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**The impact of knowledge task offshoring on the employment  
relationship of knowledge workers**

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Master of Business Administration.

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## **Abstract**

Organisations worldwide are continuing to offshore more and more of their work tasks across national boundaries, to countries with lower labour costs. These offshored tasks, which were performed by local knowledge workers in the past, now also include activities like research, development, and innovation.

In a time where growth industries are those with the highest degree of knowledge work, and the most profitable organisations are those with the most knowledge workers, the importance of retaining these valuable resources by ensuring a healthy employment relationship cannot be over emphasised.

The purpose of this study was to investigate the impact that knowledge task offshoring has on the employment relationship of knowledge workers. A quantitative research methodology was followed, and the responses of 85 individuals were examined through the theoretical lenses of the psychological contract, organisational commitment, turnover intention and job insecurity.

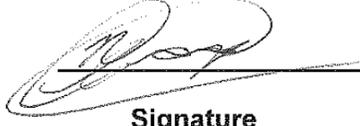
The main findings of the research was that offshoring resulted in higher levels of perceived psychological contract breach and violation scores, while it did not have any negative impacts on the scores for job security, turnover intention, organisational commitment or perceived employer or employee obligations associated with the psychological contract.

## **Keywords**

Offshoring, Knowledge worker, Psychological Contract, Organisational Commitment, Turnover intention, Job Insecurity

## Declaration of Research Originality

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

<u>NL DE LANGE</u>		<u>11/11/2013</u>
Name	Signature	Date

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To our one and only God, who's been present with me through every second of this...

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## Chapter 1 – Introduction to Research Problem

### 1.1 *Background to Research Problem*

During the 1960's, firms from the United States began to relocate blue collar manufacturing activities to low cost countries such as Singapore and South Korea (Jensen, Larsen & Pedersen, 2013). This economic phenomenon, called offshoring, has travelled up the value chain, where it today covers manufacturing, back office operations and services, research and development, and also the sphere of innovative activity (Bardhan, 2006).

Due to revolutionary advances in communications technology, it has become increasingly viable for organisations to separate task in time and space, which has today caused a boom in the offshoring of tasks (Grossman & Rossi-Hansberg, 2008). In the current global context, there are multiple organisations (national and international), which have started offshoring local knowledge worker tasks to subsidiaries in lower labour cost nations, like India, China, and South-East Asian nations.

Davenport (2005) summarised the role of knowledge work as a critical success factor in today's economy, while Waters and Beruvides (2012) stated humankind is now in an economy based mainly on knowledge work.

Davenport, Thomas, and Cantrell (2002) noted the importance of knowledge work as the heart of innovation and as being critical to long-term organisational sustainability and growth. Contemporary businesses depend largely on the performance of this knowledge workforce (Drucker, 2002) and gain both regional and global competitive advantage through them (Oltra, 2005).

According to Muo (2013), knowledge workers have overrun the economic environment once dominated by labourers, technical, professional and managerial people, since today, knowledge is the key driver of competitive advantage.

The organisational changes required to offshore tasks are made in a bid to remain competitive in the global market, but according to Aggarwal and Bhargava (2009), organisational changes have an impact on the employment relationship.

Geishecker, Riedl and Frijters (2012) found that high-skilled (knowledge) workers are more sensitive to offshoring, although their objective job loss risk is lower relative to

low-skilled workers. They argued that this reflects the fact that high skilled workers have more to lose from unemployment (Geishecker et al., 2012).

Lewin and Cuoto (2007) argued that offshoring might provoke internal resistance, and Levina and Vaart (2008) found it might also hamper operational efficiency due to lack of trust, status differences between domestic and foreign units, and lack of understanding and communication in the process of delivering tasks, and interacting with offshore operations.

According to Mir, Mir and Bapuji (2007), little attention has been paid in the past to the issues of inequality in exchange, which occurs on a routine basis in the post-offshoring employment landscape, or of the role of offshoring in the perpetration of unfair labour practices in the West as well as the Third World.

Zhao, Wayne, Glibkowski and Bravo (2007) suggested that the psychological contract (PC) plays an important role in helping to define and understand the contemporary employment relationship and Freeze and Schalk (2008) stated the PC shapes the employment relationship and governs behaviour within this relationship.

According to Restubog, Bordia, Tang and Krebs (2010), the PC and organisational commitment help establish overall performance of employees in both the short and long term.

Research has shown that when an employee feels the organisation is not delivering on his/her expectations, they may lead to consequences, such as absenteeism, turnover intention, job dissatisfaction and reduced performance (Schalk & Roe, 2007).

According to De Cuyper and De Witte (2007), job insecurity is a symptom of impaired quality of the employment relationship for permanent workers, while De Cuyper and De Witte (2006) found job security is considered an important criterion against which the employment relationship is evaluated for those holding relational PCs.

## **1.2 Definition of Research Problem**

The business process of offshoring is being used more and more by large organisations as a means of cost reduction, access to talent in foreign markets and development of foreign markets (Contractor, Kumar, Kundu & Pedersen, 2010).

Offshoring practices have however shifted from the traditional labour intensive manufacturing activities to more knowledge intensive service activities and tasks (Jensen et al., 2013), due to rapid advancement of communication technologies (Jensen & Pedersen, 2012). These knowledge intensive areas include higher value

added areas, like research, development and innovation activities (Bardhan, 2006) that were previously performed by local knowledge workers.

Since any organisational changes impacts on the employment relationship of workers (Aggarwal & Bhargava, 2009), and since offshoring requires a large amount of organisational changes to disaggregate activities (Lewin & Cuoto, 2007), the argument that offshoring influences the employment relationship of workers cannot be ignored.

In this day and age, knowledge workers have become primary creators of wealth and jobs (Mustapha & Daud, 2012) and the growth industries are generally those with the highest degree and quality of knowledge work, and the most profitable organisations are those with larger proportions of knowledge workers (Davenport, 2005).

Knowledge workers are considered more important than any other assets and critical for the long term success of organisations (Mustapha & Daud, 2012), and therefore it is invaluable for organisations to retain these valuable assets. The best way of doing this, is by understanding this employment relationship between an organisation and a knowledge worker better, and by ensuring that it remains healthy.

### **1.3 Objectives of Research**

The primary objective of this research was to gain an understanding of the impact that knowledge task offshoring has on the employment relationship of knowledge workers. Since a preliminary literature review revealed that the employment relationship were related to components and constructs like the PC, organisational commitment, job insecurity and turnover intention, the primary objective was subdivided into secondary objectives as follows:

- To gain an understanding of the impact that knowledge task offshoring has on the PC of knowledge workers;
- To gain an understanding of the impact that knowledge task offshoring has on the job insecurity of knowledge workers;
- To gain an understanding of the impact that knowledge task offshoring has on the organisational commitment of knowledge workers;
- To gain an understanding of the impact that knowledge task offshoring has on the turnover intention of knowledge workers.

In fulfilling these objectives, the research should assist organisations to improve their understanding of the employment relationship between them and their knowledge

workers, especially when the business process of offshoring is planned or has been implemented.

#### **1.4 Scope of Research**

Due to geographic and cultural limitations of the research, the scope of this research was limited to knowledge workers within the country of South Africa.

#### **1.5 Relevance of Research**

The business process of offshoring is a very relevant business process all over the world today, and the knowledge economy and value that knowledge workers add to economies are well known. Very little academic research has however been done on the actual effect that offshoring has on the employment relationship, and even less on the employment relationship of knowledge workers in particular. This research should fill a small part of this gap in academic research and should pose useful findings and recommendations for future research on this topic.

## Chapter 2 – Literature Review

### 2.1 Offshoring

#### 2.1.1 Origin and definitions

The organisational process of offshoring originated in the 1960's, when firms from the United States began to relocate blue collar manufacturing activities to low labour cost countries such as Singapore and South Korea (Jensen et al., 2013). This economic phenomenon has however travelled up the value chain, and today covers the full range of operations, from manufacturing, back office operations and services, to ever higher value added areas, also including research and development as well as the sphere of innovative activity (Bardhan, 2006).

Today, offshoring is seen as a common international business phenomenon, in which firms relocate disaggregated organisational activities to foreign locations (Contractor et al., 2010; Lewin, Massini & Peeters, 2009).

Bardhan (2006) defines offshoring as the intra-firm transfer of production to foreign affiliates and subsidiaries of local organisations, with the objective of exporting the output back to the local organisation. He defines foreign outsourcing (offshore outsourcing) as arm's length sourcing from foreign suppliers (Bardhan, 2006).

In much literature, the terms offshoring, outsourcing and offshore outsourcing are used interchangeably. For the purpose of this study, these terms are differentiated as suggested by Agerfalk & Fitzgerald (2008):

**Offshoring** - When an activity is offshored, it is performed in a different location to the main operation (all about location).

**Outsourcing** - When an activity is outsourced, it is performed by another organisation, as opposed to by the organisation itself (all about governance).

*Table 2.1.1: Offshoring versus outsourcing (Agerfalk & Fitzgerald, 2008)*

	In-House	Outsourced
Onshore	Traditional business	Subcontractor in the same location
Offshore	Foreign branch of the same company	Subcontractor in a foreign location

As shown in the table above, an activity can be performed offshore or onshore, and can be performed in-house or be outsourced (Agerfalk & Fitzgerald, 2008). Within the context of this study, the term “offshoring” will refer to activities with characteristics as shown in the bottom left corner (in-house-offshoring) of the table. This means using foreign branches of the same organisations to perform certain functions or tasks.

### **2.1.2 Motivations for offshoring**

According to Contractor et al. (2010), the new strategic thinking involved with offshoring accepts the notion that even large organisations can no longer rely on their own internal resources alone, not even for critical or core functions. Through offshoring, organisations, therefore, hope to simultaneously cover three strategic needs (Contractor et al., 2010):

- (a) Cost reductions;
- (b) Access to knowledge and talented people in other nations;
- (c) Development of foreign markets.

