5992827
Q10	3.1612903	0.9694251
Q11	3.3548387	0.7978466
Q12	3.4193548	0.7199164
Q13	3.0967742	0.9435691
Q14	3.5483871	0.8098852
Q15	3.5483871	0.8098852
Q16	3.1935484	0.8725195
Q17	3.2580645	0.6815542
Q18	3.4838710	0.5698519
Q19	2.8709677	0.8058923
Q20	3.1612903	0.6878359
Q21	3.5806452	0.7199164
Q22	2.9677419	1.1397038
Q23	3.2903226	0.7390782
Q24	3.2580645	0.9297936
Q25	3.4193548	0.9228288
Q26	3.1290323	1.0564701
Q27	3.2903226	1.0390235
Q28	3.2580645	0.6307531
Q29	3.3870968	0.6672041
Q30	3.6451613	0.6081879

The FACTOR Procedure
Initial Factor Method: Principal Factors

		Q01		Q02		Q03		Q04		Q05		Q06		Q07		Q08		Q09		Q10		Q11		Q12		Q13	
								Partial Correlations Controlling all other Variables																			
Q01	Q01	100	*	-96	*	99	*	-56	*	99	*	94	*	-98	*	88	*	-99	*	-12		-99	*	-100	*	98	*
Q02	Q02	-96	*	100	*	95	*	-36		95	*	98	*	-92	*	91	*	-95	*	-32		-94	*	-96	*	93	*
Q03	Q03	99	*	95	*	100	*	59	*	-99	*	-93	*	97	*	-83	*	99	*	5		99	*	99	*	-96	*
Q04	Q04	-56	*	-36		59	*	100	*	55	*	29		-63	*	23		-54	*	58	*	-59	*	-53	*	60	*
Q05	Q05	99	*	95	*	-99	*	55	*	100	*	-93	*	97	*	-85	*	100	*	7		99	*	100	*	-96	*
Q06	Q06	94	*	98	*	-93	*	29		-93	*	100	*	89	*	-90	*	95	*	36		92	*	95	*	-90	*
Q07	Q07	-98	*	-92	*	97	*	-63	*	97	*	89	*	100	*	82	*	-97	*	-4		-98	*	-97	*	98	*
Q08	Q08	88	*	91	*	-83	*	23		-85	*	-90	*	82	*	100	*	86	*	46		85	*	87	*	-86	*
Q09	Q09	-99	*	-95	*	99	*	-54	*	100	*	95	*	-97	*	86	*	100	*	-11		-99	*	-100	*	97	*
Q10	Q10	-12		-32		5		58	*	7		36		-4		46		-11		100	*	-7		-11		14	
Q11	Q11	-99	*	-94	*	99	*	-59	*	99	*	92	*	-98	*	85	*	-99	*	-7		100	*	-99	*	98	*
Q12	Q12	-100	*	-96	*	99	*	-53	*	100	*	95	*	-97	*	87	*	-100	*	-11		-99	*	100	*	97	*
Q13	Q13	98	*	93	*	-96	*	60	*	-96	*	-90	*	98	*	-86	*	97	*	14		98	*	97	*	100	*
Q14	Q14	-98	*	-96	*	98	*	-50		99	*	95	*	-97	*	85	*	-99	*	-16		-98	*	-99	*	96	*
Q15	Q15	99	*	96	*	-99	*	54	*	-100	*	-95	*	98	*	-85	*	100	*	11		99	*	100	*	-97	*
Q16	Q16	90	*	78	*	-89	*	81	*	-87	*	-72	*	94	*	-68	*	87	*	-15		91	*	87	*	-93	*
Q17	Q17	88	*	94	*	-87	*	24		-90	*	-93	*	85	*	-86	*	90	*	33		88	*	90	*	-86	*
Q18	Q18	-98	*	-92	*	98	*	-63	*	98	*	89	*	-99	*	81	*	-98	*	-2		-99	*	-98	*	98	*
Q19	Q19	-21		-23		28		8		29		31		-9		14		-28		10		-21		-26		7	
Q20	Q20	89	*	90	*	-91	*	39		-91	*	-90	*	83	*	-71	*	91	*	10		88	*	91	*	-82	*
Q21	Q21	86	*	72	*	-86	*	84	*	-85	*	-67	*	91	*	-62	*	85	*	-22		88	*	84	*	-90	*
Q22	Q22	99	*	97	*	-99	*	50		-100	*	-96	*	96	*	-86	*	100	*	15		99	*	100	*	-96	*
Q23	Q23	-61	*	-60	*	68	*	-29		66	*	63	*	-52	*	40		-65	*	11		-60	*	-64	*	47	
Q24	Q24	-99	*	-95	*	99	*	-58	*	99	*	93	*	-99	*	85	*	-99	*	-10		-99	*	-99	*	98	*
Q25	Q25	-98	*	-99	*	96	*	-39		97	*	98	*	-94	*	93	*	-98	*	-30		-97	*	-98	*	95	*
Q26	Q26	-89	*	-85	*	93	*	-52	*	93	*	85	*	-85	*	68	*	-93	*	1		-89	*	-91	*	83	*
Q27	Q27	99	*	97	*	-99	*	51	*	-99	*	-96	*	97	*	-88	*	100	*	17		99	*	100	*	-98	*
Q28	Q28	92	*	94	*	-91	*	28		-93	*	-97	*	86	*	-85	*	94	*	32		90	*	93	*	-87	*
Q29	Q29	-94	*	-97	*	91	*	-28		93	*	98	*	-90	*	89	*	-94	*	-38		-92	*	-94	*	92	*
Q30	Q30	-95	*	-95	*	94	*	-42		94	*	95	*	-89	*	92	*	-95	*	-28		-93	*	-95	*	91	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

		Q14		Q15		Q16		Q17		Q18		Q19		Q20		Q21		Q22		Q23		Q24		Q25		Q26	
								Partial Correlations Controlling all other Variables																			

		Q14		Q15		Q16		Q17		Q18		Q19		Q20		Q21		Q22		Q23		Q24		Q25		Q26	
										Partial Correlations Controlling all other Variables																	
Q01	Q01	-98	*	99	*	90	*	88	*	-98	*	-21		89	*	86	*	99	*	-61	*	-99	*	-98	*	-89	*
Q02	Q02	-96	*	96	*	78	*	94	*	-92	*	-23		90	*	72	*	97	*	-60	*	-95	*	-99	*	-85	*
Q03	Q03	98	*	-99	*	-89	*	-87	*	98	*	28		-91	*	-86	*	-99	*	68	*	99	*	96	*	93	*
Q04	Q04	-50		54	*	81	*	24		-63	*	8		39		84	*	50		-29		-58	*	-39		-52	*
Q05	Q05	99	*	-100	*	-87	*	-90	*	98	*	29		-91	*	-85	*	-100	*	66	*	99	*	97	*	93	*
Q06	Q06	95	*	-95	*	-72	*	-93	*	89	*	31		-90	*	-67	*	-96	*	63	*	93	*	98	*	85	*
Q07	Q07	-97	*	98	*	94	*	85	*	-99	*	-9		83	*	91	*	96	*	-52	*	-99	*	-94	*	-85	*
Q08	Q08	85	*	-85	*	-68	*	-86	*	81	*	14		-71	*	-62	*	-86	*	40		85	*	93	*	68	*
Q09	Q09	-99	*	100	*	87	*	90	*	-98	*	-28		91	*	85	*	100	*	-65	*	-99	*	-98	*	-93	*
Q10	Q10	-16		11		-15		33		-2		10		10		-22		15		11		-10		-30		1	
Q11	Q11	-98	*	99	*	91	*	88	*	-99	*	-21		88	*	88	*	99	*	-60	*	-99	*	-97	*	-89	*
Q12	Q12	-99	*	100	*	87	*	90	*	-98	*	-26		91	*	84	*	100	*	-64	*	-99	*	-98	*	-91	*
Q13	Q13	96	*	-97	*	-93	*	-86	*	98	*	7		-82	*	-90	*	-96	*	47		98	*	95	*	83	*
Q14	Q14	100	*	100	*	86	*	91	*	-97	*	-25		90	*	83	*	99	*	-63	*	-99	*	-98	*	-91	*
Q15	Q15	100	*	100	*	-88	*	-90	*	98	*	26		-91	*	-86	*	-100	*	64	*	99	*	98	*	92	*
Q16	Q16	86	*	-88	*	100	*	-67	*	93	*	-3		-70	*	-96	*	-85	*	39		91	*	81	*	75	*
Q17	Q17	91	*	-90	*	-67	*	100	*	87	*	22		-85	*	-65	*	-91	*	53	*	89	*	94	*	82	*
Q18	Q18	-97	*	98	*	93	*	87	*	100	*	-14		85	*	92	*	97	*	-55	*	-99	*	-94	*	-88	*
Q19	Q19	-25		26		-3		22		-14		100	*	54	*	-5		31		-78	*	-17		-25		-48	
Q20	Q20	90	*	-91	*	-70	*	-85	*	85	*	54	*	100	*	-65	*	-92	*	81	*	87	*	89	*	92	*
Q21	Q21	83	*	-86	*	-96	*	-65	*	92	*	-5		-65	*	100	*	-82	*	40		89	*	76	*	77	*
Q22	Q22	99	*	-100	*	-85	*	-91	*	97	*	31		-92	*	-82	*	100	*	68	*	99	*	98	*	93	*
Q23	Q23	-63	*	64	*	39		53	*	-55	*	-78	*	81	*	40		68	*	100	*	-57	*	-59	*	-82	*
Q24	Q24	-99	*	99	*	91	*	89	*	-99	*	-17		87	*	89	*	99	*	-57	*	100	*	-97	*	-89	*
Q25	Q25	-98	*	98	*	81	*	94	*	-94	*	-25		89	*	76	*	98	*	-59	*	-97	*	100	*	-87	*
Q26	Q26	-91	*	92	*	75	*	82	*	-88	*	-48		92	*	77	*	93	*	-82	*	-89	*	-87	*	100	*
Q27	Q27	99	*	-100	*	-87	*	-91	*	98	*	23		-90	*	-84	*	-100	*	61	*	99	*	99	*	90	*
Q28	Q28	95	*	-94	*	-69	*	-90	*	87	*	39		-90	*	-66	*	-95	*	70	*	91	*	95	*	90	*
Q29	Q29	-96	*	95	*	74	*	93	*	-90	*	-22		87	*	70	*	95	*	-55	*	-94	*	-98	*	-83	*
Q30	Q30	-94	*	94	*	77	*	88	*	-89	*	-31		87	*	73	*	96	*	-64	*	-93	*	-96	*	-88	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

		Q27		Q28		Q29		Q30	
		Partial Correlations Controlling all other Variables							
Q01	Q01	99	*	92	*	-94	*	-95	*
Q02	Q02	97	*	94	*	-97	*	-95	*
Q03	Q03	-99	*	-91	*	91	*	94	*
Q04	Q04	51	*	28		-28		-42	

		Partial Correlations Controlling all other Variables							
		Q27		**Q28**		**Q29**		**Q30**	
Q05	**Q05**	-99	*	-93	*	93	*	94	*
Q06	**Q06**	-96	*	-97	*	98	*	95	*
Q07	**Q07**	97	*	86	*	-90	*	-89	*
Q08	**Q08**	-88	*	-85	*	89	*	92	*
Q09	**Q09**	100	*	94	*	-94	*	-95	*
Q10	**Q10**	17		32		-38		-28	
Q11	**Q11**	99	*	90	*	-92	*	-93	*
Q12	**Q12**	100	*	93	*	-94	*	-95	*
Q13	**Q13**	-98	*	-87	*	92	*	91	*
Q14	**Q14**	99	*	95	*	-96	*	-94	*
Q15	**Q15**	-100	*	-94	*	95	*	94	*
Q16	**Q16**	-87	*	-69	*	74	*	77	*
Q17	**Q17**	-91	*	-90	*	93	*	88	*
Q18	**Q18**	98	*	87	*	-90	*	-89	*
Q19	**Q19**	23		39		-22		-31	
Q20	**Q20**	-90	*	-90	*	87	*	87	*
Q21	**Q21**	-84	*	-66	*	70	*	73	*
Q22	**Q22**	-100	*	-95	*	95	*	96	*
Q23	**Q23**	61	*	70	*	-55	*	-64	*
Q24	**Q24**	99	*	91	*	-94	*	-93	*
Q25	**Q25**	99	*	95	*	-98	*	-96	*
Q26	**Q26**	90	*	90	*	-83	*	-88	*
Q27	**Q27**	100	*	-94	*	96	*	95	*
Q28	**Q28**	-94	*	100	*	96	*	94	*
Q29	**Q29**	96	*	96	*	100	*	-92	*
Q30	**Q30**	95	*	94	*	-92	*	100	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.18815705									
Q01	**Q02**	**Q03**	**Q04**	**Q05**	**Q06**	**Q07**	**Q08**	**Q09**	**Q10**
0.038589	0.047013	0.071455	0.463639	0.101564	0.170795	0.141359	0.251315	0.179677	0.815024

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.18815705									
Q11	**Q12**	**Q13**	**Q14**	**Q15**	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
0.234019	0.241175	0.191565	0.170022	0.167456	0.197474	0.139047	0.127540	0.660084	0.141324

Kaiser's Measure of Sampling Adequacy: Overall MSA = 0.18815705									
Q21	**Q22**	**Q23**	**Q24**	**Q25**	**Q26**	**Q27**	**Q28**	**Q29**	**Q30**
0.141425	0.228284	0.343407	0.196730	0.199932	0.171433	0.192138	0.185052	0.174497	0.145806

Prior Communality Estimates: SMC									
Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10
0.999498	0.995004	0.999578	0.996063	0.999826	0.998935	0.998631	0.994444	0.999748	0.993547

Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
0.999291	0.999897	0.998940	0.999790	0.999951	0.997155	0.993864	0.999473	0.976039	0.987926

Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
0.996697	0.999934	0.993116	0.999707	0.999890	0.996088	0.999952	0.996034	0.998698	0.995446

Eigenvalues of the Reduced Correlation Matrix: Total = 29.9031622 Average = 0.99677207				
	Eigenvalue	Difference	Proportion	Cumulative
1	10.9186028	5.7083617	0.3651	0.3651
2	5.2102411	2.0763885	0.1742	0.5394
3	3.1338526	1.3127893	0.1048	0.6442
4	1.8210634	0.2039333	0.0609	0.7051
5	1.6171301	0.4139354	0.0541	0.7591
6	1.2031947	0.2162788	0.0402	0.7994
7	0.9869159	0.0930074	0.0330	0.8324
8	0.8939084	0.0771952	0.0299	0.8623
9	0.8167133	0.1386725	0.0273	0.8896
10	0.6780407	0.1582589	0.0227	0.9123
11	0.5197819	0.0994935	0.0174	0.9296
12	0.4202883	0.0627276	0.0141	0.9437
13	0.3575607	0.0651219	0.0120	0.9557
14	0.2924388	0.0569162	0.0098	0.9654
15	0.2355226	0.0492810	0.0079	0.9733
16	0.1862416	0.0349473	0.0062	0.9795
17	0.1512944	0.0361081	0.0051	0.9846
18	0.1151862	0.0390802	0.0039	0.9885
19	0.0761061	0.0112343	0.0025	0.9910
20	0.0648717	0.0055629	0.0022	0.9932
21	0.0593089	0.0105694	0.0020	0.9952
22	0.0487395	0.0131301	0.0016	0.9968
23	0.0356094	0.0064483	0.0012	0.9980
24	0.0291611	0.0115719	0.0010	0.9990
25	0.0175892	0.0059791	0.0006	0.9995
26	0.0116101	0.0054143	0.0004	0.9999
27	0.0061958	0.0064252	0.0002	1.0001
28	-0.0002294	0.0011784	-0.0000	1.0001
29	-0.0014078	0.0009619	-0.0000	1.0001
30	-0.0023697		-0.0001	1.0000

6 factors will be retained by the NFACTOR criterion.

		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	

		Factor Pattern											
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Q12	Q12	86	*	-22		10		15		15		20	
Q11	Q11	85	*	2		-17		-5		9		26	
Q22	Q22	83	*	8		-32		1		-22		-20	
Q10	Q10	81	*	-27		-31		10		3		1	
Q08	Q08	77	*	-14		-23		1		24		-17	
Q04	Q04	76	*	34		-33		1		10		9	
Q23	Q23	72	*	-19		-7		11		-44		-19	
Q24	Q24	71	*	42		-6		-16		-16		-18	
Q09	Q09	71	*	-8		27		-25		-13		28	
Q13	Q13	71	*	-4		-45		-10		17		0	
Q28	Q28	70	*	-3		3		3		-41		-6	
Q25	Q25	67	*	48		-34		-26		23		-6	
Q29	Q29	65	*	17		13		-16		-58	*	16	
Q19	Q19	61	*	-50	*	-5		38		13		-27	
Q30	Q30	57	*	-29		28		-22		-35		-13	
Q26	Q26	43		75	*	-3		9		10		21	
Q17	Q17	30		72	*	15		-15		30		-8	
Q27	Q27	63	*	64	*	-6		-21		-11		14	
Q16	Q16	52	*	61	*	28		0		37		-13	
Q03	Q03	6		61	*	-20		48		-3		18	
Q18	Q18	46		46		41		11		9		-28	
Q15	Q15	55	*	-62	*	-17		22		14		26	
Q07	Q07	45		-63	*	4		-23		25		9	
Q14	Q14	55	*	-64	*	-17		27		9		18	
Q21	Q21	38		-4		83	*	2		-9		-8	
Q05	Q05	35		-11		81	*	-12		28		13	
Q06	Q06	57	*	-32		63	*	4		9		26	
Q01	Q01	0		34		9		75	*	-16		11	
Q02	Q02	-4		44		27		47		-10		19	
Q20	Q20	54	*	-21		24		32		14		-55	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

	Variance Explained by Each Factor					
	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
	10.918603	5.210241	3.133853	1.821063	1.617130	1.203195

Final Communality Estimates: Total = 23.904085									
Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10

Final Communality Estimates: Total = 23.904085									
Q01	**Q02**	**Q03**	**Q04**	**Q05**	**Q06**	**Q07**	**Q08**	**Q09**	**Q10**
0.721719	0.536188	0.683695	0.822605	0.894010	0.901873	0.727002	0.755026	0.741843	0.834579

Q11	**Q12**	**Q13**	**Q14**	**Q15**	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
0.825157	0.880498	0.745661	0.859859	0.861341	0.885591	0.753879	0.699041	0.858885	0.809731

Q21	**Q22**	**Q23**	**Q24**	**Q25**	**Q26**	**Q27**	**Q28**	**Q29**	**Q30**
0.848032	0.879705	0.804390	0.768781	0.923308	0.810300	0.882245	0.658881	0.863621	0.666638

The FACTOR Procedure
Prerotation Method: Varimax

Orthogonal Transformation Matrix						
	1	**2**	**3**	**4**	**5**	**6**
1	0.61672	0.51160	0.51123	0.26055	-0.02504	0.16748
2	-0.51299	0.72999	0.00244	-0.12477	0.42444	-0.09073
3	-0.33335	-0.12138	0.01323	0.91698	0.10684	0.14732
4	0.29740	-0.24848	-0.14345	-0.07596	0.83915	0.34538
5	0.28833	0.35694	-0.84266	0.16323	-0.18292	0.13886
6	0.27163	-0.03870	-0.08837	0.20804	0.26492	-0.89635

Rotated Factor Pattern													
		Factor1		**Factor2**		**Factor3**		**Factor4**		**Factor5**		**Factor6**	
Q15	Q15	90	*	-17		11		12		-7		-1	
Q14	Q14	88	*	-21		14		10		-5		7	
Q10	Q10	78	*	24		37		-4		-8		15	
Q12	Q12	75	*	28		27		40		5		7	
Q19	Q19	73	*	-9		17		11		-1		53	*
Q08	Q08	65	*	41		20		1		-19		30	
Q11	Q11	65	*	50	*	34		13		-2		-12	
Q13	Q13	63	*	47		22		-19		-20		4	
Q07	Q07	62	*	-9		4		31		-49		1	
Q25	Q25	25		89	*	19		-15		-12		1	
Q16	Q16	-1		82	*	-3		35		17		24	
Q17	Q17	-22		81	*	-6		17		12		7	
Q27	Q27	2		80	*	44		6		13		-18	
Q26	Q26	0		78	*	10		5		42		-14	
Q04	Q04	46		71	*	29		-11		10		-2	
Q24	Q24	10		66	*	54	*	3		0		16	
Q18	Q18	-11		54	*	17		39		23		40	
Q29	Q29	10		27		84	*	21		8		-17	
Q23	Q23	42		6		74	*	3		2		28	
Q28	Q28	31		18		70	*	13		5		13	
Q30	Q30	20		-2		63	*	37		-26		15	
Q22	Q22	46		44		62	*	-16		-3		24	
Q05	Q05	8		12		-4		93	*	-9		7	
Q06	Q06	41		0		20		83	*	0		1	
Q21	Q21	-6		3		29		83	*	7		26	
Q09	Q09	36		28		49		50		-14		-19	
Q01	Q01	0		-1		2		-2		84	*	12	
Q03	Q03	-3		36		-2		-25		69	*	-7	

Rotated Factor Pattern											
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Q02	Q02	-18		11		-2		17		68	*	-3	
Q20	Q20	35		9		16		27		2		76	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Variance Explained by Each Factor					
Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
6.2565358	6.0006517	4.0493902	3.5631075	2.4021134	1.6322859

Final Communality Estimates: Total = 23.904085									
Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10
0.721719	0.536188	0.683695	0.822605	0.894010	0.901873	0.727002	0.755026	0.741843	0.834580

Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
0.825157	0.880498	0.745661	0.859859	0.861341	0.885591	0.753879	0.699041	0.858885	0.809731

Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
0.848032	0.879705	0.804390	0.768781	0.923308	0.810300	0.882245	0.658881	0.863621	0.666638

The FACTOR Procedure
Prerotation Method: Varimax

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with Each Factor					
Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
0.9996190	1.0001468	1.0004553	0.9996830	1.0003543	1.0009302

Standardized Scoring Coefficients							
		Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
Q15	Q15	1.97420615	-3.6850901	5.98912524	-1.669588	4.93631498	-10.408563
Q14	Q14	-0.625995	1.67252976	-2.9648983	0.80580744	-2.2359408	4.87086576
Q10	Q10	0.11437786	0.13454742	-0.1214743	-0.105697	-0.0890949	0.19457993
Q12	Q12	-1.0312064	2.53937138	-4.2630998	1.2481393	-3.2687833	6.94063382
Q19	Q19	0.01715292	0.04552616	-0.1464582	0.00987204	-0.0643346	0.18104364
Q08	Q08	0.20631979	-0.2592114	0.44298864	-0.14885	0.32539661	-0.7008302
Q11	Q11	-0.2966518	0.98116209	-1.5845767	0.46416109	-1.215961	2.55785952
Q13	Q13	0.40541155	-0.5966149	1.1765551	-0.4216495	0.8611433	-2.3948167
Q07	Q07	-0.1515506	0.62211214	-1.1770783	0.38656521	-0.9973138	2.00046278
Q25	Q25	-1.123264	2.77562536	-4.1689658	0.92798667	-3.4134631	6.76209087
Q16	Q16	0.11252853	-0.1224325	0.47417214	-0.1065845	0.45477461	-1.2454206
Q17	Q17	0.08240385	-0.1445774	0.39480533	-0.0574725	0.36447298	-0.7926011
Q27	Q27	1.66316864	-3.5465134	6.20797711	-1.6356802	4.85946003	-10.623127
Q26	Q26	-0.2013251	0.51333384	-0.6914591	0.23545524	-0.3997005	0.76206212
Q04	Q04	0.02879254	0.16844823	-0.3034686	0.09024871	-0.1588499	0.68986845
Q24	Q24	-0.7424279	1.49270998	-2.2730672	0.61911733	-1.9715784	4.4611534
Q18	Q18	-0.5531864	1.08015468	-1.7598742	0.57879609	-1.3412881	3.54757941
Q29	Q29	-0.4117729	0.67071341	-0.8081847	0.29206413	-0.8813761	1.72415264
Q23	Q23	-0.223972	0.15605855	-0.1125799	0.062332	-0.3031124	0.38707977
Q28	Q28	0.17359457	-0.4951645	0.91007438	-0.1974357	0.59093231	-0.9310016
Q30	Q30	-0.2760769	0.32437209	-0.3942534	0.2111504	-0.6085231	1.00787469
Q22	Q22	1.56135835	-3.2072162	5.45717159	-1.5910864	4.2418776	-8.4292594
Q05	Q05	0.9459421	-1.8875686	3.08537831	-0.6072554	2.53680337	-5.368435
Q06	Q06	0.4602781	-0.8814064	1.26857518	-0.0519429	1.12168633	-2.1447124
Q21	Q21	0.02765933	-0.2963356	0.62935226	0.03401519	0.43459693	-1.1334852
Q09	Q09	-0.7651701	1.6139096	-2.5686688	0.89220396	-2.1851365	4.19957954
Q01	Q01	-0.4329568	1.01754506	-1.8716489	0.50271822	-1.0689224	3.30175996
Q03	Q03	0.67623127	-1.1952945	2.02987932	-0.6606255	1.95318197	-3.4846781
Q02	Q02	-0.1382199	0.3393684	-0.6082437	0.21288394	-0.171885	0.94313705
Q20	Q20	0.11963291	-0.2480667	0.33762147	-0.1165445	0.31543938	-0.010568

