

DECLARATION

I, Heinz Dieter Aust (student no. 08234795), declare that “Sense of coherence and organisational commitment in the enterprise resource and planning (ERP) industry” is my own work, and that all the sources I have used or quoted from have been indicated and acknowledged by means of complete references.

SIGNATURE

August 2010
DATE

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I would like to thank my Lord Jesus Christ for His grace and for the privilege to pursue this area of my life.

I also wish to acknowledge those who became my source of inspiration. Their presence and valuable contributions in my life mean a lot to me. I dedicate this work to them:

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SUMMARY

This study investigates whether a relationship exists between two constructs, namely sense of coherence (SOC) and organisational commitment, and their relationship with specific biographical attributes of consultants working in the enterprise resource and planning (ERP) industry.

The results of the study indicate that, overall, a relationship at a significant level could not be established between the two constructs. However, some of the correlations in this study showed that a few relationships could be established at a significant level between age and tenure and some of the subscales of the two constructs.

On the basis of the results of the study, recommendations could be made that apply in the ERP industry. Suggestions were also made for possible further research in other areas such as recruitment, employee development, employee reward, compensation and recognition, employee retention, succession planning, employee wellbeing and talent management.

Key words

Sense of coherence (SOC), salutogenesis, fortigenesis, psychofortology, organisational commitment, tenure, age, enterprise resource and planning (ERP).

CHAPTER 1: SCIENTIFIC ORIENTATION TO THE RESEARCH

The discussion in this chapter revolves around the background to and the rationale for this study. In this chapter, the problem statement, the aims of the research and the paradigm perspective will be presented. The research design and the methodology will also be discussed. This chapter concludes with a summary of the contents, together with the layout of chapters to follow.

1.1 BACKGROUND TO AND RATIONALE FOR THE RESEARCH

Turbulent and perpetual change on a global scale is inevitable because of the advances in technology that fuel the ability of organisations to achieve greater production than ever before. This continuous state of change affects the world of work and its inhabitants in many ways (Burke & Cooper, 2004; Khosrow-Pour, 2006).

According to Greenhaus *et al.* (2003), commerce is conducted at a global level with increased determination and competitiveness. Organisations, in turn, are targeting markets across the world while simultaneously trying to satisfy increasingly demanding shareholders. The result of the increased determination and competitiveness is rapid changes in workforce requirements, which ultimately lead to continuously shifting loyalties among the various stakeholders (Greenhaus *et al.*, 2003).

In the quest for organisational survival, organisations are now moving from isolated entities to becoming networked through alliances and relationships with other similar organisations. The competitiveness of these organisations largely depends on their ability to configure their structures and realign their workforce to execute their ever-changing strategies. The speed at which this change happens will ultimately destroy the workers' notion of a singular lifelong career, while also affecting their commitment to organisations (Jackson & Schuler, 1995; Brooks, 2002).

The resulting uncertainty and continuous adaptation required of a workforce in circumstances of continuous change challenge their perception of direction and stability in their work lives, which also affects their nonworking lives (Davey & Wells, 2006; Greenhaus *et al.*, 2003).

The technology sector is a large contributor to the state of global change. It stimulates advanced production, storage and communication capabilities that were unthinkable in previous years, resulting in radical changes in the way work is performed and business conducted. The most salient characteristic of technology is its global portability, which also applies to the workforce that supports these technology systems. The advances in technology, its portability and the resultant pace of change may not only pose a challenge to the workforce, but also affect the state of their health (Coulson-Thomas, 1997; Shah & Mehta, 1998).

Owing to increased competitiveness worldwide, the rapid pace of change and the time burden it places on these highly skilled workers creates many demands for them to maintain direction in their work and private lives. This trend is aptly described by Baruch (2004) as a shift from a “linear career system” to a “multidirectional career system”.

The ERP industry forms a dynamic part of the technology sector and has not escaped the turbulent changes that have impacted on the rest of the technology sector. ERP software consists of mission critical software programs that manage all aspects of the enterprise such as finance, accounting, supply chain, customer management, project management and human resources (Sweeney & Jacobson, 2002).

The ERP industry has recently seen major upheaval in the market. This was the result of fierce competition for market share among dominating companies in the ERP market, namely Microsoft®, SAP® and Oracle®, with other players such as Agresso®, Epicor Software®, Infor®, Lawson Software® and the Sage Group® vying for the remaining share of the market. The upshot of this is that, in less than five years, the ERP market has consolidated to approximately eight major product

brands (<http://www.erpsoftware-news.com>; <http://www.sap.com>;
<http://www.oracle.com>; <http://www.microsoft.com> & <http://www.forrester.com>).

Fierce competition by the remaining organisations and the aggressive market growth strategies among them has left their mark on their respective workforces. The resultant insight that emerges from this industry is that the competitive advantage between the major brands no longer resides in the increased functionality of the software alone but increasingly in the competence and dedication of their staff complement (<http://www.erpsoftware-news.com>; <http://www.sap.com>;
<http://www.oracle.com>; <http://www.microsoft.com> & <http://www.forrester.com>).

Boyle and Strong (2006) highlight the skills and knowledge required of ERP consultants who support mission critical software programs. They further explore the need to integrate ERP consulting into the business school curriculum because of the massive impact it has on business. The worldwide demand for such a skilled workforce, the resultant high cost of investment in intellectual capital and the mobility of these knowledge workers place a huge emphasis on fostering the employee's commitment to the organisation for those competitors remaining in this industry (Covaleski, 2000).

Tu, Rangunathan and Rangunathan (2001) view the effect of this as one of the main challenges facing the information systems department, that is, to sustain a stable IT staff complement. Because of the emergence of the new psychological contract, the typical expectations of a workforce can no longer be met without careful qualification of those expectations by their respective employers (Janssens, Sels & Van den Brande, 2003).

According to Sparrow (1998), the new psychological contract can be viewed as an open-ended agreement that states the mutual expectations of the two parties to the contract. It has also been found that when workers feel insecure about their jobs, they resist acting on behalf of their employers, further emphasising the importance of the new psychological contract and organisational commitment (King, 2000).

Organisational commitment is a vital factor in the sustainability of an organisation, especially those organisations that fall within the domain of knowledge work such as in the technology sector. The definition of the organisational commitment construct is stated as the identification with involvement in and emotional attachment to an organisation by an individual such as a worker (Allen & Meyer, 1990; Meyer & Allen, 1997).

Organisational strategies and subsequent human resource strategies have a noticeable effect on the levels of organisational commitment among employees, especially when those strategies simultaneously affect employee turnover (Buck & Watson, 2002; Greenberg & Baron, 2003; Meyer, Bobocel & Allen, 1991).

In the light of the effect that such strategies may have on employee turnover, Pittinsky (2001) highlights the possibility of a different kind of commitment whereby employees in the knowledge economy such as those in ERP consulting can remain committed to a portfolio of organisations, while simultaneously sojourning among them, and in the process, establishing psychological homes for themselves.

Organisations may regard the effect of a continuous state of change on a workforce as counterproductive and unhealthy unless a strategy can be implemented that makes sense of these circumstances. From a psychological wellbeing perspective, the burden and challenge of continuous change may leave the worker feeling overwhelmed. Antonovsky (1979) developed the construct of SOC to explain how people remain relatively healthy even when bombarded with challenges and continuous change in their lives.

SOC as described by Antonovsky (1979) is a construct that relates to the challenges of tumultuous change from a health perspective. This construct, which falls within the domain of salutogenesis (origins of health), revolves around the individual's ability to remain relatively healthy despite circumstances that work against promoting health. This is evident in those people who are able to make sense of moments of chaos. A SOC is evident when an individual can at least retain his or her position on an ease-dis-ease continuum. Alternatively, an individual can move from a position of dis-ease to one of ease by facing stressors in life in such a way that he or she either

avoids or overcomes these stressors before the tension that they create turns into degenerative stress. This construct best explains the ability of some individuals to remain relatively healthy in circumstances that do not foster healthy living, especially in times of uncertainty and change (Antonovsky, 1979).

Regarding the ERP industry and the comments above, the following statement by Antonovsky (1987, p. 182) sheds some light on the role that SOC can play: “Particularly when the task is ambiguous and complex, the strength of the Sense of Coherence (SOC) will be a contributory factor. The strong SOC person will be motivated to see the task as a challenge, to impose structure, to search for appropriate resources. He or she will have more confidence that performance outcome will be reasonable. Thus, assuming that the task is within the boundaries of what matters to the person, it is indeed likely that there will be some contribution of the SOC to outcome.”

The above statement is equally applicable in the South African context where the ever-increasing complexity of work is taking its toll in terms of the employee’s perception of work. Organisations are facing the same sorts of problems as those of developing economies, where low productivity and a shortage of professional and skilled employees, together with a declining work ethic, endanger business survival in an ever-changing business arena (Engelbrecht, Erasmus & Sivasubramaniam, 2003).

The socioeconomic and political changes that are taking place in South Africa are also affecting organised business and the state of labour in this country in areas such as organisational commitment and emigration (Miller, Haskel & Thatcher, 2002). The skills shortages in South Africa are well known and the cost of the man-hours that are lost massive. Given the current realities, from a global economic and technological perspective, local technology organisations must be able to not only compete on a global scale but also recruit and retain the best-qualified and most suitable IT professionals in a global marketplace.

These competitive requirements come at a time when organisations in the technology sector also have to contend with simultaneous market growth and the high demand for skilled labour (Okpara, 2004).

The South African government has put legislation in place to govern the use of certain types of labour in an attempt to rectify severe imbalances in the national skills levels. The purpose of the introduction of a new government initiative is to build a national workforce that will have the relevant skills. The government has introduced learnership programmes to assist people to attain the relevant skills. Learnerships are training programmes in paraprofessional and vocational education that aim to combine theory and practice that will ultimately lead people who participate in these learnerships to gain relevant industry-related experience (<http://www.labour.gov.za>).

Government further aims to integrate learnerships with the National Qualifications Framework (NQF) so that the employees who participate and complete these learnerships can obtain recognised occupational qualifications (labour.gov.za/act).

The learnership programmes that government is implementing rely heavily on the availability of already established workers who possess the necessary skills in the workplace and who can act as mentors to those who still need to acquire these skills. To achieve the stated aims, the organisational commitment of existing skilled staff becomes a vital factor in the attainment of government's skills development goals, while simultaneously ensuring the organisation's survival and competitive ability in a global arena (Jex, Adams, Bachrach & Sorenson, 2003).

The costs that ERP organisations incur when they train interns or people from learnerships are substantial. For instance, in South Africa, the average cost of an Oracle training course is approximately R5 500 a day, the average duration of a training course being 3.33 days (<http://education.oracle.co.uk>). Because of its complexity, most training is classified as instructor-led courses. Most interns are trained for a period of between one to three months, depending on the market sector in which the organisation participates. This initial capital outlay places a huge burden on the organisation to recover its training costs and generate income by means of the utilisation of these interns before they leave the organisation's employment.

However, the interns are also the lowest income generators in the organisation on account of their general lack of expertise in either business or software knowledge, which means that an organisation can only recover its investment over a longer period of time. Ideally, any organisation would prefer its employees to pass on their knowledge before they decide to leave the organisation.

In terms of knowledge sharing, Van den Hooff and de Ridder (2004) found that commitment to the organisation has a positive effect on the donation of knowledge by those who have higher commitment to the organisation – hence the importance of such commitment in the South African context.

Since 1994, South Africa has again formed part of a global business community. The participation in the commerce of such a community is of paramount importance for the continued growth of this country. The commitment of a workforce, its ability to make sense out of chaos and the realities of turbulent change on a global scale are thus worth studying in greater depth with regard to their importance for a mobile skilled workforce in the technology sector.

Currently, there are few, if any, studies that investigate the relationship between the constructs of SOC and organisational commitment among individuals working as ERP consultants in the IT industry. There is, however, limited research available on the specific relationship between the constructs proposed by Antonovsky's (1987) SOC and that of Allen and Meyer's (1990) three-component model of organisational commitment. A recent study is that of Du Buisson-Narsai (2005), which compares the constructs with each other in order to determine the presence or absence of a relationship.

It is because of this limited number of investigations that the researcher was approached by a consulting organisation specialising in ERP consulting to research the relevant topic. This research is crucial to the particular organisation because of its renewed focus on strategies for talent management among previously disadvantaged individuals and the retention of existing talent in an industry in which such talent is extremely difficult to attract and retain.

The following comment by Antonovsky (1987, p. 184) on SOC encapsulates the background to this research: “But what if, either in the course of growing up and/or in adult life, the nature of experiences relevant to the SOC is consistently different in different areas of life? Might not one come to see stimuli emerging from one’s inner environment as highly comprehensible, manageable and meaningful, while those produced in interpersonal relations contexts will be seen as moderately so, and those experienced in one’s work as chaotic, unmanageable, and devoid of meaning. I very much doubt that human beings can so compartmentalise their lives, even granting that the objective realities of different areas of life may differ radically.”

1.2 PROBLEM STATEMENT

The turbulent world of work has changed the way in which people perceive their role in work and of work in their lives. In addition to the changing world of work, the employee himself or herself has gained a tremendous amount of knowledge compared to his or her peers in previous generations. This knowledge gain has also shifted the balance between employer and employee as can be seen in the new psychological contract whereby such knowledgeable employees resist acting on behalf of their employers when they are insecure about their jobs. Further to this, in order to remain competitive, employers are dependent on the accumulated knowledge of their staff (Conway & Briner, 2005; King, 2000).

Regarding the above scenario, the researcher intends identifying the relationship that may exist between SOC, organisational commitment and certain biographical attributes of workers in the ERP consulting industry to improve the understanding of the dimensions at play in the working relationship between employer and employee.

The following research questions are formulated on the basis of the research problem described above:

- What is the nature of the constructs SOC and organisational commitment, and how are they conceptualised in the literature?

- How integrated are SOC and organisational commitment from a theoretical perspective?
- What are the various age categories, tenure categories, levels of SOC and organisational commitment in the sample group and what are the relationships between them?

1.3 AIMS OF THE RESEARCH

The general aim of this research is to investigate the relationship between SOC, the biographical attributes of workers in the IT industry and their organisational commitment.

1.3.1 Specific theoretical aims

More specifically the theoretical research aims are as follows:

- To conceptualise SOC.
- To conceptualise organisational commitment.
- To theoretically integrate SOC and organisational commitment.

1.3.2 Specific empirical aims

The specific empirical aims of this research are set out below:

- To determine a possible relationship between SOC and organisational commitment of ERP workers in the IT industry.
- To determine whether the biographical details of age and tenure taken from the sample group have a significant relationship with SOC and organisational commitment .
- To make recommendations and suggestions for future research.

1.4 THE PARADIGM PERSPECTIVE

This study will be conducted from specific paradigm perspectives. A research paradigm or research tradition is a set of beliefs about how certain aspects of research are made coherent so that one can derive meaning from the discoveries stemming from one's research endeavours (Mouton & Marais, 1992). According to Mouton and Marais (1992), the term "paradigm" came into use through the work of Kuhn (1962). In a research context, a paradigm perspective can also be seen as a research tradition whereby the researcher shares with other researchers of the same research tradition, certain convictions and suppositions about the nature, domain and structure of research. The paradigm perspective of a study such as this is based on the metatheoretical beliefs and assumptions that underscore the theories which form part of the research endeavour.

This study falls within the domain of social sciences. According to Mouton and Marais (1992), research in the social sciences is characterised by multiple paradigms or research traditions. In this sense, positive psychology forms the overall perspective or intellectual climate in which this study is conducted (Mouton & Marais, 1992). This study deals more specifically with the paradigms explained below, namely the salutogenic, the systems and the functionalist paradigms (Mouton & Marais, 1992).

1.4.1 The salutogenic paradigm

The salutogenic paradigm endeavours to explain the origins of health or well-being. This paradigm is in contrast to the pathogenic paradigm which endeavours to explain the origins of pathology or the lack of well-being. Instead, salutogenesis tries to examine the deviation from the pathogenic paradigm where the individual remains relatively healthy despite the omnipresence of stressors (Antonovsky, 1979).

The salutogenic view of health is not dichotomous – it views health as a point on a continuum instead of as a disposition on either side of total health or terminal illness (Antonovsky, 1979).

The concept of SOC is central to the salutogenic paradigm, which explains that the origin of health revolves around a person's ability to cope positively with life's challenges in whatever way he or she perceives it (Antonovsky, 1979).

Salutogenesis acknowledges that stressors are always present in a person's life – however, some individuals are better able to survive and remain healthy despite the omnipresence of stressors. Stressors are thus not seen as a predominantly negative aspect of health, but are regarded instead as having the potential to contribute to the positive aspects of health (Antonovsky, 1979).

In this study, salutogenesis is investigated with reference to SOC and its measurement in people who continue to function optimally, even in the omnipresence of stressors.

1.4.2 The systems paradigm

From a systems perspective, the organisation can be viewed as an interdependent member of a number of similar interdependent members that comprise other organisations or institutions (Ivancevich & Matteson, 2002). The systems activity revolves around taking inputs from the larger system and transforming them into outputs, thereby returning the inputs to the environment in a changed form. The same principle can be applied to individuals and groups, whereby the behaviour of a person or a group becomes the input the other person or group reacts to, thereby requiring mental processes to produce a particular outcome. Both humans and organisations can be viewed collectively from a systems perspective whereby individuals can be better understood in the work context by also examining the system roles they perform in the organisations that are subsequently part of a larger system. With regard to the construct of organisational commitment, this paradigm serves as the basis for further investigation into the construct (Ivancevich & Matteson, 2002).