Lewin et al. (2009) found that Western firms are increasingly offshoring activities due to domestic shortage of qualified personnel and Bardhan (2006) suggested that offshoring is usually exercised as a lumpy cost cutting procedure during times of distress and downturns.

Ranjan (2013) argued that a decrease of local wages due to offshoring is anecdotal evidence that one of the key motivations for offshoring is to reduce bargaining power of workers and their unions.

According to Contractor et al. (2010) the following factors enable firms to relocate more and more tasks and activities to more distant and preferable locations:

- An intensified global competitive landscape;
- Liberalisation of trade and investment regimes;
- Dramatic drop in transport, data transmission and tariff costs;
- Dramatic drop in IT costs;
- Domestic shortages of skilled technological and managerial personnel;
- Accelerated rates of technological change;
- Greater codification of corporate knowledge.

### **2.1.3 Evolution towards knowledge work**

According to Lewin et al. (2009), a central observation from literature is that offshored activities have evolved over time to largely encompass activities and tasks that are highly valuable and critical to the offshoring organisation. Jensen et al. (2013) argued that offshoring practice had shifted from the sole relocation of labour-intensive manufacturing activities, to also encapsulate more knowledge-intensive business service activities.

According to Jensen and Pedersen (2012), the rapid advancement of communication technologies and the increase in competition due to globalisation has consequently enabled firms to target service activities like information technology, and more complex and higher value added tasks such as innovation and product development.

### **2.1.4 Impacts of offshoring**

According to Geishecker et al. (2012), economists have generally supported the development of offshoring due to gains from specialisation, but the rise of international trade and offshoring has been accompanied by growing public anxiety about job security.

Mir et al. (2007) argued that two key observations need to be made about the phenomenon of offshoring; (a) it has functioned as a powerful signifier to reduce the bargaining power of the workforce and (b) it has been ideologically portrayed by most as natural and inevitable, and as a means that lead to prosperity for industrialised and developing countries alike.

Baumgarten, Geishecker and Holger (2013) found that within industry, the impact of offshoring on individual wages to be low or non-existent, while cross-industry impact of offshoring on individual wages to be substantially negative for low and high skilled workers.

According to Bardhan (2006), the offshoring of research and development, innovation and services, impacted local white-collar jobs, and was more suited to nations with low labour costs and availability of skilled scientific talent (currently India, China, Russia), while the offshoring of manufacturing impacted local blue collar workers, and was more suited to nations with only low labour costs (currently South-East Asia).

Mir et al. (2007) suggested that there is a major debate on the broader consequences of offshoring in several forums with claims of value creation for

national economies as well as counter claims of destruction of national economy. According to Janssen and Van Yperen (2004), at the heart of this debate, lies the unease about the transforming relationship between employees and organisations.

According to a study done by King (2008) on offshoring, the biggest organisational issues identified by academics related to the strategic organisational implications of offshoring. These implications were outlined as the impact of offshoring on the client (local) organisations' ability to learn, the impact of offshoring on the client organisations' knowledge and the impact of offshoring on the organisations' ability to be competitive (King, 2008). Another high-ranking issue found by the study, was what impact offshoring had on the retention of critical core competencies within the firm (King, 2008).

### **2.1.5 Offshoring and the employment relationship**

To use offshoring as a strategy, organisations are required to disaggregate their activities and tasks so they can move them to foreign locations (Lewin et al., 2009). This disaggregation requires major organisational changes, and according to Aggarwal and Bhargava (2009), any organisational changes has an impact on the employment relationship of workers.

Lewin and Cuoto (2007) argued that offshoring may provoke internal resistance, and Levina and Vaart (2008) found it might also hamper operational efficiency due to lack of trust, status differences between domestic and foreign units, and lack of understanding and communication in the process of delivering tasks and interacting with offshore operations.

Geishecker et al. (2012) found that high-skilled workers are more sensitive to offshoring although their objective job loss risk is lower relative to low-skilled workers. They argued that this reflects the fact that high skilled workers have more to lose from unemployment (Geishecker et al., 2012).

Mir et al. (2007), argued an offshoring firm reduces its local workforce, and also found that the attitude toward the changing corporate workplace is one of diminishing voice and enforced exits for post-offshoring workers, which leads to a decrease in affective commitment to the organisation.

## 2.2 The Psychological Contract

### 2.2.1 Origin and definition

Chris Argyris was the first to use the term psychological work contract to describe an embeddedness of the power of perception and values held by both parties to an employment relationship (Cullinane & Dundon, 2006). After many elaborations by academics on the theme, Rousseau (1995) introduced the most widely accepted definition of the PC as:

*“The psychological contract is individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization”* (Rousseau, 1995 p. 9).

Throughout literature, there are two views of the PC. Freeze and Schalk (2008) present these views as follows:

- Unilateral view – The PC is an individual’s belief of the mutual expectations and obligations in the context of a relationship with another party.
- Bilateral view – The PC is the beliefs of expectations and obligations of both parties in a relationship.

Within an organisation, the unilateral view would therefore entail the employee’s perspective on organisational expectations and obligations, within the employment relationship, while the bilateral view would entail the employer as well as employee’s perceptions on exchange obligations in the employment relationship.

Furthermore, according to Freeze and Schalk (2008), the unilateral view is preferable when measuring the PC since:

- Measuring the PC based on the bilateral view is problematic, since the organisation consists of many actors (senior management, middle management, etc.) who do not necessarily communicate a uniform set of expectations;
- It is impossible for an employee’s behaviour to be affected by the employee’s own and employer’s own perceptions of obligations of each other, when the employee is not aware of differences in perception (since the definition of the PC implies that the PC influences behaviour).

For this reason, the unilateral view of the PC was utilised for the purpose of this study.

### 2.2.2 Key features of the psychological contract

According to Conway and Briner (2005), the key features of the PC can be summarised as follows:

- The PC is based on beliefs or perceptions. Different individuals will have potentially different conceptions of what the PC actually entails;
- The PC is implicit rather than explicit. It is inferred from the promises made or implied by the organisation or the employee;
- The PC is based on perceived agreement rather than an actual agreement. Employees and managers will therefore often disagree about the content of the PC;
- The PC is based on an exchange and is therefore founded on the principle of reciprocity. The implied promise to behave in a certain way at work, is conditional on the other party providing something as part of the deal;
- The PC is on-going and evolving. Unlike a written legal contract that might be set for a specific period, the terms of the PC are being continually re-written as the parties interact.

### 2.2.3 Types of psychological contracts

Rousseau (1995) defined the following types of PCs:

- **Relational PC** - This type of contract is established when there are long-term employment arrangements based upon mutual trust and loyalty. In this situation, rewards are only loosely conditioned on performance and are derived from membership and participation in the organisation.
- **Balanced PC** - This type of contract is established when there exists dynamic and open-ended employment arrangements, which are conditioned on economic success of firm and worker opportunities to develop career advantages. In this situation, both worker and firm contribute highly to each other's learning and development, and rewards to workers are based upon performance and contributions to firm's comparative advantages.
- **Transactional PC** – This type of contract is established when there exists employment arrangements with a short-term or limited duration, which are primarily focused upon economic exchange. In this situation, workers only

perform specific and narrow duties and have limited involvement in the organisation.

- **Transitional PC** – This is not a PC form itself, but a status reflecting the consequences of organisational change that are at odds with a previously established employment relationship.

#### **2.2.4 The psychological contract and the employment relationship**

Rousseau (1995) stated that the PC is an important constitutive element of the employment relationships between employees and their organisation and according to Freeze and Schalk (2008) the PC shapes the relationship and governs behaviour within this relationship. Zhao et al. (2007) suggested that the PC plays an important role in helping to define and understand the contemporary employment relationship.

Tekleab, Takeuchi and Taylor (2005) suggested a better understanding of the PC might help organisations to effectively manage human resources and thereby gain competitive advantage. Furthermore, understanding the PC is a means for enhancing conception of employee relationships and the effective management of employees (Rousseau, 2004).

Freese, Schalk and Croon (2011) stated that the PC is affected when organisational changes are implemented, while Bligh and Carsten (2005) believe that PCs are critical for understanding employee reactions to change. Wocke and Sutherland (2008) suggested that the PC can be useful to measure and describe the impact of changes on the relationship that employers have with their employees.

Schalk and Roe (2007) suggested that PCs can be breached or violated and can be abandoned or deserted, and according to Conway and Briner (2005), PCs also influence employee commitment to their work and therefore their organisation.

According to Tekleab et al. (2005) the exchange relationship between employees and their organisations has proven to be a significant predictor of important employee attitudes and behaviours, including job satisfaction, organisational commitment, organisational citizenship behaviour, intention to leave and many others.

### **2.2.5 Psychological contract breach**

Robinson and Morrison (2000) suggested that PC breach refers to the cognition that one's organisation has failed to meet one or more obligations within one's PC. Conway and Briner (2005) stated PC breach captures employees perceptions of the extent to which the employer has failed to fulfil one or more of its obligations.

Parzefall and Coyle Shapiro (2011) suggested that how employees respond to PC breach, is influenced by the quality of the relationship that the employee has with the organisation and its agents (managers etc.).

According to Restubog, Bordia and Tang (2006), depending on the severity of the breach and the nature of the PC, a PC breach may cause employees to withhold their contributions or change their behaviour towards the organisation.

Parzefall and Coyle-Shapiro (2011) stated that empirical studies have proven downward adjustments in various employee emotions, attitudes and behaviours following the experience of PC breach. These include organisational commitment (Lester, Turnley, Bloodgood, & Bolino, 2002), increased turnover (Maertz & Griffeth, 2004), and reduced organisational citizenship and in-role behaviours (Turnley, Bolino, Lester & Bloodgood, 2003).

The negative outcomes of PC breach can however be mitigated by employee trust in the employer (Parzefall & Coyle-Shapiro, 2011), by the level of organisational support (Dulac, Coyle-Shapiro, Henderson & Wayne, 2008), and by support from supervisors and mentors (Zagenczyk, Gibney, Kiewitz & Restubog, 2009).