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		Target Matrix for Procrustean Transformation									
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	

		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Q15	Q15	100	*	-1		0		0		0		0	
Q14	Q14	96	*	-1		1		0		0		0	
Q10	Q10	70	*	2		9		0		0		1	
Q12	Q12	57	*	3		3		8		0		0	
Q19	Q19	53	*	0		1		0		0		31	
Q08	Q08	47		13		2		0		-1		6	
Q11	Q11	41		21		7		0		0		0	
Q13	Q13	43		20		2		-1		-1		0	
Q07	Q07	43		0		0		5		-19		0	
Q25	Q25	2		97	*	1		0		0		0	
Q16	Q16	0		83	*	0		5		1		3	
Q17	Q17	-2		100	*	0		1		0		0	
Q27	Q27	0		77	*	14		0		0		-1	
Q26	Q26	0		79	*	0		0		10		-1	
Q04	Q04	15		59	*	5		0		0		0	
Q24	Q24	0		54	*	32		0		0		1	
Q18	Q18	0		33		1		11		2		18	
Q29	Q29	0		3		100	*	1		0		-1	
Q23	Q23	11		0		76	*	0		0		5	
Q28	Q28	6		1		89	*	0		0		1	
Q30	Q30	2		0		63	*	10		-3		1	
Q22	Q22	13		13		40		-1		0		3	
Q05	Q05	0		0		0		100	*	0		0	
Q06	Q06	9		0		1		72	*	0		0	
Q21	Q21	0		0		4		78	*	0		4	
Q09	Q09	8		4		25		20		0		-2	
Q01	Q01	0		0		0		0		100	*	0	
Q03	Q03	0		11		0		-3		61	*	0	
Q02	Q02	-2		0		0		1		82	*	0	
Q20	Q20	6		0		1		3		0		100	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Procrustean Transformation Matrix

	1	2	3	4	5	6
1	0.8755864	-0.0379003	-0.217186	-0.0179868	0.12563878	-0.0032792
2	-0.0436464	0.92919802	-0.1678227	-0.001112	-0.1053324	-0.0066009
3	-0.2337559	-0.2158367	1.05762095	-0.0669828	0.00119142	-0.0404641
4	0.00557092	0.01605054	-0.0562792	0.73012589	-0.0035928	-0.0076833
5	0.12584815	-0.0904431	0.00888278	-0.0027724	0.91622091	0.01753693
6	-0.0837767	0.009605	-0.031281	-0.0725111	-0.0382237	0.68349453

Normalized Oblique Transformation Matrix						
	1	2	3	4	5	6
1	0.49391978	0.40765059	0.34125916	0.18266099	-0.0069321	0.12802599
2	-0.5440916	0.76463466	0.00580215	-0.1069614	0.28703766	-0.0846823
3	-0.3660992	-0.1125294	0.05843431	0.91676733	0.06835224	0.14431471
4	0.49210647	-0.3322138	-0.1970647	-0.1081381	0.93522304	0.38407644
5	0.51674938	0.60978219	-1.1674296	0.22163879	-0.2007495	0.18060916
6	0.47757578	-0.0657586	-0.1444125	0.30003073	0.35882135	-0.9036968

Inter-Factor Correlations												
	Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Factor1	100	*	18		48		7		-26		14	
Factor2	18		100	*	40		3		17		5	
Factor3	48		40		100	*	15		-6		15	
Factor4	7		3		15		100	*	-1		12	
Factor5	-26		17		-6		-1		100	*	-2	
Factor6	14		5		15		12		-2		100	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Rotated Factor Pattern (Standardized Regression Coefficients)													
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Q15	Q15	98	*	-24		-7		9		8		-2	
Q14	Q14	95	*	-29		-2		6		10		5	
Q12	Q12	76	*	20		6		35		12		4	
Q10	Q10	73	*	14		21		-11		-1		12	
Q19	Q19	72	*	-16		1		2		8		53	*
Q11	Q11	61	*	43		15		10		2		-15	
Q07	Q07	61	*	-8		-11		29		-41		-1	
Q08	Q08	59	*	39		-1		-5		-16		28	
Q13	Q13	58	*	45		3		-23		-17		2	
Q25	Q25	16		91	*	1		-18		-19		-1	
Q17	Q17	-26		89	*	-19		18		-1		7	
Q16	Q16	-5		89	*	-22		33		7		24	
Q26	Q26	1		77	*	-2		5		35		-15	

Rotated Factor Pattern (Standardized Regression Coefficients)													
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Q27	Q27	-11		74	*	37		3		5		-21	
Q04	Q04	41		66	*	11		-15		9		-4	
Q24	Q24	-10		58	*	49		-4		-7		12	
Q18	Q18	-21		53	*	9		34		14		40	
Q29	Q29	-12		7		92	*	15		7		-22	
Q23	Q23	22		-13		76	*	-8		6		24	
Q28	Q28	12		0		72	*	5		7		8	
Q30	Q30	-2		-15		68	*	30		-25		10	
Q22	Q22	27		30		55	*	-26		-3		20	
Q05	Q05	8		17		-15		93	*	-11		6	
Q06	Q06	41		-5		8		81	*	6		-2	
Q21	Q21	-17		-3		29		78	*	5		24	
Q09	Q09	24		18		42		46		-12		-24	
Q01	Q01	12		-10		3		-3		88	*	14	
Q03	Q03	7		32		-7		-25		68	*	-5	
Q02	Q02	-9		6		0		17		67	*	-1	
Q20	Q20	26		5		5		17		2		76	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Reference Axis Correlations													
	Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Factor1	100	*	-4		-42		1		27		-8	
Factor2	-4		100	*	-36		4		-21		1	
Factor3	-42		-36		100	*	-13		0		-8	
Factor4	1		4		-13		100	*	-1		-10	
Factor5	27		-21		0		-1		100	*	-2	
Factor6	-8		1		-8		-10		-2		100	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Reference Structure (Semipartial Correlations)													
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6	
Q15	Q15	83	*	-21		-5		9		7		-2	
Q14	Q14	80	*	-26		-1		6		9		5	
Q12	Q12	64	*	18		5		34		11		4	
Q10	Q10	61	*	12		17		-10		-1		12	
Q19	Q19	60	*	-14		1		2		7		52	*
Q11	Q11	52	*	39		12		10		2		-15	
Q07	Q07	52	*	-7		-9		29		-39		-1	
Q08	Q08	50		35	*	-1		-5		-15		27	

Reference Structure (Semipartial Correlations)												
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6
Q13	Q13	49		40		2		-23		-16		2
Q25	Q25	13		81	*	1		-18		-18		-1
Q17	Q17	-22		80	*	-15		17		-1		7
Q16	Q16	-4		80	*	-17		32		6		24
Q26	Q26	1		69	*	-1		5		33		-14
Q27	Q27	-9		66	*	30		3		5		-21
Q04	Q04	35		59	*	9		-15		8		-4
Q24	Q24	-9		52	*	40		-4		-7		12
Q18	Q18	-18		48		8		33		13		39
Q29	Q29	-10		6		74	*	15		7		-22
Q23	Q23	18		-12		61	*	-8		6		23
Q28	Q28	10		0		58	*	5		7		8
Q30	Q30	-1		-14		55	*	29		-23		10
Q22	Q22	23		27		45		-25		-2		20
Q05	Q05	7		15		-12		91	*	-10		6
Q06	Q06	35		-5		7		80	*	6		-2
Q21	Q21	-14		-3		24		77	*	5		23
Q09	Q09	20		16		34		46		-11		-23
Q01	Q01	10		-9		2		-3		82	*	14
Q03	Q03	6		29		-5		-24		64	*	-5
Q02	Q02	-8		6		0		17		63	*	-1
Q20	Q20	22		4		4		17		2		75	*

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Variance Explained by Each Factor Eliminating Other Factors					
Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
4.0908145	4.5661759	2.3223651	3.1530017	1.9961917	1.5228607

Factor Structure (Correlations)												
		Factor1		Factor2		Factor3		Factor4		Factor5		Factor6
Q15	Q15	89	*	-8		31		14		-22		10
Q14	Q14	88	*	-11		34		12		-20		18
Q12	Q12	82	*	39		56	*	42		-5		21
Q10	Q10	86	*	35		61	*	-1		-19		24
Q19	Q19	75	*	1		37		13		-14		62	*
Q11	Q11	75	*	60	*	61	*	16		-8		-1
Q07	Q07	67	*	-7		22		32		-58	*	10
Q08	Q08	73	*	47		47		3		-26		37
Q13	Q13	71	*	53	*	47		-17		-25		10
Q25	Q25	36		90	*	43		-15		-8		4

		Factor Structure (Correlations)									
		Factor1		Factor2		Factor3		Factor4		Factor5	Factor6
Q17	Q17	-17		78	*	8		16		21	7
Q16	Q16	4		83	*	20		35		23	28
Q26	Q26	3		82	*	26		5		48	-11
Q27	Q27	16		87	*	58	*	8		19	-13
Q04	Q04	55	*	79	*	54	*	-9		8	5
Q24	Q24	27		75	*	69	*	6		2	21
Q18	Q18	-3		59	*	31		40		27	45
Q29	Q29	29		43		88	*	26		7	-8
Q23	Q23	57	*	23		83	*	7		-7	37
Q28	Q28	47		33		80	*	17		0	22
Q30	Q30	38		9		68	*	41		-31	24
Q22	Q22	61	*	57	*	80	*	-12		-8	31
Q05	Q05	14		13		11		92	*	-10	17
Q06	Q06	48		8		37		85	*	-7	15
Q21	Q21	4		10		35		85	*	6	36
Q09	Q09	50	*	38		65	*	52	*	-17	-7
Q01	Q01	-10		8		1		-1		82 *	14
Q03	Q03	-10		41		2		-25		72 *	-8
Q02	Q02	-25		16		-3		16		71 *	-1
Q20	Q20	40		16		33		29		-5	83 *

Printed values are multiplied by 100 and rounded to the nearest integer. Values greater than 0.5 are flagged by an '*'.

Variance Explained by Each Factor Ignoring Other Factors					
Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
8.0315159	7.3060372	7.4245151	3.7420816	2.9324219	2.2832750

Final Communality Estimates: Total = 23.904085									
Q01	Q02	Q03	Q04	Q05	Q06	Q07	Q08	Q09	Q10
0.721719	0.536188	0.683695	0.822605	0.894010	0.901872	0.727002	0.755025	0.741843	0.834579

Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
0.825157	0.880498	0.745661	0.859859	0.861341	0.885591	0.753879	0.699041	0.858885	0.809731

Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
0.848032	0.879705	0.804390	0.768781	0.923308	0.810300	0.882245	0.658881	0.863621	0.666638

The FACTOR Procedure
Rotation Method: Promax (power = 3)

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with Each Factor					
Factor1	**Factor2**	**Factor3**	**Factor4**	**Factor5**	**Factor6**
0.9998274	0.9998585	1.0002360	0.9996664	1.0001564	1.0005435

Standardized Scoring Coefficients							
		Factor1	**Factor2**	**Factor3**	**Factor4**	**Factor5**	**Factor6**
Q15	Q15	1.99992458	-2.1206775	4.44162494	-1.4425383	4.39156414	-9.7860454
Q14	Q14	-0.6952327	0.94608863	-2.1601203	0.69374388	-2.0261382	4.60586813
Q12	Q12	-1.1066034	1.47625597	-3.1052103	1.08407587	-2.9344699	6.55571994
Q10	Q10	0.10494082	0.11181974	-0.0504205	-0.1091237	-0.0947451	0.18448261
Q19	Q19	0.00090528	0.01744939	-0.1091406	0.00423951	-0.0631139	0.17162869
Q11	Q11	-0.3252393	0.59170254	-1.1240853	0.40349339	-1.1006836	2.42453179
Q07	Q07	-0.167731	0.33410412	-0.8296278	0.34367164	-0.9322324	1.90824083
Q08	Q08	0.21233957	-0.142258	0.34955853	-0.1306375	0.27624878	-0.6530345
Q13	Q13	0.42103331	-0.3101381	0.8765544	-0.382584	0.77372437	-2.2778953
Q25	Q25	-1.1578474	1.69082591	-3.0300353	0.76485219	-3.0396974	6.33926528
Q17	Q17	0.08854648	-0.0444939	0.3005404	-0.0448475	0.34585486	-0.7476876
Q16	Q16	0.11316855	-0.0066119	0.35461384	-0.0956225	0.44250863	-1.1892035
Q26	Q26	-0.2270402	0.34322376	-0.5097234	0.2031931	-0.3243371	0.70889534
Q27	Q27	1.76361627	-1.9839552	4.58473422	-1.4033793	4.37307792	-10.015353
Q04	Q04	0.01413408	0.11239968	-0.185429	0.08256306	-0.1574628	0.67274744
Q24	Q24	-0.7227953	0.89600409	-1.632823	0.53973541	-1.7700266	4.21528868
Q18	Q18	-0.5606976	0.64434958	-1.2616453	0.51952773	-1.2005632	3.37334765
Q29	Q29	-0.360529	0.42877789	-0.5715734	0.26331083	-0.7775324	1.62304661
Q23	Q23	-0.1798862	0.09198617	-0.0973648	0.0581517	-0.2602103	0.35122683
Q28	Q28	0.22309858	-0.2727949	0.7017236	-0.1555014	0.51690085	-0.8563805
Q30	Q30	-0.2199993	0.18655449	-0.2811159	0.19825342	-0.5491462	0.95064695
Q22	Q22	1.65579599	-1.8136412	4.07625946	-1.3723591	3.76904827	-7.9144789
Q05	Q05	0.97458675	-1.0830221	2.2961823	-0.4915016	2.26657102	-5.0284358
Q06	Q06	0.46216429	-0.5289155	0.96194197	-0.0024902	0.98742048	-1.9759501
Q21	Q21	0.0625634	-0.1535604	0.45820599	0.05473103	0.41273999	-1.0659003
Q09	Q09	-0.7659605	0.94100236	-1.8737226	0.79114074	-1.9533989	3.96176771
Q01	Q01	-0.5156326	0.59548496	-1.3723414	0.43600437	-0.9453868	3.13609716
Q03	Q03	0.65105503	-0.638592	1.51003083	-0.5822803	1.76708194	-3.275264
Q02	Q02	-0.1866306	0.21880142	-0.4478808	0.18971979	-0.1307934	0.90153035
Q20	Q20	0.12464805	-0.1447558	0.27553159	-0.095072	0.26423623	0.01603606

APPENDIX E4 INFERENTIAL STATISTICS

E4.1 Association between demographic variables

Frequency analysis

The FREQ Procedure

Table of D1 by D2			
D1(D1)	**D2(D2)**		
Frequency **Percent** **Row Pct** **Col Pct**	**<=10** **years**	**>10** **years**	**Total**
Male	5 15.15 25.00 62.50	15 45.45 75.00 60.00	20 60.61
Female	3 9.09 23.08 37.50	10 30.30 76.92 40.00	13 39.39
Total	8 24.24	25 75.76	33 100.00

Statistics for Table of D1 by D2

Statistic	DF	Value	Prob
Chi-Square	1	0.0159	0.8998
Likelihood Ratio Chi-Square	1	0.0159	0.8996
Continuity Adj. Chi-Square	1	0.0000	1.0000
Mantel-Haenszel Chi-Square	1	0.0154	0.9013
Phi Coefficient		0.0219	
Contingency Coefficient		0.0219	
Cramer's V		0.0219	
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	5
Left-sided Pr <= F	0.7006
Right-sided Pr >= F	0.6188
Table Probability (P)	0.3194
Two-sided Pr <= P	1.0000

Sample Size = 33

Table of D1 by D3

D1(D1)	D3(D3)		
Frequency **Percent** **Row Pct** **Col Pct**	**<=6 years**	**>6 years**	**Total**
Male	11 33.33 55.00 61.11	9 27.27 45.00 60.00	20 60.61
Female	7 21.21 53.85 38.89	6 18.18 46.15 40.00	13 39.39
Total	18 54.55	15 45.45	33 100.00

Statistics for Table of D1 by D3

Statistic	DF	Value	Prob
Chi-Square	1	0.0042	0.9481
Likelihood Ratio Chi-Square	1	0.0042	0.9481
Continuity Adj. Chi-Square	1	0.0000	1.0000
Mantel-Haenszel Chi-Square	1	0.0041	0.9489
Phi Coefficient		0.0113	
Contingency Coefficient		0.0113	
Cramer's V		0.0113	

Fisher's Exact Test	
Cell (1,1) Frequency (F)	11
Left-sided Pr <= F	0.6640
Right-sided Pr >= F	0.6139
Table Probability (P)	0.2779
Two-sided Pr <= P	1.0000

Sample Size = 33

Table of D2 by D3			
D2(D2)	**D3(D3)**		
Frequency **Percent** **Row Pct** **Col Pct**	**<=6** **years**	**>6** **years**	**Total**
<=10 years	6 18.18 75.00 33.33	2 6.06 25.00 13.33	8 24.24
>10 years	12 36.36 48.00 66.67	13 39.39 52.00 86.67	25 75.76
Total	18 54.55	15 45.45	33 100.00

Statistics for Table of D2 by D3

Statistic	DF	Value	Prob
Chi-Square	1	1.7820	0.1819
Likelihood Ratio Chi-Square	1	1.8599	0.1726
Continuity Adj. Chi-Square	1	0.8594	0.3539
Mantel-Haenszel Chi-Square	1	1.7280	0.1887
Phi Coefficient		0.2324	
Contingency Coefficient		0.2263	
Cramer's V		0.2324	
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.			

Fisher's Exact Test	
Cell (1,1) Frequency (F)	6
Left-sided Pr <= F	0.9625
Right-sided Pr >= F	0.1779
Table Probability (P)	0.1404
Two-sided Pr <= P	0.2419

Sample Size = 33

E4.2 Comparisons to determine whether demographic variables differ with respect to the measuring variables

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q01 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	328.0	340.0	21.742292	16.400000
Female	13	233.0	221.0	21.742292	17.923077
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	233.0000
Normal Approximation	
Z	0.5289
One-Sided Pr > Z	0.2984
Two-Sided Pr > |Z|	0.5969
t Approximation	
One-Sided Pr > Z	0.3003
Two-Sided Pr > |Z|	0.6005
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.3046
DF	1
Pr > Chi-Square	0.5810
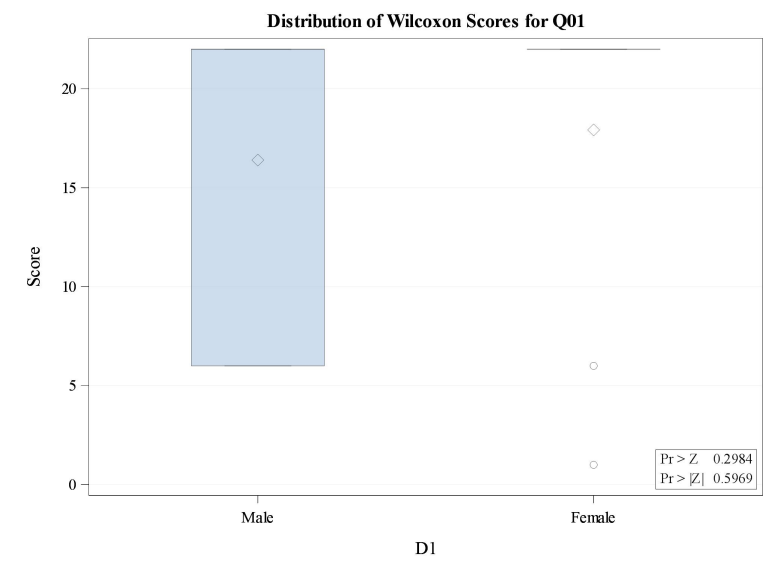
Distribution of Wilcoxon Scores for Q01

Pr > Z   0.2984
Pr > |Z| 0.5969

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q02 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	350.0	340.0	24.429863	17.500000
Female	13	211.0	221.0	24.429863	16.230769
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	211.0000
Normal Approximation	
Z	-0.3889
One-Sided Pr < Z	0.3487
Two-Sided Pr > |Z|	0.6974
t Approximation	
One-Sided Pr < Z	0.3500
Two-Sided Pr > |Z|	0.6999
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1676
DF	1
Pr > Chi-Square	0.6823
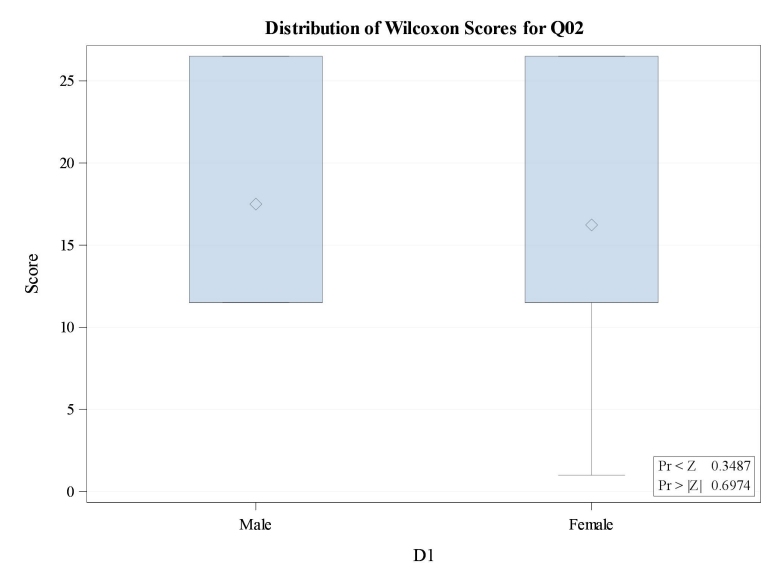
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Distribution of Wilcoxon Scores for Q02

Krusal Wallis test

The NPAR1WAY Procedure

D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Wilcoxon Scores (Rank Sums) for Variable Q03 Classified by Variable D1					
Male	20	301.0	340.0	23.848480	15.050
Female	13	260.0	221.0	23.848480	20.000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	260.0000
Normal Approximation	
Z	1.6144
One-Sided Pr > Z	0.0532
Two-Sided Pr > |Z|	0.1064
t Approximation	
One-Sided Pr > Z	0.0581
Two-Sided Pr > |Z|	0.1163
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.6743
DF	1
Pr > Chi-Square	0.1020
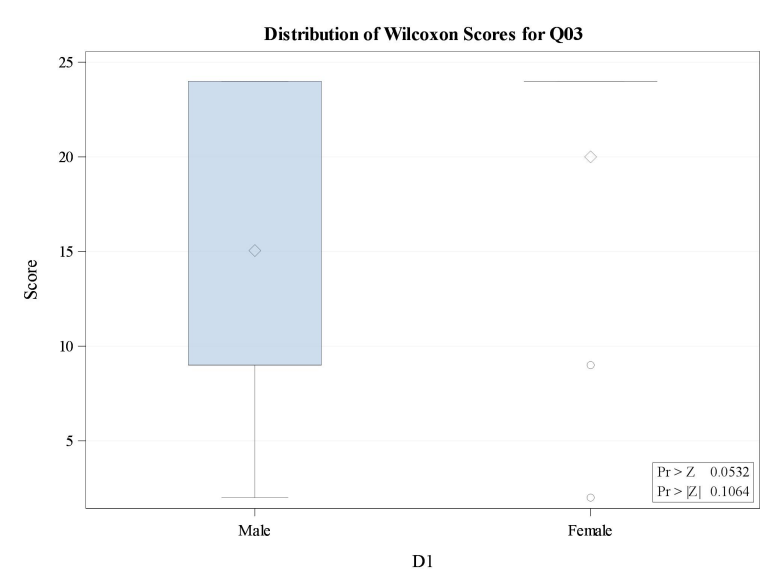
Distribution of Wilcoxon Scores for Q03

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Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q04 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	273.0	340.0	24.650589	13.650000
Female	13	288.0	221.0	24.650589	22.153846
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	288.0000
Normal Approximation	
Z	2.6977
One-Sided Pr > Z	0.0035
Two-Sided Pr > |Z|	0.0070
t Approximation	
One-Sided Pr > Z	0.0055
Two-Sided Pr > |Z|	0.0110
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	7.3875
DF	1
Pr > Chi-Square	0.0066
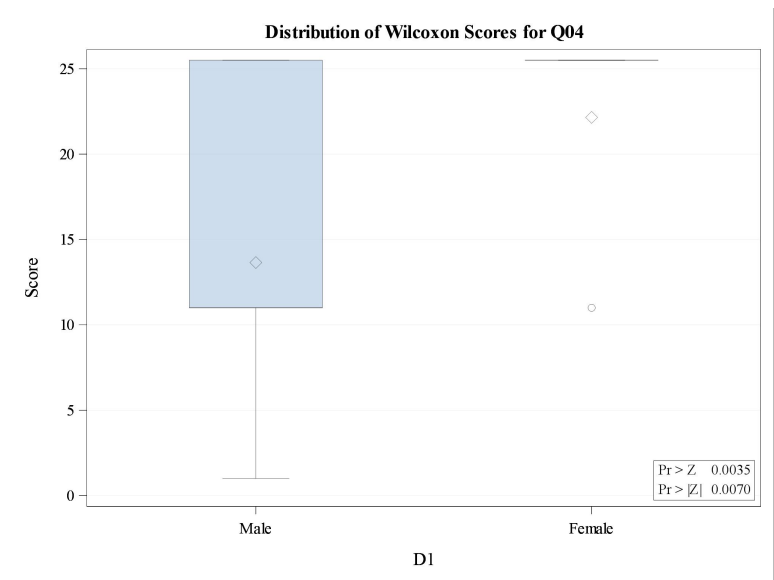
Distribution of Wilcoxon Scores for Q04