1.4.3 The functionalist paradigm

The purpose of the functionalist paradigm is to explain human behaviour in the context of social relations on a rational basis. According to Burrell and Morgan (1979), this paradigm is deemed to be the preferred paradigm in the study of organisations because it assumes that human behaviour is rational to the extent that one can apply the natural science methodology such as hypothesis testing to understand human behaviour. The purpose of this is to predict, control and explain the phenomena being studied, from a positivist or realist perspective (Burke, 2007).

The functionalist paradigm endeavours to have clearly defined facts and results that are measurable. Further to this, this paradigm is problem oriented and rationale based, with theoretical approaches that emerged from social system theory such as Marxism, sociological positivism and German idealism (O'Connor & Netting, 2009).

1.5 RESEARCH DESIGN

A quantitative cross-sectional survey design will be used to achieve the research objectives in this study (Mouton & Marais, 1992; Trochim & Donnelly, 2007). The focus of the design will be on the correlation analysis between the three variables, namely the SOC, organisational commitment and selected biographical attributes of workers. The survey constitutes a single instance of measurement undertaken at a given time from the sample. Hence there will be no control group in the survey design. The unit of analysis is the individual (Mouton & Marais, 1992).

1.6 RESEARCH METHOD

The research method will be conducted in two phases, namely the initial literature review which is followed by an empirical study.

1.6.1 Phase 1: the literature review

The aim of the literature review will be to create a well-founded understanding of the constructs of SOC and organisational commitment.

1.6.2 Phase 2: the empirical study

The second phase will be divided into the following six steps:

Step 1: Determining and selecting the population and the sample.

All the ERP consultants in three South African IT organisations situated in the Johannesburg area formed part of this group of research participants. The names of the participants and their participating organisations will not be revealed for the sake of confidentiality.

Step 2: Selecting the battery of measuring instruments.

The Orientation to Life Questionnaire (OLQ) of Antonovsky, (1987) and the Organisational Commitment Scale of Meyer, Allen and Smith (1993), together with a biographical questionnaire, will be completed for the purposes of this study.

Step 3: Gathering data from the respondents.

The questions will be sent to the respondents via email in the format of an electronic questionnaire that can be accessed from a website by selecting a hyperlink in the email message. This email will contain a letter stating the reason for the research

and a request for their voluntary participation, while guaranteeing their anonymity and confidentiality. Ethical conduct will be taken into account by adhering to the ethical guidelines outlined by the code of ethics of the Psychological Society of South Africa (<http://www.psyssa.com>) and that of the Health Professions Council of South Africa (<http://www.hpcsa.co.za>).

Step 4: Analysing the data gathered from the respondents.

The data will be analysed with the assistance of a statistician. Two types of data analysis will be conducted, namely descriptive and inferential statistics.

Step 5: Reporting on the results of the research, followed by a discussion on the results.

The results of the research will be reported and interpreted using tables for ease of use and clarity.

Step 6: Drawing conclusions, stating limitations and making recommendations.

The conclusions drawn on the basis of the results of the study will be accompanied by a statement of the limitations and recommendations for further study.

1.7 CHAPTER LAYOUT

The chapter layout of this study is as follows:

The purpose of chapter 2 is to review the theoretical basis of the construct of SOC in terms of its content, research and applicability.

Chapter 3 examines the theoretical basis of the construct of organisational commitment in terms of its content, research and applicability.

Chapter 4 deals with the research methodology by discussing the procedures used in the study in terms of the process, the sample, data collection and the statistical hypotheses.

Chapter 5 reports on and interprets the research results.

In chapter 6, the conclusions drawn from the study will be discussed on the basis of the specific aims. This will be followed by a discussion of the limitations of the research and recommendations for possible future research.

1.8 CHAPTER SUMMARY

This chapter dealt with the problem statement, the rationale for and aims of the research, the paradigm perspectives, the research design, the research method and the layout of the chapters.

In the following chapter, SOC is explored by means of a literature review.

CHAPTER 2: SENSE OF COHERENCE (SOC)

In this chapter, the construct of SOC is explored by means of a literature review. The history, definition, dimensions, development, research on and application and measurement of SOC will be discussed.

2.1 HISTORY OF SOC

The history of SOC is presented from various paradigm perspectives. This section explains the emergence of the salutogenic paradigm and how SOC forms part of the understanding of this paradigm.

In the past, psychology followed the medical model because it represented the pathogenic paradigm where the emphasis was on the study of the “abnormal” in order to discover why people fall ill so that a cure can be developed for such a disposition (Strümpfer, 1990). The basis of the pathogenic paradigm is the assumption that diseases are caused by various negative elements such as biological and biochemical agents, and suchlike. A further development in the medical model was that the various risk factors that can cause illness were emphasised instead of focusing solely on illness when it occurs (Strümpfer, 1990). An example of such a risk factor is the phenomenon of the “Type A” behaviour pattern associated with some people’s tendency towards coronary diseases. This development enabled the pathogenic paradigm to progress from being reactionary to more anticipatory by associating diseases or known pathology with risk factors. The pathogenic paradigm is based on the concept of homeostasis which refers to the ultimate state that human beings strive for. The pathogenic paradigm implies that homeostasis is often disrupted by various pathogens that necessitate a return to a state of homeostasis after resolving the disruptive force affecting its desired state (Antonovsky, 1979).

In contrast to the pathogenic paradigm, a new theme, which became known as the salutogenic paradigm (origins of health), emerged. The salutogenic paradigm is

based on the writings of Antonovsky (1979) and is the converse of the pathogenic paradigm. Initially, this new paradigm emerged through the research efforts of various researchers who hinted at a tendency of human beings towards optimal functioning, given their respective circumstances. While researchers such as Maslow (1971) proposed the concept of self-actualisation, Super (1955) discovered that even abnormal people have elements of normality, thereby reiterating the tendency towards optimal functioning in a less than perfect world. In addition, Rogers (1961) explained the concept of the fully functioning personality as well as the actualising tendency of human beings in the face of real-life challenges. In contrast to the pathogenic paradigm, the salutogenic paradigm has its foundation in the acceptance of heterostasis and entropy (disorder) as part of human existence in a chaotic world. In other words, this paradigm accepts that the lack of homeostasis is the more realistic situation instead of the exception to the rule. Only when heterostasis and entropy (disorder) are accepted as part of reality, can one ask where the strength comes from to survive entropy in daily living (Strümpfer, 1990).

Antonovsky (1979) is credited with entrenching the salutogenic paradigm as an alternative to the pathogenic paradigm. In seeking a plausible explanation for his question on why some people remain relatively healthy despite difficult circumstances, Antonovsky subsequently developed a new paradigm, which he labelled “salutogenesis” or the origins of health, to explain people’s resilience in the face of adversity (Antonovsky, 1979).

Aaron Antonovsky (1979) was the pioneer of the construct of SOC, thanks to his astute observation after discovering that there are individuals who remain relatively healthy despite being bombarded by multiple stressors in their daily existence. The differentiating factor is that where the older and established pathogenetic paradigm focuses on the actual illness, salutogenesis concentrates on the origins of various forms of health such as physical and psychological health.

Within the positive psychology paradigm, salutogenesis tries to explain the origins of psychological strength by looking at the factors that contribute to the overall wellbeing of humans. According to Antonovsky (1979), the origins of health or salutogenesis can be found in a construct he termed “sense of coherence”.

A vital aspect of salutogenesis is that it acknowledges that stressors are always present in any person's life despite his or her health status. Thus the aim of salutogenesis is to explain how some people seem to survive better and remain healthy despite the omnipresence of these stressors. This was the point of departure that Antonovsky (1979, p. 9) adopted in his research on salutogenesis, as captured in the following words: "The question then becomes not how some concentration camp survivors or some poor people manage to stay healthy, but how any of us manage to stay healthy – the question of salutogenesis."

In his work on health stress and coping, Antonovsky (1979) argued that his first major departure from the study of disease in the pathological paradigm was when he acknowledged, through the comments of a British epidemiologist, that he (Antonovsky) was more interested in the concept of breakdown than in the study of pathology.

In 1968, Antonovsky submitted his first paper on the design of the coronary study, which dealt with various topics relating to "breakdown" such as stressors, tension management resources and stress. At the time, the paper he submitted confined those topics to a breakdown model relating to heart disease. A breakthrough came when the British epidemiologist, who attended the seminar, remarked that he could see no reason why Antonovsky's breakdown model could not be applied to any other disease (Antonovsky, 1979).

The epidemiologist's observation served as a new direction indicator for Antonovsky to investigate the phenomena that caused people to move downwards on the breakdown continuum. Antonovsky subsequently revised his approach after a study on menopause adaptation among females. Antonovsky (1979) started to focus on why some people remained or improved their position on the breakdown continuum despite having been exposed to the most inconceivably inhuman experiences (Antonovsky, 1979).

According to Antonovsky (1979), his revised approach allowed him to discover that, despite serious setbacks, some of the participants in his study remained reasonably

healthy and happy – a phenomenon he later began to refer to as salutogenesis. Owing to this discovery, Antonovsky attempted to move away from the pathological paradigm that focused on the study of morbid conditions or disease. He started to make a distinction between why someone would contract a particular disease and why someone would suffer “dis-ease”, a rephrasing of the original pathogenic term to better explain his view on the concept “breakdown” (Antonovsky, 1979).

Antonovsky (1979) started to study breakdown as a dependent variable in his research and later proposed an operational definition of the concept which rests on the notion that all diseases share certain common facets. This operational definition eventually led Antonovsky to the notion of generalised resistance resources (GRRs) which was also influenced by the work of Hans Selye on a construct known as the general adaptation syndrome (Antonovsky, 1979).

In the spring of 1977, Antonovsky received the results of a study proving that GRRs were related to breakdown, but even more importantly, he discovered that one particular resource seemed to be responsible for a breakthrough in his salutogenic model. He noted that a particular resource was responsible for a high correlation with a research measure measuring the respondent’s overall health status. In addition to the high correlation, this particular resource also acted as an intervening variable between health and all the other GRRs (Antonovsky, 1979).

This development enabled Antonovsky to formalise his theory on SOC. He realised that his discovery revealed the fact that SOC revolves around a particular way in which some people view the world instead of the mere presence of GRRs. In other words, the way in which one views the world becomes the intervening variable between health and all the other GRRs (Antonovsky, 1979).

Strümpfer (1995), who was closely involved in further research on SOC, realised that the construct involves more than only those factors that influence physical health, but also those that influence psychological health.

Strümpfer (1995) proposed that the paradigm of salutogenesis, which encompasses SOC should be expanded to include sources of strength and that it be labelled

“fortigenesis” (the origin of strengths). In his proposal to consider the term “fortigenesis”, Strümpfer (1995) researched and referenced the work of other authors whose constructs he felt also contained the metaphor of strength prevalent in salutogenesis. For example, Strümpfer (1995) refers to known constructs such as “personality hardiness”, “potency”, “stamina” and “learned resourcefulness” as constructs that carry the metaphor of strength in their design. In addition, Wissing and Van Eeden (2002) identified a general psychological wellbeing factor comprising SOC, satisfaction with life and affect balance, which they believe to be indicative of strong psychological wellbeing. They suggested that psychofortology be considered as a new paradigm. It is clear that the construct of SOC still remains in all three paradigms, whether it is called salutogenesis, fortigenesis or psychofortology. For the purpose of this study, SOC is the chosen construct because of the well-founded research on it, and its measure that has proven reliability and validity.

2.2 DEFINITION OF SOC

In this section, SOC is explained by discussing the background to the construct with further elaboration on certain key elements as well as the verbatim quotation of the actual definition.

Antonovsky’s (1979) search for an answer to the relationship between health and the existence of GRRs led him to the concept which he termed SOC. According to Antonovsky (1979, p. 99), the resources that a person employs to cope with the daily stresses in life are GRRs – hence his statement that “any characteristic of the person, the group, or the environment that can facilitate effective tension management”. This means that any resource that can be employed as a form of resistance can help the individual to make sense of all the daily stressors in his or her life. Such resources are broadly classified as physical, biochemical, cognitive, interpersonal and macro-social resources. It is worth noting that resistance resources do not have to reside with the individual himself or herself but could be in significant others such as God, a doctor or anyone else who is legitimate in the individual’s eyes.

Antonovsky's (1979) definition of SOC alludes to the individual's global view of the world, both in the way he or she thinks about and experiences the living world. According to Antonovsky (1979), the world we live in is filled with bugs that are always present in one form or another. The presence of bugs in all their different manifestations in our daily lives leaves us with a certainty that we will regularly fall ill. One can pose the obvious question about how anybody stays alive when one is constantly exposed to factors that cause illness. The answer to this seeming paradox is best captured in Antonovsky's (1987, p. 19) definition of SOC:

SOC is defined as follows: "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement".

For the purpose of the theoretical and empirical investigation in this study, Antonovsky's (1979) definition of SOC will be used.

According to Antonovsky (1979), SOC is a generalised and long-lasting way of seeing the world. The use of the term "enduring", which Antonovsky (1987, p. 19) employs in his definition implies that there is a lack of instability in the way the world is perceived over a period of time. In addition to the enduring way of perceiving the world, the definition also mentions that SOC is dynamic, which basically means that a human being's SOC is developed across the span of his or her life, and not only during the early years. In other words, it is not determined at a certain point in time but is shaped and reshaped throughout a person's life. This definition further alludes to the typical human perceptions that help to form a person's world-view. This view has both a cognitive and an emotional dimension captured in the framework of personality, culture, subculture or historical period (Antonovsky, 1979).

It is important to note the absence of the word "control" in the definition. Antonovsky (1979) felt strongly that the power to determine one's desired outcome that one wishes for does not necessarily have to reside within oneself – instead, such power

can be placed with legitimate others if circumstances permit. In other words, one's SOC is not compromised by not being in control oneself – hence the omission of the word “control” from the definition. Antonovsky (1979, p. 126) included the phrase “as well as can be reasonably be expected” to indicate that there is no guarantee that things will work out for the best. The inclusion of this phrase also underscores the hidden strength of those with a strong SOC. They do not expect or demand successes to exacting standards, but are more inclined to have relativity as their guiding principle towards a reasonable outcome.

2.3 THE DIMENSIONS OF SOC

In this section, SOC is further explored with reference to the various dimensions that represent the construct.

In his definition of SOC, Antonovsky (1987, pp.16–20) refers to three dimensions that make up the construct SOC, namely comprehensibility, manageability and meaningfulness. These dimensions are interrelated and should not be treated in isolation (Antonovsky, 1987). Together they represent the cognitive, instrumental and motivational aspects of behaviour (Feldt, Kinnunen & Mauno, 2000).

2.3.1 Comprehensibility

From a SOC perspective, comprehensibility is defined as “the extent to which one perceives the stimuli that confront one, deriving from the internal and external environments, as making cognitive sense, as information that is ordered, consistent, structured, and clear, rather than as noise – chaotic, disordered, random, accidental, inexplicable” (Antonovsky, 1987, p. 16).

This requires that the stimuli from the environment are perceived as ordered, consistent, structured and clear instead of as noise that has none of the aforementioned properties. According to Antonovsky (1979), comprehensibility does not imply desirability. The mere ability of a person to make sense of external and internal stimuli does not mean that such stimuli are wanted or desired – it means

instead that the person has the ability to order the stimuli coherently and is able to explain them at a cognitive level. This also means that tragedy, misfortune and disease will still occur, but that the individual will eventually be able to place the occurrence thereof in context and explain it rationally. It is this ability of a person to comprehend the internal and external stimuli which forms the basis of future expectations that similar stimuli will also be comprehensible to a certain degree. Comprehensibility is a crucial part of SOC because of the need for a person to first understand his or her disposition before attempting to master manageability and meaningfulness (Antonovsky, 1979).

2.3.2 Manageability

The definition of SOC contains the requirement of manageability, namely “the extent to which one perceives that resources are at one’s disposal which are adequate to meet the demands posed by the stimuli that bombarded one” (Antonovsky, 1987, p. 17).

Antonovsky (1979) makes it clear that the emphasis in this statement is on the individual’s cognitive ability as opposed to the mere emotional expectation that all will be well. Balance in terms of overload and underload of stimuli is a key factor in manageability. The experiences in the form of external and internal stimuli that the person encounters become tolerable when there is recognition that the stimuli are balanced even though they may be challenging. In this sense, manageability revolves around the person’s astute judgement of reality so that the resources required to handle a particular situation can be mustered. Those resources may be in the form of existing resources under one’s control or they may reside with legitimate others. The outcome of manageability is that one does not feel victimised by undesirable occurrences in life (Antonovsky, 1979).

2.3.3 Meaningfulness

According to Antonovsky (1987, p. 18), meaningfulness is defined as the “extent to which one feels that life makes sense emotionally, that at least some of the problems and demands posed by living are worth investing energy in, are worthy of

commitment and engagement, are challenges that are welcome rather than burdens that one would much rather do without”.

The definition refers to the motivational element or component of SOC and represents the areas of life that are important to people. It consists of the areas in one’s life that one cares a lot about and that make sense to one at both an emotional and cognitive level (Antonovsky, 1987).

Regarding the topic of meaningfulness, Antonovsky (1979) attempts to balance the emphasis on cognition that emerges from the two previous dimensions of SOC by emphasizing the importance of being personally involved with one’s daily experience and with shaping one’s destiny. The term “meaningfulness” has an emotional component that differentiates it from the other two dimensions of comprehensibility and manageability.

2.3.4 The interrelationship between the three dimensions

Comprehensibility is strongly related to manageability, which means that in order to manage one’s disposition in life one first needs to comprehend it. As Antonovsky (1979, p. 20) puts it: “Living in a world one thinks is chaotic and unpredictable makes it most difficult to think that one can manage well.” However, it does not necessarily mean that one’s ability to comprehend one’s disposition in life also means that one also has the ability to manage the disposition well. When an individual comprehends that his or her ability to manage well is limited, it becomes a strong cause for change, with the direction of change relying on the level of meaningfulness (Antonovsky, 1979).