According to Parzefall and Coyle-Shapiro (2011), employees may however also arrive at a verdict of PC breach as a result of continuous minor events that alone were inefficient to trigger breach perceptions. Rigotti (2009) concluded that employees have a certain zone of acceptance for employer behaviour that violates their expectations, before their PC is breached.

Dulac et al. (2008) stated that if working conditions are satisfactory, employees will downplay their breach perceptions. Parzefall and Coyle-Shapiro (2011) suggested this illustrates how working conditions may buffer the organisation against the employee matching the PC breach by a counterbalancing employee breach.

### **2.2.6 Psychological contract violation**

Zhao et al. (2007) stated that PC violation is the emotional response that may arise from PC breach. Robinson and Morrison (2000) suggested that it refers to the emotional and affective state that may follow from the belief that one's organisation

has failed to adequately maintain the PC. This state would include emotional distress, feelings of betrayal, anger and wrongful harm (Coyle-Shapiro & Parzefall, 2008).

According to Coyle-Shapiro and Parzefall (2008), it is possible for an individual to recognise a PC breach has occurred, while not to experiencing feelings related to PC violation. Robinson and Morrison (2000) furthermore suggested that if an employee blames their organisation for a perceived PC breach, feelings of PC violation will be less intense if the employee feels that he or she was treated with fairness, honesty and respect.

Marks (2001) concluded that PC violation result in negative attitudinal outcomes for employees and it would be difficult for an organisation to restore the relationship with such an employee. According to Grimmer and Oddy (2007), research indicates that the perception of PC violation is also associated with lower organisational commitment and trust.

Conway and Briner (2005) suggested that empirical research shows a host of possible outcomes of PC violation, such as higher turnover, lower trust, lower job satisfaction, higher neglect and lower commitment to the organisation. Lo and Ayree (2003) also found that PC violations negatively associated with trust and employees intention to stay with their employer.

### **2.3 Organisational Commitment**

The concept of organisational commitment has received a great deal of attention in the literature in recent years, due to its importance to organisational success (Dunn, Dastoor & Sims, 2012), and attainment of high levels of workforce commitment is seen as a significant goal of human resource management (Geare, Edgar, & McAndrew, 2006).

Organisational commitment is defined as a strong identification with and involvement in the organisation and it is reflected by the employee's acceptance of organisational goals, willingness to work hard for the organisation and the desire to stay with the organisation (Knights & Kennedy, 2005).

Schalk and Roe (2007) suggested that when an employee is committed to the organisation, they will automatically act to the benefit of the organisation while Robbins, Judge, Odendaal and Roodt (2009) stated that organisational commitment is also strongly related to job performance.

Marks (2001) concluded that there is a significant and direct relationship between organisational commitment and the PC, while D'annunzio-Green and Francis (2005) found that a relational PC constitutes a mutual interdependence between the organisation and employee, and is associated with a high level of organisational commitment.

Benson (2006) suggested that a relational PC seems to be very similar to a high level of organisational commitment, while Lester, Turnley, Bloodgood, and Bolino (2002) stated that studies have indicated a strong correlation between PC breach and lower organisational commitment.

De Clercq and Rius (2007) reasoned that employees' commitment and effort are crucial for organisations, since work attitudes and behaviour have an important effect on the organisations long-term success and viability while Restubog et al. (2010) indicated that organisational commitment and the PC help establish overall performance of employees in both the short and long term.

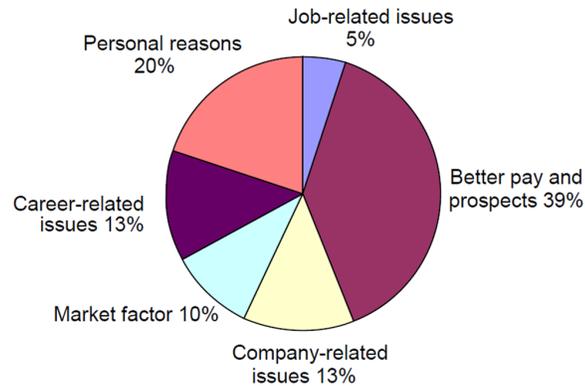
## **2.4 Turnover Intention**

In order for a firm to be successful, it is in the interest of the firm to retain its employees and minimise turnover as well as to maximise the commitment and effort each individual devotes to the organisation (De Clercq & Rius, 2007).

According to Schyns, Torka and Gössling (2007), turnover intention is defined as an employee's intention to voluntarily change jobs or organisations. Research has shown that when an employee feels the organisation is not delivering on his/her expectations, they may lead to consequences, such as absenteeism, turnover intention, job dissatisfaction and reduced performance (Schalk & Roe, 2007).

Freese et al. (2011) concluded that one of the assumed reactions to PC violation is the intention to leave the organisation, or actual turn over, since withdrawal is a way to resolve perceived inequities that exist in the employment relationship.

**Figure 2.4.1: Reasons for knowledge worker turnover (Horwitz, Heng & Quazi, 2003)**



The figure by Horwitz, Heng and Quazi (2003), gives an indication of why knowledge workers tend to turn over or leave their organisations. Even though better pay and prospects, amounted to the largest number of cases (39%), the number of cases associated with company-related issues, job related issues and career-related issues, gives evidence that knowledge worker turnover is largely affected by issues relating to the employment relationship between the knowledge worker and the organisation.

## 2.5 Job Insecurity

According to Benson (2006), it has been common wisdom since the 1990's, that mergers, re-engineering and downsizing, which are now commonplace in organisations, have led to uncertainty in job security for employees. This is since these situations undermine the traditional employment relationship in which employees exchange commitment and loyalty to an organisation for a credible promise of long-term employment (Benson, 2006).

According to Sverke and Goslinga (2003), job insecurity has immediate consequences that affect individuals' attitudes and it has long-term consequences that affect an individual's behaviour. Sverke, Hellgren and Naswall (2002) summarised the negative consequences of job insecurity as shown in the table below.

**Table 2.5.1: Consequences of job insecurity (Sverke et al., 2002)**

	Individual Level	Organisational Level
Immediate Effects	Job attitudes (e.g. Low Job Satisfaction)	Organisational attitudes (e.g. Low organisational commitment)
Long Term Effects	Health and well-being (e.g. Low life satisfaction)	Work-related behaviour (e.g. Employee performance)

De Cuyper and De Witte (2007) found that job insecurity reduces job satisfaction and organisational commitment among permanent workers. De Cuyper and De Witte (2006) stated job security is considered an important criterion against which the employment relationship is evaluated for those holding relational PC's, which is generally foremost with permanent workers.

According to De Cuyper and De Witte (2007), job insecurity is a symptom of impaired quality of the employment relationship for permanent workers since it represents an unfavourable change in their PCs. Conway and Briner (2005) found that job insecurity may breach the PC of permanent workers, which is known to be related to job dissatisfaction, reduced organisational commitment, lower life satisfaction and lower job performance. De Cuyper and De Witte (2007) concluded that the PC of permanent workers is likely to include job security and a focus on advancement in the internal labour market as employee entitlements.

According to Benson (2006), organisational commitment and reducing turnover intention are implied goals of policies intended to retain committed employees when job security cannot be guaranteed.

## **2.6 Knowledge Work**

According to Waters and Beruvides (2012), humankind is now in an economy based mainly on knowledge work. The knowledge economy can be described as one in which there is an increased reliance on knowledge and innovation to develop new products and services (Waddock, 2007). Davenport et al. (2002) noted the importance of knowledge work as the heart of innovation and as being critical to long-term organisational sustainability and growth. Davenport (2005) summarised the role of knowledge work as a critical success factor in today's economy, and encourage people not to ignore the effectiveness and productivity of knowledge work.

According to Reinhardt, Schmidt, Sloep & Drachsler (2011), the main feature differentiating knowledge work from conventional work is, is that the basic task of knowledge work is thinking. Even though all types of jobs entail a mix of physical, social and mental work, it is the perennial processing of non-routine problems that require non-linear and creative thinking, which characterise knowledge work (Reinhardt et al., 2011).

According to Pyöriä (2005), the notion of knowledge work is highly controversial and often remains ill defined. He states it is best understood when defined as an ideal type

of work, as shown in the below table in comparison with an ideal type of traditional work (Pyöriä, 2005).

*Table 2.6.1: Ideal types of traditional and knowledge work (Pyöriä, 2005)*

	<b>Traditional work</b>	<b>Knowledge work</b>
<b>Education</b>	Requires some formal education and on-the-job learning	Requires extensive formal education and continuous on-the-job learning
<b>Skills</b>	Strictly defined skills	Transferable skills
<b>The nature of work</b>	High level of standardisation, involves working with physical matter either directly or indirectly through electronic interfaces (e.g. control of production processes)	Low level of standardisation, involves working with abstract knowledge and symbols (e.g. design and planning of production processes)
<b>Organisation</b>	Ranges from bureaucracy to teams, fixed roles and positions, knowledge as a secondary production factor	Ranges from professional bureaucracies to self-managing teams, job and task circulation, knowledge as a primary production factor
<b>The medium of work</b>	Physical materials and/or people	Symbols and/or people

According to Davenport (2005), growth industries and firms that are most profitable are generally those with the highest degree and quality of knowledge work and with larger proportions of knowledge workers.

## **2.7 The Knowledge Worker**

According to Reinhardt et al. (2011), Peter Drucker coined the concept of knowledge worker in his 1959 book 'The Landmarks of Tomorrow'. Collins (1997) defined knowledge workers as workers who utilize their brains more than their hands to produce value, as workers with flexibility, innovation, and independence skills, with know-how to access information, interpret it, use it, and have the ability to multi-task. Examples of knowledge workers include scientists, engineers, attorneys, physicians, and accountants (Collins, 1997).

Lee-Kelley, Blackman and Hurst (2007) stated that the value of knowledge workers lies in their ability to use, share and convert knowledge into new ideas, products and services.