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q05 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	307.0	340.0	21.742292	15.350000
Female	13	254.0	221.0	21.742292	19.538462
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	254.0000
Normal Approximation	
Z	1.4948
One-Sided Pr > Z	0.0675
Two-Sided Pr > |Z|	0.1350
t Approximation	
One-Sided Pr > Z	0.0724
Two-Sided Pr > |Z|	0.1448
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.3037
DF	1
Pr > Chi-Square	0.1291
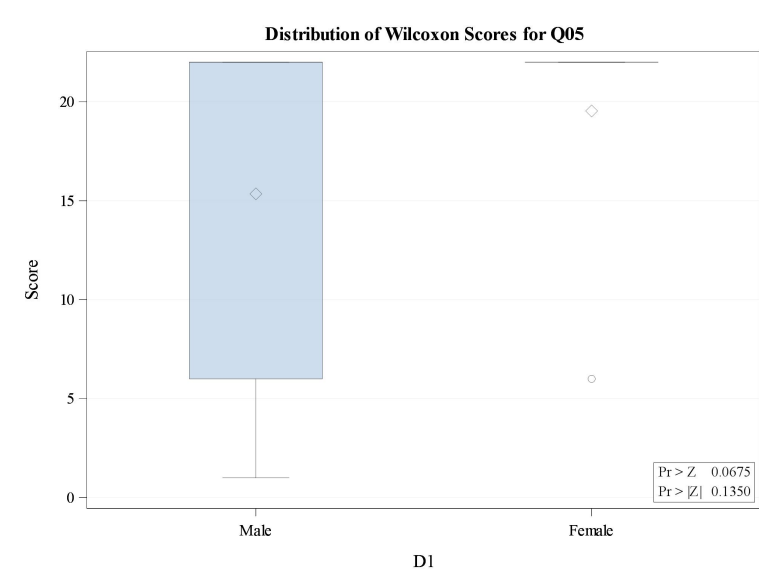
Distribution of Wilcoxon Scores for Q05

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q06 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	330.50	340.0	22.444376	16.525000
Female	13	230.50	221.0	22.444376	17.730769
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	230.5000
Normal Approximation	
Z	0.4010
One-Sided Pr > Z	0.3442
Two-Sided Pr > |Z|	0.6884
t Approximation	
One-Sided Pr > Z	0.3455
Two-Sided Pr > |Z|	0.6911
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1792
DF	1
Pr > Chi-Square	0.6721
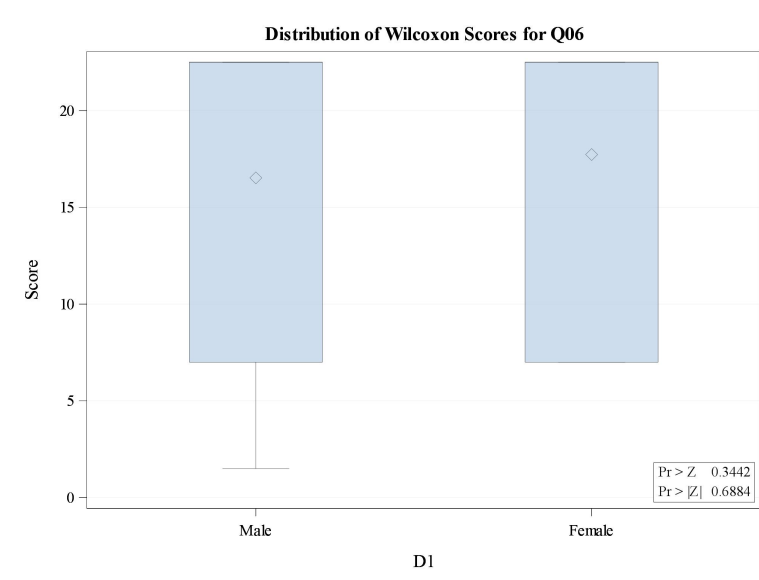
Distribution of Wilcoxon Scores for Q06

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q07 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	318.0	340.0	25.320671	15.900000
Female	13	243.0	221.0	25.320671	18.692308
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	243.0000
Normal Approximation	
Z	0.8491
One-Sided Pr > Z	0.1979
Two-Sided Pr > |Z|	0.3958
t Approximation	
One-Sided Pr > Z	0.2011
Two-Sided Pr > |Z|	0.4021
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.7549
DF	1
Pr > Chi-Square	0.3849
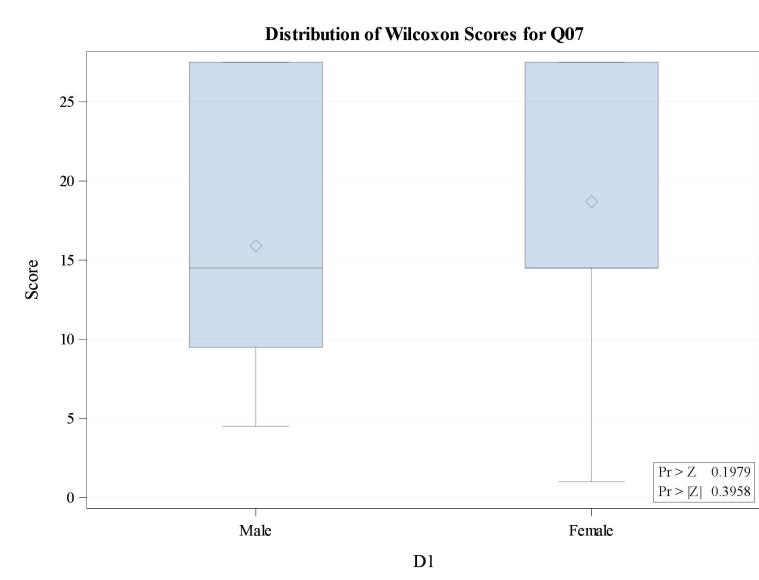
Distribution of Wilcoxon Scores for Q07

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q08 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	311.0	340.0	24.316217	15.550000
Female	13	250.0	221.0	24.316217	19.230769
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	250.0000
Normal Approximation	
Z	1.1721
One-Sided Pr > Z	0.1206
Two-Sided Pr > |Z|	0.2412
t Approximation	
One-Sided Pr > Z	0.1249
Two-Sided Pr > |Z|	0.2498
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.4223
DF	1
Pr > Chi-Square	0.2330
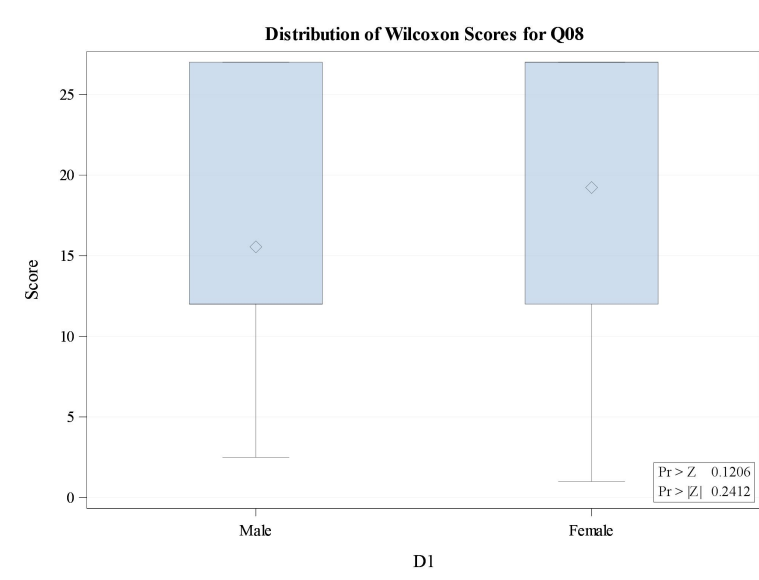
Distribution of Wilcoxon Scores for Q08

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q09 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	303.0	340.0	23.925785	15.150000
Female	13	258.0	221.0	23.925785	19.846154
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	258.0000
Normal Approximation	
Z	1.5256
One-Sided Pr > Z	0.0636
Two-Sided Pr > |Z|	0.1271
t Approximation	
One-Sided Pr > Z	0.0685
Two-Sided Pr > |Z|	0.1369
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.3915
DF	1
Pr > Chi-Square	0.1220
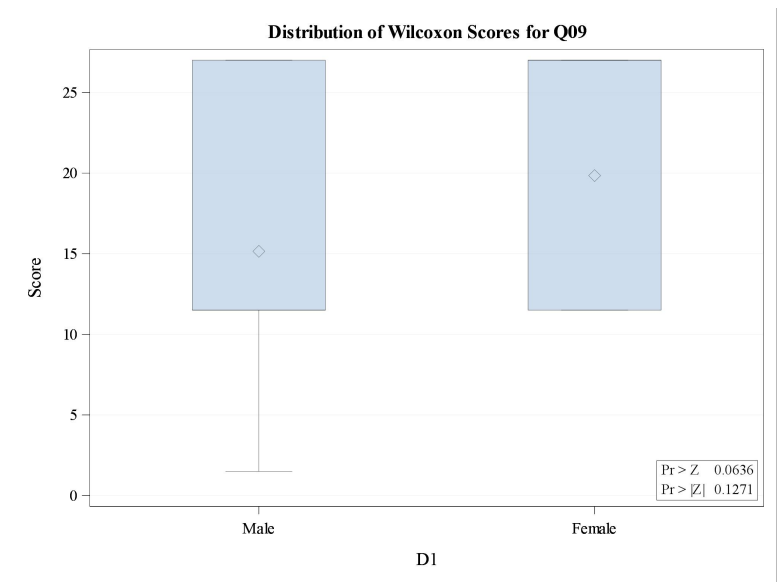
Distribution of Wilcoxon Scores for Q09

| Pr > Z | 0.0636 |
| Pr > |Z| | 0.1271 |

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q10 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	307.0	340.0	24.997727	15.350000
Female	13	254.0	221.0	24.997727	19.538462
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	254.0000
Normal Approximation	
Z	1.3001
One-Sided Pr > Z	0.0968
Two-Sided Pr > |Z|	0.1936
t Approximation	
One-Sided Pr > Z	0.1014
Two-Sided Pr > |Z|	0.2028
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.7427
DF	1
Pr > Chi-Square	0.1868
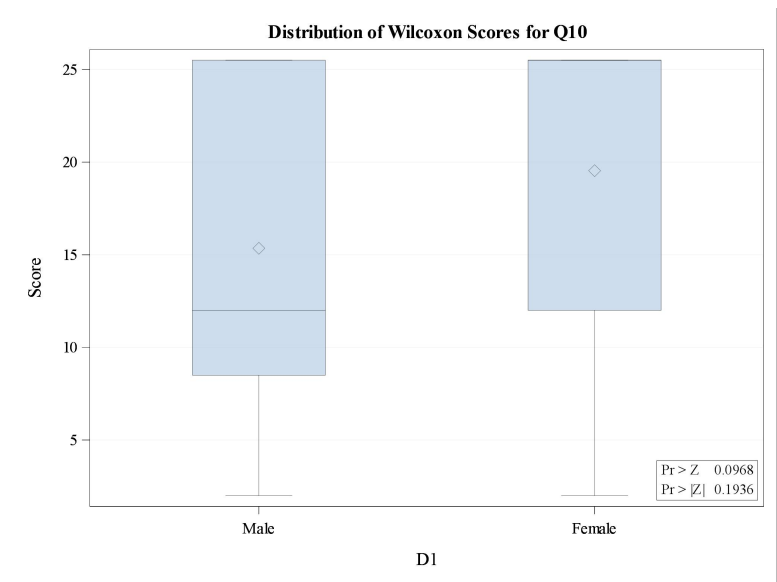
Distribution of Wilcoxon Scores for Q10

Pr > Z	0.0968
Pr > |Z|	0.1936

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q11 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	271.0	340.0	24.730364	13.550000
Female	13	290.0	221.0	24.730364	22.307692
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	290.0000
Normal Approximation	
Z	2.7699
One-Sided Pr > Z	0.0028
Two-Sided Pr > |Z|	0.0056
t Approximation	
One-Sided Pr > Z	0.0046
Two-Sided Pr > |Z|	0.0093
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	7.7846
DF	1
Pr > Chi-Square	0.0053
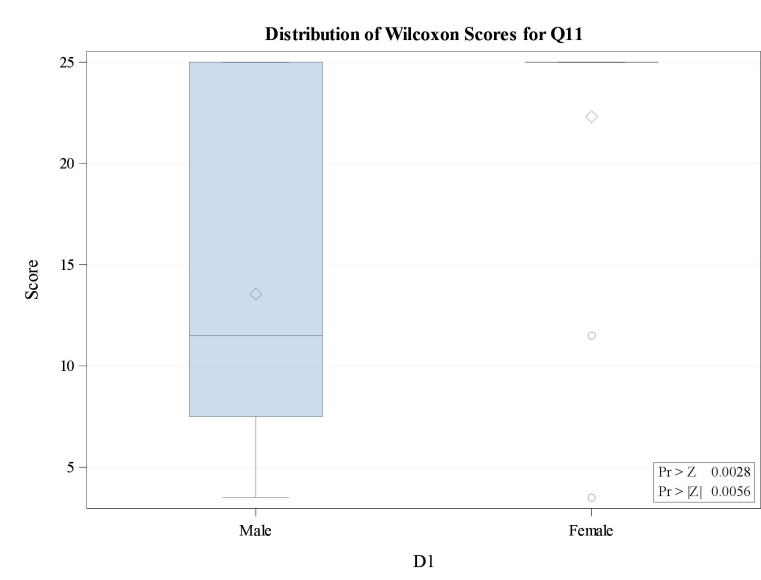
Distribution of Wilcoxon Scores for Q11

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q12 Classified by Variable D1					
D1	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
Male	19	250.50	313.50	23.550574	13.184211
Female	13	277.50	214.50	23.550574	21.346154
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	277.5000
Normal Approximation	
Z	2.6539
One-Sided Pr > Z	0.0040
Two-Sided Pr > |Z|	0.0080
t Approximation	
One-Sided Pr > Z	0.0062
Two-Sided Pr > |Z|	0.0124
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	7.1561
DF	1
Pr > Chi-Square	0.0075
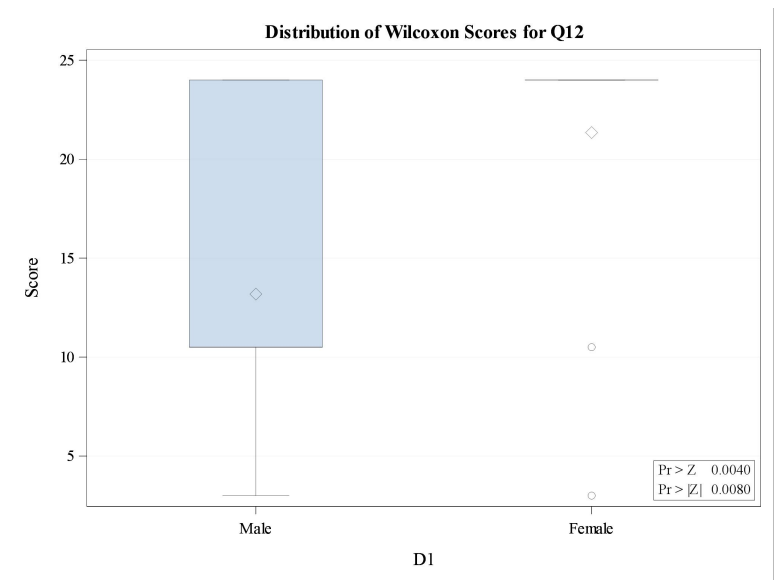
Distribution of Wilcoxon Scores for Q12

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q13 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	289.0	340.0	25.196388	14.450000
Female	13	272.0	221.0	25.196388	20.923077
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	272.0000
Normal Approximation	
Z	2.0043
One-Sided Pr > Z	0.0225
Two-Sided Pr > |Z|	0.0450
t Approximation	
One-Sided Pr > Z	0.0268
Two-Sided Pr > |Z|	0.0536
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	4.0970
DF	1
Pr > Chi-Square	0.0430

Distribution of Wilcoxon Scores for Q13

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q14 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	305.0	340.0	22.444376	15.250000
Female	13	256.0	221.0	22.444376	19.692308
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	256.0000
Normal Approximation	
Z	1.5371
One-Sided Pr > Z	0.0621
Two-Sided Pr > |Z|	0.1243
t Approximation	
One-Sided Pr > Z	0.0670
Two-Sided Pr > |Z|	0.1341
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.4318
DF	1
Pr > Chi-Square	0.1189

Distribution of Wilcoxon Scores for Q14

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q15 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	305.0	340.0	22.444376	15.250000
Female	13	256.0	221.0	22.444376	19.692308
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	256.0000
Normal Approximation	
Z	1.5371
One-Sided Pr > Z	0.0621
Two-Sided Pr > |Z|	0.1243
t Approximation	
One-Sided Pr > Z	0.0670
Two-Sided Pr > |Z|	0.1341
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.4318
DF	1
Pr > Chi-Square	0.1189

Distribution of Wilcoxon Scores for Q15

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q16 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	318.0	340.0	25.189058	15.900000
Female	13	243.0	221.0	25.189058	18.692308
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	243.0000
Normal Approximation	
Z	0.8535
One-Sided Pr > Z	0.1967
Two-Sided Pr > |Z|	0.3934
t Approximation	
One-Sided Pr > Z	0.1999
Two-Sided Pr > |Z|	0.3997
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.7628
DF	1
Pr > Chi-Square	0.3824
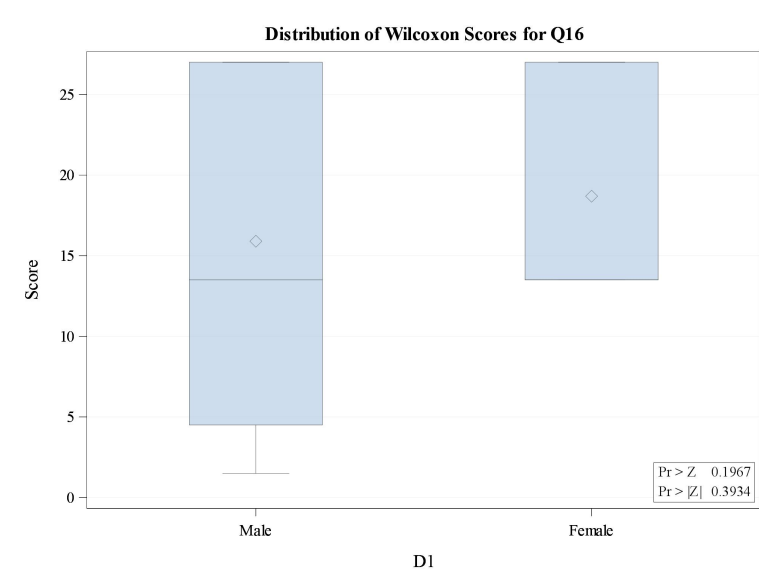
Distribution of Wilcoxon Scores for Q16

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q17 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	340.50	340.0	24.635602	17.025000
Female	13	220.50	221.0	24.635602	16.961538
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	220.5000
Normal Approximation	
Z	0.0000
One-Sided Pr < Z	0.5000
Two-Sided Pr > |Z|	1.0000
t Approximation	
One-Sided Pr < Z	0.5000
Two-Sided Pr > |Z|	1.0000
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0004
DF	1
Pr > Chi-Square	0.9838
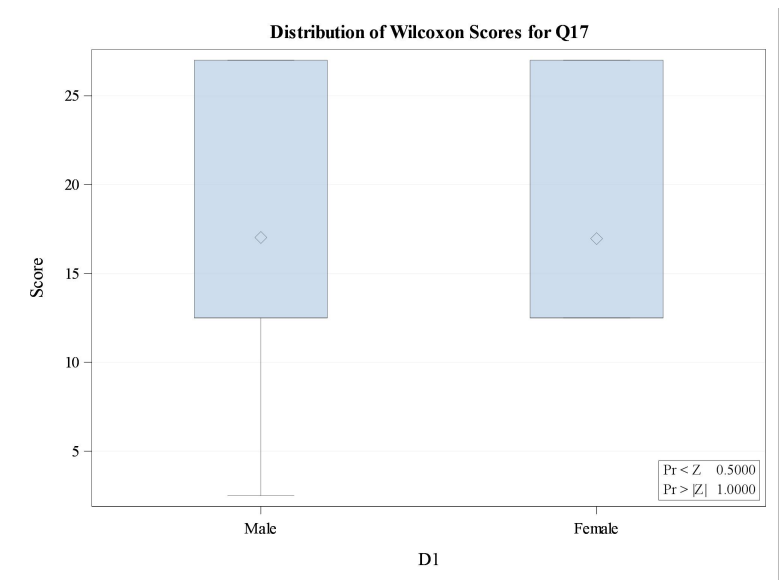
Distribution of Wilcoxon Scores for Q17

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q18 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	307.0	340.0	24.163858	15.350000
Female	13	254.0	221.0	24.163858	19.538462
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	254.0000
Normal Approximation	
Z	1.3450
One-Sided Pr > Z	0.0893
Two-Sided Pr > |Z|	0.1786
t Approximation	
One-Sided Pr > Z	0.0940
Two-Sided Pr > |Z|	0.1881
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.8651
DF	1
Pr > Chi-Square	0.1720
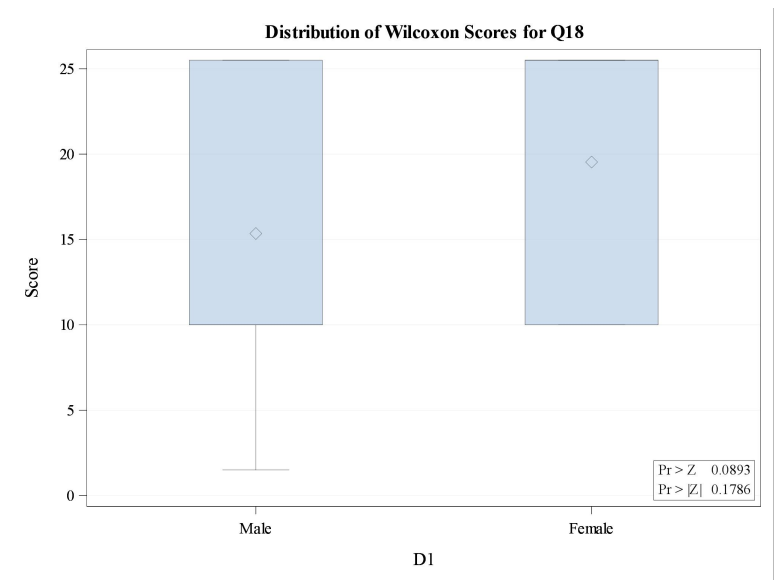
Distribution of Wilcoxon Scores for Q18

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q19 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	19	304.50	313.50	23.447264	16.026316
Female	13	223.50	214.50	23.447264	17.192308
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	223.5000
Normal Approximation	
Z	0.3625
One-Sided Pr > Z	0.3585
Two-Sided Pr > |Z|	0.7170
t Approximation	
One-Sided Pr > Z	0.3597
Two-Sided Pr > |Z|	0.7194
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1473
DF	1
Pr > Chi-Square	0.7011
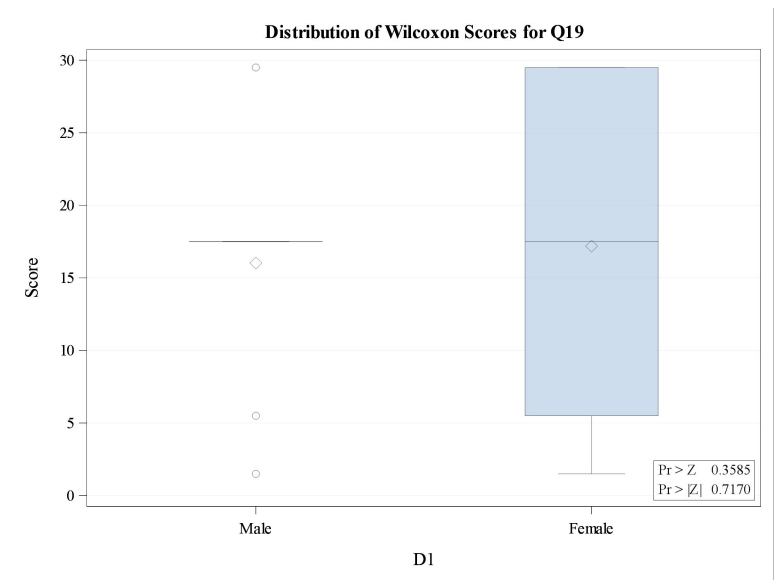
Distribution of Wilcoxon Scores for Q19