The three dimensions are interdependent but not equal. Hence a high level of comprehensibility combined with a low level of manageability and a high level of meaningfulness creates pressure for the individual to move towards a position of being high on all three dimensions of SOC (Antonovsky, 1987).

Consequently, a high level of comprehensibility combined with low level of manageability as well as a low level of meaningfulness ultimately leads one to regress towards a position of being low on all three dimensions (Antonovsky, 1987).

The concepts of comprehensibility, manageability and meaningfulness are an integral part of the definition of SOC although they are not actually mentioned by name in the definition (Antonovsky, 1979). The identification of the separate three concepts serves to explain the construct of SOC and highlights the interrelatedness of the three concepts. The three components are also reflected individually in the measurement of SOC (Antonovsky, 1979).

In essence, meaningfulness becomes the principal dimension of the three because a lack of meaningfulness causes the duration of the other two dimensions to be only temporary. In conclusion, a holistic view of SOC ultimately determines the successful coping of a person (Antonovsky, 1979).

2.4 DEVELOPMENT OF SOC

In this section, SOC is dealt with according to the salutogenic paradigm and culminates in the adoption of psychofortology as the domain from which related constructs will be discussed. The use of SOC as the preferred construct for the purposes of this study will also be justified.

The term "salutogenesis" refers to health (*saluto*) and origins (*genesis*) (Antonovsky, 1979). It can be viewed as a continuum containing "health-ease" on one side and "dis-ease" on the other (Antonovsky, 1979). The focus of salutogenesis was primarily on health – hence the question posed by Antonovsky (1979, p, 35) about why people stay healthy, despite their exposure to various pathogens. Salutogenesis implies that one would move along this continuum between terminal illness and total wellness (Strümpfer, 1990). Based on Antonovsky's work, Strümpfer (1995) proposed that salutogenesis as a paradigm should be extended to also include the origins of psychological strengths in an attempt to move beyond the initial focus on physical health and wellbeing towards a more holistic view that also embraces the

psychological strengths that accompany them. Strümpfer (1995) proposed that the term "fortigenesis" be adopted, followed by a proposal by Wissing and Van Eeden (1997) that the term "psychofortology" be used as the overarching and holistic approach to the study of psychological wellbeing.

The psychofortology paradigm contains five constructs, namely hardiness, self-efficacy, learned resourcefulness, potency and SOC (Strümpfer, 1990). The SOC construct originates from Antonovsky (1979) and forms the central concept in his salutogenesis model (Strümpfer, 1990).

According to Feldt *et al.* (2000), SOC endeavours to explain why certain people cope better with life experiences and ultimately end up on the positive side of the health-disease continuum. The stronger a person's SOC, the further he or she moves away from the lack of health towards the attainment thereof.

SOC coherence is a crucial element in the personality structure of a person as well as in a culture, subculture or historical period. Developing a SOC is something that occurs over an individual's life span. During this process, it is continually shaped, tested and made resilient (Antonovsky, 1979, p. 125).

Even though some individuals may experience moments of tranquillity, it is deemed to be rare to experience it without sudden and random interruption. People are frequently confronted with internal (endogenic) and external (exogenic) stressors in their lives. Both endogenic and exogenic stressors can be further categorised as psychosocial, physical and biochemical stressors that place individuals in a perpetual state of tension (Antonovsky, 1979).

A tension management strategy that is usually implemented by the individual to resist or mediate such stressors involves either an attempt to restrain the stressors or overcome them. The individual's failure to resist or mediate these stressors leads to a state of excessive tension (Antonovsky, 1979). Such a state of tension can leave one with feelings of being overwhelmed, a situation that Antonovsky (1979) terms "unsuccessful tension management". To facilitate the bombardment of daily stressors so that they do not overwhelm one's capacity to contain them, one needs a

steady supply of resources. A steady supply of GRRs enables one to achieve a situation of successful tension management thereby improving one's SOC (Antonovsky, 1979).

Antonovsky (1979) identified the following GRRs that contribute to a strong SOC: a clear ego identity, flexible coping styles and strong social support. GRRs are the first line of defence against stressors in life that can assume many forms and disguises. Most of those stressors can be dealt with by means of GRRs, but there are exceptions. In a situation where a bullet pierces one's body, one would not be able to call upon one's established set of GRRs to manage such a stressor. Instead, one's health would be affected directly, resulting in what Antonovsky terms "weak links" in the tension management strategy. In a nutshell, a GRR provides one with significant life experiences that one can relate to on a rational basis (Antonovsky, 1979).

The following definition of GRRs illustrates the role they play in SOC via tension management (Antonovsky, 1979, p. 99): "At the most general, preliminary level, I defined a GRR as any characteristic of the person, the group or the environment that can facilitate effective tension management. This is not to deny the importance of specific resistance resources."

According to Antonovsky (1979), the build-up of GRR's is a crucial foundation for a strong SOC and is usually achieved through certain child-rearing patterns and social role complexes that form the individual's sociocultural and historical context. Thereafter, a strong SOC is further achieved through idiosyncratic factors, the existence of chance as well as the provision of a continuous series of experiences through the cultural patterns of social organisation.

A key mediator between GRRs and SOC is life experiences that are characterised by factors of consistency, participation in the shaping of outcomes and underload-overload balance. This significant mediator allows the individual to give life to the definition of SOC in the sense that he or she has confidence in the predictability of his or her internal and external environments and is certain that "things will work out as well as can reasonably be expected" (Antonovsky, 1979, p. 19).

Further to the development of SOC are manageability and comprehensibility, which are also necessary for the development of GRRs. With regard to the concepts of manageability and comprehensibility, one needs to perceive that the stimuli that emerge from one's external environment are structured to some degree so that they can make sense at a cognitive level (Antonovsky, 1979).

2.5 RESEARCH ON SOC

2.5.1 Existing research on SOC

In this section, some of the research on SOC is presented from various perspectives and viewpoints.

Owing to the nature of the construct, most research on it revolves around determining a positive or negative relationship with the relative variables under scrutiny in such a study. For example, a positive relationship would constitute a SOC that shows a strong correlation with the construct of organisational commitment (Strümpfer & Wissing, 1998). In contrast, a negative relationship would constitute a SOC that shows a correlation that is the inverse of the positive relationship. In a study on the employees in a corporate food company, Du Buisson-Narsai (2005), for instance, found a negative relationship between SOC and two dimensions of organisational commitment, namely continuance and normative commitment.

Psychofortology as an overarching and holistic approach to the study of psychological wellbeing prompted Wissing and Van Eeden (2002) to identify a general psychological wellbeing factor comprising the following individual dimensions: SOC and satisfaction with life and affect balance, factors they believe are indicative of strong psychological wellbeing. Further work by Roothman, Kirstin and Wissing (2003) extended psychological wellbeing to include all of the following attributes: SOC, satisfaction with life and affect balance, emotional intelligence, self-efficacy and the social components of self-concept and fortitude.

Regarding the attributes of gender and psychological wellbeing, research by Roothman, Kirstin and Wissing (2003) found no significant differences between men and women with regard to psychological well-being factors.

From a cultural point of view, Bowman (1996) found that the SOC measures correlated negatively with measures of mental distress among both Anglo-American and Native American cultures. More profoundly, the author confirmed Antonovsky's claim that, regardless of their socioeconomic differences, people from various cultures may attain similar levels of SOC.

As far as locality and its relationship with SOC are concerned, Tsuno and Yamazaki (2006) researched SOC and its related psychosocial factors (also known as major psychosocial GRRs) among urban and rural residents in Japan and found that the urban residents generally exhibited significantly higher SOC scores than the rural residents. The researchers attributed their findings to the higher levels of social support, self-efficacy and higher economic status among urban residents.

With regard to research involving personality variables, the following results came to light: According to Mlonzi and Strümpfer (1998), the SOC scale and the 16PF second-order factors they were compared with, showed a significant correlation. However, they also found that SOC and anxiety were negatively correlated. They concluded that such a negative correlation could also be interpreted as the inverse relationship of anxiety, namely that of emotional stability. They concluded that the SOC scale measures a complex set of personality domains and not only a single predominant attribute such as anxiety.

Concerning job-related issues, moderate correlations were found between SOC and job satisfaction when personality dispositions were examined as predictors of job satisfaction (Strümpfer, Danana, Gouws & Viviers, 1998.) In contrast, further studies by Strümpfer and Mlonzi (2001) on SOC and its relationship with job satisfaction, job involvement, organisational commitment and conscientiousness revealed significant correlations between SOC and job satisfaction, commitment, but not with job involvement. However, they found significant relations between the combination of SOC, job satisfaction, commitment and conscientiousness.

Coetzee and Rothmann (1999) found a moderate correlation between the SOC and job satisfaction of managers, and acknowledged that job satisfaction is a complex variable that may be influenced by certain situational factors as well as those factors inherent in each individual. Further research by Pretorius and Rothmann (2001) regarding the relationship between SOC, locus of control, self-efficacy and job satisfaction merely established that there is a correlation between SOC and locus of control in conjunction with job satisfaction. However, they could not find a significant relationship between self-efficacy and job satisfaction.

Regarding the relationships between other salutogenic constructs, Cilliers and Ngokha (2006) reported strong intercorrelations between SOC, hardiness, self-efficacy, learned resourcefulness and potency. Their research results confirmed the independence of the constructs of SOC and hardiness. However, potency was classified as a supporting construct, while self-efficacy/learned resourcefulness was seen as a third and generic construct with regard to salutogenesis.

2.5.2 Limitations

The limitations discussed in this section indicate that the theory surrounding SOC does not always manifest itself in exactly the same way in real life. It is necessary to mention here that the limitations could have had an impact on the results of this study.

Antonovsky (1984:119) was aware of the limitations of SOC, especially the potential of an individual to actually fake a strong SOC. However, he was also convinced that such behaviour would highlight psychotic behaviour instead.

Antonovsky (1987) explained that when a high level of comprehensibility is combined with a low level of manageability and a high level of meaningfulness, pressure is put on the individual to move towards a position of being high on all three dimensions of SOC. The significant part of this statement is that the individual has to experience these low levels first before he or she feels the pressure to move towards being high on all three dimensions and that these three dimensions are not experienced as

being equal at the same time. In addition, when a high level of comprehensibility is combined with a low level of manageability as well as a low level of meaningfulness, this ultimately leads one to regress towards a position of being low on all three dimensions. There is such a close interrelationship between the three dimensions that Antonovsky (1987) declared them interdependent but not equal to the extent that they form the central point of focus – hence the potential that someone can fake a strong SOC, but that such behaviour would in fact highlight psychotic behaviour.

Another potential limitation of SOC revolves around the scope of one's life. If a person has a strong SOC, he or she is also likely to have definite borders or selective parameters governing his or her life, which ultimately make life more comprehensible, manageable and meaningful. Life in the context of these parameters fosters limited interests and thus a smaller but a more comprehensible world for that person. The paradox about this kind of life is that such a person would have a limited interest in the greater social order of the world because of his or her limited lifestyle, which further perpetuates the selective parameters governing his or her life (Antonovsky, 1987).

SOC as a concept is something that plays out in the lives of people. It happens during the extent of their lives which ebb and flow with regard to the different statuses that people attain in life. Even though Bowman (1996) confirmed Antonovsky's claim that people from different cultures may attain similar levels of SOC, regardless of their socioeconomic differences, he also argued that their stress levels may be different when it comes to unemployment status, with unemployed people experiencing greater levels of daily stress compared to those who do have jobs (Bowman, 1996; Heiman, 2004).

SOC is not necessarily isolated from the emotional experiences and the social factors that people face in the course of their lives. According to Siegrist (1993), the three dimensions of SOC (comprehensibility, manageability and meaningfulness) do not clarify to what extent SOC can be accounted for in terms of its specific affective quality. Siegrist (1993) offers a counterargument to Antonovsky's (1993) emphasis on cognition regarding SOC by stating that neuroscience and stress research show that stressful information from the socioenvironmental domain tends to bypass the

cognitive appraisal process – hence his criticism that SOC does not combine cognition with emotion.

Another aspect of SOC that was criticised revolved around the negative affectivity relating to the SOC questionnaire designed by Antonovsky (Korotkov, 1993). Korotkov (1993) criticised the short-form version of the SOC personality measure because he argued that it suffered from excess negative affectivity, or as he put it, it was “plagued by emotion-like content”. However Korotkov (1994) later issued notes on his initial argument to state that the issue was far more complex than would appear at first glance. Strümpfer *et al.* (1998) found that it was unlikely that the negatively phrased items of the SOC scale could, by their negative phrasing, lead to the scale’s high correlations with measures of negative affectivity.

From a sociological perspective, Waitzkin (1993) challenged Antonovsky in an address presented by the latter. The title was “Young man with a gun”. Antonovsky used the title of the address as a metaphor for someone who reflects social chaos owing to his lack of SOC. Waitzkin (1993) counter argued that the “Young man with a gun” could also be seen as a way to achieve civility, a notion (civility) that Antonovsky also includes in his justification for SOC. Waitzkin (1993) proposed through the anecdotes of an anticapitalist physician, Che Guevara, relating to the Cuban revolution, that chaotic violence could also be regarded as a coherent strategy for affecting change, especially when there is persistent resistance to change during periods of chaos. He maintains that SOC also formed part of the Cubans’ revolutionary struggle, which was grounded in chaos as well as the establishment of the successful Cuban health-care system which emerged from this chaos.

One can conclude from the above statements that the theory surrounding SOC does not always represent itself in exactly the same way in real life. However, this does not mean that the construct is defective – it highlights instead the need for continued interest in a construct that has already generated so much research.

2.6 APPLICATION OF SOC

In this section, various applications of the construct of SOC will be discussed to illustrate the utilisation of this construct in real-life situations.

Even though the construct plays a central role in the salutogenic functioning of the individual, thereby contributing to his or her health, it also fulfils a role in the way people perform their work as part of their daily living. Strümpfer (1990) commented on the importance of SOC in the performance of work in the working environment.

From an organisational perspective, tenure plays a greater role in the way organisations account for people's utilisation and their respective careers. Age as an indicator of tenure can also influence people's perception of SOC, with those who are younger having the perception that they enjoy greater social support from their friends compared with their older counterparts. In addition to age, the differences in gender also account for different approaches to the deployment of SOC strategies among people (Heiman, 2004).

The existence of psychosocial work characteristics has a positive effect on the general and occupational wellbeing of workers with regard to SOC (Feldt *et al.*, 2000). However, not all levels of workers enjoy the same level of benefit from SOC. White-collar workers differ from their blue-collar counterparts in the amount of benefit that they derive from SOC in the workplace setting (Poppius, Tenkanen, Hakama, Kalimo & Pitkanen, 2003).

With regard to job satisfaction, the moderate correlation between SOC and job satisfaction indicates the complex world of work with its many situation-dependent variables. However, in the work context, where workers are continuously exposed to various forms of stressors, a different way of perceiving one's disposition at work by means of a strong SOC can enhance one's coping abilities (Cilliers & Coetzee, 2003).

From a support point of view, anger is an artefact of daily living that spans culture, age and gender, which can be moderated through a strong SOC. The individual's

ability to control the expression of anger through a strong SOC may, in turn, lead to a state of positive health (Julkunen & Ahlstrom, 2006).

To summarise: Employers can greatly benefit from employees who utilise their salutogenic strengths in the workplace. From the perspective of this study, and in the South African context, organisations are facing the same kinds of problems as developing economies where low productivity, a shortage of professional and skilled employees and a declining work ethic endanger business survival in an ever-changing business arena (Engelbrecht *et al.*, 2003).

Currently, there are no known studies investigating the relationship between the constructs of SOC and organisational commitment among individuals working as ERP consultants in the IT industry.

By emphasising the salutogenic effects of applying a SOC, employers can establish both a positive employer-employee relationship as well as facilitating a change management role in the lives of the stakeholders in the organisation to the advantage of the whole socioeconomic environment.

2.7 MEASUREMENT OF SOC: THE ORIENTATION TO LIFE QUESTIONNAIRE

Antonovsky (1987) developed a 29-item scale known as the Orientation to Life Questionnaire (OLQ) based on the SOC construct. The SOC scale was subsequently adapted to a shorter version containing 13 items (SOC – 13). The OLQ was designed to reflect the three main dimensions of SOC, namely comprehensibility, manageability and meaningfulness, by means of a facet analysis design so that the contents of the OLQ could take on varied facets, thereby making it possible to reflect the three main dimensions of the SOC construct (Antonovsky, 1993a; Feldt & Rasku, 1998).

Antonovsky was influenced by the work of Louis Guttman, who researched the facet theory employed in the design of the OLQ (Antonovsky, 1993a). In the construction of the OLQ, Antonovsky (1993a) elected to include four facets that describe the

stimulus component and a fifth facet that articulates one of the three SOC components, namely comprehensibility, manageability and meaningfulness. Each item is unique in terms of the facet structure of the 29-item scale.

Initial research on the SOC instrument focused on the possible contamination of the SOC scale by the negative affect (Mlonzi & Strümpfer, 1998). However, it was the research of Strümpfer *et al.* (1998) that confirmed that the negatively phrased questions in the SOC scale did not influence the high correlations with the negative affectivity associated with the scale.

The OLQ supports the construct of SOC, which is viewed as being universally meaningful in its content and which applies across culture, gender and social class (Antonovsky, 1993a).

2.8 CHAPTER SUMMARY

In this chapter, the construct of SOC was conceptualised from a theoretical perspective through a discussion of the following aspects of SOC: history, definition, dimensions, development, research on, application and orientation (the OLQ).