According to Muo (2013), knowledge workers have overrun the economic environment once dominated by labourers, technical, professional and managerial people, since today, knowledge is the key driver of competitive advantage. Contemporary businesses depend largely on the performance of the knowledge workforce (Drucker,

2002) and gain both regional and global competitive advantage through them (Oltra, 2005).

Organisations realise their competitive advantage using knowledge and innovation, created and stored in the minds of their knowledge workers (Deng, 2008). Mustapha and Daud (2012) stated the human capital of knowledge workers is considered more important than any physical or capital assets and is critical for survival and long-term success of the organisation.

Reinhardt et al. (2011) defined a typology of knowledge actions and a typology of knowledge worker roles, which are performed by knowledge workers at work. The tables below also indicate the interrelationship between the knowledge actions and roles.

*Table 2.7.1: Typology of knowledge actions (Reinhardt et al., 2011)*

<b>Knowledge action</b>	<b>Description</b>
Acquisition	Gathering of information with the goal of developing skills or project or obtaining an asset.
Analyse	Examining or thinking about something carefully, in order to understand it.
Authoring	Creation of textual and medial content using software system, for example, word processing systems/ presentation software.
Co-authoring	Collaborative creation of textual and medial content using software applications, for example, word processing systems/ presentation software.
Dissemination	Spreading information or information objects, often work results.
Expert Search	Retrieval of an expert to discuss and solve a specific problem.
Feedback	Assessment of a proposition or an information object.
Information organisation	Is the personal or organisational management of information collection.
Information search	Looking up information on a specific topic and in a specific form. Often we search using the folder structure of a file system or we search using an information retrieval service.
Learning	Acquiring new knowledge, skills or understanding during the execution of work or based on formalized learning material.
Monitoring	Keeping oneself or the organisation up-to date about selected topics, for example, based on different electronic information resources.
Networking	Interacting with other people and organisations to exchange information and develop contacts.
Service search	Retrieval of specialized web services that offer specific functions, for example, a translation service.

**Table 2.7.2: Typology of knowledge worker roles (Reinhardt et al., 2011)**

Role	Description	Typical knowledge actions (expected)
Controller	People who monitor the organisational performance based on raw information.	Analyse, dissemination, information organisation, monitoring
Helper	People who transfer information to teach others, once they passed a problem.	Authoring, analyse, dissemination, feedback, information search, learning, networking
Learner	People use information and practices to improve personal skills and competence.	Acquisition, analyse, expert search, information search, learning, service search
Linker	People who associate and mash up information from different sources to generate new information.	Analyse, dissemination, information search, information organisation, networking
Networker	People who create personal or project related connections with people involved in the same kind of work, to share information and support each other.	Analyse, dissemination, expert search, monitoring, networking, service search
Organizer	People who are involved in personal or organisational planning of activities, e.g. to-do lists and scheduling.	Analyse, information organisation, monitoring, networking
Retriever	People who search and collect information on a given topic.	Acquisition, analyse, expert search, information search, information organisation, monitoring
Sharer	People who disseminate information in a community.	Authoring, co-authoring, dissemination, networking
Solver	People who find or provide a way to deal with a problem.	Acquisition, analyse, dissemination, information search, learning, service search
Tracker	People who monitor and react on personal and organisational actions that may become problems.	Analyse, information search, monitoring, networking

According to Mustapha and Daud (2012), knowledge workers have become primary creators of wealth and jobs. The intellectual ability of knowledge workers to understand, analyse, synthesise and evaluate information in complex, dynamic and unpredictable environments would undoubtedly create firms value and new opportunities (Horwitz, Heng, Quazi, Nonkelo, Roditi & Van Eck, 2006)

According to Somaya and Williamson (2008), knowledge workers are renowned to be the most mobile type of workers and their retention within an organisation is difficult to maintain. Mustapha and Daud (2012) stated that the commitment of knowledge workers is more occupationally motivated than what they are organisationally motivated.

## Chapter 3 – Research Hypotheses

As stated in chapter 1, the main objective of this research was to improve the understanding of the impact that knowledge task offshoring has on the employment relationship of the knowledge worker.

From the literature review, it was found that the business process of offshoring is being used more frequently by large organisations as a means of costs reduction, access to talent in foreign markets and development of foreign markets (Contractor et al. , 2010).

Offshoring practices have however shifted from the traditional labour intensive manufacturing activities to more knowledge intensive service activities (Jensen et al., 2013). These knowledge intensive service areas include higher value added areas, like research, development and innovation activities (Bardhan, 2006) which were previously performed by local knowledge workers.

Since any organisational changes impacts on the employment relationship of workers (Aggarwal & Bhargava, 2009), and since offshoring requires a large amount of organisational changes to disaggregate activities (Lewin & Cuoto, 2007), an argument that offshoring influences the employment relationship of workers cannot be ignored.

In this day and age, knowledge workers have become primary creators of wealth and jobs (Mustapha & Daud, 2012). Growth industries are generally those with the highest degree and quality of knowledge work, and the most profitable organisations are those with larger proportions of knowledge workers (Davenport, 2005).

Knowledge workers are considered more important than any other assets and critical for the long term success of organisations (Mustapha & Daud, 2012), and therefore it is invaluable for organisations to retain these valuable assets. The best way of doing this, is by understanding this complex employment relationship better and ensuring that it remains healthy.

Further to this evidence, the following literature relating to the employment relationship was found:

### **3.1 Hypothesis 1a, 1b, 1c, 1d & 1e**

Rousseau (1995) stated that the PC is an important constitutive element of the employment relationships between employees and their organisation and according to Freeze and Schalk (2008), the PC shapes the relationship and governs behaviour within this relationship. Zhao et al. (2007), furthermore suggested that the PC plays

an important role in helping to define and understand the contemporary employment relationship.

Furthermore, understanding the PC is a means for enhancing conception of employee relationships and the effective management of employees (Rousseau, 2004).

Bligh and Carsten (2005) believe that PCs are critical for understanding employee reactions to change and according to Wocke and Sutherland (2008), the PC can be useful to measure and describe the impact of changes on the relationship that employers have with their employees. Freese et al. (2011) stated that the PC is affected when organisational changes are implemented.

Robinson and Morrison (2000) suggested that PC breach refers to the cognition that one's organisation has failed to meet one or more obligations within one's PC. Conway and Briner (2005) stated PC breach captures employees perceptions of the extent to which the employer has failed to fulfil one or more of its obligations. Zhao et al. (2007) stated that PC violation is the emotional response that may arise from PC breach.

Considering the prevalence of offshoring in the sphere of knowledge work, the importance of the employment relationship of knowledge workers, this evidence that the PC is related to this employment relationship, and considering the unilateral view of the PC (Freeze & Schalk, 2008), the following was hypothesised:

### **Hypothesis 1a**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

### **Hypothesis 1b**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive lower levels of employee obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

### **Hypothesis 1c**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive a bigger difference between employee obligations and employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

**Hypothesis 1d**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract breach, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

**Hypothesis 1e**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract violation, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

**3.2 Hypothesis 2**

Geishecker et al. (2012) stated economists have generally supported the development of offshoring due to gains from specialisation, but the rise of international trade and offshoring have been accompanied by growing public anxiety about job security.

According to De Cuyper and De Witte (2006) job security is considered an important criterion against which the employment relationship is evaluated for those holding relational PC's, which is generally foremost with permanent workers.

Conway and Briner (2005) found that job insecurity may breach the PC of permanent workers, which is consistent with the argument of De Cuyper and De Witte (2007) which stated that the PC of permanent workers is likely to include job security and a focus on advancement in the internal labour market as employee entitlements.

Considering the prevalence of offshoring in the sphere of knowledge work, the importance of the employment relationship of knowledge workers, and this evidence that job insecurity is related to the employment relationship, the following was hypothesised:

*Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of job insecurity, than knowledge workers who work for organisation, which do not offshore knowledge tasks.*

**3.3 Hypothesis 3**

Knights and Kennedy (2005) defined organisational commitment as a strong identification with and involvement in the organisation and which is reflected by the employee's acceptance of organisational goals, willingness to work hard for the organisation and the desire to stay with the organisation.

To be successful, it is in the interest of an organisation to retain its employees and minimise turnover as well as to maximise the commitment and effort each individual devotes to the organisation (De Clercq & Rius, 2007). Restubog et al. (2010) found the PC and organisational commitment help establish overall performance of employees in both the short and long term.

Mir et al. (2007) found that the attitude toward the changing corporate workplace is one of diminishing voice and enforced exits for post-offshoring workers, which leads to a decrease in affective commitment to the organisation.

Considering the prevalence of offshoring in the sphere of knowledge work, the importance of the employment relationship of knowledge workers, and this evidence that organisational commitment is related to the employment relationship, the following was hypothesised:

*Knowledge workers, who work for organisations which offshore knowledge tasks, show lower levels of organisational commitment, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

### **3.4 Hypothesis 4**

As mentioned before, it is in the interest of the firm to retain its employees and minimise turnover as well as to maximise the commitment and effort each individual devotes to the organisation (De Clercq & Rius, 2007). However, when an employee feels the organisation is not delivering on his/her expectations, it may lead to consequences, such as absenteeism, turnover intention, job dissatisfaction and reduced performance (Schalk & Roe, 2007).

Furthermore, since withdrawal is a way to resolve perceived inequities that exist in the employment relationship, Freese et al. (2011) concluded that one of the assumed reactions to PC violation is the intention to leave the organisation, or actual turn over

Considering the prevalence of offshoring in the sphere of knowledge work, the importance of the employment relationship of knowledge workers, and this evidence that turnover intention is related to the employment relationship, the following was hypothesised:

*Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of turnover intention, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

## Chapter 4 – Research Methodology

### 4.1 *Research Design*

#### 4.1.1 Study type

To achieve the objectives of this study, a descriptive research strategy was selected instead of a causal or exploratory strategy. According to Saunders and Lewis (2012), a descriptive study produces an accurate representation of people, events or situations. This research type was found to be best suited to the objectives of this particular study, since the research aimed to describe the effect that offshoring has on the following variables, associated with the employment relationships of knowledge workers:

- PC (employer obligations, employee obligations, differences between obligations, breach, violation);
- perception of job insecurity;
- organisational commitment;
- turnover intention.