Krusal Wallis test

The NPAR1WAY Procedure

D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Wilcoxon Scores (Rank Sums) for Variable Q20 **Classified by Variable D1**					
Male	20	337.0	340.0	24.384468	16.850000
Female	13	224.0	221.0	24.384468	17.230769
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	224.0000
Normal Approximation	
Z	0.1025
One-Sided Pr > Z	0.4592
Two-Sided Pr > |Z|	0.9183
t Approximation	
One-Sided Pr > Z	0.4595
Two-Sided Pr > |Z|	0.9190
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0151
DF	1
Pr > Chi-Square	0.9021
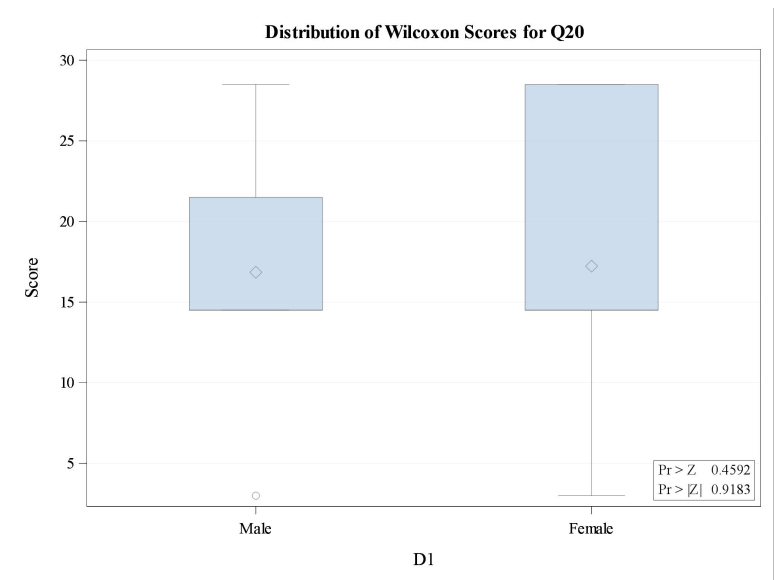
Distribution of Wilcoxon Scores for Q20

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q21 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	333.0	340.0	21.953593	16.650000
Female	13	228.0	221.0	21.953593	17.538462
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	228.0000
Normal Approximation	
Z	0.2961
One-Sided Pr > Z	0.3836
Two-Sided Pr > |Z|	0.7672
t Approximation	
One-Sided Pr > Z	0.3845
Two-Sided Pr > |Z|	0.7691
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1017
DF	1
Pr > Chi-Square	0.7498
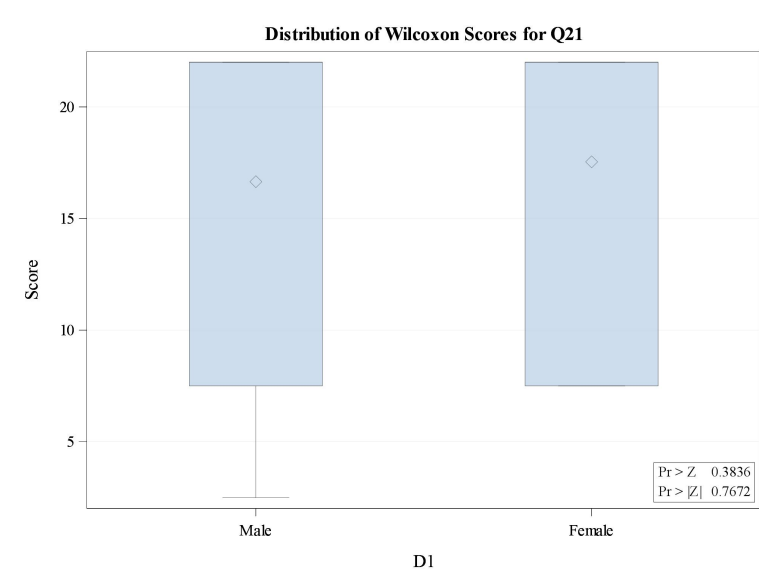
Distribution of Wilcoxon Scores for Q21

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Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q22 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	314.0	340.0	25.357109	15.70
Female	13	247.0	221.0	25.357109	19.00
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	247.0000
Normal Approximation	
Z	1.0056
One-Sided Pr > Z	0.1573
Two-Sided Pr > |Z|	0.3146
t Approximation	
One-Sided Pr > Z	0.1611
Two-Sided Pr > |Z|	0.3221
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.0513
DF	1
Pr > Chi-Square	0.3052

Distribution of Wilcoxon Scores for Q22

Pr > Z 0.1573
Pr > |Z| 0.3146

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q23 Classified by Variable D1					
D1	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
Male	20	302.50	340.0	24.804921	15.125000
Female	13	258.50	221.0	24.804921	19.884615
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	258.5000
Normal Approximation	
Z	1.4916
One-Sided Pr > Z	0.0679
Two-Sided Pr > |Z|	0.1358
t Approximation	
One-Sided Pr > Z	0.0728
Two-Sided Pr > |Z|	0.1456
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.2855
DF	1
Pr > Chi-Square	0.1306

Distribution of Wilcoxon Scores for Q23

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q24 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	303.0	340.0	24.520400	15.150000
Female	13	258.0	221.0	24.520400	19.846154
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	258.0000
Normal Approximation	
Z	1.4886
One-Sided Pr > Z	0.0683
Two-Sided Pr > |Z|	0.1366
t Approximation	
One-Sided Pr > Z	0.0732
Two-Sided Pr > |Z|	0.1464
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.2769
DF	1
Pr > Chi-Square	0.1313
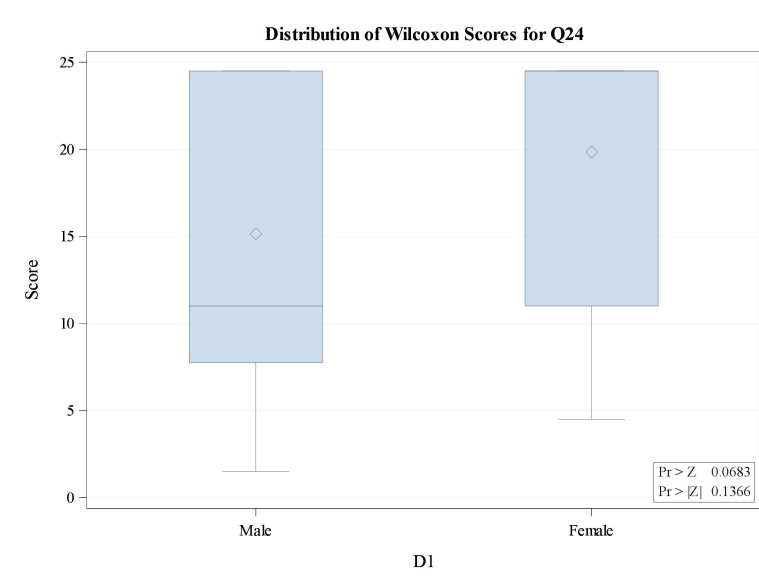
Distribution of Wilcoxon Scores for Q24

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q25 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	300.50	340.0	23.497461	15.025000
Female	13	260.50	221.0	23.497461	20.038462
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	260.5000
Normal Approximation	
Z	1.6598
One-Sided Pr > Z	0.0485
Two-Sided Pr > |Z|	0.0970
t Approximation	
One-Sided Pr > Z	0.0534
Two-Sided Pr > |Z|	0.1067
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.8259
DF	1
Pr > Chi-Square	0.0928
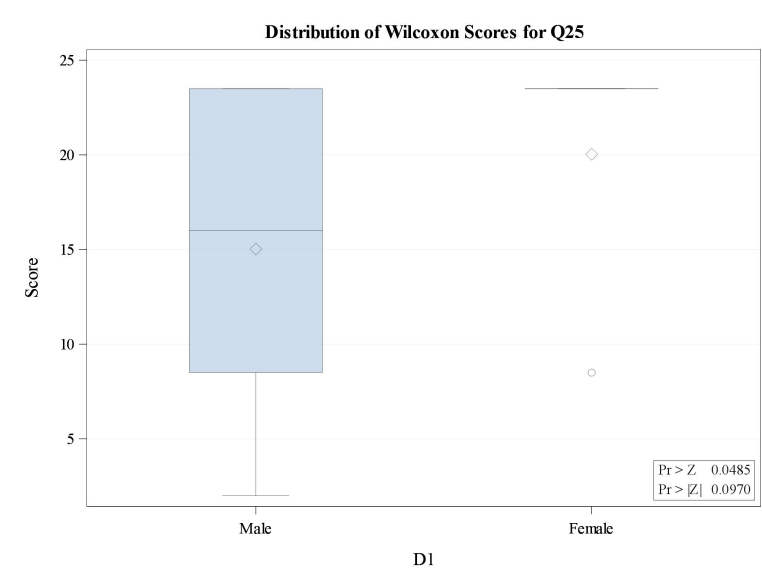
Distribution of Wilcoxon Scores for Q25

Krusal Wallis test

The NPAR1WAY Procedure

		Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Wilcoxon Scores (Rank Sums) for Variable Q26 **Classified by Variable D1**					
D1	**N**				
Male	20	291.50	340.0	25.118092	14.575000
Female	13	269.50	221.0	25.118092	20.730769
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	269.5000
Normal Approximation	
Z	1.9110
One-Sided Pr > Z	0.0280
Two-Sided Pr > |Z|	0.0560
t Approximation	
One-Sided Pr > Z	0.0325
Two-Sided Pr > |Z|	0.0650
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	3.7283
DF	1
Pr > Chi-Square	0.0535
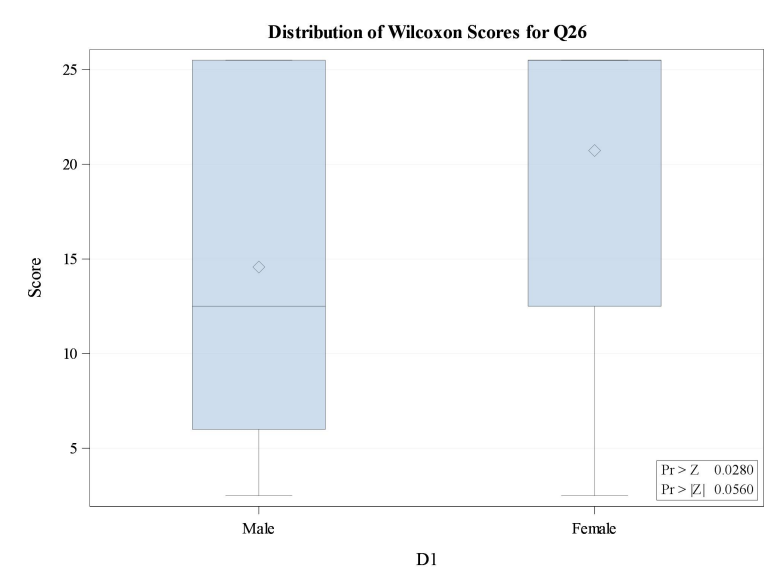
Distribution of Wilcoxon Scores for Q26
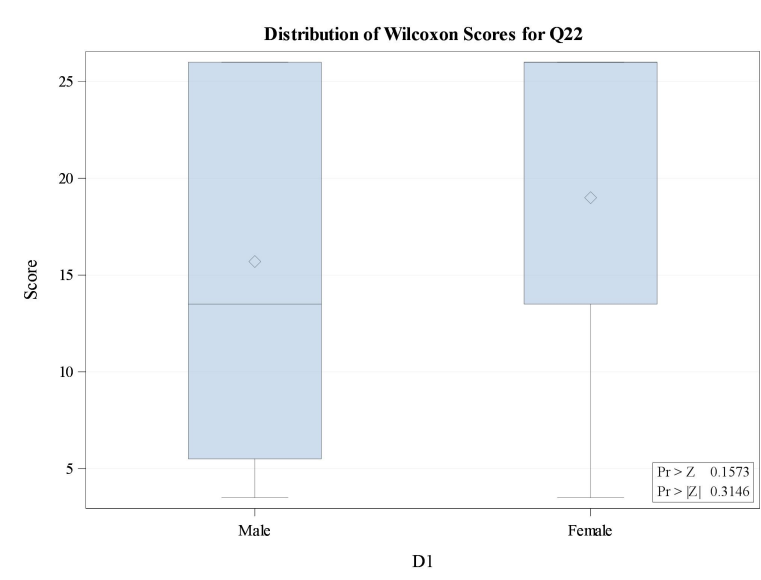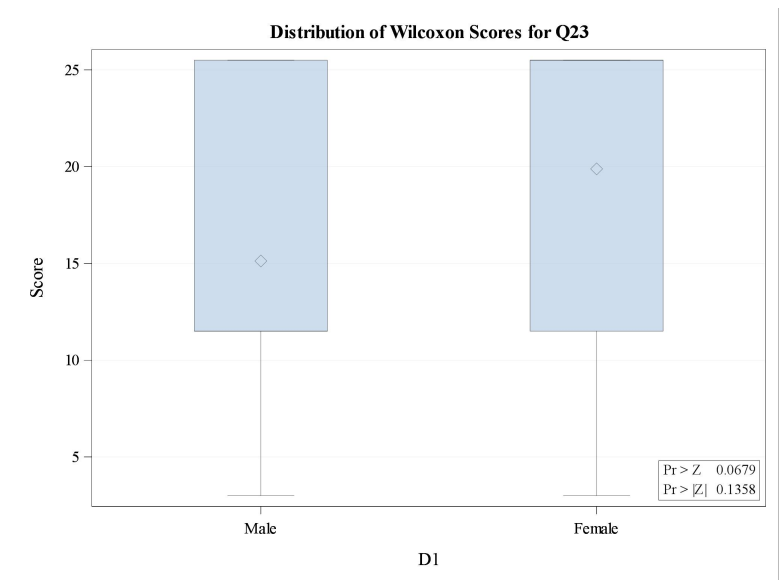
Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q27 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	293.0	340.0	23.822656	14.650000
Female	13	268.0	221.0	23.822656	20.615385
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	268.0000
Normal Approximation	
Z	1.9519
One-Sided Pr > Z	0.0255
Two-Sided Pr > |Z|	0.0509
t Approximation	
One-Sided Pr > Z	0.0299
Two-Sided Pr > |Z|	0.0597
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	3.8924
DF	1
Pr > Chi-Square	0.0485
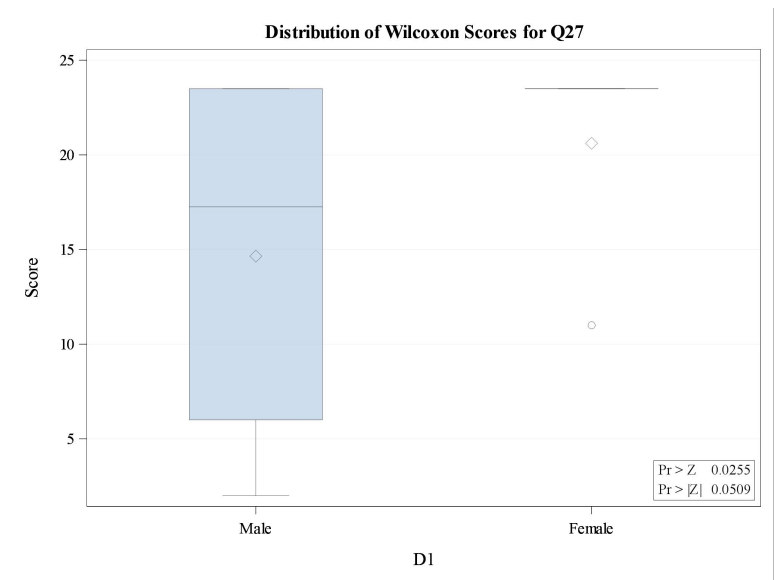
Distribution of Wilcoxon Scores for Q27

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q28 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	325.0	340.0	24.308622	16.250000
Female	13	236.0	221.0	24.308622	18.153846
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	236.0000
Normal Approximation	
Z	0.5965
One-Sided Pr > Z	0.2754
Two-Sided Pr > |Z|	0.5508
t Approximation	
One-Sided Pr > Z	0.2775
Two-Sided Pr > |Z|	0.5550
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.3808
DF	1
Pr > Chi-Square	0.5372
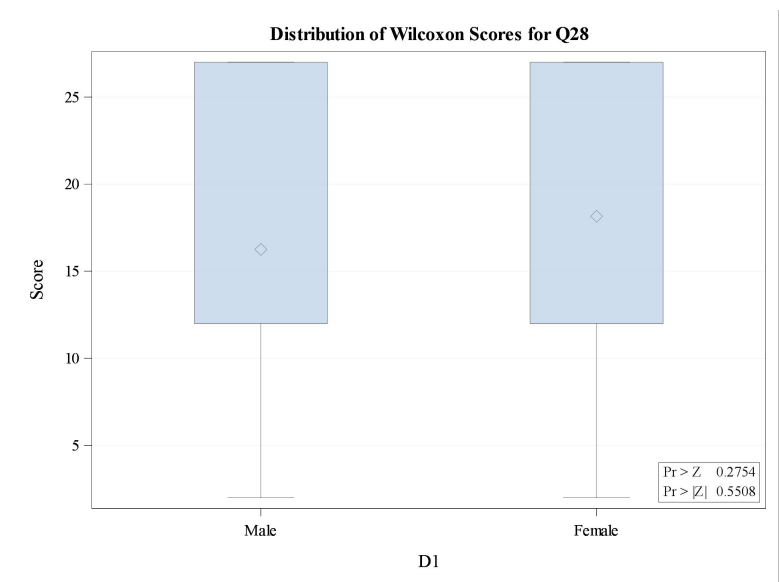
Distribution of Wilcoxon Scores for Q28

Krusal Wallis test

The NPAR1WAY Procedure

D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	298.0	340.0	24.460079	14.900000
Female	13	263.0	221.0	24.460079	20.230769
Average scores were used for ties.					

Wilcoxon Scores (Rank Sums) for Variable Q29 Classified by Variable D1

Wilcoxon Two-Sample Test	
Statistic	263.0000
Normal Approximation	
Z	1.6966
One-Sided Pr > Z	0.0449
Two-Sided Pr > |Z|	0.0898
t Approximation	
One-Sided Pr > Z	0.0497
Two-Sided Pr > |Z|	0.0995
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.9484
DF	1
Pr > Chi-Square	0.0860
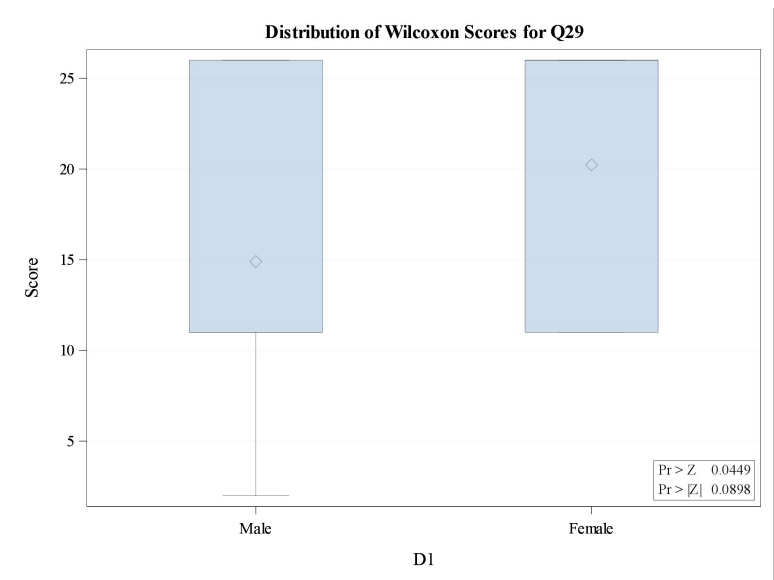
Distribution of Wilcoxon Scores for Q29

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q30 Classified by Variable D1					
D1	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Male	20	326.50	340.0	21.841153	16.325000
Female	13	234.50	221.0	21.841153	18.038462
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	234.5000
Normal Approximation	
Z	0.5952
One-Sided Pr > Z	0.2759
Two-Sided Pr > |Z|	0.5517
t Approximation	
One-Sided Pr > Z	0.2779
Two-Sided Pr > |Z|	0.5559
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.3820
DF	1
Pr > Chi-Square	0.5365
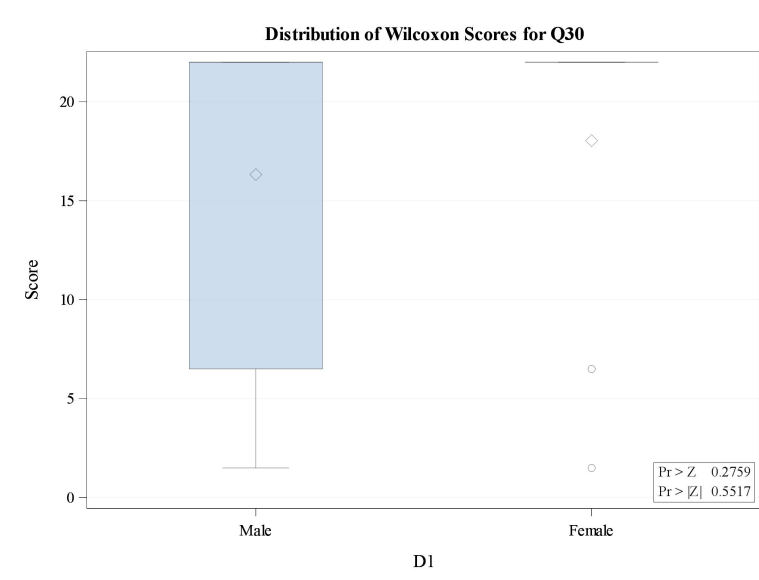
Distribution of Wilcoxon Scores for Q30

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q01 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	401.0	425.0	19.069252	16.040
<=10 years	8	160.0	136.0	19.069252	20.000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	160.0000
Normal Approximation	
Z	1.2324
One-Sided Pr > Z	0.1089
Two-Sided Pr > |Z|	0.2178
t Approximation	
One-Sided Pr > Z	0.1134
Two-Sided Pr > |Z|	0.2268
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.5840
DF	1
Pr > Chi-Square	0.2082
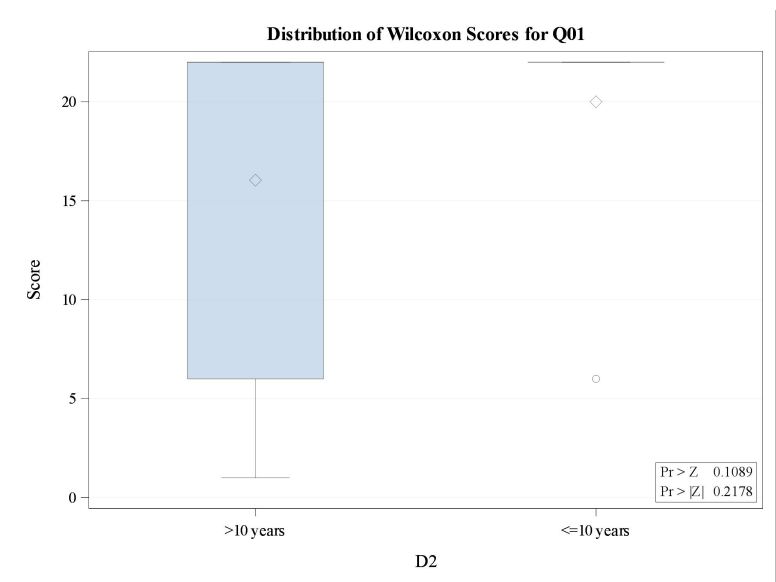
Distribution of Wilcoxon Scores for Q01

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q02 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	394.0	425.0	21.426407	15.7600
<=10 years	8	167.0	136.0	21.426407	20.8750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	167.0000
Normal Approximation	
Z	1.4235
One-Sided Pr > Z	0.0773
Two-Sided Pr > |Z|	0.1546
t Approximation	
One-Sided Pr > Z	0.0821
Two-Sided Pr > |Z|	0.1643
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.0933
DF	1
Pr > Chi-Square	0.1479
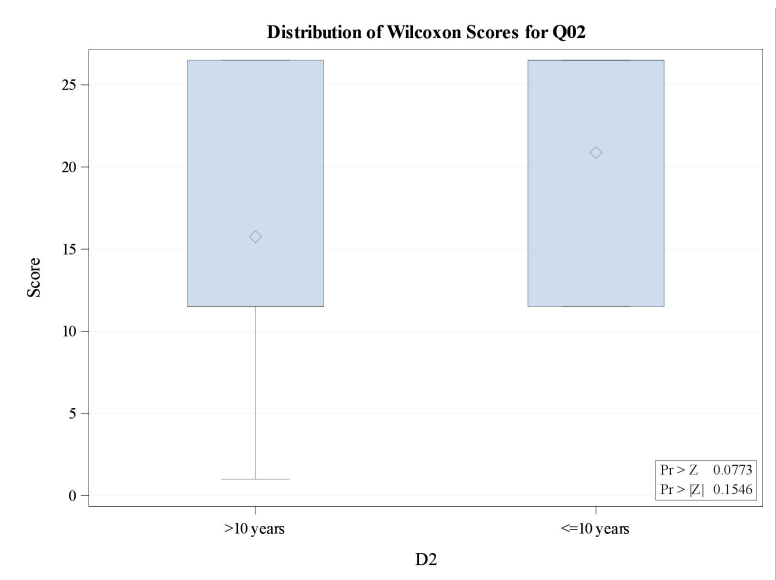
Distribution of Wilcoxon Scores for Q02