The initial research question posed in chapter 1 was also addressed, namely to conceptualise the construct referred to as SOC.

More specifically, the following aim of the chapter was satisfied:

- To conceptualise SOC.

Comment

Section 1.3 in chapter 1 refers to the research aims of this study. Sections 1.3.1 and 1.3.2 in chapter 1 state the specific aims of the study, the first of which is to conceptualise SOC. The purpose of chapter 3 is to conceptualise organisational

commitment by means of a literature review in order to integrate both constructs (SOC and organisational commitment) for the purposes of this study.

CHAPTER 3: ORGANISATIONAL COMMITMENT

In chapter 2, the construct of SOC was explored in order to integrate it with the construct of organisational commitment, at the end of this chapter. This chapter deals with the history, definition, dimensions, development, research on, application, and measurement of organisational commitment, as well as the theoretical integration between SOC and organisational commitment.

3.1 HISTORY OF ORGANISATIONAL COMMITMENT

The research into organisational commitment can probably be ascribed to the desire by researchers and organisations alike to understand the complex psychological processes that people employ to make sense of their environment and how they ultimately find purpose in life (Mowday, Porter & Steers, 1982).

Research on organisational commitment started in the 1950s. Early research revolved around studies on the concept of loyalty among employees. Loyalty was viewed as a desirable trait to be exhibited by employees towards their employers (Mowday *et al.*, 1982).

Research on employee loyalty was followed by research on an employee's affective or emotional attachment to the organisation. Research on affective or emotional attachment was initiated by the work of Kanter (1968), who used the term "cohesion commitment" to illustrate an employee's affective or emotional attachment to an organisation. The work of Buchanan (1974) further elaborated on affective commitment, describing it as devotion as well as an affective attachment to the organisation's goals and values, including the role one plays in relation to the goals and values of the organisation. The work by Kanter (1968) and Buchanan (1974) set the stage for further exploration by Mowday *et al.* (1982), who were also responsible for the definition of organisational commitment used in this study. According to Mowday *et al.* (1982), employee-organisation linkages deal with the themes of affective or emotional attachment by the employee to the organisation. The

employee-organisation linkages are the term used to describe the connections between two entities (affective or emotional attachment) as well as the strength of these connections. The type of links the employee has with the organisation and the quality of these links ultimately determines the extent of the relationship.

The work of Allen and Meyer (1990) followed that of Mowday *et al.* (1982). Allen and Meyer (1990) developed a model that contained organisational commitment characteristics such as personal, job and work experience, as well as the structural characteristics of organisational commitment. These characteristics together formed the antecedents that affected the psychological state of the individual as well as his or her commitment-related behaviour. In their research, Allen and Meyer (1990) were able to identify and propose three components of organisational commitment, namely affective, continuance and normative commitment.

In this section, the history of organisational commitment was dealt with from the perspective of the research that emerged over a period of time.

3.2 DEFINITION OF ORGANISATIONAL COMMITMENT

In this section, the definition of the construct of organisational commitment is approached from the perspective of various research studies on the subject in order to gain an in-depth understanding of the construct by studying the background to the construct and elaborating on certain key factors.

Etzioni (1961) approached organisational commitment with a typology that entails moral, calculative and alienative involvement as its core components. In his research on organisation commitment, Kanter (1968) used the typology containing the components of continuance cohesion and control commitment. Salancik (1977) adopted an organisational behaviour and a social psychological approach as his typology for organisational commitment. In an attempt to define organisational commitment, Etzioni (1961) proposed the construct of involvement, and Kanter

(1968) various types of commitment, while Salancik (1977) elaborated on his “approaches” to define organisational commitment.

When the seemingly disparate approaches to organisational commitment are further analysed, an attitudinal-behavioural dichotomy from the work of the various researchers seems to emerge. This brings organisational commitment closer to a coherent definition, which is further cemented by the notion of “exchange”, whereby employees exchange the attributes that are in demand among their employers (Mowday *et al.*, 1982).

Mowday *et al.* (1982, p. 27) define commitment as follows:

- a strong belief in and acceptance of the organisation’s goals and values.
- a willingness to exert considerable effort on behalf of the organisation.
- a strong desire to maintain membership of the organisation.

The definition of organisational commitment, according to Mowday *et al.* (1982, p. 27) is “the relative strength of an individual’s identification with and involvement in a particular organization”. From this definition it is clear that the construct consists of the relative strength with which individuals identify with the organisation and the extent of their involvement in it.

The definition indirectly highlights three factors that exemplify commitment, namely that the individual believes strongly in the organisation’s goals and values, is willing to disburse great effort on its behalf and exhibits a strong desire to remain a member of it (Mowday *et al.*, 1982).

For the purpose of the definition of organisational commitment, it is also important to realise that the notion of “exchange” serves to highlight the fact that organisational commitment is not only a construct envisioned from the perspective of the employer but also from that of the employee (Mowday *et al.*, 1982).

The central theme of Mowday *et al.*'s (1982) definition is that organisational commitment entails more than a passive perception by the employee. Instead, the employee has a fairly active relationship with the organisation. In other words, a measure of self-sacrifice is evident in the individual's contribution to the organisation.

3.3 THE DIMENSIONS OF ORGANISATIONAL COMMITMENT

This section elaborates on the dimensions of organisational commitment and discusses the various views of researchers on the dimensions that make up the construct as it is employed in this study.

According to Curtis and Wright (2001), commitment can be broken down into three components, namely an employee's transpired need to remain a member of the organisation; a belief in the values and goals of the organisation and acceptance thereof; and a willingness to make an effort on behalf of the organisation. For example, when an employee exhibits commitment based on these three components of commitment, he or she is likely to stay with the organisation and is ultimately prepared to work hard on its behalf.

Research by Swailes (2004) highlights a different approach to organisational commitment by subdividing commitment into four dimensions. The four dimensions are the "committed" dimension, which shows above-average overall commitment to the organisation; the "globally committed" dimension which involves employees with high overall commitment, but not to their work group or supervisor; the "locally committed" dimension which only refers to employees who are committed to their work group and supervisor; and the "uncommitted" dimension, which involves employees who exhibit no commitment at all.

The work of Allen and Meyer (1990) follows on that of Mowday *et al.* (1982) and forms the theoretical of this study. The model proposed by Allen and Meyer (1990) starts with organisational commitment characteristics such as personal, job and work experience, as well as the structural characteristics of organisational commitment.

These characteristics together form the antecedents that affect the psychological state of the individual which, in turn affects the individual's behaviour regarding affective, continuance and normative commitment.

Allen and Meyer's (1990) three dimensions, namely affective, continuance and normative commitment, are explained below.

3.3.1 Affective commitment

Affective commitment relates to a person's emotional attachment to the organisation.

3.3.2 Continuance commitment

Continuance commitment refers to a person's awareness of the cost implications (e.g. personal sacrifice) and related risks (e.g. lack of alternatives) regarding an employee's intention to leave the organisation.

3.3.3 Normative commitment

Normative commitment relates to the moral aspect of commitment and is based on the obligation and responsibility the employee feels towards the organisation.

3.3.4 The interrelationship between the three dimensions

According to Meyer and Allen (1990), the three dimensions of organisational commitment are separate entities that represent three distinct aspects of the construct. The first aspect is desire (affective commitment), followed by need (continuance commitment) and then obligation (normative commitment).

Each dimension develops as a result of various antecedents and has different effects on organisational commitment. According to Meyer and Allen (1990), a person may experience all three dimensions of commitment to varying degrees. Hence the three dimensions of organisational commitment are distinct but not mutually exclusive.

3.4 DEVELOPMENT OF ORGANISATIONAL COMMITMENT

The development of organisational commitment is explored by starting from a process perspective in order to illustrate how organisational commitment develops during various types of exposure between the organisation, the environment and the individual.

Organisational commitment follows a process that emerges over a period of time, which is in contrast to job satisfaction, which tends to be more subject to momentary fluctuations in the levels of job satisfaction. According to Mowday *et al.* (1982), the process of organisational commitment may even begin before the employee enters the organisation and may last for an extended period of time after his or her entry.

Mowday *et al.* (1982) mention two factors that should be taken into account regarding the development of organisational commitment, namely that there are various categories of the construct and various stages in its development.

The stages of organisational commitment are the pre-entry stage (anticipation), where the potential employee has certain expectations prior to joining the organisation. This is followed by the early development stage (initiation) where the employee is exposed to the organisation and is challenged in terms of his or her commitment to it. The middle and late career stage (entrenchment) follows, where commitment to the organisation becomes entrenched in the employee. The organisational commitment categories are personal characteristics, employee expectations, job choice factors, personal influences, organisational influences and nonorganisational factors (Mowday *et al.*, 1982).

The development of commitment also involves attitudes and behaviours that interact over a period of time. Mowday *et al.* (1982) maintain that the presence of commitment attitudes leads to committing behaviours, which in turn result in commitment attitudes. The net result that emerges from this interplay is the

reinforcement of committing behaviours as well as the commitment attitudes that make up organisational commitment.

Allen and Meyer's (1990) work follows from that of Mowday *et al.* (1982) and forms the theoretical foundation of this study. The model proposed by Allen and Meyer (1990) starts with the organisational commitment characteristics such as personal, work and job experience. Personal experience refers to experience that happens outside the world of work but which affects organisational commitment. Work experience involves the employee's relationship with the organisation at a psychological level, while job experience refers to job challenge and role and goal clarity. These characteristics together form the antecedents that affect the individual's psychological state, which in turn affects his or her behaviour regarding affective, continuance and normative commitment.

Allen and Meyer's (1990) organisational commitment model spans the affective, continuance and normative components of commitment. They (1990) also found that each component of attitudinal commitment develops independently because of the various antecedents that affect each component. The common denominator of the three components of commitment is the link between employer and employee, which ultimately decreases the likelihood of employee turnover. Allen and Meyer (1990) argue that affective, continuance and normative commitment should be seen as components of attitudinal commitment that each employee experiences to varying degrees. His or her commitment to the organisation can be viewed as the sum total of the three distinguishable components of attitudinal commitment.

3.5 RESEARCH ON ORGANISATIONAL COMMITMENT

This section discusses the findings of various researchers on the construct of organisational commitment.

Elizur's (1996) study found that work values and remuneration are factors that are positively related to commitment. According to Lin and Hsieh (2002), an employee's

age can influence the relationship between task identity and organisational commitment. This may influence the organisation where there is a disproportionate relationship between young and older employees or where their values and remuneration are disproportionate.

Foote, Seipel, Johnson and Duffy (2005) argue that the employee's commitment to organisational policies revolves around a focus on the set of values from the organisation which employees use to align with their own values. This offers a new perspective on organisational commitment, which enables employees to maintain their commitment to a value system while transcending organisational boundaries. This new phenomenon becomes significant because the organisational boundaries become more abstract, while work commitment seems to extend beyond the limitations of tangible organisational institutions.

Brewer's study (1996) found that organisational commitment is highly dependent on management strategy. Such a strategy should foster a sound working relationship between management and employees whereby management should demonstrate, firstly, legitimate modes of participation, and secondly, incentives for employee participation.

Bartlett (2001) found that perceived access to training, social support for training, motivation to learn and the perceived benefits of training are positively related to the construct of organisational commitment, with the strongest relationship between the benefits of affective commitment. In addition, Bartlett (2001) found that the relationship between the perceived access to training opportunities and the affective form of organisational commitment is moderated by job satisfaction but not job involvement.

Buck and Watson (2002) conducted research on the potential influence that human resource management strategies can have on organisational commitment levels among employees. They found significant relationships between the human resource management strategies and two of the commitment constructs, namely affective and normative commitment, thereby indicating that certain human resource management

strategies can affect organisational commitment and potentially influence employee turnover.

Karrasch (2003) found that so-called “tokenism” (defined as a perception of isolation, stereotyping and heightened visibility among members of the organisation) was associated with lower levels of affective commitment and normative commitment and higher levels of continuance commitment. According to Karrasch (2003), the military requires a great deal from its resources with low levels of remuneration. To the military, the ability to lead would be rated as one of the primary performance variables. The ability to lead is something to which high affective commitment and normative commitment would be positively related, whereas continuance commitment would be related to lower leader performance evaluations.

Johnson and O’Leary-Kelly (2003) found that a breach in the psychological contract between employer and employee could be partially attributed to cynicism, which in turn affects work-related attitudes such as organisational commitment and job satisfaction. They also reported that psychological contract breach in the absence of cynicism predicted the employee’s behavioural responses such as that of performance and absenteeism.

Clugston (2000) used the structural equation modelling approach to analyse the mediating effects of Allen and Meyer’s (1990) three-component model of commitment. The results of the research indicated a mediating relationship of affective, continuance and normative commitment on job satisfaction and the employee’s intent to leave his or her employer. In other words, an employee’s level of satisfaction at work may simultaneously increase affective, continuance and normative commitment, which in turn may also affect the outcomes influencing the organisation.

Van Scotter (2000) reported the existence of a relationship between task performance, contextual performance, job satisfaction and organisational commitment. When employees foster sound working relationships and voluntarily assist colleagues, they engage in contextual performance. Contextual performance

in the form of helpful, cooperative and innovative job performance was found to have a strong relationship with organisational commitment owing to the achievement of positive outcomes by the employee that stimulate affective commitment, which in turn constitutes a dimension of organisational commitment.

Snape and Redman (2003) evaluated the model of occupational commitment and their findings suggest that the consequences of the affective, normative and continuance components differ. With regard to occupational commitment, they believe that affective commitment and continuance commitment are negatively related to occupational withdrawal cognitions, while normative commitment is negatively related to withdrawal cognitions only when continuance commitment is low. In addition, they found that affective commitment and normative commitment were related to the intention of employees to participate in professional activities, while continuance commitment proved not to have such a significant relationship. There seems to be a shift towards a different kind of commitment that focuses more on a commitment to an occupation and less on a commitment to an organisation. Given the history of organisational commitment, it would be appropriate in the future to conduct a more comprehensive study of occupational commitment as opposed to organisational commitment in order to better understand the attitudes and behaviours of employees (Snape & Redman, 2003).

Pittinsky (2001) highlights the possibility of a different kind of commitment, whereby employees in the knowledge economy such as those in the ERP consulting domain could remain committed to a portfolio of organisations while simultaneously sojourning among them and, in the process establishing psychological homes for themselves.

Allen and Meyer (1996), whose work forms the theoretical basis of this study found that in various studies, the affective, continuance and normative types of commitment are negatively correlated with employee turnover among the employees who participated in their studies. However, they also stated that, although each component of their three-component model commitment could contribute to the likelihood that an employee remains with his or her employer, different antecedents

and consequences are associated with each of the three components (Allen & Meyer, 1996).

With regard to this study, it is evident that organisational commitment is a vital important factor in the sustainability of an organisation, especially organisations in the domain of knowledge work such as ERP organisations operating in the technology sector.

3.6 APPLICATION OF ORGANISATIONAL COMMITMENT

In this section, various applications of the construct of organisational commitment will be discussed to illustrate how the construct is applied in an organisational context with consequences for both the organisation and the employee.

According to Mowday *et al.* (1982) the application of organisational commitment is evident in many areas of the organisation. With regard to personal influences, each employee possesses a set of characteristics that influence his or her commitment towards the organisation.

An employee who enters the organisation with an existing high level of commitment tends to remain committed at a similar level for at least the following few months after entry. It has been found that employees with longer tenure seem to become more committed over time, but it is necessary to determine the initial level of commitment upon entry to the organisation. This characteristic is known as first-day commitment and identifies the employee's propensity to develop a stronger bond with the organisation from the first encounter onwards (Mowday *et al.*, 1982).

The result of such commitment is a reciprocal process of reinforcement of commitment through extrinsic rewards for commitment behaviours exceeding the organisation's expectations, which in turn foster further commitment by the employee. The responsibility that one feels towards one's job is also known as "felt

responsibility” and is a determinant of the level of commitment one is willing to maintain while in service of the organisation (Mowday *et al.*, 1982).

Further to the employee’s felt responsibility, research by Swailes (2004) proposes that commitment can also be profiled so that each commitment profile can have a different relationship with performance in the organisation.

In terms of rewards, commitment is more dependent on the matching of rewards to the contributions of the employees. According to Mowday *et al.* (1982), it is more important to have perceived equity in pay among employees than to focus on the levels of pay in the organisation. It is the perceived equity in pay that fosters the employee’s commitment in this regard.

In addition to known factors that promote commitment, such as autonomy, challenge and task significance, the presence of task interdependence also fosters commitment to the extent that employees depend on one another to complete their tasks successfully (Mowday *et al.*, 1982).

An organisation’s hierarchical structure also affects the level of commitment among employees. Mowday *et al.* (1982) argue that organisational structure affects the level of supervision, which in turn affects commitment in the sense that high levels of employee commitment can be achieved when supervision does not become extreme on either side of the continuum. Furthermore, the level of exposure to social interaction in the organisation has been found to be positively related to commitment (Brooks, 2002).

An area of organisational commitment that is little understood and a factor that can influence the extent of organisational commitment is the culture of the employees. Not all cultures understand and interpret organisational commitment in the same way. The frame of reference among cultures can vary from collectivism to individualism, where those cultures that value collectivism will also take their colleagues into consideration in their sense of organisational commitment ,while

those who value individualism tend to consider themselves first in relation to organisational commitment (Badamosi, 2003).

An additional aspect of organisational commitment stems from the area of contracting. For various reasons, there seems to be a growing tendency among workers to opt for contracting as an alternative to full-time employment. Findings from the research by McKeown (2003) suggest that increased commitment from a contractor translates into greater willingness to remain with the employing organisation for long enough to complete the contract, a development that is of huge importance for both the employing organisation and the agency representing the contractor.