#### 4.1.2 Data type

According to Saunders and Lewis (2012), descriptive studies can use quantitative or qualitative techniques. Since the research aimed to describe the effect of offshoring on the constructs as mentioned above, the focus of this study could be quantified, and therefore, a quantitative approach was selected.

Zikmund, Babin, Carr, & Griffin (2010) define quantitative research as research that addresses objectives through empirical assessments that involve numerical measurement and analysis.

#### 4.1.3 Research strategy

Saunders, Lewis and Thornhill (2010) stated that a survey strategy allows one to collect quantitative data, and in addition can be used to suggest possible reasons for particular relationships between variables. According to Zikmund et al. (2010), surveys provide a quick, inexpensive, efficient and accurate means of assessing information about a population. Based on these reasons, a survey strategy was selected for the research instrument.

#### **4.1.4 Units of analysis**

According to Zikmund et al. (2010), it is important to define the unit of analysis, as this is the level at which the research would take place. Since an individual employee can most clearly identify the impact of an element on the employment relationship, it was clear that the unit of analysis would be the individual knowledge worker.

#### **4.1.5 Population**

The impact of knowledge task offshoring on the employment relationship of local knowledge workers could best be measured in a population of knowledge workers. This population would include knowledge workers who work for organisations in any country which currently offshore knowledge tasks from that country to another nation, as well as knowledge workers who do not work for organisations which offshore knowledge tasks to other nations.

According to Saunders and Lewis (2012), a population is the complete set of a group of members. Based on this, the population for this research was defined as all permanently employed knowledge workers.

#### **4.1.6 Sampling**

Zikmund et al. (2010) defined a sample as a subset, or some part of a larger population. Saunders and Lewis (2012) defined non-probability sampling as a sampling technique for selecting a sample when the complete list of the population is not known, and purposive sampling as a type of non-probability sampling in which the researcher's judgement is used to select the sample members based on a range of possible reasons or premises.

Since there was no formal list available for the complete population as defined above, it was concluded that a non-probability sampling method would be used. Furthermore, since the researcher himself formed part of the population and was able to judge which knowledge workers would be suitable for the research, a purposive (judgement) sampling technique was employed to ensure that relevant and high quality data was obtained.

To ensure the sample of the population was statistically significant, a minimum of 30 responses had to be collected per differentiable group.

#### **4.1.7 Research instrument**

Saunders and Lewis (2012) state that surveys can take the form of questionnaires, structured observations and structured interviews. According to Conway and Briner (2005), questionnaires were the most commonly used method to examine the PC, which would form a large portion of the survey. Furthermore, due to the sensitive nature of the responses required by the respondents, and the possibility that respondents might alter their actual responses in an interview, observations and interviews were ruled out as possibilities for this research.

Since a questionnaire was the logical choice for the instrument, the different means of distribution was evaluated. A web based survey questionnaire was found to be most appropriate for the research, since it would consume little time, it could be emailed directly to respondents, and could also be distributed through various social networks. Furthermore, since knowledge workers are highly skilled workers, and their daily task usually require the internet, they would have access to the internet to fill out a web-based survey.

SurveyMonkey was used as the web-based platform, and the final questionnaire was sent out to a sample of the population using the sampling method as discussed above. The design of this questionnaire is discussed below.

#### **4.2 Survey Questionnaire Design**

A large part of the PSYCONES questionnaire (European Commission, 2006), as designed for the PSYCONES project, was utilised for the purpose of this study and its associated questionnaire.

The PSYCONES project took place between 2002 and 2005 and involved the collection of data from more than 5 000 permanent and temporary workers employed across six European countries (Sweden, Germany, The Netherlands, Belgium, UK, Spain) and Israel (European Commission, 2006). The aim of the study was to explore the relationship between types of employment contracts and workers' satisfaction and wellbeing, as well as the role of the PC as a potential mediator of this relationship (European Commission, 2006).

The PSYCONES questionnaire is available in the public domain and was published in the final PSYCONES report (European Commission, 2006) as well as in the book relating to the project by Guest, Isaksson and De Witte (2010). The editors of the book gave permission to use the PSYCONES questionnaire provided that the project or the book is referenced in the study.

Since the PSYCONES questionnaire was piloted, no pilot study was performed as part of this research. The PSYCONES questionnaire already contained all of the constructs required for this particular study, and the constructs were already tested and found to be reliable and valid. The sections in the PSYCONES questionnaire that were not required for the purpose of this study, were removed. The reduced questionnaire, as used for this study, is shown in Appendix B.

#### **4.2.1 Section A - General information**

A general information section was developed to gather demographic characteristics of the participants. Although certain questions in this section were derived from the PSYCONES questionnaire, characteristics that would be specific to knowledge workers in particular were also added.

This section of the questionnaire gave participants the option of supplying their age, gender, ethnicity, employment contract type, job classification, profession and duration of employment at their organisation.

Different categorical scales as shown in Appendix B, measured all these characteristics. This particular detail was also used to confirm that each respondent was actually a knowledge worker.

#### **4.2.2 Section B – Offshoring of knowledge tasks**

The offshoring of knowledge task section was developed to ascertain whether or not offshoring forms part of the strategy of the organisation that the respondent works in.

The following question was developed:

B-1) Does your organisation (local office) offshore knowledge tasks to foreign locations (foreign offices) within the greater organisation? (A categorical scale with options of “yes”, “No” and “I don’t know” was used with this question)

#### **4.2.3 Section C – Employer obligations**

The entire “Employer obligations” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006) was utilised for this study questionnaire. This section measured the perceived employer obligations from the employee’s point of view. It consists of 16 items and all items were rated on a seven-point Likert scale from “No” to “Yes, promise fully kept”.

During the PSYCONES project (European Commission, 2006), the “No” option was added to the measurement scale, since each individual would perceive different promises to have or not have been made by his employer. For this reason, not all respondents had a rating for all of the items in this measure, and based on this, the decision was made by the PSYCONES project researchers to omit factor analysis or reliability testing (European Commission, 2006).

A study in South Africa by Keyser (2010), which also utilised the PSYCONES questionnaire, reported a Cronbach alpha coefficient of 0.93 for the employer obligation measure.

#### **4.2.4 Section D – Employee obligations**

The entire “Employee obligations” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006) was utilised for this study questionnaire. This section measured the perceived employee obligations from the employee’s point of view. It consists of 17 items and all items were rated on a seven-point Likert scale from “No” to “Yes, promise fully kept”.

During the PSYCONES project (European Commission, 2006), the “No” option was added to the measurement scale, since each individual would perceive different promises to have or not have been made to by the employee. For this reason, not all respondents had a rating for all of the items in this measure, and based on this, the decision was made by the PSYCONES project researchers to omit factor analysis or reliability testing (European Commission, 2006).

The study in South Africa by Keyser (2010), which also utilised the PSYCONES questionnaire, reported a Cronbach alpha coefficient of 0.93 for the employee obligation measure.

#### **4.2.5 Section E – Psychological contract violation**

The entire “Emotions concerning psychological contract” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006) was utilised for this study. This scale, also known as the PC violation scale, consisted of six items rated on a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”.

The questions focussed on six feelings concerning the employee’s perception of the PC, and showed an average Cronbach alpha coefficient of 0.85 over the seven countries involved in the PSYCONES project (European Commission, 2006). The

lowest Cronbach alpha coefficient obtained across these seven countries was 0.82.

#### **4.2.6 Section F – Psychological contract breach**

The entire “State of the psychological contract” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006) was utilised for this study. This scale, also known as the PC breach scale, consisted of seven items rated on a five-point Likert scale, ranging from “Not at all” to “Totally”.

The measure showed an average Cronbach alpha coefficient of 0.88 over the seven countries involved in the PSYCONES project, while the lowest Cronbach alpha coefficient obtained across these seven countries was 0.83 (European Commission, 2006).

#### **4.2.7 Section G – Organisational commitment**

The entire “Organisational commitment” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006) was utilised for this study questionnaire. This section consisted of four items rated on a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”.

The measure showed an average Cronbach alpha coefficient of 0.72 over the seven countries involved in the PSYCONES project, while the lowest Cronbach alpha coefficient obtained across these seven countries was 0.67 (European Commission, 2006).

#### **4.2.8 Section H – Job insecurity**

The entire “Job insecurity” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006) was utilised for this study questionnaire. This section consisted of 5 items rated on a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”.

The measure showed an average Cronbach alpha coefficient of 0.73 over the seven countries involved in the PSYCONES project, while the lowest Cronbach alpha coefficient obtained across these seven countries was 0.61 (European Commission, 2006).

#### **4.2.9 Section I – Turnover intention**

The entire “Intention to quit” section of the PSYCONES questionnaire, as used during the PSYCONES project (European Commission, 2006), was utilised for this study questionnaire. This section consisted of four items rated on a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”.

This construct measured the desire to leave the organisation, rather than the actual turnover intention, and showed an average Cronbach alpha coefficient of 0.82 over the seven countries involved in the PSYCONES project, while the lowest Cronbach alpha coefficient obtained across these seven countries was 0.79 (European Commission, 2006).

### **4.3 Data Analysis**

The raw data obtained from the web-based platform (SurveyMonkey) had to be coded in the correct format before it could be utilised for any data analysis. After the formatting was completed, the data was imported into a statistical software package called IBM SPSS for further analysis as discussed below.

#### **4.3.1 Response rate**

The response rate of the survey was firstly analysed to ensure that a statistical significant number of responses had been received for the survey. Once this number had been confirmed, further analysis could take place.

#### **4.3.2 Descriptive statistics for the demographic information**

After it was confirmed that enough data had been obtained, the descriptive statistics for the demographic information was analysed as shown in Chapter 5. The statistics was divided according to the groups defined in the demographical question as discussed above. These descriptive statistics was also used to confirm that all respondents were actually knowledge workers and formed part of the greater population.