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q03 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	414.0	425.0	20.916501	16.5600
<=10 years	8	147.0	136.0	20.916501	18.3750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	147.0000
Normal Approximation	
Z	0.5020
One-Sided Pr > Z	0.3078
Two-Sided Pr > |Z|	0.6157
t Approximation	
One-Sided Pr > Z	0.3096
Two-Sided Pr > |Z|	0.6191
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.2766
DF	1
Pr > Chi-Square	0.5990
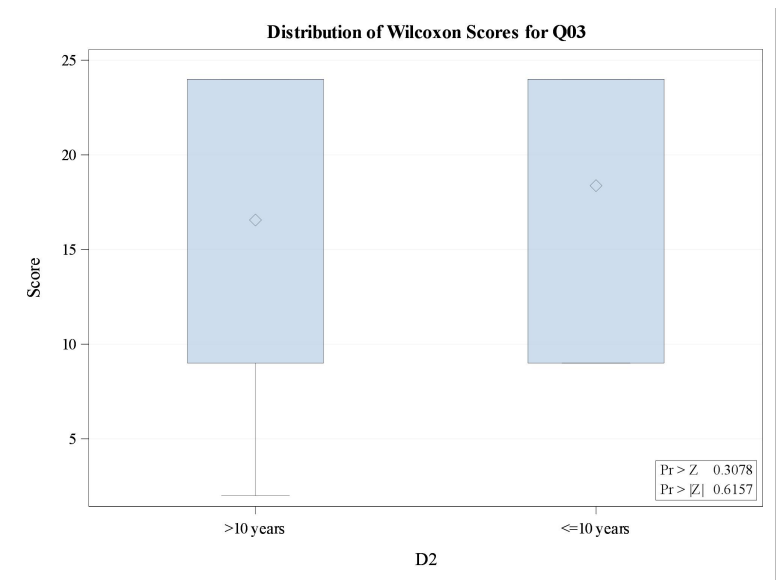
Distribution of Wilcoxon Scores for Q03

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q04 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	429.50	425.0	21.619996	17.18000
<=10 years	8	131.50	136.0	21.619996	16.43750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	131.5000
Normal Approximation	
Z	-0.1850
One-Sided Pr < Z	0.4266
Two-Sided Pr > |Z|	0.8532
t Approximation	
One-Sided Pr < Z	0.4272
Two-Sided Pr > |Z|	0.8544
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0433
DF	1
Pr > Chi-Square	0.8351
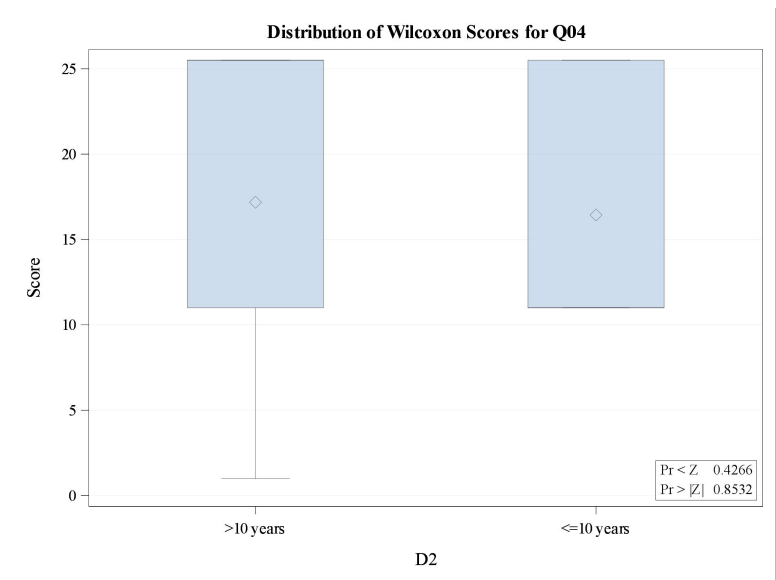
Distribution of Wilcoxon Scores for Q04

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q05 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	417.0	425.0	19.069252	16.680
<=10 years	8	144.0	136.0	19.069252	18.000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	144.0000
Normal Approximation	
Z	0.3933
One-Sided Pr > Z	0.3470
Two-Sided Pr > |Z|	0.6941
t Approximation	
One-Sided Pr > Z	0.3484
Two-Sided Pr > |Z|	0.6967
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1760
DF	1
Pr > Chi-Square	0.6748
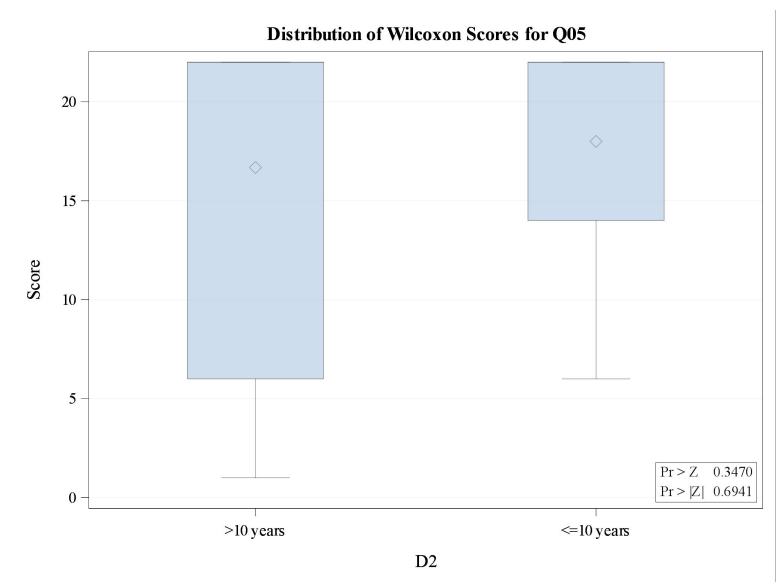
Distribution of Wilcoxon Scores for Q05

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q06 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	412.0	425.0	19.685020	16.4800
<=10 years	8	149.0	136.0	19.685020	18.6250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	149.0000
Normal Approximation	
Z	0.6350
One-Sided Pr > Z	0.2627
Two-Sided Pr > |Z|	0.5254
t Approximation	
One-Sided Pr > Z	0.2650
Two-Sided Pr > |Z|	0.5299
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.4361
DF	1
Pr > Chi-Square	0.5090
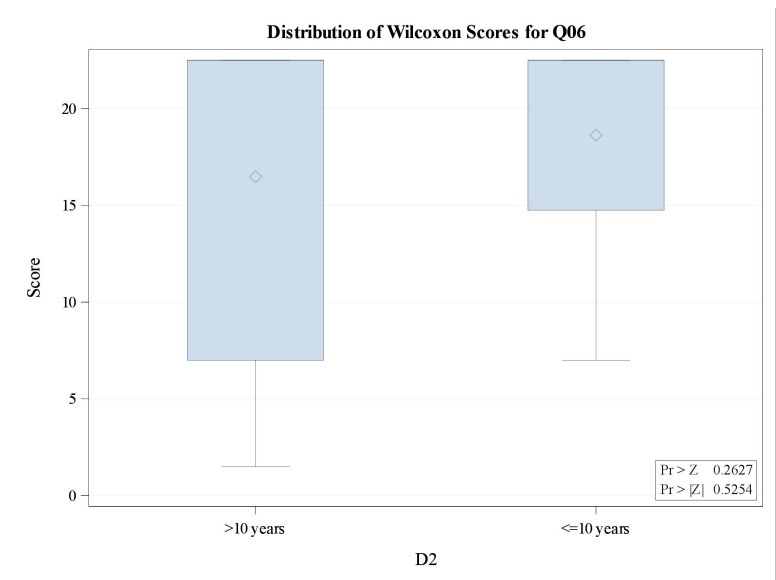
Distribution of Wilcoxon Scores for Q06

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The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q07 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	455.50	425.0	22.207697	18.22000
<=10 years	8	105.50	136.0	22.207697	13.18750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	105.5000
Normal Approximation	
Z	-1.3509
One-Sided Pr < Z	0.0884
Two-Sided Pr > |Z|	0.1767
t Approximation	
One-Sided Pr < Z	0.0931
Two-Sided Pr > |Z|	0.1862
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.8862
DF	1
Pr > Chi-Square	0.1696
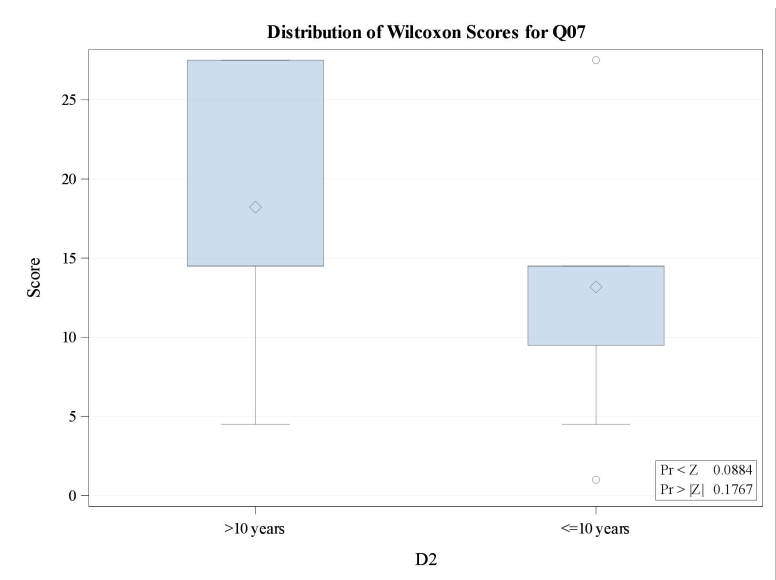
Distribution of Wilcoxon Scores for Q07

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q08 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	416.0	425.0	21.326733	16.6400
<=10 years	8	145.0	136.0	21.326733	18.1250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	145.0000
Normal Approximation	
Z	0.3986
One-Sided Pr > Z	0.3451
Two-Sided Pr > |Z|	0.6902
t Approximation	
One-Sided Pr > Z	0.3464
Two-Sided Pr > |Z|	0.6929
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1781
DF	1
Pr > Chi-Square	0.6730
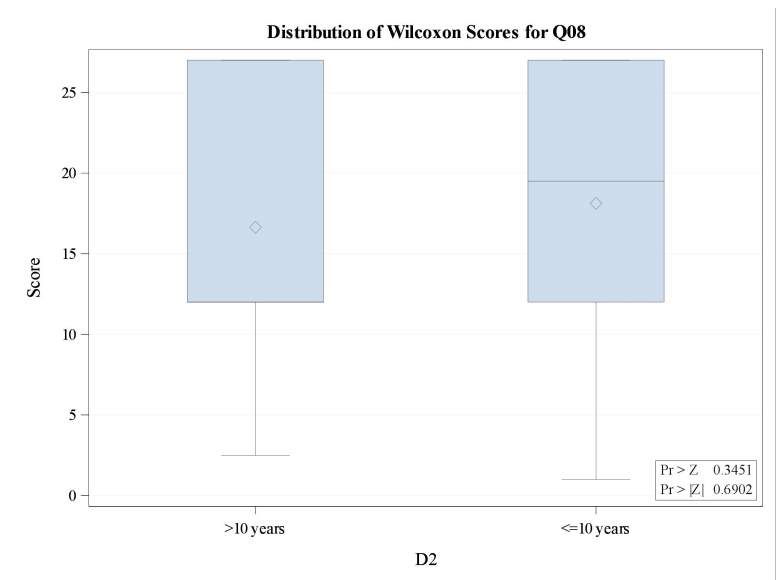
Distribution of Wilcoxon Scores for Q08

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q09 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	407.0	425.0	20.984301	16.280
<=10 years	8	154.0	136.0	20.984301	19.250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	154.0000
Normal Approximation	
Z	0.8340
One-Sided Pr > Z	0.2022
Two-Sided Pr > |Z|	0.4043
t Approximation	
One-Sided Pr > Z	0.2052
Two-Sided Pr > |Z|	0.4105
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.7358
DF	1
Pr > Chi-Square	0.3910
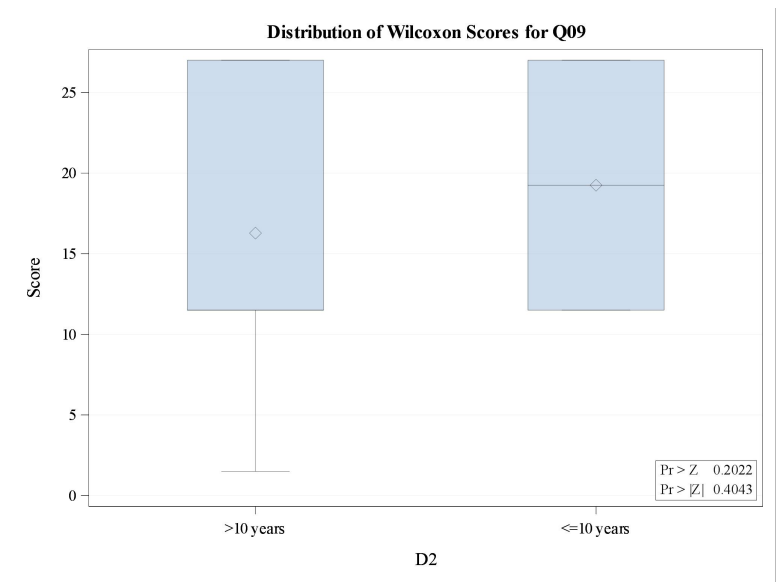
Distribution of Wilcoxon Scores for Q09

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q10 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	428.0	425.0	21.924457	17.1200
<=10 years	8	133.0	136.0	21.924457	16.6250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	133.0000
Normal Approximation	
Z	-0.1140
One-Sided Pr < Z	0.4546
Two-Sided Pr > |Z|	0.9092
t Approximation	
One-Sided Pr < Z	0.4550
Two-Sided Pr > |Z|	0.9099
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0187
DF	1
Pr > Chi-Square	0.8912
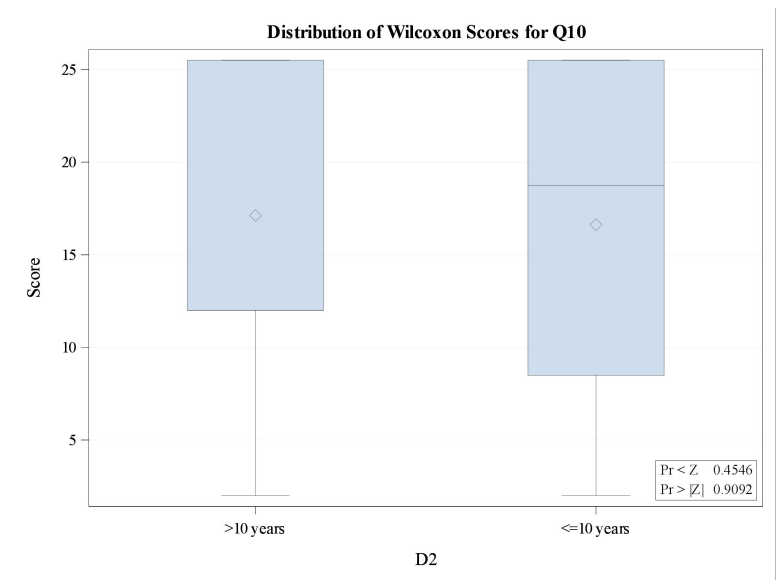
Distribution of Wilcoxon Scores for Q10

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q11 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	423.0	425.0	21.689964	16.920
<=10 years	8	138.0	136.0	21.689964	17.250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	138.0000
Normal Approximation	
Z	0.0692
One-Sided Pr > Z	0.4724
Two-Sided Pr > |Z|	0.9449
t Approximation	
One-Sided Pr > Z	0.4726
Two-Sided Pr > |Z|	0.9453
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0085
DF	1
Pr > Chi-Square	0.9265
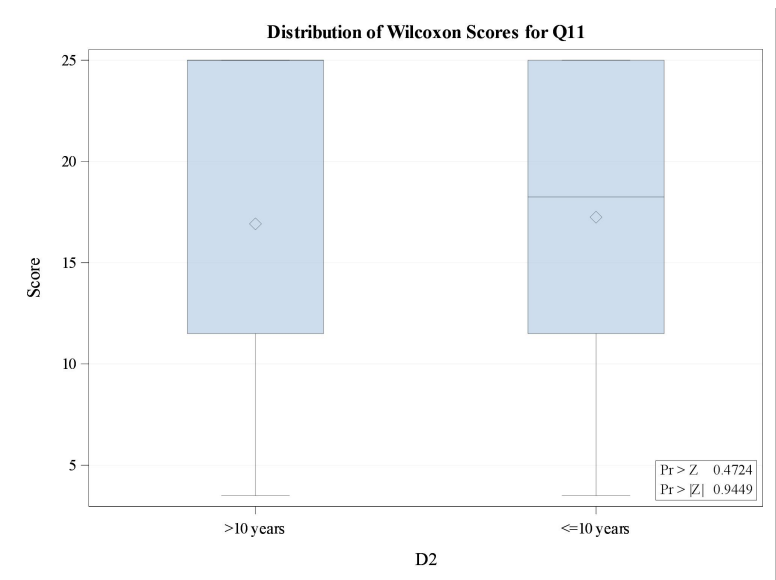
Distribution of Wilcoxon Scores for Q11

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q12 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	429.0	412.50	19.823122	17.160000
<=10 years	7	99.0	115.50	19.823122	14.142857
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	99.0000
Normal Approximation	
Z	-0.8071
One-Sided Pr < Z	0.2098
Two-Sided Pr > |Z|	0.4196
t Approximation	
One-Sided Pr < Z	0.2129
Two-Sided Pr > |Z|	0.4257
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.6928
DF	1
Pr > Chi-Square	0.4052
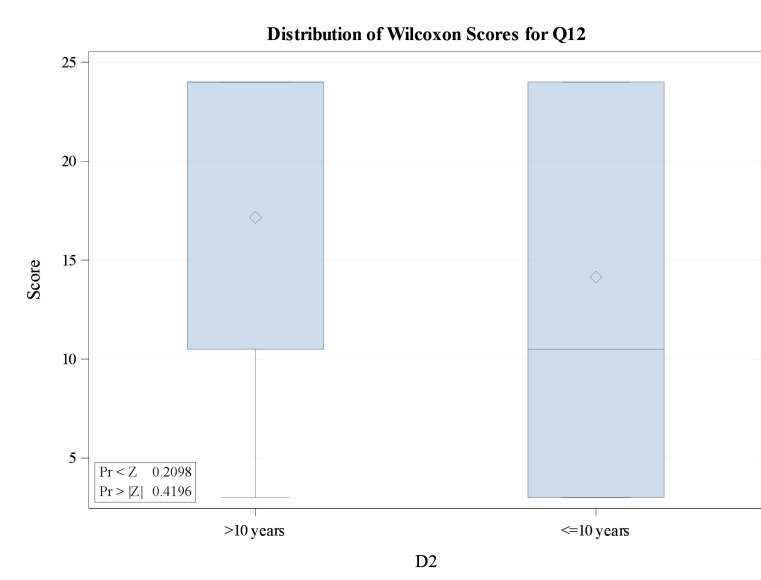
Distribution of Wilcoxon Scores for Q12

The NPAR1WAY Procedure

D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Wilcoxon Scores (Rank Sums) for Variable Q13 Classified by Variable D2					
>10 years	25	432.50	425.0	22.098694	17.30000
<=10 years	8	128.50	136.0	22.098694	16.06250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	128.5000
Normal Approximation	
Z	-0.3168
One-Sided Pr < Z	0.3757
Two-Sided Pr > |Z|	0.7514
t Approximation	
One-Sided Pr < Z	0.3767
Two-Sided Pr > |Z|	0.7535
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1152
DF	1
Pr > Chi-Square	0.7343

Distribution of Wilcoxon Scores for Q13

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q14 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	448.50	425.0	19.685020	17.94000
<=10 years	8	112.50	136.0	19.685020	14.06250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	112.5000
Normal Approximation	
Z	-1.1684
One-Sided Pr < Z	0.1213
Two-Sided Pr > |Z|	0.2426
t Approximation	
One-Sided Pr < Z	0.1256
Two-Sided Pr > |Z|	0.2513
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.4252
DF	1
Pr > Chi-Square	0.2326

Distribution of Wilcoxon Scores for Q14

Pr < Z 0.1213
Pr > |Z| 0.2426

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q15 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	448.50	425.0	19.685020	17.94000
<=10 years	8	112.50	136.0	19.685020	14.06250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	112.5000
Normal Approximation	
Z	-1.1684
One-Sided Pr < Z	0.1213
Two-Sided Pr > |Z|	0.2426
t Approximation	
One-Sided Pr < Z	0.1256
Two-Sided Pr > |Z|	0.2513
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.4252
DF	1
Pr > Chi-Square	0.2326

Distribution of Wilcoxon Scores for Q15

Pr < Z 0.1213
Pr > |Z| 0.2426

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q16 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	421.50	425.0	22.092265	16.86000
<=10 years	8	139.50	136.0	22.092265	17.43750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	139.5000
Normal Approximation	
Z	0.1358
One-Sided Pr > Z	0.4460
Two-Sided Pr > |Z|	0.8920
t Approximation	
One-Sided Pr > Z	0.4464
Two-Sided Pr > |Z|	0.8928
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0251
DF	1
Pr > Chi-Square	0.8741
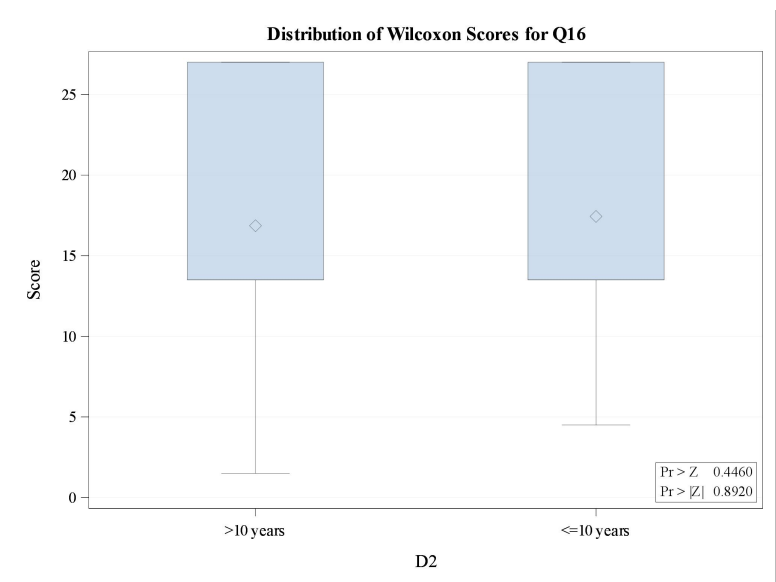
Distribution of Wilcoxon Scores for Q16

Krusal Wallis test

The NPAR1WAY Procedure

D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Wilcoxon Scores (Rank Sums) for Variable Q17 Classified by Variable D2					
>10 years	25	417.50	425.0	21.606852	16.70000
<=10 years	8	143.50	136.0	21.606852	17.93750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	143.5000
Normal Approximation	
Z	0.3240
One-Sided Pr > Z	0.3730
Two-Sided Pr > |Z|	0.7460
t Approximation	
One-Sided Pr > Z	0.3740
Two-Sided Pr > |Z|	0.7481
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1205
DF	1
Pr > Chi-Square	0.7285