Level of education is another aspect of the understanding of organisational commitment. The phenomenon that emerges is that employees become more committed to their professions instead of the organisations in which they practise their professions. Some organisations may find it difficult to satisfy educated employees' needs owing to the higher expectations that these employees set for themselves and others (Mowday *et al.*, 1982).

Another consideration, according to McKeown (2003), is that a contractor may become more committed to the placement agency than to the employing organisation for various reasons such as the ability of a placement agency to consistently supply satisfactory placements.

Finally, any reward system that the organisation has that allows employees to share in its successes leads to greater commitment and ties in with employees' perceptions of the organisation as being dependable by feeling that it also looks after their interests (Mowday *et al.*, 1982).

If the organisation can help the employee to manifest strong feelings of psychological attachment to it, the outflow of these feelings could be in the form of voluntary and spontaneous behaviour that should be to the benefit of the organisation because of the employee's internalisation of the organisation's goals

through the whole process (Mowday *et al.*, 1982). The risk in fostering feelings of psychological attachment to the organisation could be that some marginal employees decide to stay on, whereas the organisation would in fact have benefited from their departure. Some employees may also become overzealous in their approach and strain their relationships with others and the organisation. There is a clear need for balance and a greater understanding of the dynamics of organisational commitment to prevent such counterproductive behaviour (Mowday *et al.*, 1982).

Organisational commitment to society is also a significant factor. The membership linkages between employee and employer affect society in general because of the effect that poor commitment has on the fabric of society. Employees could lose their basic sense of belonging when they manifest poor commitment and as a result compromise the fabric of society. Society is best served when employee turnover is moderate and organisational commitment is demonstrated to a certain extent (Mowday *et al.*, 1982).

3.7 MEASUREMENT OF ORGANISATIONAL COMMITMENT: THE ORGANISATIONAL COMMITMENT QUESTIONNAIRE (OCQ)

Mowday *et al.* (1982) developed the first organisational commitment measure which contained 15 items. The measure was a fairly accurate indicator of the employee's commitment to the organisation. A shorter version was also designed, which eliminated the negatively phrased questions originally introduced (Mowday *et al.*, 1982).

The work of Allen and Meyer (1990) follows on from the work of Mowday *et al.* (1982). Allen and Meyer (1990) developed their own organisational commitment measure known as the Organisational Commitment Questionnaire (OCQ). This questionnaire reflects the three components of organisational commitment they identified, namely affective, continuance and normative commitment.

Allen and Meyer (1990) also took into consideration the psychometric evaluation of the commitment measures. They demonstrated the validity of the OCQ in the sense that the affective and continuance commitment scales correlate well with the antecedent variables of commitment as predicted by them (Allen & Meyer, 1990).

Allen and Meyer's (1990) OCQ was selected for this study because of its proven reliability and validity. Their work also identifies three distinct dimensions of organisational commitment that consolidate it into a coherent construct.

3.8 THEORETICAL INTEGRATION OF SOC AND ORGANISATIONAL COMMITMENT

In this section, the two constructs of SOC and organisational commitment will be integrated in order to articulate them for the purpose of this study. The aim is to determine whether there is a theoretical relationship between the two constructs. From the literature study on SOC in chapter 2 and organisational commitment in this chapter, the following theoretical relationship emerges:

Sense of Coherence

Antonovsky (1979) views SOC as a generalised and long-standing way of viewing the world. The definition of SOC alludes to the individual's global view of the world, both in the way he or she thinks about and experiences the living world (Antonovsky, 1979). Embedded in the definition are three dimensions that make up SOC, namely comprehensibility, manageability and meaningfulness.

According to Antonovsky (1987, p. 16), comprehensibility is "the extent to which one perceives the stimuli that confront one, deriving from the internal and external environments, as making cognitive sense, as information that is ordered, consistent, structured, and clear, rather than as noise – chaotic, disordered, random, accidental, inexplicable". Comprehensibility is a crucial part of SOC because of a person's need to first understand his or her disposition before making any attempt to achieve manageability and meaningfulness (Antonovsky, 1979).

Manageability refers to “the extent to which one perceives that resources are at one’s disposal which are adequate to meet the demands posed by the stimuli that bombarded one” (Antonovsky, 1987, p. 17). He makes it clear that the emphasis in this statement is on a person’s cognitive ability instead of the mere emotional expectation that all will be well.

Meaningfulness refers to “extent to which one feels that life makes sense emotionally, that at least some of the problems and demands posed by living are worth investing energy in, are worthy of commitment and engagement, are challenges that are welcome rather than burdens that one would much rather do without” (Antonovsky, 1987, p. 18). Regarding meaningfulness, Antonovsky (1979) attempts to balance the emphasis on cognition that emerges from the two previous dimensions of SOC by stressing the importance of being personally involved with one’s daily experience as well as with shaping one’s destiny. The term “meaningfulness” has an emotional element that differentiates it from the other two dimensions of comprehensibility and manageability.

The three dimensions are interdependent but not equal. Comprehensibility is strongly related to manageability, which basically means that in order to manage one’s disposition in life one needs to first comprehend one’s disposition in life. Meaningfulness becomes the primary of the three because a lack of meaningfulness causes the duration of the other two dimensions to be only temporary. The identification of the three separate concepts serves to explain the construct of SOC and highlights the interrelatedness of the three concepts.

Organisational commitment

According to Mowday *et al.* (1982, p. 27), organisational commitment is “the strength of an individual’s identification with and involvement in a particular organization”. The definition indirectly highlights three factors that exemplify commitment, namely that the individual believes strongly in the organisation’s goals and values; that the individual is willing to disburse great effort on the organisation’s behalf; and that the

individual exhibits a strong desire to remain with the organisation as a member (Mowday *et al.*, 1982).

The work of Allen and Meyer (1990) followed on from that of Mowday *et al.* (1982). In their research, Allen and Meyer (1990) were able to identify and propose three components of organisational commitment, namely affective, continuance and normative commitment. According to Meyer and Allen (1990), the three dimensions of organisational commitment are separate entities that represent three distinct elements. These three dimensions are affective, continuance and normative commitment.

Meyer and Allen (1990) contend that a person may experience all three dimensions of commitment to varying degrees. Hence the three dimensions of organisational commitment are distinct but not mutually exclusive.

From a theoretical integration perspective, work has become a major activity of economically active people and occupies a prominent place in much of their lives. In this sense, the preoccupation with health and wellbeing seems justified from both the perspective of the employer and the employee. Feldt *et al.* (2000) found that a positive organisational climate accounts for low job insecurity, a construct they linked to a strong SOC together with high levels of general and occupational wellbeing. SOC plays a central role in the salutogenic functioning of the individual, thereby contributing to his or her health. It also fulfils a role in the way people perform their work as part of their daily living. Strümpfer (1990) emphasised the importance of SOC for the performance of work in the working environment.

From a construct perspective, SOC refers to the typical human perceptions that help to form the person's world-view, which has both a cognitive and an emotional dimension captured in the framework of personality, culture, subculture or historical period (Antonovsky, 1979). From an organisational commitment perspective, Allen and Meyer (1990) developed a model containing organisational commitment characteristics such as personal, job and work experience, as well as the structural characteristics of organisational commitment. These organisational commitment

characteristics together form the antecedents that affect the psychological state of the individual as well as his or her commitment-related behaviour. The relationship between the two constructs is evident in the work of Strümpfer and Mlonzi (2001), who found that SOC, job satisfaction and organisational commitment are interrelated.

From a world-view perspective, Antonovsky (1979) states that SOC revolves around a particular way in which some people view the world. In other words, it is the stance that one adopts on matters that are important to one, which become the intervening variable between health and all the other GRRs (Antonovsky, 1979).

From an organisational commitment perspective, one may also argue people view the working world in a particular way. Mowday *et al.* (1982) became aware of this view and stated that the process of organisational commitment begins before the employee enters the organisation and may last for an extended period of time after his or her entry. Thus the commitment to an organisation is not limited to the experience found inside the organisation but instead to those experiences that precede and follow the employment period in the organisation concerned (Mowday *et al.*, 1982). This encompassing view of organisational commitment also seems to be in the form of a shift towards a type of commitment spanning organisations towards an occupation instead of an employer (Snape & Redman, 2003).

Regarding the topic of meaningfulness, which is one of the dimensions of SOC, Antonovsky (1979) attempts to balance the emphasis on cognition by stressing the importance of being personally involved in one's daily experience as well as in shaping one's destiny. The concept "meaningfulness" appears to have an emotional element that differentiates it from the other two dimensions of comprehensibility and manageability. In a similar vein, Allen and Meyer (1990) argue that affective, continuance and normative commitment should be seen as components of attitudinal commitment that the employee experiences to varying degrees. Such attitudinal commitment can also be construed as a stance that one adopts on matters important to one, with both a cognitive and an emotional dimension. To illustrate this point, Du Buisson-Narsai (2005) established the existence of a theoretical relationship

between personal meaning, SOC and organisational commitment in the sense that both personal meaning and SOC represent facets of organisational commitment through manifestations of orientation to work and job satisfaction.

From a tension management perspective, the strategy employed by SOC involves a steady supply of GRRs that enable one to achieve a situation of successful tension management, thereby improving one's SOC (Antonovsky, 1979). The following definition of GRRs illustrates their role in SOC via tension management (Antonovsky, 1979, p. 99): "At the most general, preliminary level, I defined a GRR as any characteristic of the person, the group or the environment that can facilitate effective tension management. This is not to deny the importance of specific resistance resources."

From the tension management perspective mentioned above, organisational commitment could be regarded as a GRR, whereby the emotional and cognitive dimensions of organisational commitment are employed to moderate the level of commitment to an organisation.

The socioeconomic perspective considers the significance of the two constructs in society at large. SOC is something that plays out in the lives of people (Antonovsky, 1979). It happens during the course of their lives, which ebbs and flows with regard to the different statuses that people attain in life. Although Bowman (1996) confirmed Antonovsky's claim that people from different cultures can attain similar levels of SOC, regardless of their socioeconomic differences, he also argued that their stress levels may be different when it comes to unemployment status, with unemployed people experiencing greater levels of daily stress compared with those who have jobs (Bowman, 1996; Heiman, 2004). In a similar vein, from an organisational commitment perspective, the membership linkages between employee and employer affect society in general because of the effect that poor commitment has on the fabric of society. Employees may lose their basic sense of belonging when they manifest poor commitment and as a result compromise the fabric of society. Society is best served when employee turnover is moderate and organisational commitment is demonstrated to a certain extent (Mowday *et al.*, 1982).

3.9 CHAPTER SUMMARY

The construct of organisational commitment was conceptualised in this chapter by discussing the following: the history, definition, dimensions and development of, research on, the application and measurement (the OCQ) of the construct, and the theoretical integration of organisational commitment and SOC.

Comment

Section 1.3 in chapter 1 formulated the research aims of this study. Section 1.3.1 in chapter 1 stated the specific aims of the study, the first of which was satisfied in chapter 2, and the second and third aims in this chapter through the conceptualisation of organisational commitment and the theoretical integration of this construct with SOC.

This chapter also satisfied the second research aim formulated in chapter 1, namely to conceptualise the construct of organisational commitment. The third research aim was also addressed, namely to integrate SOC and organisational commitment as two independent constructs that are theoretically interrelated. Chapter 4 focuses on the details of the empirical study.

CHAPTER 4: RESEARCH METHODOLOGY

The previous two chapters described the constructs of SOC and organisational commitment by means of a literature review. In this chapter, the procedure followed, description of the population and the sample from the population are elaborated upon. The participants in the study and the administration of the survey are also dealt with. The measuring instruments and the hypotheses will be explained.

4.1 AIMS OF THE EMPIRICAL STUDY

As stated in chapter 1, section 1.3.2, the aims of the empirical study are as follows:

- To determine a possible relationship between SOC and organisational commitment of ERP workers in the IT industry.
- To determine whether the biographical details of age and tenure taken from the sample group have a significant relationship with SOC and organisational commitment .
- To make recommendations and suggestions for future research.

4.2 DESCRIPTION OF THE ORGANISATIONS AND PARTICIPANTS

In this section, the organisations and participants involved in this study are described from both an industry and research perspective. Table 5.3 in chapter 5 provides a detailed summary of the biographical details.

The participants in the study were South African ERP consultants working in the South African IT industry. This industry has a relatively small number of ERP consultants. Owing to this constraint, the study was conducted among various organisations in South African ERP.

The reason for the relatively small number of consultants working in this industry is that ERP software requires vast sums of money to implement and only mature organisations tend to enjoy the benefits of such implementation. South Africa does not have large numbers of mature organisations – only many small to medium

organisations (SMEs), of which only a few are sufficiently mature or financially strong to accommodate the rigours of ERP software implementation –, hence the focus of this study on all the consultants in the ERP industry, instead of the consultants in a single organisation. A further mitigating factor is that there is also a tendency among consultants in the ERP industry to perform contract work without any reference to a fixed employer, for reasons such as tax deductions, the huge demand for their skills and a project-based approach to ERP consulting, whereby the actual ERP projects become the employer instead of a typical ERP organisation.

At the time of the study, the population size was approximately 1 350. A cross-sectional survey design was employed for the purpose of this study (Trochim & Donnelly, 2007). Emails were sent to a list of 1 150 ERP consultants requesting their participation in the survey. The list of consultants was not categorised in any way, but was made up of smaller lists obtained from the human resource departments and project offices of the various ERP employers. The final sample for the study consisted of 150 ERP consultants (n = 150).

In some instances, the consultants did not respond to the emails requesting their participation in the survey. This affected the overall response rate which was further reduced by some of the participants who did respond but failed to complete the whole survey – hence a number of survey questionnaires were spoiled and could not be used. The response rate for the survey was therefore only 13%.

In this study, there were typical technical challenges relating to web-based surveys such as infrequent breaks in network connectivity, slow web page response times and normal business day interruptions that drew the participants' attention away from the survey and resulted in 45 partially saved or partially completed survey questionnaires.

In addition to the partially completed questionnaires, a further 113 survey questionnaires were abandoned for the above reasons. In total, 158 survey questionnaires were treated as spoilt responses. The partially completed survey questionnaires and the abandoned survey responses can also be explained from the participant's perspective, in that multiple attempts were made by some participants

to complete the survey thereby generating multiple responses but with only a single response among the many being marked as complete. The total number of unspoilt survey questionnaires that were marked as completed was 150 (n = 150).

4.3 SAMPLING PROCEDURE

This section elaborates on the sampling procedure used in the study.

The chosen research design is a cross-sectional survey in which the whole population was targeted by means of availability sampling. The envisaged population for this study consisted of the total workforce of selected IT organisations specialising as ERP specialists and service providers. The population was requested to complete the survey questionnaire containing the OLQ, the OCQ and a biographical questionnaire.

The three instruments were combined with a cover letter and a form stating that written permission from each member of the organisation was required for the use of his or her results in the study. This was presented to each member of the organisation as a single web-based survey. Each member received an email requesting his or her participation in the survey. The email request included a cover letter explaining the purpose of the survey.

4.4 THE MEASURING INSTRUMENTS

4.4.1 The measurement of biographical information

The first section of the survey focused on the biographical questionnaire. This was done for two reasons, namely to identify the participants via the web-based survey technology that can identify duplications. The second reason was to identify the biographical variables via the categories of age, gender, race, occupational level and three types of tenure, namely the time spent in the industry, the time spent consulting on the specific product and the time spent with the current employer.

The following biographical information was obtained from the survey:

- age (in five-year categories)
- race
- gender
- seniority (job level)
- period of service (tenure) with current employer
- period of service (tenure) in the ERP industry
- overall period of service (tenure) (regardless of ERP or the type of work done)

From the biographical information categories, age and tenure were chosen for their relevance to the ERP industry regarding the highly specialised nature of the industry.

Tenure is the term used to explain the time a consultant has spent in the consulting industry. There are three categories of tenure in this study, namely period of consulting in ERP products, period of consulting for current employer and period of consulting on a full-time basis.

The selection of these two variables can be justified from the perspective that age assimilates well with SOC, while tenure assimilates well with the overall focus of organisational commitment. According to Antonovsky (1987), SOC develops up to the age of 30, and given that the 61% of the sample were older than 30, this justified the selection of age as a variable.

Regarding the selection of age as a variable to correlate with the organisational commitment construct, Lin and Hsieh (2002) found that an employee's age can influence the relationship between task identity and organisational commitment.

Concerning the tenure variable, tenure plays a greater role in the way organisations account for people's utilisation and their respective careers. Age as an indicator of tenure can also influence people's perception of SOC, with younger people having the perception that they enjoy more social support from their friends compared with the support enjoyed by their older counterparts (Heiman, 2004).

Age and tenure together form a consistent theme if one considers the ERP industry and its need for experienced consultants with years of service in the industry, who can mentor younger less experienced consultants. Given the current legislation on race and gender, the researcher deemed it wise not to include those two variables on account of the legislative component prescribing the presence of targeted race groups of both genders to be present in the organisation (Labour).

4.4.2 The Orientation to Life Questionnaire

In this section, the development, underlying principles, aim, dimensions, administration, interpretation, reliability and validity of the instrument are discussed. The OLQ as instrument was made available for use by the author in his first publication on SOC (Antonovsky; 1987). The section concludes with the reasons for selecting the particular instrument for this study.

4.4.2.1 Development

Antonovsky (1979) proposed a salutogenic theoretical model designed to foster a better understanding of the relationship between stressors, coping and health. The main construct of this model is referred to as SOC. In his follow-up work, published in 1987, Antonovsky refined this model and added the OLQ as an appendix in his book, *Unravelling the mystery of health*. The OLQ is used to measure SOC. It is in this book that the original long version of the SOC scale can be found (the operational format of the OLQ).