#### **4.3.3 Validity and reliability of scales**

The validity and reliability of all of the construct scales were tested during the PSYCONES project, and found to be valid and reliable (European Commission, 2006). For the purpose of this study, only the reliability of each scale was retested to ensure the scales were relevant within the context of this study and the data.

The reliability assessment functionality of the SPSS software package was utilised for this purpose. The SPSS Cronbach alpha output of each measure was compared with a value of 0.70 to determine if the measure was reliable within the context of this study. According to Zikmund et al. (2010), a measure or scale is reliable when its associated Cronbach alpha value is greater than 0.70. According to Pallant (2011), the Cronbach alpha coefficient of a scale is a measure of the internal consistency of the items, and provides an indication of the average correlation among all of the items that make up the scale.

Some items of the scales used within the PSYCONES project questionnaire, were also found to be coded negatively to negate response bias. For this reason, these items were identified within the questionnaire, recoded to the positive and analysed accordingly.

After the reliability analysis of each scale was completed and found to be reliable, all the items of each scale were summed together to give a single value for the particular scale that could easily be compared with something else. In this manner, the ordinal format of the data was also converted to a interval format.

#### **4.3.4 Qualifying respondents based on organisational offshoring activities**

As shown in Chapter 3, all of the hypotheses related to this study were set up to compare certain aspects of the employment relationship of knowledge workers, who work for organisations which offshore activities with knowledge workers, who work for organisations which do not offshore activities.

Since the dataset contained data from both groups, the data for the two groups was split using the categorical data obtained from section B of the questionnaire. For the rest of the study, all data was analysed by comparing the two groups defined as follows:

The “**Offshoring**” group consisted of the group of individuals who work for organisations that offshore activities, while the “**Non-Offshoring**” group consisted of the groups of individual who worked for organisations that do not offshore activities.

#### **4.3.5 Hypothesis testing**

Since all the hypotheses defined in Chapter 3 require the comparison of the offshoring group with the non-offshoring group in some or other aspect, it was quite clear that a statistical comparison of the two independent groups was required.

According to Weiers (2008), in situations where the means of two independent groups need to be compared, either a parametric or a non-parametric method can be used. According to Pallant (2011) a suitable SPSS version of this parametric hypothesis test is an independent samples t-test, whereas the suitable SPSS version of this non parametric hypothesis test is a Mann-Whitney U-test.

According to Pallant (2011), it is always better to use parametric tests since they make assumptions about the population from which the sample has been drawn, whereas non-parametric techniques do not have such stringent requirements, and are, therefore, less sensitive and may fail to detect differences between groups.

According to Pallant (2011), parametric tests make the following assumptions about the populations:

- it is assumed that the level of measurement is at the interval or ratio level;
- the data must be independent of one another;
- it is assumed that the populations from which the samples are taken are normally distributed;
- it is assumed that samples are obtained from populations of equal variances.

To evaluate whether a parametric or non-parametric method should be used for a particular hypothesis test, the descriptive statistics for the data related to the specific test was analysed. If the descriptive statistics showed that the specific data conformed to the abovementioned assumptions, the parametric method was used, whereas the non-parametric method was used if it did not conform.

This abovementioned methodology was followed for all hypothesis tests. The detail method used for descriptive statistics is discussed below.

#### **4.3.6 Descriptive statistics used for statistical test selection**

The descriptive statistics of each data set was analysed using SPSS. This analysis included, firstly, assessing the data for presence of outliers, assessment of the skewness and kurtosis of the distributions, graphically assessing the distributions on a comparative histogram, and performing normality tests.

According to Pallant (2011), most of the statistical techniques that can be performed by SPSS, are sensitive to outliers since they negatively affect the results of the techniques. SPSS defines outliers as sample points that extend more than 1.5 box-lengths from the edge of a boxplot (Pallant, 2011). SPSS

indicates these outliers on boxplots with numbered circles. For the purpose of this study, a comparative box plot was used to identify outliers. If an outlier was found to be present in a data set, it was removed and not used for the actual hypothesis test.

According to Pallant (2011), the skewness value of a distribution provides an indication of the symmetry of the distribution, while the kurtosis value provides information about the peakedness of the distribution. According to Tabachnick and Fidell (2007) a distribution is normal, when it has skewness and kurtosis values close to zero, while the following can be derived from higher skewness and kurtosis values:

- Positive skewness values indicate a distribution with a pileup of cases to the left of the distribution with a long tail to the right;
- Negative skewness values indicate a distribution with a pileup of cases to the right of the distribution with a long tail to the left;
- Positive kurtosis values indicate a distribution which is too peaked, with short, thin tails to the left and right;
- Negative kurtosis values indicate a distribution which is too flat, with long tails to the left and right.

A comparative histogram showing the two distributions next to each other was drawn using SPSS. This histogram showed a good graphical representation of the sample distributions, and gave a clear picture of what was found with all the other descriptive techniques.

Normality tests of the distributions were performed using the SPSS Kolmogorov-Smirnov statistic (Pallant, 2011). A sigma value for a distribution that is higher than 0.05, indicates a non-significant result and a normal distribution, while a distribution that is lower than 0.05, indicates a significant result, and a distribution that is not normal (Pallant, 2011).

Since all data was converted from an ordinal to interval level when summated after the reliability analysis, all data conformed to this requirement, and did not have to be re-analysed in these sections of the research. Furthermore, since all responses were independent of each other, this requirement also didn't have to be confirmed. Lastly, since the parametric method used in SPSS had an encapsulated variance test included in the hypothesis test, this was also not included as part of these descriptive statistics.

#### ***4.4 Limitation of Research Methodology***

A large limitation of the research design of this study, was that a cross-sectional sampling approach was used. With a cross sectional design, the employment relationship of a respondent was only measured at one specific point in time. It can be argued that the employment relationship of an individual changes constantly, and that a longitudinal study with multiple sampling frames over a period would have enabled the researcher to show the actual change in the employment relationship to a better degree. Due to time constraints, this approach could however not be followed.

A further limitation of the research design was the purposive (judgement) sampling technique that was implemented. Even though the reason for utilising this approach was to ensure high quality data, it actually diminished the representativeness of the sample and the overall study. This was since mainly knowledge workers within certain geographic regions of South Africa would be represented.

## **Chapter 5 – Results**

### **5.1 Introduction**

In this chapter, the results of the data collection process is presented. This includes the response rates, demographic information, the internal consistency and reliability test results, some descriptive statistics, and the results of the hypothesis tests.

### **5.2 Response Rate**

Since a purposive, non-probability sampling method was used, surveys were sent out to various respondents in various organisations within South Africa. Some of the organisations were involved in offshoring activities while others were not. A total of 150 e-mail requests were sent out, after which several reminders were sent out to these respondents. Out of these 150 requests, 90 responses were received, which gave a response rate of 60%. It should, however, be noted that out of the 90 responses, 5 were discarded as unsuitable, since these respondents did not fill out an adequate amount of the survey to be included in the results. In the end, 85 useable responses were received, for a final response rate of 56.6%.

Of these 85 acceptable responses, 55 (65%) worked for organisations which were involved in offshoring, while 22 (26%) did not work for organisations involved in offshoring activities. A further eight respondents (9%) stated they don't know whether their organisation offshore activities or not.

### **5.3 Demographic Information**

As part of the “General Information” section of the survey, eight questions were asked to collect demographical information about respondents. The descriptive statistics for these responses are shown in the tables below.

In terms of age, the largest percentage of respondents were between the ages of 30 and 39 (52.9%), with a further 34 (40.0%) being between the ages of 20 and 29. The responses by gender were very heavily skewed towards males, with 85.9% of respondents being male. This also gave evidence of the skew in the knowledge industries toward male workers, especially in the engineering and IT fields in South Africa.

Regarding ethnicity, the respondents were very heavily skewed toward the white race. This was attributed to the purposive non-probability sampling method which was used, since the researcher had more contacts within this race.

**Table 5.3.1: Summary of responses for demographical questions (part 1)**

Answer Options	Response Percentage	Response Count
<b>Q1 - What is your age?</b>		
20 to 29	40.0%	34
30 to 39	52.9%	45
40 to 49	3.5%	3
50 +	3.5%	3
<i>Total</i>	100.0%	85
<b>Q2 - What is your gender?</b>		
Female	14.1%	12
Male	85.9%	73
<i>Total</i>	100.0%	85
<b>Q3 - What is your Ethnicity?</b>		
White	90.6%	77
Black	3.5%	3
Coloured	2.4%	2
Indian	3.5%	3
Asian	0.0%	0
<i>Total</i>	100.0%	85
<b>Q4 - What is the highest level of education you have completed?</b>		
Doctorate Degree	4.7%	4
Master's Degree	21.2%	18
Honours Degree	23.5%	20
Bachelor's Degree	38.8%	33
B Tech Degree	3.5%	3
National Diploma	8.2%	7
<i>Total</i>	100.0%	85
<b>Q5 - What is your profession?</b>		
Engineer	76.5%	65
IT Professional	8.2%	7
Analyst	7.1%	6
Accounting Professional	8.2%	7
Scientist	0.0%	0
<i>Total</i>	100.0%	85

**Table 5.3.2: Summary of responses for demographical questions (part 2)**

Answer Options	Response Percentage	Response Count
<b>Q6 - What is your job classification?</b>		
Junior professional	12.9%	11
Skilled professional	47.1%	40
Middle management	25.9%	22
Senior management	14.1%	12
<i>Total</i>	100.0%	85
<b>Q7 - What is your current employment contract type?</b>		
Permanent	91.8%	78
Contract (1 to 6 Months)	1.2%	1
Contract (7 to 12 Months)	1.2%	1
Contract (12 Months +)	5.9%	5
<i>Total</i>	100%	85
<b>Q8 - Duration of employment at current organisation?</b>		
Less than 1 year	8.2%	7
1 to 2 years	14.1%	12
2 to 3 years	18.8%	16
3 to 4 years	16.5%	14
4 to 5 years	2.4%	2
5 years or more	40.0%	34
<i>Total</i>	100.0%	85

Furthermore, 38.8% of respondents were found to have Bachelor's degrees, with a further 49.4% having Honour's degrees, Master's degrees or Doctorates.