Distribution of Wilcoxon Scores for Q17

Wilcoxon Scores (Rank Sums) for Variable Q18 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	427.50	425.0	21.193106	17.10000
<=10 years	8	133.50	136.0	21.193106	16.68750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	133.5000
Normal Approximation	
Z	-0.0944
One-Sided Pr < Z	0.4624
Two-Sided Pr > |Z|	0.9248
t Approximation	
One-Sided Pr < Z	0.4627
Two-Sided Pr > |Z|	0.9254
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0139
DF	1
Pr > Chi-Square	0.9061
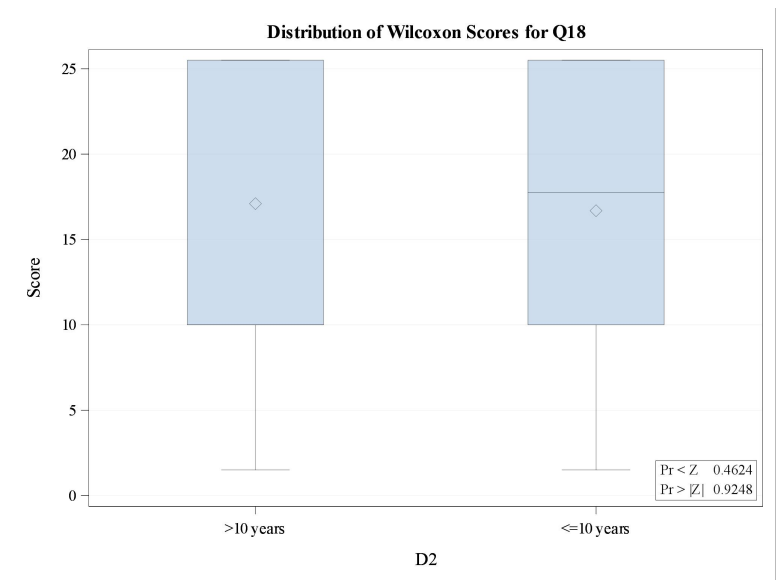
Distribution of Wilcoxon Scores for Q18

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q19 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	409.50	412.50	19.736163	16.380000
<=10 years	7	118.50	115.50	19.736163	16.928571
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	118.5000
Normal Approximation	
Z	0.1267
One-Sided Pr > Z	0.4496
Two-Sided Pr > |Z|	0.8992
t Approximation	
One-Sided Pr > Z	0.4500
Two-Sided Pr > |Z|	0.9000
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0231
DF	1
Pr > Chi-Square	0.8792
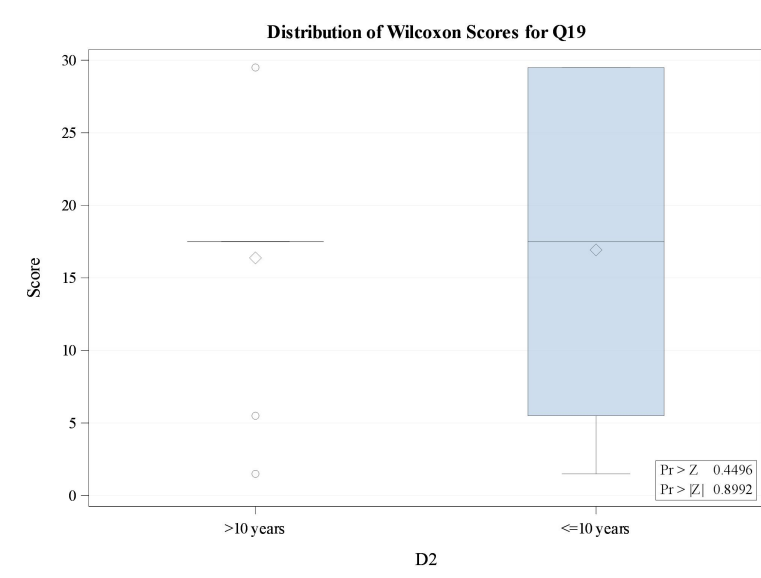
Distribution of Wilcoxon Scores for Q19

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q20 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	414.50	425.0	21.386593	16.58000
<=10 years	8	146.50	136.0	21.386593	18.31250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	146.5000
Normal Approximation	
Z	0.4676
One-Sided Pr > Z	0.3200
Two-Sided Pr > |Z|	0.6401
t Approximation	
One-Sided Pr > Z	0.3216
Two-Sided Pr > |Z|	0.6433
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.2410
DF	1
Pr > Chi-Square	0.6235
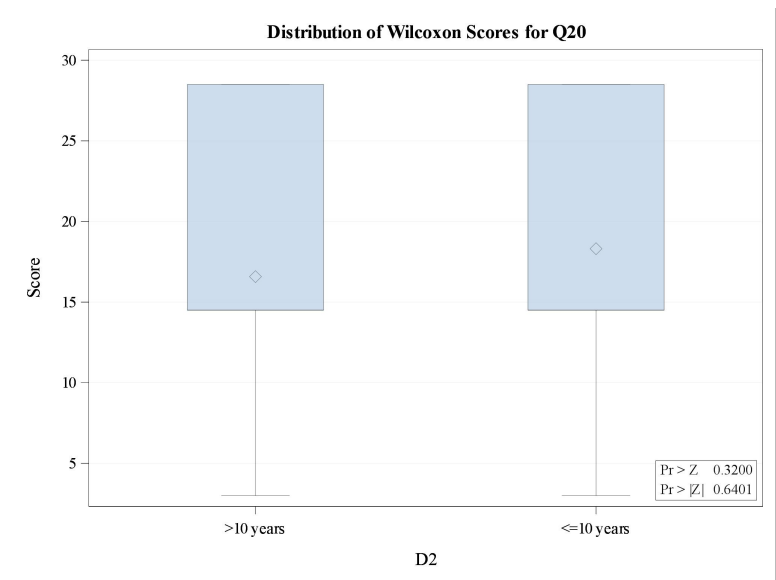
Distribution of Wilcoxon Scores for Q20

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q21 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	414.0	425.0	19.254574	16.5600
<=10 years	8	147.0	136.0	19.254574	18.3750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	147.0000
Normal Approximation	
Z	0.5453
One-Sided Pr > Z	0.2928
Two-Sided Pr > |Z|	0.5855
t Approximation	
One-Sided Pr > Z	0.2947
Two-Sided Pr > |Z|	0.5893
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.3264
DF	1
Pr > Chi-Square	0.5678
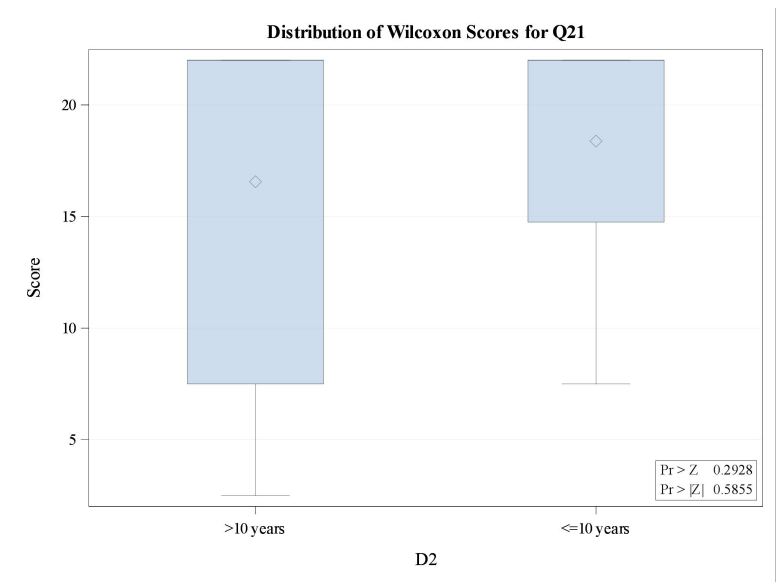
Distribution of Wilcoxon Scores for Q21

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q22 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	400.50	425.0	22.239655	16.02000
<=10 years	8	160.50	136.0	22.239655	20.06250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	160.5000
Normal Approximation	
Z	1.0792
One-Sided Pr > Z	0.1403
Two-Sided Pr > |Z|	0.2805
t Approximation	
One-Sided Pr > Z	0.1443
Two-Sided Pr > |Z|	0.2886
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.2136
DF	1
Pr > Chi-Square	0.2706
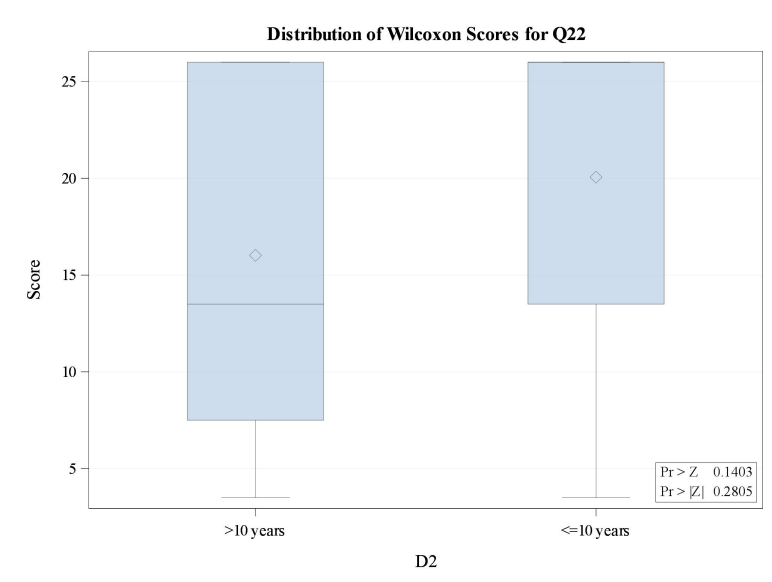
Distribution of Wilcoxon Scores for Q22

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q23 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	407.50	425.0	21.755355	16.30000
<=10 years	8	153.50	136.0	21.755355	19.18750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	153.5000
Normal Approximation	
Z	0.7814
One-Sided Pr > Z	0.2173
Two-Sided Pr > |Z|	0.4346
t Approximation	
One-Sided Pr > Z	0.2202
Two-Sided Pr > |Z|	0.4403
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.6471
DF	1
Pr > Chi-Square	0.4212
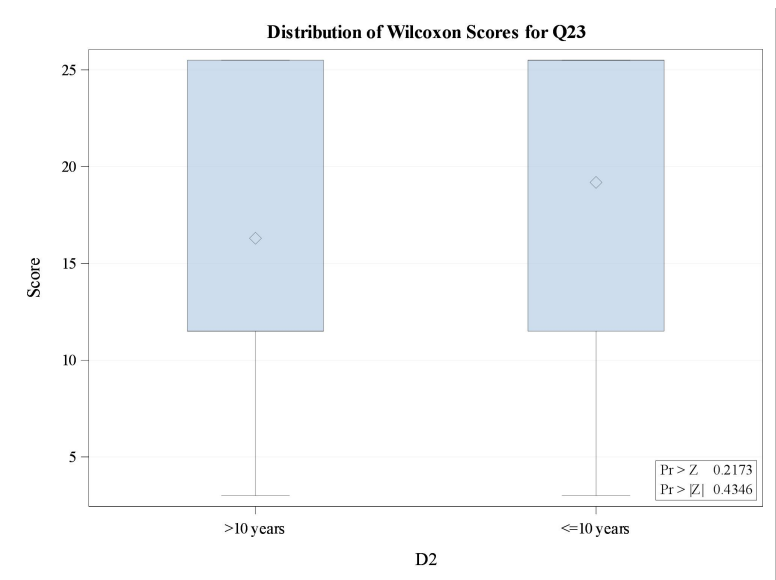
Distribution of Wilcoxon Scores for Q23

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q24 Classified by Variable D2					
D2	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
>10 years	25	405.50	425.0	21.505813	16.22000
<=10 years	8	155.50	136.0	21.505813	19.43750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	155.5000
Normal Approximation	
Z	0.8835
One-Sided Pr > Z	0.1885
Two-Sided Pr > |Z|	0.3770
t Approximation	
One-Sided Pr > Z	0.1918
Two-Sided Pr > |Z|	0.3836
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.8222
DF	1
Pr > Chi-Square	0.3645
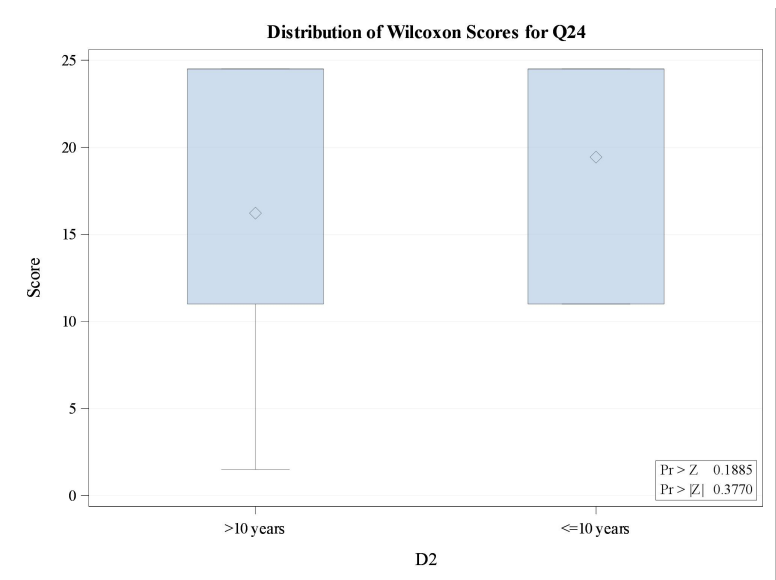
Distribution of Wilcoxon Scores for Q24

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q25 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	418.0	425.0	20.608637	16.7200
<=10 years	8	143.0	136.0	20.608637	17.8750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	143.0000
Normal Approximation	
Z	0.3154
One-Sided Pr > Z	0.3762
Two-Sided Pr > |Z|	0.7525
t Approximation	
One-Sided Pr > Z	0.3773
Two-Sided Pr > |Z|	0.7545
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1154
DF	1
Pr > Chi-Square	0.7341
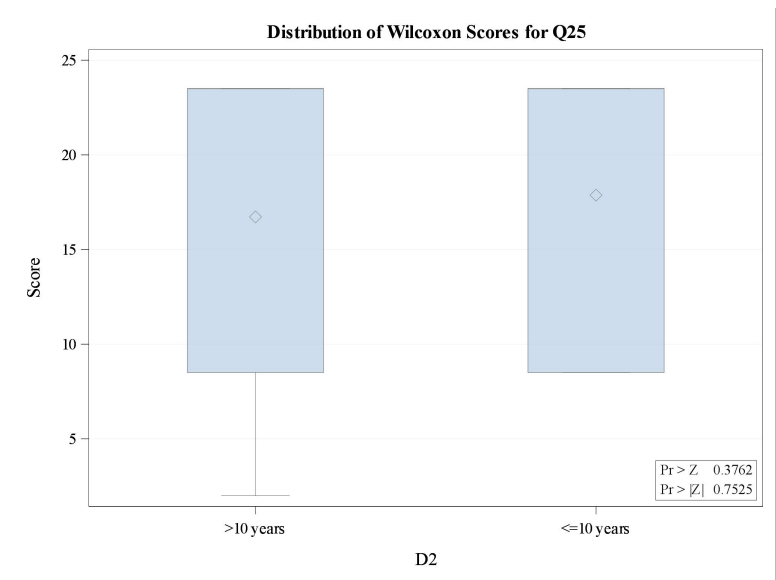
Distribution of Wilcoxon Scores for Q25

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q26 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	396.0	425.0	22.030024	15.8400
<=10 years	8	165.0	136.0	22.030024	20.6250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	165.0000
Normal Approximation	
Z	1.2937
One-Sided Pr > Z	0.0979
Two-Sided Pr > |Z|	0.1958
t Approximation	
One-Sided Pr > Z	0.1025
Two-Sided Pr > |Z|	0.2050
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.7329
DF	1
Pr > Chi-Square	0.1880

Distribution of Wilcoxon Scores for Q26

The NPAR1WAY Procedure

D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Wilcoxon Scores (Rank Sums) for Variable Q27 Classified by Variable D2					
>10 years	25	403.0	425.0	20.893851	16.120
<=10 years	8	158.0	136.0	20.893851	19.750
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	158.0000
Normal Approximation	
Z	1.0290
One-Sided Pr > Z	0.1517
Two-Sided Pr > |Z|	0.3035
t Approximation	
One-Sided Pr > Z	0.1556
Two-Sided Pr > |Z|	0.3112
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.1087
DF	1
Pr > Chi-Square	0.2924
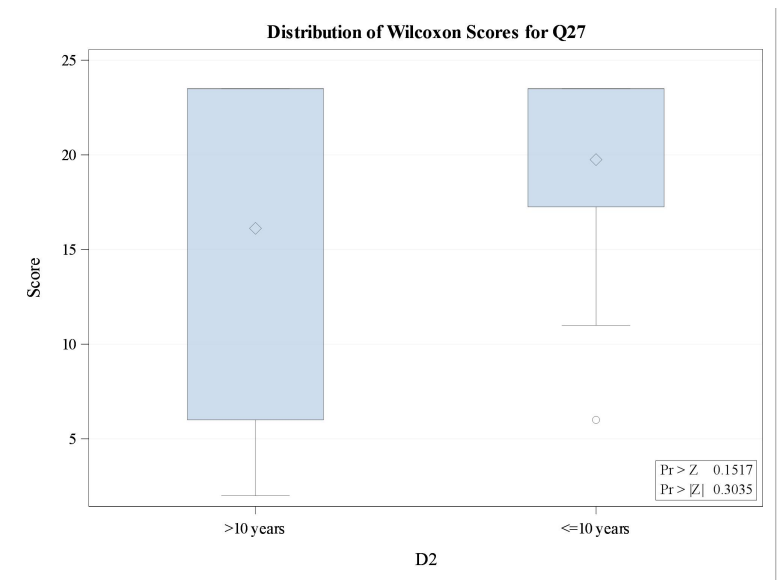
Distribution of Wilcoxon Scores for Q27

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q28 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	415.0	425.0	21.320072	16.600
<=10 years	8	146.0	136.0	21.320072	18.250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	146.0000
Normal Approximation	
Z	0.4456
One-Sided Pr > Z	0.3279
Two-Sided Pr > |Z|	0.6559
t Approximation	
One-Sided Pr > Z	0.3294
Two-Sided Pr > |Z|	0.6589
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.2200
DF	1
Pr > Chi-Square	0.6390

Distribution of Wilcoxon Scores for Q28

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q29 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	413.0	425.0	21.452908	16.520
<=10 years	8	148.0	136.0	21.452908	18.500
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	148.0000
Normal Approximation	
Z	0.5361
One-Sided Pr > Z	0.2960
Two-Sided Pr > |Z|	0.5919
t Approximation	
One-Sided Pr > Z	0.2978
Two-Sided Pr > |Z|	0.5956
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.3129
DF	1
Pr > Chi-Square	0.5759

Distribution of Wilcoxon Scores for Q29

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q30 Classified by Variable D2					
D2	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
>10 years	25	436.50	425.0	19.155959	17.46000
<=10 years	8	124.50	136.0	19.155959	15.56250
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	124.5000
Normal Approximation	
Z	-0.5742
One-Sided Pr < Z	0.2829
Two-Sided Pr > |Z|	0.5658
t Approximation	
One-Sided Pr < Z	0.2849
Two-Sided Pr > |Z|	0.5698
Z includes a continuity correction of 0.5.	

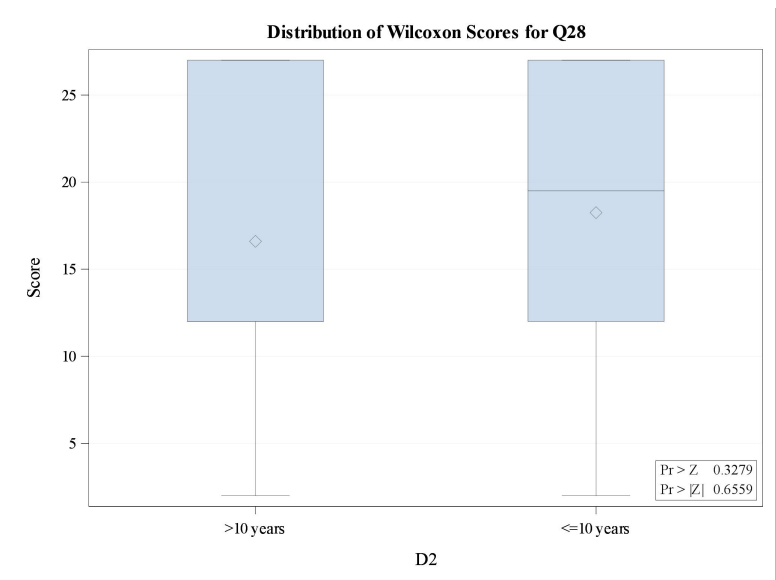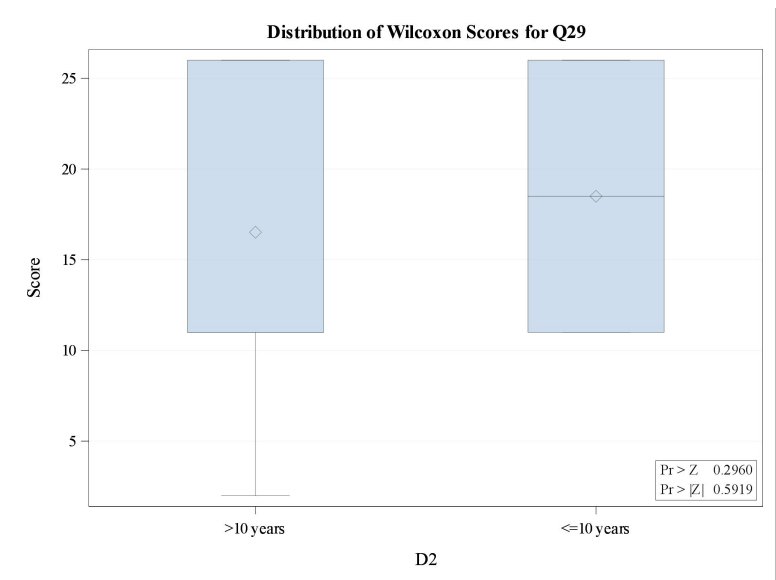| Kruskal-Wallis Test	
Chi-Square	0.3604
DF	1
Pr > Chi-Square	0.5483

Distribution of Wilcoxon Scores for Q30

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q01 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	279.0	306.0	22.156468	15.50
>6 years	15	282.0	255.0	22.156468	18.80
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	282.0000
Normal Approximation	
Z	1.1960
One-Sided Pr > Z	0.1158
Two-Sided Pr > |Z|	0.2317
t Approximation	
One-Sided Pr > Z	0.1202
Two-Sided Pr > |Z|	0.2405
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.4850
DF	1
Pr > Chi-Square	0.2230

Distribution of Wilcoxon Scores for Q01

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q02 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	309.0	306.0	24.895235	17.166667
>6 years	15	252.0	255.0	24.895235	16.800000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	252.0000
Normal Approximation	
Z	-0.1004
One-Sided Pr < Z	0.4600
Two-Sided Pr > |Z|	0.9200
t Approximation	
One-Sided Pr < Z	0.4603
Two-Sided Pr > |Z|	0.9206
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0145
DF	1
Pr > Chi-Square	0.9041
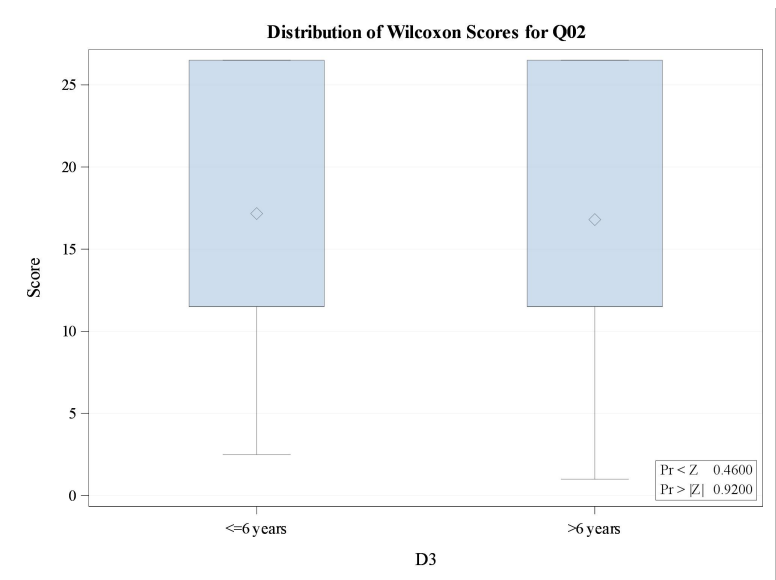
Distribution of Wilcoxon Scores for Q02

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q03 Classified by Variable D3					
D3	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
<=6 years	18	320.0	306.0	24.302778	17.777778
>6 years	15	241.0	255.0	24.302778	16.066667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	241.0000
Normal Approximation	
Z	-0.5555
One-Sided Pr < Z	0.2893
Two-Sided Pr > |Z|	0.5786
t Approximation	
One-Sided Pr < Z	0.2912
Two-Sided Pr > |Z|	0.5824
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.3319
DF	1
Pr > Chi-Square	0.5646
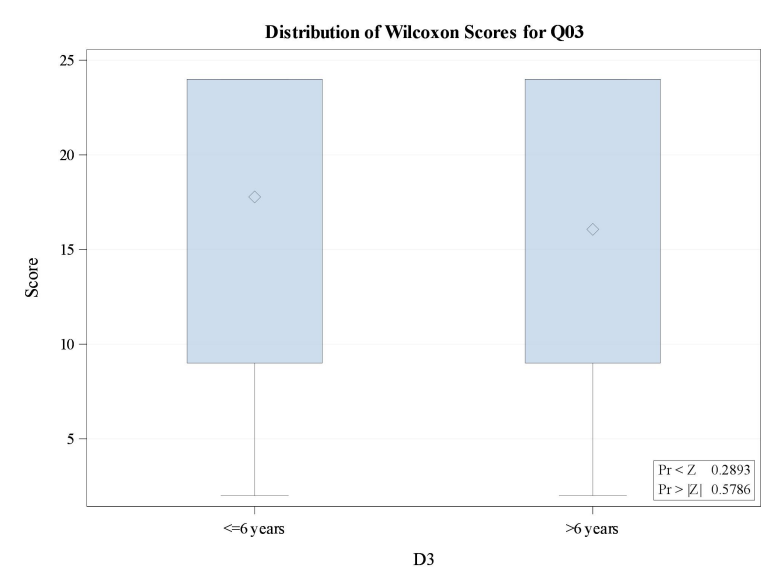
Distribution of Wilcoxon Scores for Q03