The long version of the OLQ is a 29-item semantic differential questionnaire that was developed by Antonovsky (1987) using facet analysis design. Antonovsky's (1987) design was guided by Guttman's facet theory (Antonovsky, 1993a). Of the 29 items, 13 questions are phrased negatively and require reverse scoring so that a high score in the questionnaire represents a high SOC (Antonovsky, 1993a). Eleven items measure comprehensibility, ten manageability and eight meaningfulness.

4.4.2.2 Underlying principles (rationale)

The underlying principles of the salutogenic theoretical model and hence the questionnaire (OLQ) can be found in the following: a focus away from the pathogenic orientation towards the salutogenic orientation, the adoption of SOC as the central construct of the model and the understanding of SOC in terms of its cross-cultural and cross-situational character (Strümpfer, 1990). The rationale of the OLQ is to operationalise SOC as the core construct of the theoretical model (Antonovsky, 1993a).

4.4.2.3 Aim

The aim of the questionnaire is to express the construct of SOC in terms of its definition, namely that it is a “global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one’s internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement” (Antonovsky, 1987 p. 19).

4.4.2.4 Dimensions

The OLQ has three dimensions, namely comprehensibility, manageability and meaningfulness, which are represented as subscales in the questionnaire. Respondents are provided with 29 self-reporting questions on various aspects of life, each with seven possibilities.

The OLQ has three dimensions, which are defined as follows:

- *Comprehensibility*

Comprehensibility is the “extent to which one perceives the stimuli that confront one, deriving from the internal and external environments, as making cognitive sense, as information that is ordered, consistent, structured, and clear, rather

than as noise – chaotic, disordered, random, accidental, inexplicable” (Antonovsky, 1987, p. 16).

- *Manageability*

The definition is “the extent to which one perceives that resources are at one’s disposal which are adequate to meet the demands posed by the stimuli that bombarded one” (Antonovsky, 1987, p. 17).

- *Meaningfulness*

Meaningfulness is defined as “extent to which one feels that life makes sense emotionally, that at least some of the problems and demands posed by living are worth investing energy in, are worthy of commitment and engagement, are challenges that are welcome rather than burdens that one would much rather do without” (Antonovsky, 1987, p. 18).

From a theoretical perspective, the three dimensions should not to be regarded as subscales because the factor analysis of the scale will not show the three dimensions, but a single factor solution instead (Strümpfer & Mlonzi, 2001).

4.4.2.5 Administration

The administration of the OLQ takes approximately 15 to 20 minutes to complete (Antonovsky, 1993a). In this study, the OLQ was administered via a web-based form and the participants were not timed when they completed the questionnaire. The instrument has 11 items measuring comprehensibility, 10 manageability and eight meaningfulness (Antonovsky, 1993a). The respondents are given 29 self-reporting questions on various aspects of life, each with seven possibilities. They are requested to mark the number most applicable to them, with 1 and 7 being the answers at the extreme ends of the scale (Antonovsky, 1993a).

Of the 29 items, 13 are negatively phrased in order to counteract typical response styles by the respondent. This means that the scores for questions 1, 4, 5, 6, 7, 11,

13, 14, 16, 20, 23, 25 and 27 are treated as the inverse – in other words, that a rating of 1 on the seven-point Likert scale will be treated as 7; a rating of a 2 will be treated as 6, and so forth. The total score includes all three subscales and constitutes a single score (Antonovsky, 1987).

4.4.2.6 Interpretation

The interpretation of the results of OLQ revolves around the final single score which includes all three subscales (manageability, comprehensibility and meaningfulness). The higher the final score, the stronger the respondent's SOC will be (Antonovsky 1987, p. 189). Regarding the interpretation of the scores in chapter 5 of this study, the final scores from the OLQ were used to interpret the results. However, in order to show any possible correlation between the OLQ and the OCQ the subscale values of the OLQ were also used so that they could be correlated with the subscale values of the OCQ.

4.4.2.7 Reliability

The OLQ is used to measure SOC. The SOC scale exists in two forms, namely the original scale consisting of 29 items and the shortened version comprising 13 items. Antonovsky (1993a) found both scales to be extremely reliable measures.

According to Antonovsky (1993a), the alpha coefficients of the 29-item OLQ varied between 0.85 and 0.90 for Western populations. The Cronbach alpha measure of internal consistency for the 29-item SOC scale in 26 different studies ranged from 0.82 to 0.95. Antonovsky (1993a) also reported a test-retest reliability that is substantial as in an alpha coefficient of 0.54 over a two-year period among retirees. With regard to local applicability, Mlonzi and Strümpfer (1998) and Wissing (2000) confirmed that the OLQ is reliable in the South African context.

Regarding internal consistency, Frenz, Carey and Jorgensen (1993) found internal consistency in the scores of 370 subjects (Cronbach alpha) that yielded a coefficient of 0.93, which reflects a high level of internal consistency. Regarding test-retest stability, they reported a high test-retest reliability ($r = .92$, $p < .0001$).

4.4.2.8 Validity

According to Antonovsky (1993a), the structure and properties of the SOC scale are sound and have high content, face and consensual validity. The design of the scale was based on Guttman's facet theory and used in 20 countries to determine the feasibility, reliability and validity of the scale. Twenty-six studies later, Antonovsky (1993a) achieved Cronbach alpha measures ranging between 0.82 and 0.95. Antonovsky (1993a) also argued that criterion validity is demonstrated through the statistically significant correlations between SOC and measures in the following four domains:

- global orientation to oneself and one's environment (19 r's)
- stressors (11 r's)
- health, illness and wellbeing (32 r's)
- attitudes and behaviour (5 r's)

4.4.2.9 Justification

Research by Korotkov (1993) on the extent of emotion-like contamination in the shortened version of the SOC measure found that this version with only 13 instead of 29 items, lacks face, construct and predictive validity with regard to simple mediation and stress moderation models. In contrast, there is no known evidence of a similar issue relating to the 29-item SOC scale – hence the preference for the long version of the OLQ.

In addition, the 29-item OLQ supports the construct of SOC as one of the best indicators of psychological wellbeing and can be applied across cultures of particular importance in the South African context. Bowman (1996) confirmed Antonovsky's claim that people from various cultures may attain similar levels of SOC, regardless of their socio- economic differences.

In conclusion, SOC forms a crucial element in a person's personality structure as well as in a culture, subculture or a historical period (Antonovsky, 1979, p. 125). The

29-item SOC scale is thus ideal to measure SOC, given the fact that it was devised by Antonovsky (1987) himself and proved to be a reliable instrument.

4.4.3 The Organisational Commitment Scale

In this section, the development, underlying principles, aim, dimensions, administration, interpretation, reliability and validity of the OCQ are discussed. In conclusion, it justifies the selection of this instrument for this study (Allen & Meyer; 1990).

4.4.3.1 Development

The use of the OCQ is based on the successful work of Allen and Meyer (1990) in consolidating three separate dimensions of commitment research into a coherent construct. The three separate dimensions of commitment are affective, normative and continuance commitment. The definition of each was used in the construction of the questionnaire by developing a pool of questionnaire items presented to a sample of participants in order to determine which items to include in the final questionnaire. This was achieved through content redundancy, correlations between questionnaire items as well as positively and negatively phrased questionnaire items (Allen & Meyer, 1990).

The development of the questionnaire also took into consideration the psychometric evaluation of the commitment measures. Allen and Meyer (1990) demonstrated the validity of the questionnaire by showing that the affective and continuance commitment scales correlate well with the antecedent variables of commitment as predicted by them.

Initially, each of the three dimensions of commitment was treated as a separate scale consisting of eight items each. The final combined scale contains 24 items in total, with each subscale containing eight items.

4.4.3.2 Underlying principles (rationale)

The underlying principle of the questionnaire is to use the theoretical foundation of the three dimensions of commitment to elicit responses from participants in order to measure their commitment to the organisation. The affective commitment stream represents emotional attachment to the organisation; the continuance commitment stream represents the participant's cost awareness of leaving the organisation; and the normative commitment stream represents the feeling of having an obligation towards the organisation (Allen & Meyer, 1990).

4.4.3.3 Aim

The aim of the OCQ is to measure the participant's commitment to an organisation via the three dimensions of commitment in the context of organisational commitment (Allen & Meyer, 1990).

4.4.3.4 Dimensions

The three dimensions, namely affective, continuance and normative commitment, involve a total of 24 questionnaire items and are measured by means of a seven-point Likert scale. Only the end points of the scale are expressed in words that anchor each questionnaire item in (1) "strongly disagree" and (7) "strongly agree" (Allen & Meyer, 1990).

The three dimensions represented in the OCQ are as follows:

- *Affective commitment.* Those who show strong affective commitment tend to stay with the organisation because of their strong emotional bond with it (Allen & Meyer, 1990).
- *Continuance commitment.* Those who show strong continuance commitment tend to stay with the organisation because they are aware of the cost implications of leaving it (Allen & Meyer, 1990).

- *Normative commitment.* Those who show strong normative commitment tend to stay with the organisation because they feel obliged to (Allen & Meyer, 1990).

4.4.3.5 Administration

The administration of the OCQ takes approximately 15 minutes. In this study, the administration of the OCQ was conducted via a web-based form and the completion of the questionnaire was not timed. Some of the 24 items are reversely scored in order to counteract typical response styles by the respondent. This basically means that some questions will have their scores treated as the inverse, for example, a rating of a “1” on the seven-point Likert scale will be treated as a “7”, a rating of a “2” will be treated as a “6”, and so forth. The scores of all three subscales are combined into a single score. The maximum score that can be obtained in the OCQ is 42 (Allen & Meyer, 1990; Du Buisson-Narsai, 2005).

4.4.3.6 Interpretation

Unlike the interpretation of the scores on OLQ, that of the scores on the OCQ involves calculating the mean score and the total score for each subscale in order to determine the level of organisational commitment from the affective, continuance and normative commitment scores. The design of the organisational construct does not lend itself to calculating a single overall score, but focuses instead on the scores of the three subscales. Hence the level of organisational commitment is determined via the three sets of scores of which each set indicates how committed the respondent is to the organisation with reference to the three dimensions of commitment (Meyer *et al.*, 1993).

4.4.3.7 Reliability

Regarding the reliability of the OCQ instrument, there is substantial evidence to prove this. The author’s claim that the instrument is reliable is evident in the reliability figures for the three scales, ranging from 0.73 to 0.85 (Meyer & Allen, 1997). Other

research findings by Meyer *et al.* (1993) suggest similar reliability figures with the coefficient alpha for each scale (i.e. affective, continuance and normative commitment) as 0.87, 0.75 and 0.79 respectively. From a South African perspective, research by Buitendach and De Witte (2005) derived a coefficient alpha of 0.65 for the OCQ.

4.4.3.8 Validity

Allen and Meyer (1990) found that the three types of commitment are indeed independently distinguishable when using factor analysis. With regard to the interrelationships between the various commitment scales, Allen and Meyer (1990) found that continuance commitment in particular seems to be relatively independent of the affective and normative commitment scales. They also determined that commitment to the organisation can be reliably measured via the psychological states (affective, normative and continuance commitment) and that each of the psychological states can be experienced to varying degrees by the employee (Allen & Meyer, 1990). In addition, Suliman and Iles (2000) confirmed the construct validity of the OCS.

4.4.3.9 Justification

Regarding the justification of the measurement scale for the OCQ, the construct has been well researched and validated, making it a sound instrument to work with in this study (Allen & Meyer, 1990). In addition, the three-dimension model of Meyer *et al.* (1993) addresses organisational commitment in a more holistic way compared with other models that focus mainly on a specific type of commitment.

4.5 DATA GATHERING

In this section the data gathering techniques are discussed with reference to this study. Particular attention is paid to the use of electronic tools to collect and report on the data that were gathered.

The data were collected via the use of web-based questionnaires. The web-based questionnaires contained the OLQ developed by Antonovsky (1987) and the OCQ developed by Meyer and Allen (1990), as well as a biographical questionnaire for collecting relevant data for this study.

The first and primary method of collecting data was via a website that specialises in conducting surveys. Where the primary method did not suffice owing to unforeseen circumstances, a second method was used. The second method was only employed in exceptional circumstances when the primary method was ineffective.

The second method employed pre-printed questionnaires in the same format as the website surveys, but printed in full colour and presented to each participant with the same cover page as the one from the website. This alternative method was employed in cases where participants on projects had not yet received their computers or in instances where junior consultants and interns were restricted from having internet access.

In some instances, the participants were barred from accessing commercial websites via web filters instituted by their employers. Where pre-printed forms were used to obtain data, the responses were captured on the website afterwards in order to benefit from the validation and other related benefits of the website.

A website was used to present the two instruments to the participants in the survey (<http://www.surveygizmo.com>). This website has full access control facilities, referred to as "Secure Session Logon", and is both user name and password driven. Hence only the administrator of the survey (in this case, the researcher) could access the website and where necessary modify the contents of the survey questionnaire without exposing the contents to unauthorised access. The data were obtained by using a survey format that made it easy for the participants to complete it. The format consisted of a cover page highlighting the title of the research, detailing the reason for the research together with an assurance to the participants that they would remain anonymous. The cover page was followed by three pages containing the following: the biographical details page, the questions from the OLQ and the questions from the OCQ respectively.

The first page of the survey that the participant would see was the so-called “landing page”, otherwise known as a cover page. The landing page contained a full description of the type of research to be conducted, a request for voluntary participation, assurance of anonymity, the dates on which the survey would be available for completion and a confirmation request.

The confirmation request validated the fact that the participant consented to participation in the survey. The two pages after the landing page would only be displayed to the participant when he or she had consented to participation in the survey via the validation facility on the landing page. This validation was mandatory, which means that the participants could not ignore or bypass the request for consent to participate in the survey. The following statement was issued next to the request for consent: **“Please tick - This question is mandatory”**. Once the participant’s consent had been obtained, the second page of the survey was displayed. Each page contained a visual indicator of the percentage progress made thus far in order to inform the participant of how far he or she still had to go before completing the whole survey.

The second page asked for the participant’s biographical details for both control and analysis of data reasons. Most biographical questions could only be answered via the prepopulated pick-lists, thereby ensuring consistency in the participants’ responses. Only the respondent’s name, surname, job title and name of employer allowed for free format text input. Once the second page had been completed the participant could elect to move to the third page containing the actual OLQ.

The third page of the survey started with an explanation of what the participant was expected to do in order to answer the OLQ. Each question was numbered and posed in exactly the same way that it occurs in the literature on the OLQ. The seven-point scale was visually presented on a horizontal line with both the first and the seventh point on the scale containing text from the questionnaire, while the second to sixth points were represented as “bullets” with their respective numbers, to indicate a sliding scale. The respondent could easily see where to place his or her selection of each question by clicking on any selection on the seven-point scale. Each question

was dynamically validated to only allow a single answer. Once the participant had completed the questionnaire, he or she could elect to move to the following page, namely page 4 of the survey.

Page 4 started with an explanation of what the participant was expected to do in order to answer the OCQ. Each question was numbered and posed in exactly the same way that it occurs in the literature on the OCQ. The seven-point scale was visually represented on a horizontal line with both the first and the seventh point on the scale containing text from the questionnaire, while the second to the sixth points were represented as “bullets” with their respective numbers. The respondent could easily see where to place his or her selection of each question by clicking on any selection on the seven-point scale. Each question was dynamically validated to allow only a single answer. Once the participant had completed the questionnaire, he or she could elect to finalise the survey by submitting the responses or scroll back to any of the previous pages and make changes to the responses if he or she deemed this to be necessary.

Once the participant had submitted the survey in its final format, he or she was thanked for participating and the survey was marked “submitted”, which also indicated that all the questions had been answered. In instances where all the questions were not answered, the survey was marked “incomplete”. This type of validation formed part of the advanced validation capabilities of the survey website. The incomplete survey responses were treated as spoilt responses and not included in the data analysis.

Each response to the survey carried a unique response identification number to ensure that there were no duplications. The response ID was then added to the survey response’s link on the website for validation purposes. This allows the administrator to validate each survey response independently of the other responses.

In addition, the internet protocol (IP) address that the participant used to access the website was used for additional validation if necessary. In this survey, this facility

was not enabled because some consultants shared a single internet protocol when working on projects at client sites owing to the constraints imposed by some clients.

As mentioned earlier, the results of the survey only included the completed responses. Any partially submitted results were automatically excluded. The results were presented in two formats, namely text (.CSV) and SPSS (.SPS) format. The former was used for data validation and checking and the latter for statistical analysis. Both formats are generated from the same website using the same data repository.

4.6 DATA ANALYSIS

In this section, the process of data analysis is discussed from the perspective of the study that was undertaken and the data collected.

The results emanating from the questionnaires were first checked for errors. Once the errors had been accounted for and cleaned, the data were fed into a statistical package for statistical analysis. The aim here was to report statistically on the following: the reliability and validity of the two instruments used in the study. Descriptive statistics are used to report on the characteristics of the sample in relation to the constructs in the form of frequencies, means and standard deviations.

A software program was used to analyse the statistics. The program is known as SPSS, and the latest release was updated in the software (SPSS for Windows 13.0, 2004). The analysis techniques used are detailed below. In order to determine a relationship between the variables it is necessary to calculate a correlation coefficient such as the Pearson correlation coefficient. Regression analysis is used to make any predictions based on the data.

4.6.1 Descriptive statistics

The use of descriptive statistics in this study is depicted or used to describe the sample with reference to the two constructs under investigation as well as the

biographical attributes of the participants in the sample (Terre Blanche & Durrheim, 2002; Lemke & Wiersma, 1976).