In terms of professions, 76.5% of respondents were shown to be engineers, which was also attributed to the chosen sampling method. Since all professions listed in this section were classified as knowledge worker professions, this data was seen as viable for this research purpose.

The job classification question of the general information section returned a 47.1% skilled professional result, which was skewed toward the technical side of the knowledge work industry, as opposed to the management side.

The current employment contract type was found to be heavily skewed toward permanent employees (91.8%), which was also the aim of the chosen sampling method.

Lastly, the duration of employment at the current organisation was skewed towards the period of 5 years or more (40.0%), which might also assist the researcher, as persons with historically longer relationships with their organisation might have stronger relationships, which will ensure greater data validity. This was important since it was assumed that people with very short or short employment relationships might not have built a solid relationship with the organisation yet.

#### **5.4 Internal Reliability of Scales**

SPSS was used to do reliability analysis on the scales used within the survey, as detailed in chapter 4. All 85 responses received during the research survey were utilised for this analysis.

According to Zikmund et al. (2010) a measure or scale is seen to be reliable when its associated Cronbach alpha value is greater than 0.70. For the purpose of this study, a scale with a Cronbach alpha value above 0.70 was, therefore, seen to be reliable within the context of the study.

##### **5.4.1 PC violation scale**

In analysing the reliability of PC violation scale, the six components of this instrument initially returned a Cronbach alpha of 0.025, which was very low in comparison with the acceptable alpha of 0.7 or the alpha of 0.85 found by the PSYCONES project (European Commission, 2006).

By looking at the scale, it was found that component one, three and six were components measuring the emotion of happiness, the emotion of being pleased, and the emotion of being grateful, which were all positive emotions. Component two, four and five were found to be components measuring the emotion of anger,

the emotion of being violated, and the emotion of disappointment, which were all negative emotions.

On further investigation and analysis, it was found that the six-component scale was setup in such a manner that response bias could be picked up and negated. For this reason, the positive emotions of all responses (items 1, 3 and 6) were recoded to give the true reliability of the scale.

By recoding the positive emotion data of each respondent as such, the six-component scale returned a Cronbach alpha of 0.86 (as shown in appendix D). As per Zikmund et al. (2010) requirements for reliability, this scale was found to be reliable.

#### **5.4.2 PC breach scale**

In analysing the reliability of the PC breach scale, the seven components of this instrument returned a Cronbach alpha reliability of 0.88 (as shown in Appendix D), which was also aligned to the alpha of 0.88 as obtained by the PSYCONES project (European Commission, 2006). As per Zikmund et al. (2010) requirements for reliability, this scale was found to be reliable.

#### **5.4.3 Organisational commitment scale**

In analysing the reliability of the scale used to measure the organisational commitment of the respondents, the five components of this instrument returned a Cronbach alpha reliability of 0.75 (as shown in Appendix D), which was also closely aligned to the alpha of 0.72 as obtained by the PSYCONES project (European Commission, 2006). Even though it was found that the Cronbach alpha of the scale could be increased to 0.78 by removing component 3, the decision was made to retain the component. This was since Zikmund et al. (2010) requirements for reliability states the scale was already found to be reliable.

#### **5.4.4 Job insecurity scale**

In analysing the reliability of the scale used to measure the job insecurity of the respondents, the four components of this instrument initially returned a Cronbach alpha of 0.091, which was very low in comparison with the acceptable alpha of 0.7 or the alpha of 0.73 found by the PSYCONES project (European Commission, 2006).

However, by re-analysing the structure of the scale again, it was found that component 2 was coded negatively so as to reduce response bias. By recoding

the data for component 2, the reliability of the entire scale returned a Cronbach alpha reliability of 0.726 (as shown in Appendix D).

Even though it was found that the Cronbach alpha of the scale could be increased even further to 0.75, by removing component 3, the decision was made to retain the component. This was done, since according to Zikmund et al. (2010) requirements for reliability, this scale was already found to be reliable.

#### **5.4.5 Turnover intention scale**

In analysing the reliability of the scale used to measure turnover intention of respondents, the four components of this instrument initially returned a Cronbach alpha of 0.23, which was very low in comparison with the acceptable alpha of 0.7 or the alpha of 0.82 found by the PSYCONES project (European Commission, 2006).

By, however, re-analysing the physical structure of the scale again, it was found that component 3 was coded negatively so as to reduce response bias. By recoding the data for component 3, the reliability of the entire scale returned a Cronbach alpha reliability of 0.881 (as shown in Appendix D).

Since the SPSS reliability results showed that the Cronbach alpha value could not be increased in any manner by removing another component, the reliability was accepted as such, and as per Zikmund et al. (2010) requirements for reliability, this scale was found to be reliable within the context of this study.

#### **5.4.6 Employer obligations scale**

In analysing the reliability of the scale used to measure the perceived employer obligations of the respondents, the fifteen components of this instrument returned a Cronbach alpha reliability of 0.89 (as shown in Appendix D), which was almost aligned to the alpha value of 0.93 obtained by Keyser (2010).

As shown in Appendix D, the Cronbach alpha reliability of this scale could be increased to 0.902 by removing component 15, but the decision was made to retain the component. This was done, since according to Zikmund et al. (2010) requirements for reliability, this scale was already found to be reliable.

#### **5.4.7 Employee obligations scale**

In analysing the reliability of the scale used to measure perceived employee obligations of the respondents, the seventeen components of this instrument

returned a Cronbach alpha reliability of 0.918 (as shown in Appendix D), which was very closely aligned to the alpha value of 0.93 obtained by Keyser (2010).

As shown in Appendix D, the Cronbach alpha reliability of this scale could be increased to 0.932 by removing component 12, but the decision was made to retain the component. This was done since, according to Zikmund et al. (2010) requirements for reliability, this scale was already found to be reliable.

#### 5.4.8 Summary of reliability analysis

Table 5.4.1 gives a summary of the reliability analysis performed in this section. As summarised within this table, all scales were found to be reliable within the context of this study.

*Table 5.4.1: Summary of reliability analyses on all scales/measures*

Measure/ Scale	# of Comp onents	Initial Cron- bach Alpha	Corrective actions performed	Revised Cron- bach Alpha	Reliable / Not reliable
<b>PC violation</b>	6	0.025	Component 2, 4 and 5 was coded negative to reduce response bias, and had to be recoded to create alignment with the scale	0.86	Reliable
<b>PC breach</b>	7	0.88	None	0.88	Reliable
<b>Organisa- tional commitment</b>	5	0.75	None	0.75	Reliable
<b>Job insecurity</b>	4	0.091	Component 2, was coded negative to reduce response bias, and had to be recoded to create alignment with the scale	0.72	Reliable
<b>Turnover intention</b>	4	0.23	Component 3, was coded negative to reduce response bias, and had to be recoded to create alignment with the scale	0.88	Reliable
<b>Employer obligations</b>	15	0.89	None	0.89	Reliable
<b>Employee obligations</b>	17	0.93	None	0.92	Reliable

#### 5.5 Qualification of Respondents

As shown in Chapter 3, all of the hypotheses related to this study, were set up to compare certain aspects of the employment relationship of knowledge workers who work for organisations who offshore activities with knowledge workers who work for organisations who do not offshore activities.

To differentiate between these two groups, a specific question was asked within the survey questionnaire. The result of the responses to this question is shown in the table below.

*Table 5.5.1: Summary of responses for offshoring qualification questions*

Answer Options	Response Percentage	Response Count
<b>Does your organisation (local office) offshore knowledge tasks to foreign locations (foreign offices) within the greater organisation?</b>		
<i>Yes</i>	64.7%	55
<i>No</i>	25.9%	22
<i>I don't know</i>	9.4%	8
<i>Total</i>	100.0%	85

As shown in the table above, out of the 85 responses, 55 respondents worked for organisations which offshored activities, while 22 worked for organisations which did not offshore activities. Another eight respondents indicated that they did not know whether their organisation offshored activities or not. Since it was assumed that the employment relationship of a worker was not affected by offshoring of activities, if they did not know whether their organisations offshored activities, it was decided that this group would be grouped with the group that does not work for organisations which offshores activities.

For the rest of the chapter and this research, the data was analysed by comparing these two groups defined as *Offshoring* and *Non-Offshoring* groups. The “*Offshoring*” group consisted of the group of individuals who worked for organisations that offshored activities, while the “*Non-Offshoring*” group consisted of the group of individual who worked for organisations that did not offshore activities.

## 5.6 Descriptive Statistics

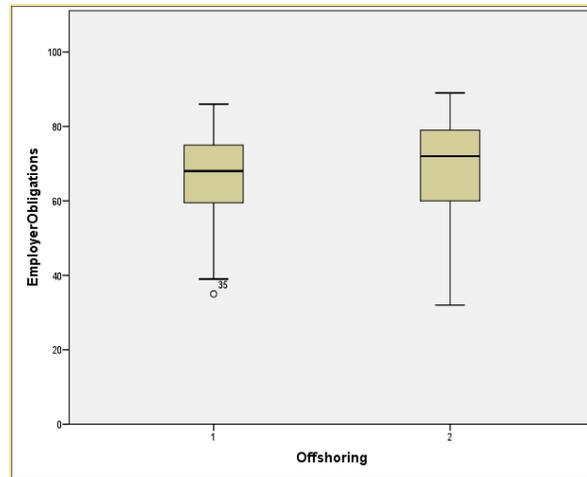
Since all the scales used within the research survey consisted of more than one component, the individual component scores for each scale had to be summated to find a total score to be used for further analysis. This was done for each scale after which descriptive statistics were performed and analysed using SPSS.