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q04 Classified by Variable D3					
D3	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
<=6 years	18	299.50	306.0	25.120166	16.638889
>6 years	15	261.50	255.0	25.120166	17.433333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	261.5000
Normal Approximation	
Z	0.2389
One-Sided Pr > Z	0.4056
Two-Sided Pr > |Z|	0.8112
t Approximation	
One-Sided Pr > Z	0.4064
Two-Sided Pr > |Z|	0.8127
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0670
DF	1
Pr > Chi-Square	0.7958

Distribution of Wilcoxon Scores for Q04

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q05 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	279.0	306.0	22.156468	15.50
>6 years	15	282.0	255.0	22.156468	18.80
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	282.0000
Normal Approximation	
Z	1.1960
One-Sided Pr > Z	0.1158
Two-Sided Pr > |Z|	0.2317
t Approximation	
One-Sided Pr > Z	0.1202
Two-Sided Pr > |Z|	0.2405
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.4850
DF	1
Pr > Chi-Square	0.2230

Distribution of Wilcoxon Scores for Q05

| Pr > Z | 0.1158 |
| Pr > \|Z\| | 0.2317 |

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Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q06 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	301.0	306.0	22.871926	16.722222
>6 years	15	260.0	255.0	22.871926	17.333333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	260.0000
Normal Approximation	
Z	0.1967
One-Sided Pr > Z	0.4220
Two-Sided Pr > |Z|	0.8440
t Approximation	
One-Sided Pr > Z	0.4226
Two-Sided Pr > |Z|	0.8453
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0478
DF	1
Pr > Chi-Square	0.8270
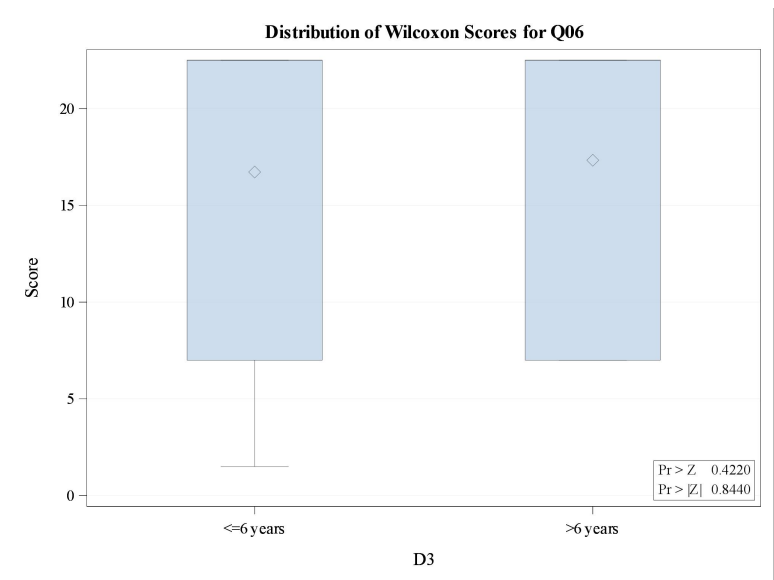
Distribution of Wilcoxon Scores for Q06

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q07 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	296.0	306.0	25.803013	16.444444
>6 years	15	265.0	255.0	25.803013	17.666667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	265.0000
Normal Approximation	
Z	0.3682
One-Sided Pr > Z	0.3564
Two-Sided Pr > |Z|	0.7127
t Approximation	
One-Sided Pr > Z	0.3576
Two-Sided Pr > |Z|	0.7152
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1502
DF	1
Pr > Chi-Square	0.6983
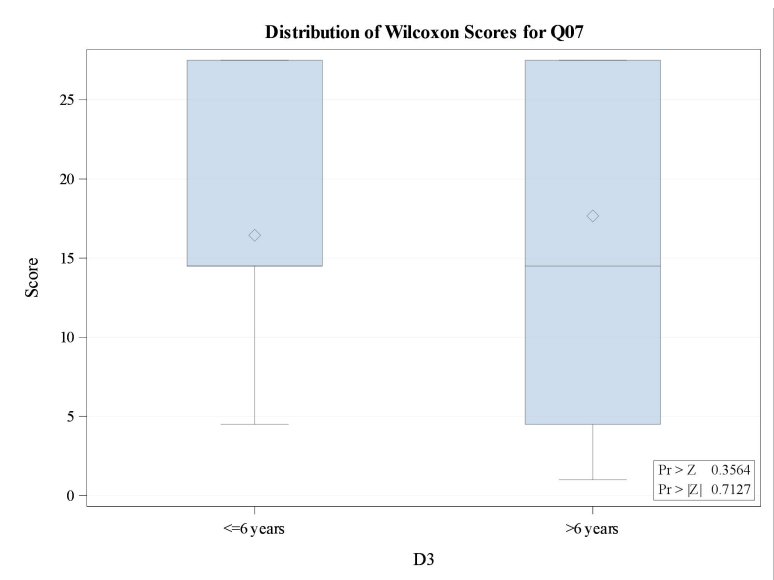
Distribution of Wilcoxon Scores for Q07

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q08 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	306.0	306.0	24.779425	17.0
>6 years	15	255.0	255.0	24.779425	17.0
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	255.0000
Normal Approximation	
Z	0.0000
One-Sided Pr < Z	0.5000
Two-Sided Pr > |Z|	1.0000
t Approximation	
One-Sided Pr < Z	0.5000
Two-Sided Pr > |Z|	1.0000
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0000
DF	1
Pr > Chi-Square	1.0000

Distribution of Wilcoxon Scores for Q08

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q09 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	311.0	306.0	24.381555	17.277778
>6 years	15	250.0	255.0	24.381555	16.666667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	250.0000
Normal Approximation	
Z	-0.1846
One-Sided Pr < Z	0.4268
Two-Sided Pr > |Z|	0.8536
t Approximation	
One-Sided Pr < Z	0.4274
Two-Sided Pr > |Z|	0.8547
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0421
DF	1
Pr > Chi-Square	0.8375
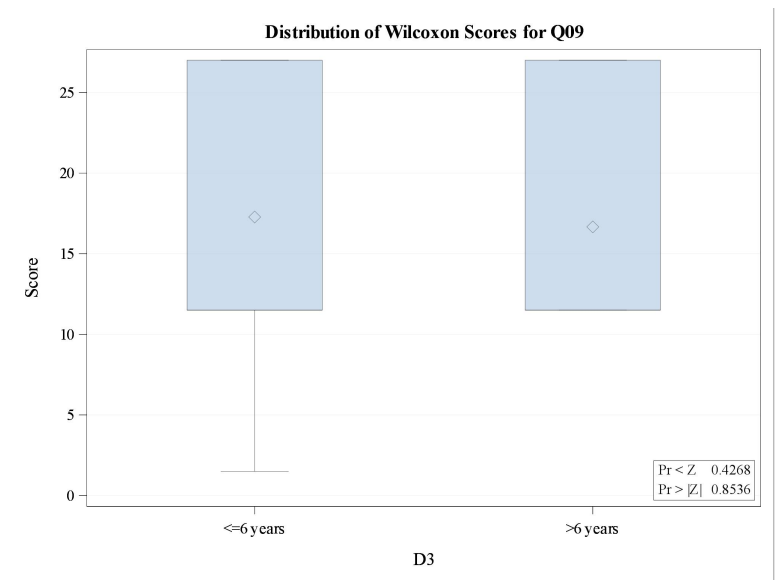
Distribution of Wilcoxon Scores for Q09

Krusal Wallis test

The NPAR1WAY Procedure

D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	280.0	306.0	25.473917	15.555556
>6 years	15	281.0	255.0	25.473917	18.733333
Average scores were used for ties.					

Wilcoxon Scores (Rank Sums) for Variable Q10 Classified by Variable D3

Wilcoxon Two-Sample Test	
Statistic	281.0000
Normal Approximation	
Z	1.0010
One-Sided Pr > Z	0.1584
Two-Sided Pr > |Z|	0.3168
t Approximation	
One-Sided Pr > Z	0.1622
Two-Sided Pr > |Z|	0.3243
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.0417
DF	1
Pr > Chi-Square	0.3074
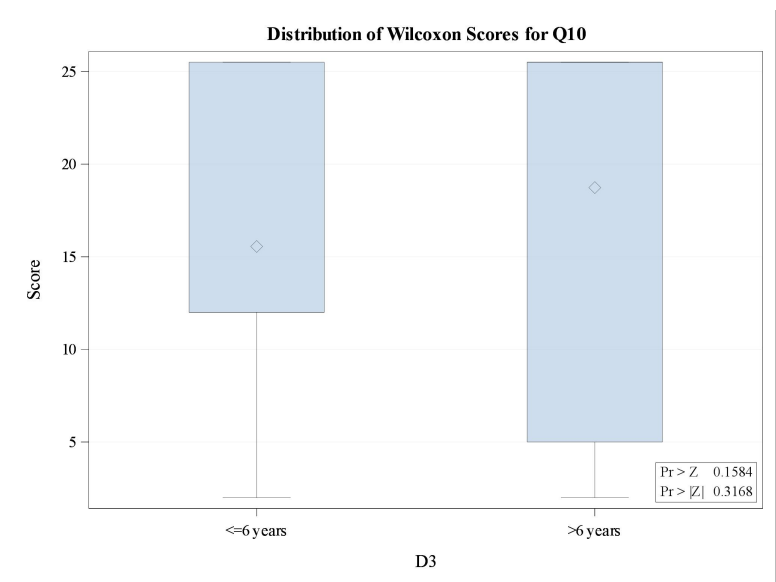
Distribution of Wilcoxon Scores for Q10

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The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q11 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	312.50	306.0	25.201461	17.361111
>6 years	15	248.50	255.0	25.201461	16.566667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	248.5000
Normal Approximation	
Z	-0.2381
One-Sided Pr < Z	0.4059
Two-Sided Pr > |Z|	0.8118
t Approximation	
One-Sided Pr < Z	0.4067
Two-Sided Pr > |Z|	0.8133
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0665
DF	1
Pr > Chi-Square	0.7965

Distribution of Wilcoxon Scores for Q11

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q12 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	17	277.50	280.50	23.928921	16.323529
>6 years	15	250.50	247.50	23.928921	16.700000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	250.5000
Normal Approximation	
Z	0.1045
One-Sided Pr > Z	0.4584
Two-Sided Pr > |Z|	0.9168
t Approximation	
One-Sided Pr > Z	0.4587
Two-Sided Pr > |Z|	0.9175
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0157
DF	1
Pr > Chi-Square	0.9002
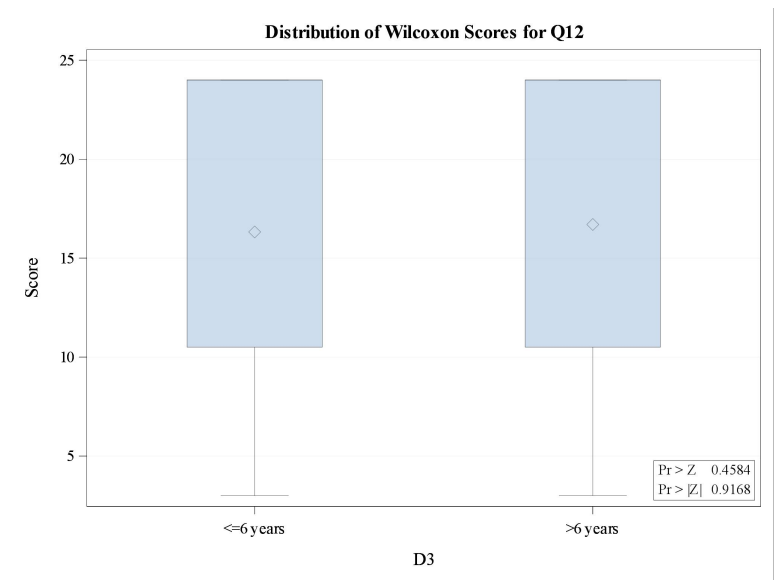
Distribution of Wilcoxon Scores for Q12

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q13 Classified by Variable D3					
D3	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
<=6 years	18	315.50	306.0	25.676362	17.527778
>6 years	15	245.50	255.0	25.676362	16.366667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	245.5000
Normal Approximation	
Z	-0.3505
One-Sided Pr < Z	0.3630
Two-Sided Pr > |Z|	0.7260
t Approximation	
One-Sided Pr < Z	0.3641
Two-Sided Pr > |Z|	0.7282
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1369
DF	1
Pr > Chi-Square	0.7114

Distribution of Wilcoxon Scores for Q13

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q14 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	296.50	306.0	22.871926	16.472222
>6 years	15	264.50	255.0	22.871926	17.633333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	264.5000
Normal Approximation	
Z	0.3935
One-Sided Pr > Z	0.3470
Two-Sided Pr > |Z|	0.6940
t Approximation	
One-Sided Pr > Z	0.3483
Two-Sided Pr > |Z|	0.6966
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1725
DF	1
Pr > Chi-Square	0.6779

Distribution of Wilcoxon Scores for Q14

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q15 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	296.50	306.0	22.871926	16.472222
>6 years	15	264.50	255.0	22.871926	17.633333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	264.5000
Normal Approximation	
Z	0.3935
One-Sided Pr > Z	0.3470
Two-Sided Pr > |Z|	0.6940
t Approximation	
One-Sided Pr > Z	0.3483
Two-Sided Pr > |Z|	0.6966
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.1725
DF	1
Pr > Chi-Square	0.6779

Distribution of Wilcoxon Scores for Q15

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Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q16 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	267.0	306.0	25.668893	14.833333
>6 years	15	294.0	255.0	25.668893	19.600000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	294.0000
Normal Approximation	
Z	1.4999
One-Sided Pr > Z	0.0668
Two-Sided Pr > |Z|	0.1336
t Approximation	
One-Sided Pr > Z	0.0717
Two-Sided Pr > |Z|	0.1435
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.3084
DF	1
Pr > Chi-Square	0.1287
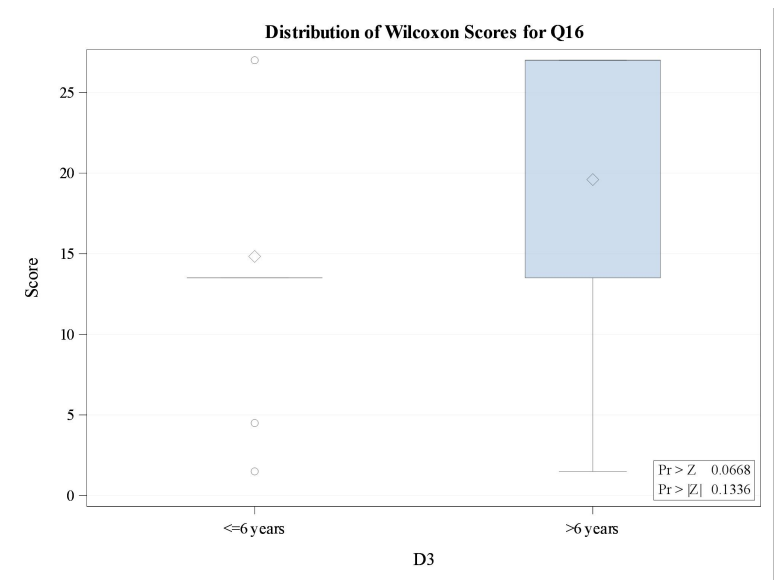
Distribution of Wilcoxon Scores for Q16

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q17 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	302.0	306.0	25.104894	16.777778
>6 years	15	259.0	255.0	25.104894	17.266667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	259.0000
Normal Approximation	
Z	0.1394
One-Sided Pr > Z	0.4446
Two-Sided Pr > |Z|	0.8891
t Approximation	
One-Sided Pr > Z	0.4450
Two-Sided Pr > |Z|	0.8900
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0254
DF	1
Pr > Chi-Square	0.8734
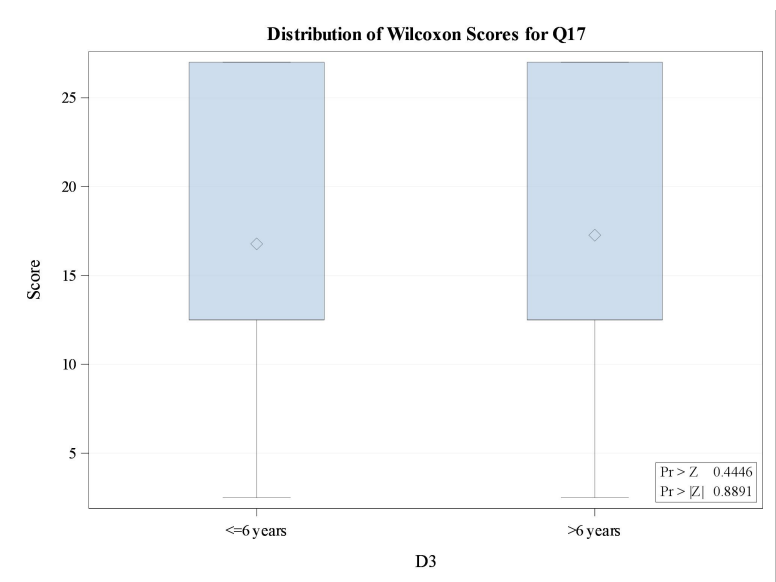
Distribution of Wilcoxon Scores for Q17

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q18 Classified by Variable D3					
D3	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
<=6 years	18	225.0	306.0	24.624164	12.50
>6 years	15	336.0	255.0	24.624164	22.40
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	336.0000
Normal Approximation	
Z	3.2691
One-Sided Pr > Z	0.0005
Two-Sided Pr > |Z|	0.0011
t Approximation	
One-Sided Pr > Z	0.0013
Two-Sided Pr > |Z|	0.0026
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	10.8205
DF	1
Pr > Chi-Square	0.0010
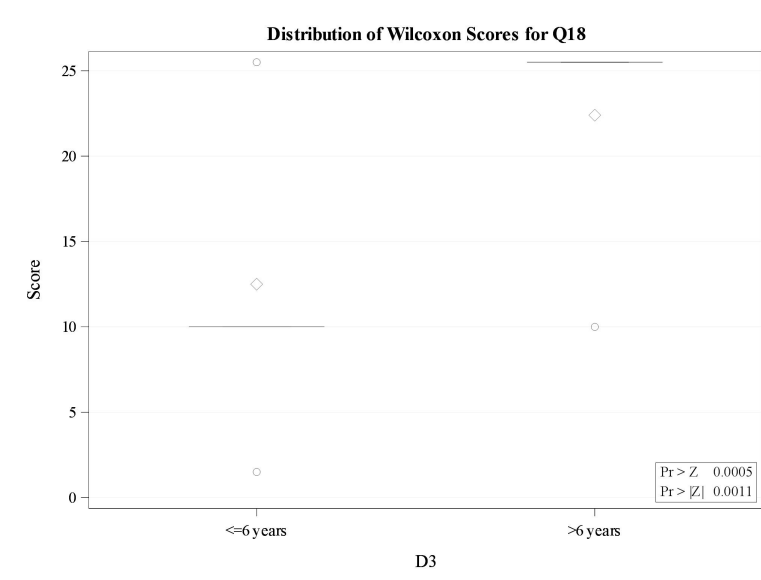
Distribution of Wilcoxon Scores for Q18

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q19 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	17	249.50	280.50	23.823951	14.676471
>6 years	15	278.50	247.50	23.823951	18.566667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	278.5000
Normal Approximation	
Z	1.2802
One-Sided Pr > Z	0.1002
Two-Sided Pr > |Z|	0.2005
t Approximation	
One-Sided Pr > Z	0.1050
Two-Sided Pr > |Z|	0.2100
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.6932
DF	1
Pr > Chi-Square	0.1932
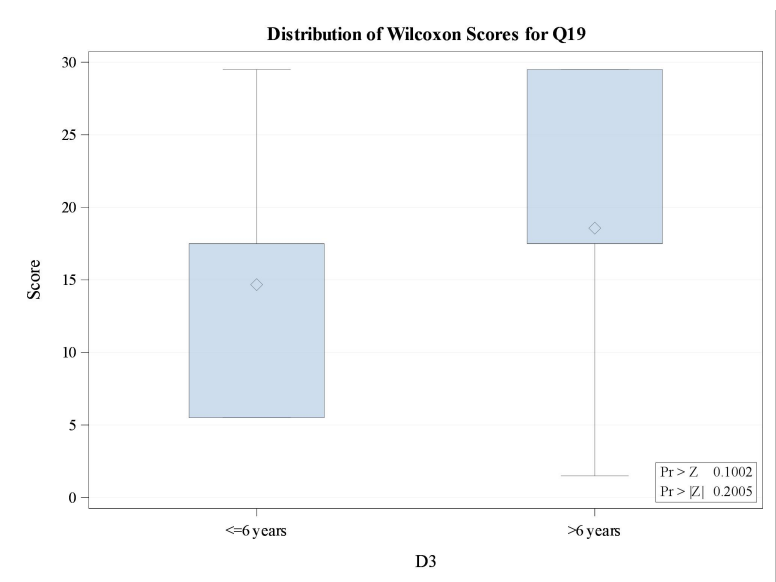
Distribution of Wilcoxon Scores for Q19

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q20 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	268.50	306.0	24.848976	14.916667
>6 years	15	292.50	255.0	24.848976	19.500000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	292.5000
Normal Approximation	
Z	1.4890
One-Sided Pr > Z	0.0682
Two-Sided Pr > |Z|	0.1365
t Approximation	
One-Sided Pr > Z	0.0731
Two-Sided Pr > |Z|	0.1463
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	2.2774
DF	1
Pr > Chi-Square	0.1313
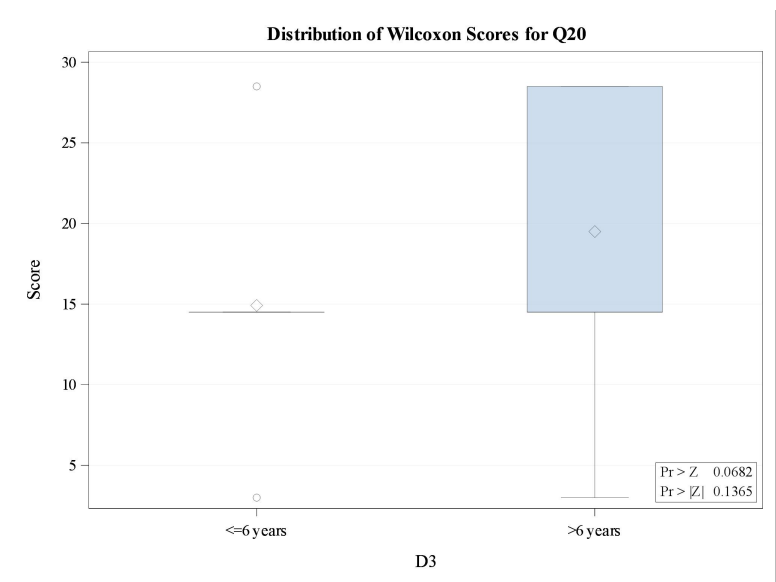
Distribution of Wilcoxon Scores for Q20

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q21 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	265.0	306.0	22.371794	14.722222
>6 years	15	296.0	255.0	22.371794	19.733333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	296.0000
Normal Approximation	
Z	1.8103
One-Sided Pr > Z	0.0351
Two-Sided Pr > |Z|	0.0702
t Approximation	
One-Sided Pr > Z	0.0398
Two-Sided Pr > |Z|	0.0796
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	3.3587
DF	1
Pr > Chi-Square	0.0669
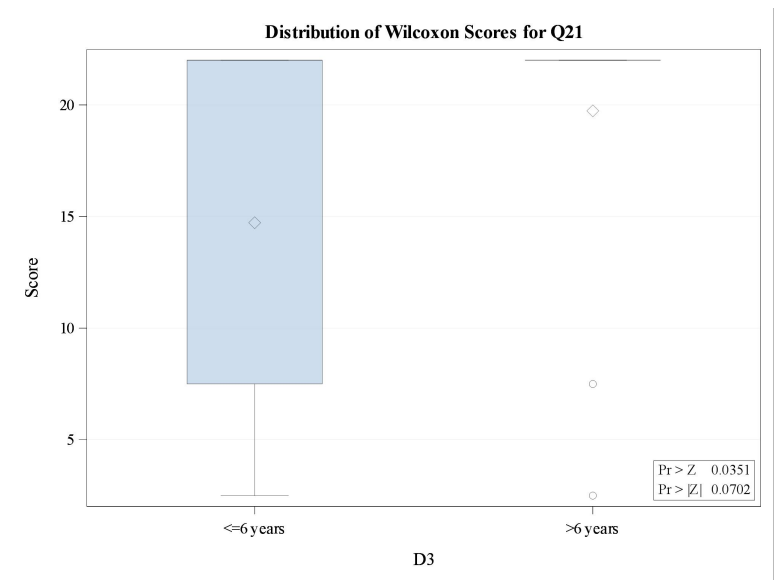
Distribution of Wilcoxon Scores for Q21