4.6.2 Other statistical measures

In this section, reliability is discussed with particular reference to the Cronbach alpha as the chosen measure of reliability. This purpose of the measure of reliability is to indicate the reliability of the instruments used for this study. In addition, the Pearson product-moment correlation coefficient was used in this study and is a common measure to determine the correlation between two variables (Terre Blanche & Durrheim, 2002; Lemke & Wiersma, 1976).

4.6.2.1 Reliability

Reliability in this context can be regarded as the ability of a test or instrument to consistently and repeatedly measure the same phenomenon without deriving different results. The Cronbach alpha is used as a measure of reliability and is regarded as a coefficient of reliability or consistency, and as the mathematical equivalent to the average of all the possible split-half estimates of the same sample. It is best used when the items in the instrument measure different substantive areas in a single construct such as SOC or organisational commitment, of which each construct has three subscales represented in each instrument. The higher the coefficient, the more reliable the test will be, and the coefficient range is between zero and one. In addition, the intercorrelations are also reported with the symbol “r” which will be dealt with below (Terre Blanche & Durrheim, 2002; Lemke & Wiersma, 1976).

4.6.2.2 Correlation

The Pearson product-moment correlation coefficient was used in this study and is the common measure to determine the correlation between two variables (Terre Blanche & Durrheim, 2002; Lemke & Wiersma, 1976). When the Pearson product-moment correlation coefficient is determined for a population, it is designated by the Greek letter rho and when it is determined in a sample, it is designated by the

letter “r” (Howell, 1995). Although negative values reflect an inverse relationship, a strong correlation does not necessarily imply a strong cause and effect relationship. Instead, effect sizes can be used to determine whether there is a significant relationship between two variables. Owing to the use of a nonprobability sample for this study, the significance of the findings was determined through the use of effect sizes.

The absolute values of the Pearson product-moment correlation coefficient (ρ) provide an indication of the effect size – that is, a small effect will have a (ρ) of .20, a medium effect a (ρ) of .50 and a large effect a (ρ) of .80. In this study, a medium affect or a cut-off point equal to .30 was used to determine the practical significance of the correlation coefficients (Howell, 1995; Cohen, 1988).

4.6.2.3 Regression

Regression analysis is employed to help one understand how the dependent variable is affected when one of the independent variables is changed, while the other independent variables remain constant.

In this study, stepwise multiple regression analysis was used to determine to what extent the independent variable predicted the dependant variable (Lemke & Wiersma, 1976). The independent variable was SOC, as defined by the three dimensions of comprehensibility, manageability and meaningfulness, while the dependent variable was organisational commitment, as defined by the three dimensions of affective, continuance and normative commitment.

4.7 STATISTICAL HYPOTHESES

This section elucidates the research hypothesis and the statistical hypotheses for the study.

The research hypothesis was formulated around the potential relationship between the two constructs, namely SOC and organisational commitment as well as between

the constructs and the biographical variables, such as age and tenure, used in the study.

The statistical hypotheses test for the actual existence of a relationship as depicted by the research hypothesis. This hypothesis relates back to the aims of the study formulated in chapter 1, section 1.3.

Research hypothesis

There is a significant relationship between SOC, the biographical attributes of workers and organisational commitment among consultants in an IT services organisation.

Hypothesis 1

There is a significant relationship between the SOC and organisational commitment of workers in the IT industry.

Hypothesis 2

There is a significant relationship between SOC, the biographical details of age and tenure and organisational commitment.

4.8 CHAPTER SUMMARY

This chapter dealt with the research methodology used in the study, and discussed the following: the background to the research methodology, the aim of the empirical study, the sampling procedure, measuring instruments, data gathering and analysis techniques and the statistical hypotheses.

Chapter 5 discusses the results of the empirical study with reference to both local and international research.

CHAPTER 5: RESEARCH RESULTS

The previous chapter explained the research methodology used in this study. This chapter discusses the results of the empirical study with reference to both local and international research. The chapter starts with a description of the sample obtained for the purpose of this study. It also elaborates on the sampling profile and the descriptive statistics of the sample as well as on reliability, correlations, factor analysis and regression analysis. It concludes with a section that integrates the contents of this chapter, followed by a chapter summary in which the results are summarised.

5.1 DESCRIPTIVE STATISTICS

This section deals with the three sections of the survey, namely the descriptive statistics of the OLQ and the OCQ as the two instruments employed in this study as the measuring battery, followed by the biographical data of the sample. The OLQ is also referred to as the SOC scale and the OCQ as the organisational commitment scale (OCS). The next section discusses the descriptive statistics of the two instruments and the biographical variables.

5.1.1 The Orientation to Life Questionnaire

Table 5.1 depicts the descriptive statistics for the OLQ.

Table 5.1: Descriptive statistics for the OLQ with (n = 150)

OLQ						
Subscale	N	Minimum	Maximum	Mean (scale)	Mean (score)	Std. deviation
Comprehensibility	150.00	1.73	5.73	3.92	43.12	0.76
Manageability	150.00	3.10	6.50	5.15	51.54	0.73
Meaningfulness	150.00	3.25	7.00	5.47	43.72	0.85
Total	150.00	3.00	6.14	4.77	138.38	0.66

Subscale	Gender	N	Mean	Std. error mean	Std. deviation
Comprehensibility	Female	69.00	3.89	0.09	0.76
	Male	81.00	3.95	0.09	0.77
Manageability	Female	69.00	5.18	0.09	0.73
	Male	81.00	5.13	0.08	0.74
Meaningfulness	Female	69.00	5.41	0.10	0.84
	Male	81.00	5.51	0.10	0.86
Total	Female	69.00	4.75	0.08	0.64
	Male	81.00	4.79	0.07	0.67

Job level	Comprehensibility		Manageability		Meaningfulness	
	Mean	Count	Mean	Count	Mean	Count
Trainee	3.61	21.00	4.93	21.00	5.40	21.00
Junior consultant	3.80	28.00	5.03	28.00	5.24	28.00
Senior consultant	4.01	37.00	5.15	37.00	5.41	37.00
Team leader	3.81	17.00	4.94	17.00	5.16	17.00
Middle management	4.08	20.00	5.26	20.00	5.70	20.00
Top management	4.70	8.00	5.84	8.00	6.16	8.00
Other	3.88	19.00	5.39	19.00	5.70	19.00

The total for the mean scores of the subscales derived in this study was 138.38 for the responses in the OLQ.

The respondents to the OLQ scored the highest on the subscale of meaningfulness, with a mean score of 5.47 out of a possible score of 7.00. The lowest mean score of 3.92 out of a possible 7 was recorded for the subscale of comprehensibility. The subscale of manageability had a mean score of 5.15 out of a possible score of 7.00.

Concerning gender, the lowest overall mean score of 3.89 was recorded for the female category of the comprehensibility subscale and the highest overall mean score of 5.51 for the male category of the meaningfulness subscale.

In the male category, the lowest mean score of 3.95 was recorded for the comprehensibility subscale and the highest mean score of 5.51 for the meaningfulness subscale. In the female category, the lowest mean score of 3.89 was recorded for the comprehensibility subscale and the highest mean score of 5.41 for the meaningfulness subscale.

In the job levels category, the trainees had the lowest mean score of 3.61 for the comprehensibility subscale, while top management recorded the highest mean score of 4.70 for this subscale. A similar pattern repeated itself, with trainees recording the lowest mean score of 4.93 for the manageability subscale and top management the highest mean score of 5.84 for this subscale. Regarding the meaningfulness subscale, the team leaders had the lowest mean score of 5.16 and top management the highest mean score of 6.16.

According to Strümpfer and Wissing (1998), the approximation for the mean score (based on the total score) in South Africa is 137.00 on the OLQ or SOC scale. They calculated a sample-size-weighted mean (27 samples with $n = 3979$) and derived a figure of 137.00 as the approximation mean for the 29-item OLQ or SOC scale for South Africa.

The mean score of 138.38 for the OLQ or SOC scale in this study seems to be close to this approximation and to correspond with that of Rothmann, Jackson and Kruger (2003), who derived a mean score of 135.92. Wissing and Van Eeden (2002) derived a mean score of 136.52, while Strümpfer and Mlonzi (2001) derived mean scores of 154.06 and 143.39 respectively in two of their studies. In a similar vein, Cilliers and Coetzee (2003) reported a mean of 156.74 for SOC scores (SOC) while Coetzee and Rothmann (1999) derived a mean score of 143.11 for the scores from the OLQ. In addition, Gropp, Geldenhuys and Visser (2007) derived a mean score for SOC of 142.48. This is similar to the mean scores from the OLQ of 141.68 and 136.02 for males and females respectively as reported Rothman *et al.* (2003) in a study on gender differences in psychological wellbeing.

The mean score in this study is close to the approximation for the mean score in South Africa and seems to correspond well with similar scores both internationally and locally. Based on the scores obtained in this study, the respondents seem to be able to make sense of the stimuli emerging from their environments. They also seem to be able to comprehend the stimuli and interpret them as worthwhile to engage in, with the expectation that the result will be as good as they can reasonably expect.

5.1.2 The Organisational Commitment Scale

The following table provides the descriptive statistics for the OCQ.

Table 5.2: Descriptive statistics for the OCQ with (n = 150)

The OCQ						
Item	N	Minimum	Maximum	Mean	Std. deviation	
Affective commitment	150.00	1.25	7.00	4.54	1.25	
Continuance Commitment	150.00	1.38	7.00	3.96	1.15	
Normative commitment	150.00	1.50	6.88	3.97	0.97	
Item	Gender	N	Std. error mean	Mean	Std. deviation	
Affective commitment	Female	69.00	0.16	4.45	1.31	
	Male	81.00	0.13	4.61	1.20	
Continuance commitment	Female	69.00	0.15	3.85	1.28	
	Male	81.00	0.11	4.05	1.02	
Normative commitment	Female	69.00	0.12	4.02	0.99	
	Male	81.00	0.11	3.93	0.95	
Job level	Affective commitment		Continuance commitment		Normative commitment	
	Mean	Count	Mean	Count	Mean	Count
Trainee	4.65	21.00	4.68	21.00	4.63	21.00
Junior consultant	4.25	28.00	4.04	28.00	3.88	28.00
Senior consultant	4.50	37.00	3.73	37.00	3.78	37.00
Team leader	3.90	17.00	3.79	17.00	3.74	17.00
Middle management	4.79	20.00	4.06	20.00	4.22	20.00
Top management	6.08	8.00	3.61	8.00	3.80	8.00
Other	4.57	19.00	3.66	19.00	3.81	19.00

The results obtained from the study show the following means (based on a seven-point scale) for the OCQ: affective commitment 4.54, continuance commitment 3.96 and normative commitment 3.97. The respondents to the OCQ scored the highest on

the subscale of affective commitment with a mean score of 4.54 out of a possible score of 7.00.

As far as gender is concerned, the lowest overall mean score reported was 3.85 for females on the continuance commitment subscale. The highest overall mean score recorded was 4.61 for males on affective commitment. The minimum mean score for females was 3.85 for continuance commitment and the maximum mean score for females 4.45 for affective commitment. The minimum mean score for males was 3.93 for normative commitment and the maximum mean score for males 4.61 for affective commitment.

In the job levels category, the team leaders produced the lowest mean score of 3.90 for affective commitment while top management had the highest mean score of 6.08 for it. Regarding continuance commitment, top management reported the lowest mean scores of 3.61, while trainees had the highest mean scores of 4.68. Team leaders had the lowest mean scores of 3.74 and the trainees the highest mean scores of 4.63 for normative commitment.

The means from this study, namely affective commitment (4.54), continuance commitment (3.96) and normative commitment (3.97) are slightly higher than the scores derived by Karrasch (2003) for affective commitment (3.76), continuance commitment (2.52) and normative commitment (3.26). However, the scores in this study are lower than those reported by Snape and Redman (2003), who derived mean scores for affective commitment (5.48), continuance commitment (3.96) and normative commitment (3.07). Gakovic and Tetrick (2003) conducted two studies and derived the following mean scores: affective commitment (2.87/2.95) and normative commitment (2.76/2.74) respectively. Sinclair, Leo and Wright (2005) derived mean scores for affective commitment and continuance commitment of 4.68 and 5.24 respectively.

From a South African perspective, Stander and Rothmann (2008) derived means of 3.71 and 3.33 for affective and continuance commitment respectively. Du Buisson-Narsai (2005) derived means of 5.38, 4.12 and 4.48 for affective, continuance and normative commitment respectively. Buitendach and De Witte (2005) derived a

mean score of 3.10 for affective commitment. This finding by Buitendach and De Witte (2005) is in contrast to that of Mguculwa (2008) who reported a mean score of 5.34 for affective commitment.

There seems to be relative correspondence between the scores in this study and those in similar international studies. The scores in the sample indicate that there seems to be a strong commitment to the respective organisations represented by the respondents. The relatively high score for affective commitment bodes well for both employees and organisations in the study, which means that employees are not likely to leave their employment.

In the next section, table 5.3 will indicate the descriptive statistics relating to the biographical variables.

5.1.3 Biographical variables

The study collected the following biographical data from the survey. The data were classified under the categories of gender, race, age, job level and tenure.

Table 5.3 on the following page provides the descriptive statistics for the biographical data.

Table 5.3: Descriptive statistics for the biographical data

Gender				
Category	Frequency	Percent	Valid percent	Cumulative percent
Female	69.00	46.00	46.00	46.00
Male	81.00	54.00	54.00	100.00
Total	150.00	100.00	100.00	

Race				
Category	Frequency	Percent	Valid percent	Cumulative percent
African	43.00	28.70	28.70	28.70
Coloured	9.00	6.00	6.00	34.70
Indian	9.00	6.00	6.00	40.70
White	89.00	59.30	59.30	100.00
Total	150.00	100.00	100.00	

Age				
Category	Frequency	Percent	Valid percent	Cumulative percent
20-24	22.00	14.70	14.70	14.70
25-29	36.00	24.00	24.00	38.70
30-34	29.00	19.30	19.30	58.00
35-39	30.00	20.00	20.00	78.00
40-44	15.00	10.00	10.00	88.00
45-49	13.00	8.70	8.70	96.70
50-54	4.00	2.70	2.70	99.30
60-64	1.00	0.70	0.70	100.00
Total	150.00	100.00	100.00	

Job level				
Item	Frequency	Percent	Valid percent	Cumulative percent
Trainee	21.00	14.00	14.00	18.70
Junior consultant	28.00	18.70	18.70	32.00
Senior consultant	37.00	24.70	24.70	44.70
Team leader	17.00	11.30	11.30	69.30
Middle management	20.00	13.30	13.30	80.70
Top management	8.00	5.30	5.30	86.00
Other	19.00	12.70	12.70	100.00
Total	150.00	100.00	100.00	0.00

Tenure					
Item	N	Minimum	Maximum	Mean	Std. deviation
Period of consulting in ERP products	150.00	1.00	11.00	4.89	3.65
Period of consulting for current employer	150.00	1.00	11.00	2.56	2.21
Period of consulting on full-time basis	150.00	1.00	20.00	9.60	6.87
Valid N	150.00				

The sample represented both genders almost equally, namely 46.00% for females and 54.00% for males. The study included the following race groups: whites formed the majority of the sample (59.30%), while Africans represented 28.70% of the sample. Indians and coloureds combined represented 6.00% of the sample.

In terms of age it is interesting to see the occurrence of a typical bell curve, with the age group 20 to 24 representing 14.70% of the sample. The age group between 25 and 29 was the highest representative group with 24.00% of the sample. Participants between the ages of 30 and 34 constituted 19.30% of the sample. The age group of between 35 and 39 was the second highest representative group at 20.00%. For ages 40 and above, the collective representation amounted to 22.10% in total.

As indicated in table 5.3, the job levels also followed an almost normal bell curve with trainees and junior consultants representing 14.00 and 18.70% respectively. Senior consultants were the best represented job level at 24.70%. Team leaders and middle management represented 11.30 and 13.30% respectively. Top management only formed 5.30% of the sample, while the remaining 12.70% comprised consultants without job levels who were consulting as independent contractors.

It is interesting to note that the mean period of consulting in ERP products was 4.89 years, with a standard deviation of 3.65 years. The mean period of consulting for current employers amounted to only 2.56 years with a standard deviation of 2.21 years. This is in stark contrast to the mean period of consulting on a full-time basis, independent of product or employer. The mean period of consulting on a full-time basis was 9.60 years, with a standard deviation of 6.87 years.

This section concludes the discussion on the three sections of the survey, namely the descriptive statistics of the OLQ, the OCQ and the biographical variables. The following section deals with the validity and reliability of the measuring instruments.

5.2 VALIDITY AND RELIABILITY OF THE MEASURING INSTRUMENTS

In this section, the study addresses the validity and reliability of both the OLQ and the OCQ.

5.2.1 Validity

Validity is addressed via the factor loadings of the items in each questionnaire in order to determine whether the derived factors support the theoretical constructs of the questionnaires (Terre Blanche & Durrheim, 2002).

5.2.1.1 Validity of the Orientation to Life Questionnaire

The factor loadings were determined for the items in the OLQ. Oblique rotations with Kaiser's normalisation were employed to make the factors more interpretable and meaningful (Thompson, 2004).

On the following page the contents of table 5.4 indicate the factor loadings for the OLQ.