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q22 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	308.50	306.0	25.840145	17.138889
>6 years	15	252.50	255.0	25.840145	16.833333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	252.5000
Normal Approximation	
Z	-0.0774
One-Sided Pr < Z	0.4692
Two-Sided Pr > |Z|	0.9383
t Approximation	
One-Sided Pr < Z	0.4694
Two-Sided Pr > |Z|	0.9388
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0094
DF	1
Pr > Chi-Square	0.9229

Distribution of Wilcoxon Scores for Q22

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q23 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	293.50	306.0	25.277438	16.305556
>6 years	15	267.50	255.0	25.277438	17.833333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	267.5000
Normal Approximation	
Z	0.4747
One-Sided Pr > Z	0.3175
Two-Sided Pr > |Z|	0.6350
t Approximation	
One-Sided Pr > Z	0.3191
Two-Sided Pr > |Z|	0.6382
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.2445
DF	1
Pr > Chi-Square	0.6209
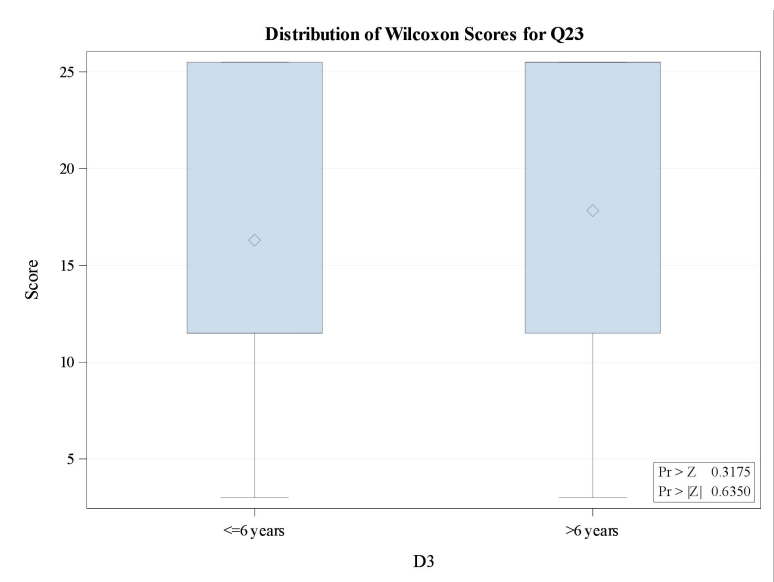
Distribution of Wilcoxon Scores for Q23
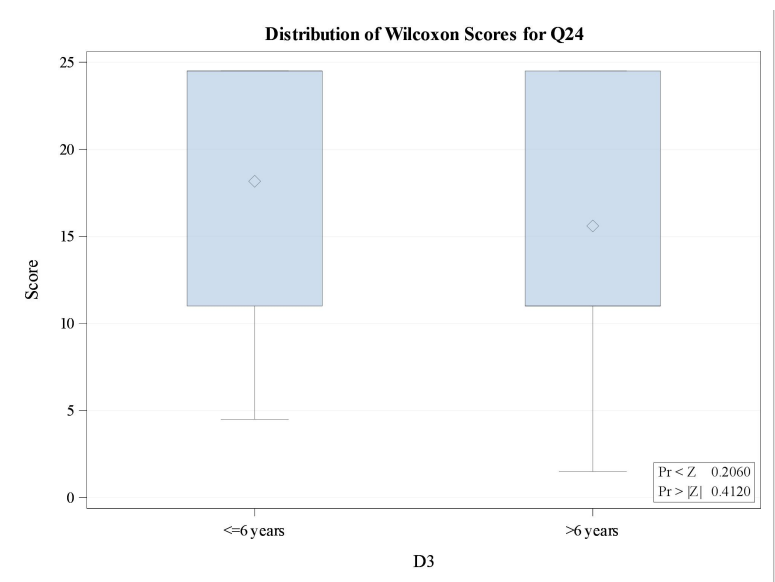
Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q24 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	327.0	306.0	24.987497	18.166667
>6 years	15	234.0	255.0	24.987497	15.600000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	234.0000
Normal Approximation	
Z	-0.8204
One-Sided Pr < Z	0.2060
Two-Sided Pr > |Z|	0.4120
t Approximation	
One-Sided Pr < Z	0.2090
Two-Sided Pr > |Z|	0.4181
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.7063
DF	1
Pr > Chi-Square	0.4007

Distribution of Wilcoxon Scores for Q24

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q25 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	318.0	306.0	23.945072	17.666667
>6 years	15	243.0	255.0	23.945072	16.200000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	243.0000
Normal Approximation	
Z	-0.4803
One-Sided Pr < Z	0.3155
Two-Sided Pr > |Z|	0.6310
t Approximation	
One-Sided Pr < Z	0.3172
Two-Sided Pr > |Z|	0.6343
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.2511
DF	1
Pr > Chi-Square	0.6163
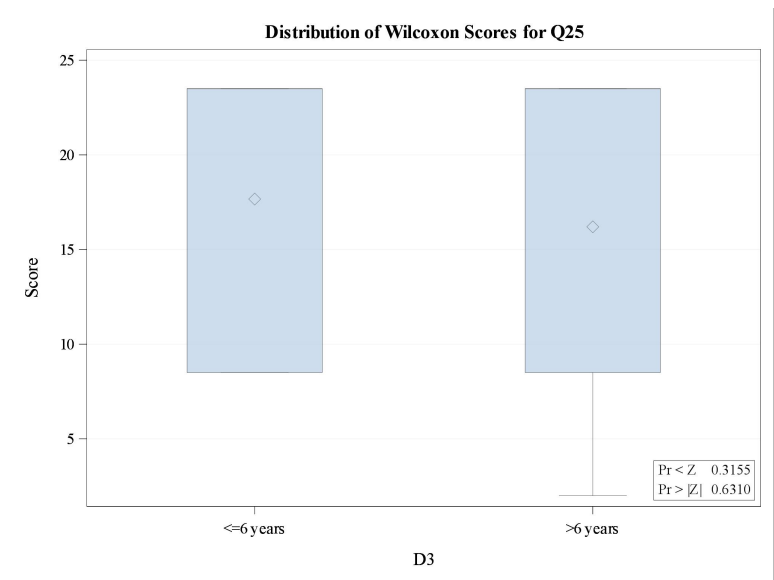
Distribution of Wilcoxon Scores for Q25

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q26 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	319.0	306.0	25.596575	17.722222
>6 years	15	242.0	255.0	25.596575	16.133333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	242.0000
Normal Approximation	
Z	-0.4883
One-Sided Pr < Z	0.3127
Two-Sided Pr > |Z|	0.6253
t Approximation	
One-Sided Pr < Z	0.3143
Two-Sided Pr > |Z|	0.6286
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.2579
DF	1
Pr > Chi-Square	0.6115
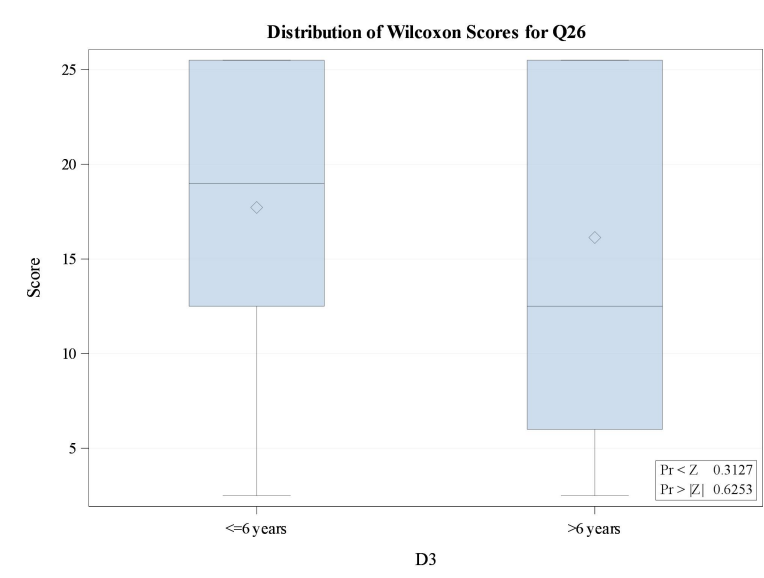
Distribution of Wilcoxon Scores for Q26

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Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q27 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	285.50	306.0	24.276462	15.861111
>6 years	15	275.50	255.0	24.276462	18.366667
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	275.5000
Normal Approximation	
Z	0.8238
One-Sided Pr > Z	0.2050
Two-Sided Pr > |Z|	0.4100
t Approximation	
One-Sided Pr > Z	0.2081
Two-Sided Pr > |Z|	0.4161
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.7131
DF	1
Pr > Chi-Square	0.3984
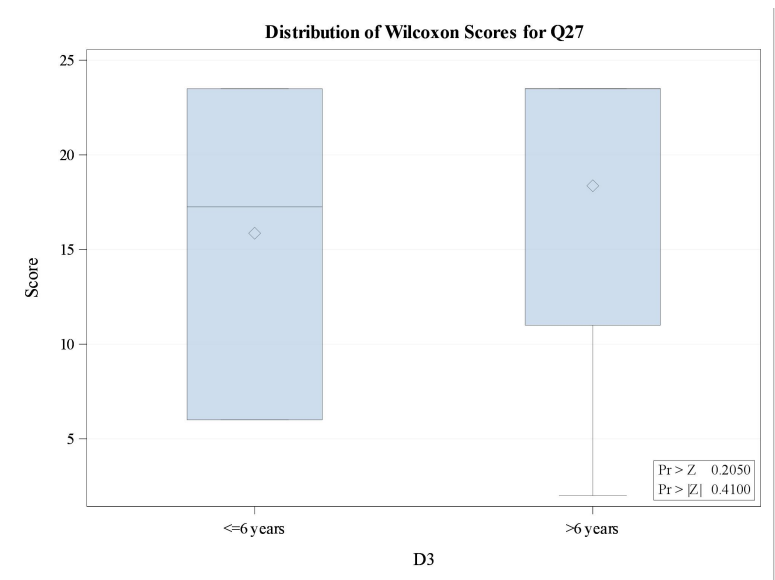
Distribution of Wilcoxon Scores for Q27

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q28 Classified by Variable D3					
D3	**N**	**Sum of Scores**	**Expected Under H0**	**Std Dev Under H0**	**Mean Score**
<=6 years	18	301.0	306.0	24.771685	16.722222
>6 years	15	260.0	255.0	24.771685	17.333333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	260.0000
Normal Approximation	
Z	0.1817
One-Sided Pr > Z	0.4279
Two-Sided Pr > |Z|	0.8559
t Approximation	
One-Sided Pr > Z	0.4285
Two-Sided Pr > |Z|	0.8570
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	0.0407
DF	1
Pr > Chi-Square	0.8400
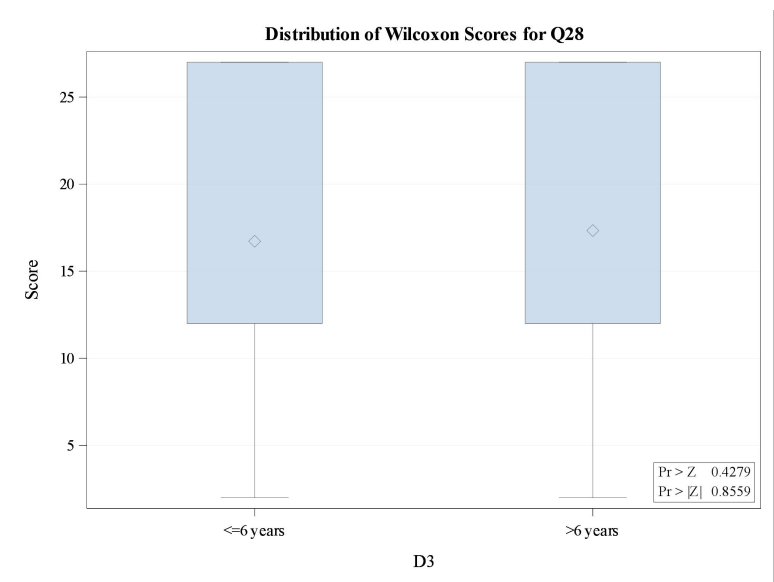
Distribution of Wilcoxon Scores for Q28

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q29 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	276.0	306.0	24.926027	15.333333
>6 years	15	285.0	255.0	24.926027	19.000000
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	285.0000
Normal Approximation	
Z	1.1835
One-Sided Pr > Z	0.1183
Two-Sided Pr > |Z|	0.2366
t Approximation	
One-Sided Pr > Z	0.1227
Two-Sided Pr > |Z|	0.2453
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	1.4486
DF	1
Pr > Chi-Square	0.2288
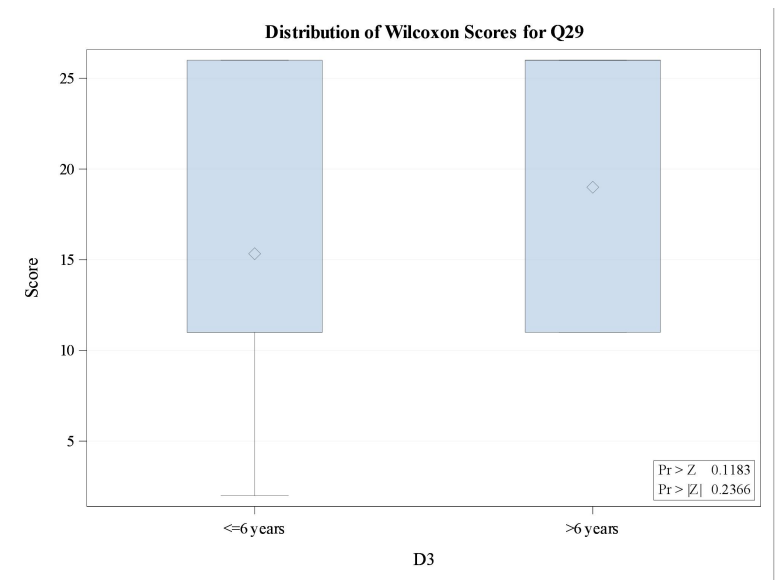
Distribution of Wilcoxon Scores for Q29

Krusal Wallis test

The NPAR1WAY Procedure

Wilcoxon Scores (Rank Sums) for Variable Q30 Classified by Variable D3					
D3	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
<=6 years	18	251.50	306.0	22.257213	13.972222
>6 years	15	309.50	255.0	22.257213	20.633333
Average scores were used for ties.					

Wilcoxon Two-Sample Test	
Statistic	309.5000
Normal Approximation	
Z	2.4262
One-Sided Pr > Z	0.0076
Two-Sided Pr > |Z|	0.0153
t Approximation	
One-Sided Pr > Z	0.0105
Two-Sided Pr > |Z|	0.0211
Z includes a continuity correction of 0.5.	

Kruskal-Wallis Test	
Chi-Square	5.9959
DF	1
Pr > Chi-Square	0.0143

Distribution of Wilcoxon Scores for Q30
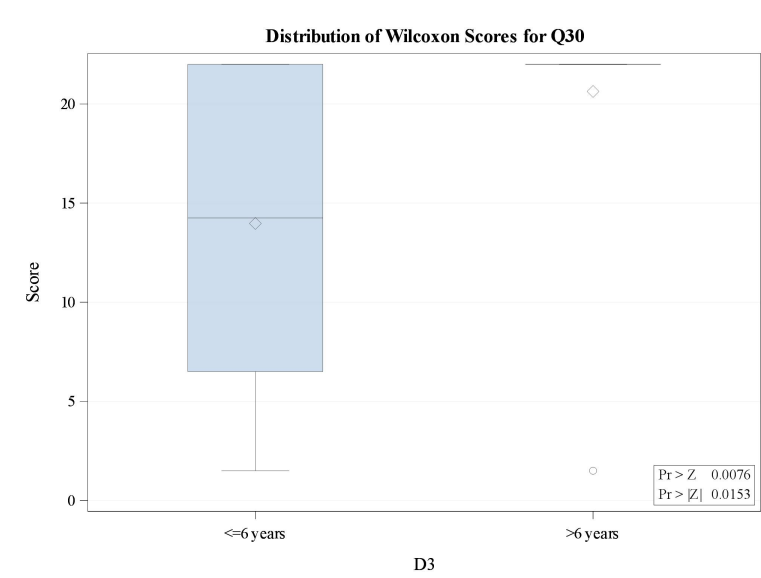
APPENDIX E5   WEIGHTED SCORE FOR EACH STATEMENT

Take note that the higher the weighted score means that the respondents perceive it to be a higher need for the specific construct in the table below. The highest weighted score for each construct was shaded for referencing the highest need in the organisation.

Role	Construct	Description	Not at all 1	A little 2	Some 3	A lot 4	Weighted score
Figurehead	Participation in social affairs	Participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebrations events	0	1	9	23	12.1
	Attention to visitors	Performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects related matters	1	2	16	14	10.9
	Promotion of social events	Conceives, participates in and makes speeches in a variety of social and ceremonial projects related activities	0	3	11	19	11.5
Leader	Guidance in activity implementation	Defines work targets and communicates commands and instructions to subordinates	1	3	13	16	11.0
	Creating a milieu with colleagues and project staff	Offers positive critics, praises and motivates subordinates	0	1	9	23	12.1
	Exercise of authority	Makes sure that subordinates fully understand instructions as well as accept and follow them	0	2	9	22	11.9
Liaison	Internal relationships	Develops activities to maintain a set of formal and informal projects related relationships within the organisation.	1	6	14	12	10.3
	External networks	Establishes and maintains projects related external contacts and information sources outside the organisations	1	2	17	13	10.8
	Dissemination of internal information	Relays important external projects related information to employees on	0	2	18	13	11.0

Role	Construct	Description	Not at all 1	A little 2	Some 3	A lot 4	Weighted score
Monitor	Information gathering	Identifies and collects projects related information relevant to the organisation	3	3	11	16	10.6
	Monitoring of internal operations	Assesses projects performance in order to make adjustments and changes	0	6	10	17	11.0
	Monitoring of external events	Monitoring the internal and external environment to make sure that projects rerunning smoothly	0	5	10	17	10.8
Disseminator	Information selection	Sorts out which projects relevant information will be shared with subordinates	3	3	14	13	10.3
	Information sharing	Shares projects relevant information with subordinates	2	0	9	22	11.7
	Confirmation of information reception	Ensures that subordinates obtain projects related information so that they can complete their tasks	2	0	9	22	11.7
Spokesperson	Preparation of reports and information	Grants interviews, makes speeches or provides organisation information to external audiences on projects related issues	2	4	14	13	10.4
	Representing the projects office outside of the organisation	Speaks about projects related issues and history at events or meetings	0	4	16	13	10.8
	Representing the projects office inside the organisation	Speaks to people outside the projects office about projects related issues	0	2	15	16	11.3
Entrepreneur	Promotion of improvements	Changes workflows to improve productivity of project actions	2	6	18	6	9.2
	Proposition of opportunities	Seeks innovations that can improve projects in the organisation	0	5	18	10	10.4
	Implementation of new projects	Scans the internal and external environment looking for new innovations related to strategy to be implemented as projects	0	4	6	23	11.8
Disturbance Handler	Solution of routine conflicts	Solves subordinates' and project office staff conflicts deriving from everyday situations	6	2	10	15	10.0
	Solution to sudden conflicts	Solves subordinates' and project office staff conflicts deriving from unexpected situations	0	5	12	16	11.0

Role	Construct	Description	Not at all 1	A little 2	Some 3	A lot 4	Weighted score
	Solution of impasses	Putting a stop to misbehaviour within the project's office or in the organisation	2	4	9	18	10.9
Resource Allocator	Scheduling of commitments	Allocating of projects office resources	3	0	10	20	11.3
	Evaluation of budgets	Decides on organisation's investments (analyses and selects projects that demand application of financial resources)	4	3	10	16	10.4
	Allocation of resources	Allocates financial, material and physical resources to maximise organisational efficiency	3	5	5	20	10.8
Negotiator	Negotiation of cooperation	Represents the projects office and organisation at various non-routine discussions or negotiations	0	3	17	13	10.9
	Negotiation of agreements	Resolves problems that occur between the project's office and other business units	0	3	15	15	11.1
	Negotiation of transactions	Negotiates and works with other parties to come to an agreement	0	2	8	23	12.0

APPENDIX E6   VARIABLE REFERENCE

No.	Description	Variable name
1.	Identification number of responses	ID
2.	Figurehead, participates in a variety of symbolic, social and ceremonial activities such as attending project closure celebrations events	Q01
3.	Figurehead, performs routine duties of a ceremonial or social nature such as meeting organisational guests on projects related matters	Q02
4.	Figurehead, conceives, participates in and makes speeches in a variety of social and ceremonial projects related activities	Q03
5.	Leader, defines work targets and communicates commands and instructions to subordinates	Q04
6.	Leader, offers positive critique, praises and motivates subordinates	Q05
7.	Leader, ensures that subordinates fully understand instructions as well as accept and follow them	Q06
8.	Liaison, develops activities to maintain a set of formal and informal projects related relationships within the organisation	Q07
9.	Liaison, establishes and maintains projects related external contacts and information sources outside the organisations	Q08
10.	Liaison, relays important external projects related information to employees	Q09
11.	Monitor, identifies and collects projects related information relevant to the organisation.	Q10
12.	Monitor, assesses projects performance in order to make adjustments and changes	Q11
13.	Monitor, monitors the internal and external environments to ensure that projects are running smoothly	Q12
14.	Disseminator: sorts out which projects relevant information will be shared with subordinates	Q13
15.	Disseminator; shares projects relevant information with subordinates	Q14
16.	Disseminator: ensures that subordinates obtain projects related information so that they can complete their tasks	Q15
17.	Spokesperson: grants interviews, makes speeches or provides organisation relevant information to external audiences on projects related issues	Q16
18.	Spokesperson: speaks about projects related issues and history at events or meetings	Q17
19.	Spokesperson: speaks to people outside the projects office about projects related issues	Q18

No.	Description	Variable name
20.	Entrepreneur: changes workflows to improve productivity of project actions	Q19
21.	Entrepreneur: seeks innovations that can improve projects in the organisation	Q20
22.	Entrepreneur: scans the internal and external environments looking for new innovations related to strategy to be implemented as projects	Q21
23.	Disturbance handler; solves subordinates' and project office staff conflicts deriving from everyday situations	Q22
24.	Disturbance handler; solves subordinates' and project office staff conflicts deriving from unexpected situations	Q23
25.	Disturbance handler; putting a stop to misbehaviour within the project's office or in the organisation	Q24
26.	Resource allocator; allocating organisational or projects office resources	Q25
27.	Resource allocator: decides on organisation's investments (analyses and selects projects that demand application of financial resources).	Q26
28.	Resource allocator: allocates financial, material and physical resources to maximise organisational efficiency	Q27
29.	Negotiator; represents the projects office and organisation at various non-routine discussions or negotiations.	Q28
30.	Negotiator: resolves disputes that occur between the project's office and other business units	Q29
31.	Negotiator: negotiates and works with other parties to come to a mutual agreement	Q30
32.	What is your gender?	D1
33.	How many years have you worked for your current employer?	D2
34.	How long have you managed or been involved in projects in your organisation?	D3

APPENDIX F   CERTIFICATE OF EDITING

The Reverend David Swanepoel

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25 August 2020

TO WHOM IT MAY CONCERN

This is to certify that I have completed the English Language Editing of the text of a thesis to be submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy in Business Management and Administration at the Mafikeng Campus of the North-West University

The dissertation is entitled
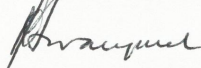
A Framework for Top Management Support Practices for the Successful Delivery of Projects in Revenue Administrations in SACU

by

T E Nyesemane
29682835

I am qualified to have done such editing, being in possession of a Bachelor's degree in English from Rhodes University, Grahamstown, an Honours Degree in English and HED with English as prime teaching subject from the University of South Africa, and having taught English to Matriculation, First Year University Level, GCSE and A level in both South Africa and the United Kingdom of Great Britain for over 40 years, as well as having been Senior (English) Associate Editor of a national magazine for two years. I have edited Master's Dissertations and Doctoral Theses for several years for several universities and institutions in South Africa and abroad as well as editing documents/papers for publication for various publishing concerns and a number of international academics.

I trust that this declaration is satisfactory.

DAVID JOHN SWANEPOEL

APPENDIX G   TURNITIN RESULTS

PhD body only as on 31 August 2020

by T E Nyesemane

PhD body only as on 31 August 2020