Table 5.4: Summary of items and factor loadings for the OLQ

Factor loadings		
Item	Factor 1	Factor 2
2	0.23	
4	0.36	
7	0.67	
8	0.54	
9	0.35	
11	0.67	
13	0.47	
14	0.51	
16	0.33	
18	0.38	
20	0.41	
22	0.72	
23	0.36	
27	0.54	
28	0.55	
29	0.32	
1		0.33
3		0.32
5		0.47
6		0.50
10		0.55
12		0.48
15		0.47
17		0.52
19		0.60
21		0.55
24		0.63
25		0.38
26		0.34

Extraction method: Principal axis factoring; rotation method: oblimin with Kaiser normalisation

The findings (with the exception of items 6 and 25, which are discussed further on) confirm one of the subscales of the OLQ, namely comprehensibility. This concept is a crucial part of SOC because of the need for a person to understand his or her disposition before attempting manageability and meaningfulness (Antonovsky, 1979). As Antonovsky aptly explains: “Living in a world one thinks is chaotic and unpredictable makes it most difficult to think that one can manage well” (Antonovsky, 1979, p. 20).

The subscales of meaningfulness and manageability are not as distinct and are combined into a single factor (factor 1). The second factor (factor 2) is distinct and represents the subscale of comprehensibility.

Items 6 and 25 formed part of the manageability subscale but did not resort under factor 1 which comprised items from both the meaningfulness and manageability subscales. Instead, items 6 and 25 were combined under factor 2, which represents comprehensibility.

This phenomenon could be explained by Antonovsky's (1979) comments about the construct of SOC, namely that the concepts of comprehensibility, manageability and meaningfulness are an integral part of the definition of SOC. Together, the three concepts in the OLQ represent the cognitive, instrumental and motivational aspects of behaviour (Feldt *et al.*, 2000). However, the concepts of comprehensibility, manageability and meaningfulness should be seen holistically and not in isolation. The reason for this is that Antonovsky (1979) constructed the items from the OLQ by using a facet analysis design.

The facet design method helps to systematically vary the content of the OLQ and across a number of dimensions. In addition, Antonovsky (1979) realised that the factor analysis method that was employed would yield a single factor answer. In other words, the identification of the separate three concepts in the literature merely serves to inform the reader of the existence of the three concepts and their interrelatedness, but owing to the facet analysis method, they should not be interpreted in isolation. Regarding the above, the use of combined scores on the OLQ is therefore usually reported as a single figure. In this study, the scores of the subscales were used in conjunction with the overall score for the OLQ. This was because the scores for the subscales of the OLQ are used in comparison with the scores for the subscales of the OCQ to detect the possible existence of correlations.

Relatively few studies report on the factor analyses used in the analysis of the results of the OLQ. Most of these studies used exploratory techniques for reporting the findings. Of interest is the fact that most of the studies such as that of Frenz *et al.* (1993) reported a one-factor solution for the 29-item version of the OLQ.

From a South African perspective, Cilliers and Ngokha (2006) conducted a study on the factor structure of five salutogenic constructs of which SOC was one. They found that a two-factor structure splits the meaningfulness subscale of SOC between factors 1 and 2. A three-factor structure fitted the construct better, but it was found that the manageability subscale was split between factors 1 and 2, with the second factor being loaded with a value of less than 28. This factor was therefore omitted. Breed, Cilliers and Visser (2006) obtained similar results, in that the two-factor model contained meaningfulness in factor 1 and comprehensibility in factor 2, with manageability divided between the two factors.

In terms of convergent validity, the OLQ was found to relate moderately to other salutogenic constructs (Breed *et al.*, 2006; Cilliers & Ngokha, 2006; Cilliers & Coetzee, 2003).

This confirms the results of the research of Antonovsky (1993a), in which he referred to various studies that also produced results that confirmed his belief that the OLQ is a one-dimensional instrument for measuring the construct of SOC. Söderhamn and Holmgren (2004) tested the SOC scale among Swedish physically active older people and confirmed that their results clearly corroborated Antonovsky's theory.

However, in addition to the reporting of single factor structures, there are also reports of two-factor structures such as those in the study by Breed *et al.* (2006), in which they labelled the factors in the two-factor structures as meaningfulness and comprehensibility. This corresponds with the findings in this study. In a similar vein, Hawley, Wolfe and Cathey (1992) found factor loadings that grouped the meaningfulness and manageability items on the first factor, while the comprehensibility items loaded on the third factor. However, they found considerable overlapping between the items.

The factor loadings in this study seem to corroborate the findings of other studies. Although the study reported two-factor loadings, the consensus is that the construct of SOC should be viewed holistically.

This section dealt with the factor loadings for the OLQ. In the next section, the validity of the OCQ will be discussed with reference to the factor loadings for the items in the OCQ in table 5.5.

5.2.1.2 Validity of the Organisational Commitment Scale

The factor loadings were determined for the items in the OCQ. Oblique rotations with Kaiser’s normalisation were employed to make the factors more interpretable and meaningful (Thompson, 2004).

The following table provides the factor loadings for the OCQ.

Table 5.5: Summary of items and factor loadings for the OCQ

Item	Factor loading		
	Factor 1	Factor 2	Factor 3
1		0.74	
2		0.62	
3		0.58	
4		0.44	
5		0.70	
6		0.79	
7		0.72	
8		0.74	
9			0.35
10			0.36
11			0.61
13			0.63
14			0.81
15			0.84
16			0.52
17			0.31
18			0.52
19			0.62
20			0.45
21			0.27
22			0.47
23			0.51
24			0.37

Extraction method: Principal axis factoring; rotation method: oblimin with Kaiser normalisation

In table 5.5, the findings (with the exception of item 12, which is discussed later) confirm the three subscales of the construct of organisational commitment. The

items under factor 1 constitute the affective commitment subscale, while the items under factor 2 constitute continuance commitment with factor 3 containing the items that represent the normative commitment subscale.

The subscales of the organisational commitment construct can be regarded as psychometrically stable and both have convergent and discriminant validity with the exception of item 12 which forms part of the continuance commitment subscale in the OCQ. The normative commitment subscale is represented in factor 3 (which contains all the items). However, item 12 which belongs to the continuance commitment subscale is misplaced in factor 3, with a small negative loading of -0.10. This factor was therefore omitted because it did not load with high enough values. Karim and Noor (2006) reported similar findings for item 12 in their study on organisational commitment.

From a South African perspective, Bosman, Buitendach and Laba (2005) used the OCQ in their study and found that three factors emerged and acceptable Cronbach alpha coefficients were obtained for the total OCQ and its subscales. Similar findings were reported by Coetzee, Schreuder and Tladinyane (2007) and by Döckel, Basson and Coetzee (2006).

These findings are in accordance with other studies that have shown affective, continuance and normative commitment to be subscales that are distinguishable from one another. To summarise: The three subscales in the OCQ proved to have acceptable internal consistency and reliability. All items showed positive factor loadings except item 12 which had a negative value.

The above findings seem to correspond to the three-component model of organisational commitment research by Allen and Meyer (1990). The results of this study are in line with the above authors' suggestions that each of the three components of their model of organisational commitment is somewhat independent because each has different antecedents (Allen & Meyer, 1990). Snape and Redman (2003) found support for the three-component model of organisational commitment proposed by Meyer *et al.* (1993).

This section dealt with the validity of the two instruments by means of the factor loadings for the OLQ and the OCQ. In the next section, the reliability statistics for these two questionnaires will be discussed with reference to the factor loadings for the items in each of the instruments.

5.2.2 Reliability

The study addressed reliability by determining the Cronbach alpha (Lemke & Wiersma, 1976) of the subscales of the OLQ.

5.2.2.1 Reliability of the Orientation to Life Questionnaire

The reliability statistics based on the Cronbach alpha revolve around the scores obtained via the measure instead of the measure per se, which makes it dependent on the size of sample, namely 150. The reliability figures for the subscales of comprehensibility are dealt with in table 5.6 and the reliability for manageability and meaningfulness bundled together in table 5.7. This study bases its reliability figures on the factor loadings from the validity statistics.

Table 5.6 on the following page indicates the Cronbach alphas for the subscales of comprehensibility of the OLQ.

Table 5.6: Cronbach alphas for the subscale comprehensibility of the OLQ

Comprehensibility		
Scale statistics		
Mean	Variance	Std. deviation
53.30	122.49	11.07
Reliability statistics		
Cronbach alpha	Cronbach alpha based on standardised items	Number of items
0.83	0.83	13.00
Item statistics		
Item	Cronbach alpha	N
01	0.82	150.00
03	0.82	150.00
05	0.82	150.00
06	0.82	150.00
10	0.82	150.00
12	0.81	150.00
15	0.81	150.00
17	0.83	150.00
19	0.81	150.00
21	0.81	150.00
24	0.80	150.00
25	0.81	150.00
26	0.82	150.00

The subscale of comprehensibility contains 13 items and the scale statistics show a mean score of 53.30, with a variance of 122.49 and a standard deviation of 11.07.

The Cronbach alpha was used to assess the internal consistency as a measure of reliability. The result was calculated on the SOC scores for 150 respondents and yielded a coefficient of 0.83, which reflects a high level of internal consistency. A figure above 0.70 is regarded as sufficient for demonstrating reliability (Nunnally & Bernstein, 1994).

The Cronbach alphas for the comprehensibility subscale in table 5.6 ranged from 0.80 to 0.83, which overlaps with the Cronbach alphas in Antonovsky's (1993a) studies. He (1993a) reported that in 26 studies using the 29-item questionnaire, the Cronbach alphas ranged between 0.82 and 0.95, and construct validity between 0.38 and 0.72. Antonovsky (1993a) reported a test-retest reliability correlation of 0.54 over

a two-year period. He (1993a) also reported Cronbach alphas between 0.74 and 0.91 for the 13-item questionnaire.

Söderhamn and Holmgren (2004) reported a Cronbach alpha coefficient of 0.92. Read Aunola, Feld, Leinonen and Ruoppila (2005) reported a Cronbach alpha of 0.78 as a measure of internal consistency.

Cilliers and Kossuth (2002) reported a slightly higher Cronbach alpha of 0.85 for SOC in their study on the relationship between organisational climate and salutogenic functioning. Cilliers and Ngokha (2006) indicated the following Cronbach alphas for the three subscales: comprehensibility 0.71, manageability 0.69 and meaningfulness 0.73. Basson and Rothmann (2002) reported a Cronbach alpha of 0.89 in a study on the SOC, coping and burnout of pharmacists.

Regarding the Cronbach alpha for the subscale of comprehensibility, the results of this study are in line with the research mentioned above. The Cronbach alpha (Lemke & Wiersma, 1976) for the subscale of comprehensibility was 0.84, which indicates satisfactory internal consistency and reliability, and it is reflected in the results on the Cronbach alpha based on standardised items (0.85).

Table 5.7 indicates the Cronbach alphas for the subscales of manageability and meaningfulness of the OLQ.

Table 5.7: Cronbach alphas for the subscales of manageability and meaningfulness of the OLQ

Manageability and meaningfulness			
Scale statistics			
Mean		Variance	Std. deviation
86.46		143.94	12.00
Reliability statistics			
Cronbach alpha		Cronbach alpha based on standardised items	Number of items
0.84		0.85	16.00
Item statistics			
Item	Cronbach alpha		N
02	0.85		150.00
09	0.83		150.00
13	0.83		150.00
18	0.84		150.00
20	0.83		150.00
23	0.84		150.00
27	0.83		150.00
29	0.84		150.00
04	0.84		150.00
07	0.83		150.00
08	0.83		150.00
11	0.83		150.00
14	0.83		150.00
16	0.84		150.00
22	0.83		150.00
28	0.83		150.00

Referring back to the validity statistics, the subscales of meaningfulness and manageability are not as distinct and are combined into a single factor (factor 1) in table 5.5. Regarding the reliability statistics, the subscales of manageability and meaningfulness are also bundled together in table 5.8. This can be explained by Antonovsky's (1979) comments on the construct of SOC, namely that the concepts of comprehensibility, manageability and meaningfulness are an integral part of the definition of SOC and should not be treated as distinct items when interpreting the results of the OLQ.

A Cronbach alpha was used to assess the internal consistency as a measure of reliability. The result yielded a coefficient of 0.84, which reflects a satisfactory level of internal consistency.

The Cronbach alpha (Lemke & Wiersma, 1976) for the subscales of manageability and meaningfulness was 0.84, which indicates satisfactory internal consistency and reliability and is reflected in the results on the Cronbach alpha based on standardised items (0.85). A figure above 0.70 is viewed as being sufficient to demonstrate reliability (Nunnally & Bernstein, 1994).

In this section, table 5.7 indicated the Cronbach alphas for the subscales of manageability and meaningfulness in the OLQ.

5.2.2.2 Reliability of the Organisational Commitment Scale

This study addressed reliability by determining the Cronbach alphas (Lemke & Wiersma, 1976) of the subscales of the OCQ). Table 5.8 indicates the Cronbach alphas for the subscale of affective commitment of the OCQ.

Table 5.8: Cronbach alphas for the subscale of affective commitment of the OCQ

Scale statistics		
Mean	Variance	Std. deviation
36.30	99.74	9.99
Reliability statistics		
Cronbach alpha	Cronbach alpha based on standardised items	Number of items
0.86	0.86	8.00
Item statistics		
Item	Cronbach alpha	N
01	0.84	150.00
02	0.86	150.00
03	0.85	150.00
04	0.87	150.00
05	0.85	150.00
06	0.84	150.00
07	0.84	150.00
08	0.84	150.00

The subscale of affective commitment contains eight items and the scale statistics show that a mean score on this subscale is 36.30, with a variance of 99.74 and a standard deviation of 9.99.

The Cronbach alpha for the subscale of affective commitment is 0.86, which indicates satisfactory reliability and is also reflected in the results on Cronbach alpha based on standardised items.

In this section, table 5.8 indicated the Cronbach alphas for the subscale of affective commitment of the OCQ. Table 5.9 indicates the Cronbach alphas for the subscale of continuance commitment in the OCQ.

Table 5.9: Cronbach alphas for the subscale of continuance commitment in the OCQ

Scale statistics		
Mean	Variance	Std. deviation
27.12	80.36	8.96
Reliability statistics		
Cronbach alpha	Cronbach alpha based on standardised items	Number of items
0.81	0.81	7.00
Item statistics		
Item	Cronbach alpha	N
09	0.81	150.00
10	0.80	150.00
11	0.76	150.00
13	0.78	150.00
14	0.76	150.00
15	0.75	150.00
16	0.78	150.00

The Cronbach alpha for the subscale of continuance commitment is 0.81, which indicates acceptable reliability and is also reflected in the results for the Cronbach alpha based on standardised items. A figure above 0.70 is regarded as sufficient for demonstrating reliability (Nunnally & Bernstein, 1994).

In this section, table 5.9 provided the Cronbach alphas for the subscale of continuance commitment for the OCQ. The following table indicates the Cronbach alphas for the subscale normative commitment in the OCQ.

Table 5.10: Cronbach alphas for the subscale normative commitment in the OCQ

Scale statistics		
Mean	Variance	Std. deviation
31.79	59.80	7.73
Reliability statistics		
Cronbach alpha	Cronbach alpha based on standardised items	Number of items
0.69	0.69	8.00
Item statistics		
Item	Cronbach alpha	N
17	0.67	150.00
18	0.66	150.00
19	0.65	150.00
20	0.64	150.00
21	0.70	150.00
22	0.64	150.00
23	0.66	150.00
24	0.67	150.00

The Cronbach alpha for the subscale of continuance commitment is 0.69, which indicates acceptable reliability and reflects the results of the Cronbach alpha based on standardised items (0.69) (Nunnally & Bernstein, 1994).

Yafang (2008) reported a Cronbach alpha of 0.77 for organisational commitment, while Bhatnagar (2005) reported one of 0.80 for this construct. Karim and Noor (2006) found Cronbach alphas of 0.81 and 0.78 for affective commitment and continuance commitment respectively. Sturges, Conway, Guest and Liefoghe (2005) had similar findings. They reported Cronbach alphas of 0.83 and 0.76 for affective commitment and continuance commitment respectively.

In South Africa, research by Jackson and Rothman (2006) reported a Cronbach alpha of 0.65 for organisational commitment. Boshoff, Van Wyk, Hoole and Owen's

(2002) research on organisational commitment indicated Cronbach alphas 0.86, 0.78 and 0.77 for affective, normative and continuance commitment respectively. Storm and Roodt (2002) found a significant relationship between organisational socialisation and organisational commitment using a locally developed scale by Roodt (1997) to measure organisational commitment. They derived a Cronbach alpha of 0.94 for organisational commitment. Buitendach and De Witte (2005) reported a Cronbach alpha of 0.65 for affective commitment using the OCS in their research on the correlation between job factors and organisational commitment. Research by Bosman *et al.* (2005) on job insecurity, burnout and organisational commitment reported Cronbach alphas of 0.87, 0.71 and 0.91 for affective, normative and continuance commitment respectively.

Although a figure above 0.70 is regarded as sufficient for demonstrating reliability, the figure for the subscale of normative commitment is extremely close to the original figure of Nunnally and Bernstein (1994). The Cronbach alpha for the subscale of normative commitment is 0.69, which is below Nunnally and Bernstein's figure (1994), but can still be deemed to indicate adequate reliability. This figure is also reflected in the results on the Cronbach alpha based on standardised items (0.69).

This section concludes with the reliability statistics of the OCQ. The next section describes the correlation between the OLQ and the OCQ.

5.3 CORRELATIONS

In this section, the study used the Pearson product-moment correlation coefficient as a common measure to determine the correlation between the two variables (Howell, 1995; Lemke & Wiersma, 1976). The correlation between the OLQ and the OCQ is determined first, followed by the correlation between the two constructs and the various biographical data in the form of age and tenure.

5.3.1 Correlations between the OLQ and the OCQ

The next table shows the correlations between the subscales of the OLQ and OCQ.