### 5.6.1 Employer obligations

The figures below show the descriptive statistics and distributions for the employer obligation data, as generated by SPSS (In all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, after which these were removed from the data prior to any analysis. As shown in the first figure below, an outlier (indicated by a numbered circle on the plot) was identified in the offshoring group, and was removed from the data accordingly. No figures that follow this boxplot, therefore, included this outlier.

**Figure 5.6.1: Employer obligation comparative box plot**



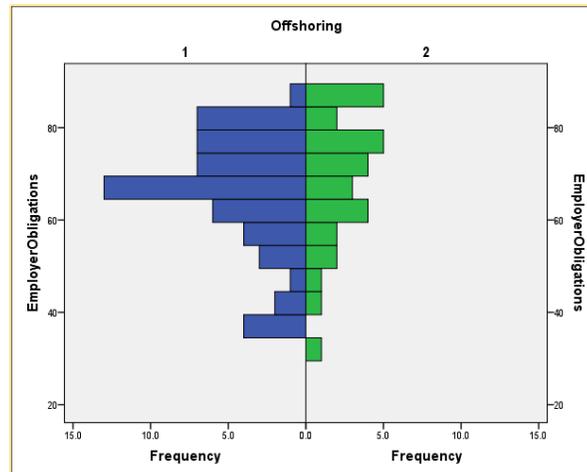
**Figure 5.6.2: Employer obligation descriptive statistics (Offshoring)**

N	Valid	54
	Missing	1
Mean		66.04
Median		68.00
Skewness		-.696
Std. Error of Skewness		.325
Kurtosis		.104
Std. Error of Kurtosis		.639
Minimum		39
Maximum		86

**Figure 5.6.3: Employer obligation descriptive statistics (Non-Offshoring)**

N	Valid	30
	Missing	0
Mean		68.60
Median		72.00
Skewness		-.636
Std. Error of Skewness		.427
Kurtosis		-.094
Std. Error of Kurtosis		.833
Minimum		32
Maximum		89

**Figure 5.6.4: Employer obligation comparative histogram**



**Figure 5.6.5: Employer obligation normality tests**

Offshoring	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
EmployerObligations 1	.114	54	.077	.942	54	.011
2	.120	30	.200 <sup>*</sup>	.953	30	.208

From the two figures showing the descriptive statistics, it was found that the mean and median for the offshoring group were slightly higher than that of the non-offshoring group. The minimum and maximum values for both distributions were, however, found to be very similar.

From the skewness values of -0.696 and -0.636 respectively, it was derived that both distributions were negatively skewed (scores clustered to the right side of distribution) (Pallant, 2011). The kurtosis values of 0.104 and -0.094 for the respective groups, indicated that both distributions were close to being normally distributed (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05 confirms normality. Based on these results, both sample populations were found to be normally distributed.

Since both data sets of data were found to be independent of each other, normally distributed, and in the interval range, the parametric independent-samples t-test was selected to be used for the hypothesis test.

### 5.6.2 Employee obligations

The figures below show the descriptive statistics and distributions for the employee obligation data, as generated by SPSS (In all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, after which these were removed from the data prior to any analysis. As shown in the first figure below, outliers (indicated by a numbered circle on the plot) were identified for both the offshoring and non-offshoring groups, and were removed from the data accordingly. No figures that follow this boxplot, therefore, included this outlier.

Figure 5.6.6: Employee obligation comparative box plot

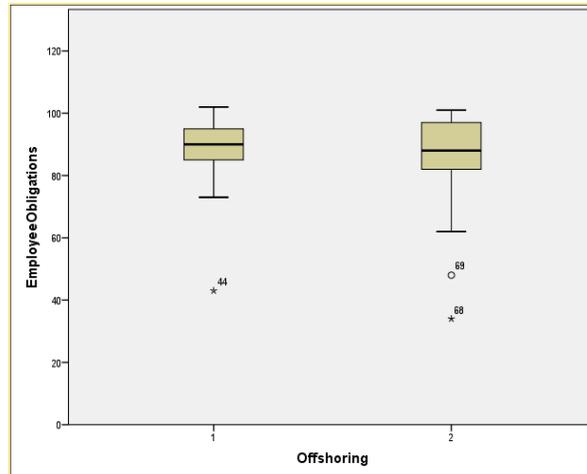


Figure 5.6.7: Employee obligation descriptive statistics (Offshoring)

N	Valid	54
	Missing	1
Mean		90.11
Median		90.00
Skewness		-.306
Std. Error of Skewness		.325
Kurtosis		-.399
Std. Error of Kurtosis		.639
Minimum		73
Maximum		102

Figure 5.6.8: Employee obligation descriptive statistics (Non-Offshoring)

N	Valid	28
	Missing	2
Mean		89.18
Median		88.50
Skewness		-.733
Std. Error of Skewness		.441
Kurtosis		.661
Std. Error of Kurtosis		.858
Minimum		62
Maximum		101

Figure 5.6.9: Employee obligation comparative histogram

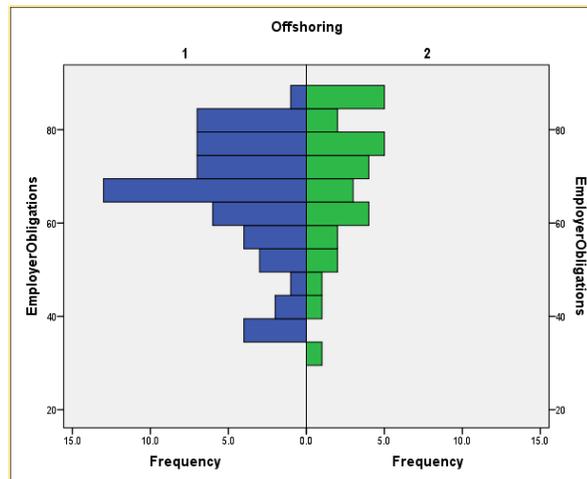


Figure 5.6.10: Employee obligation normality tests

	Offshoring	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EmployeeObligations	1	.095	54	.200 <sup>*</sup>	.965	54	.122
	2	.122	28	.200 <sup>*</sup>	.921	28	.037

From two figures showing the descriptive statistics, it was found that the mean for the offshoring group was slightly higher than that of the non-offshoring group. The medians and maximums for both groups were, however, quite similar, while the non-offshoring group had a slightly lower minimum value than the offshoring group.

The minimum and maximum values for both distributions were, however, very similar.

From the skewness values of -0.306 and -0.733 for the respective groups, it was derived that both distributions were negatively skewed (clustering toward right of distributions) (Pallant, 2011). The kurtosis values of -0.399 and 0.661 respectively showed that both distributions were relatively peaked (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirms normality. Since, both scores were below 0.05, it was concluded that neither of the sample populations were normally distributed.

Since both data sets of data were found to be independent of each other, normally distributed, and in the interval range, the parametric independent-samples t-test was selected to be used for the hypothesis test.

### **5.6.3 Obligation differences**

The figures below show the descriptive statistics and distributions for the obligation difference data, as generated by SPSS (in all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, where after these were removed from the data prior to any analysis. As shown in the first figure below, two outliers (indicated by a numbered circle on the plot) were identified in both the offshoring and non-offshoring groups, and were removed from the data accordingly. No figures that follow the boxplot, therefore, include these outliers.

Figure 5.6.11: Obligation differences comparative box plot

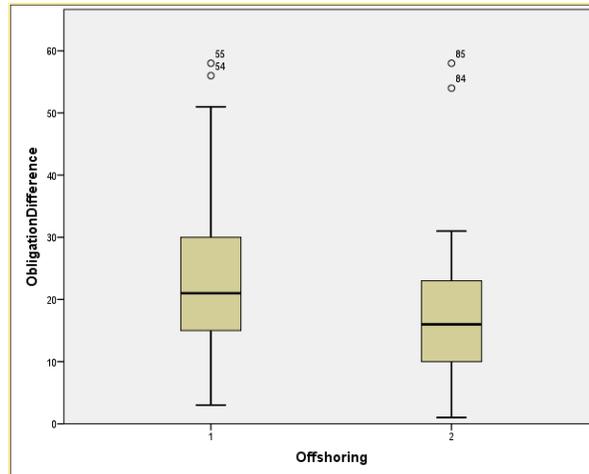


Figure 5.6.12: Obligation differences descriptive statistics (Offshoring)

N	Valid	53
	Missing	2
Mean		22.62
Median		20.00
Skewness		.554
Std. Error of Skewness		.327
Kurtosis		-.095
Std. Error of Kurtosis		.644
Minimum		3
Maximum		51

Figure 5.6.13: Obligation differences descriptive statistics (Non-Offshoring)

N	Valid	28
	Missing	2
Mean		15.18
Median		16.00
Skewness		.023
Std. Error of Skewness		.441
Kurtosis		-.601
Std. Error of Kurtosis		.858
Minimum		1
Maximum		31

Figure 5.6.14: Obligation differences comparative histogram

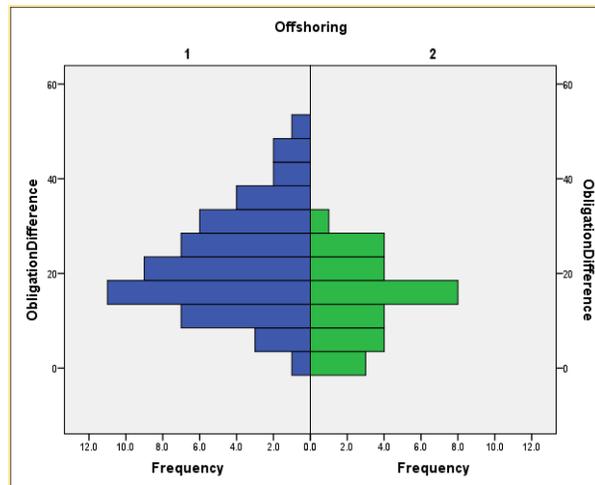


Figure 5.6.15: Obligation differences normality tests

Offshoring	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ObligationDifference 1	.118	53	.062	.971	53	.225
ObligationDifference 2	.098	28	.200 <sup>*</sup>	.976	28	.747

From the two figures showing the descriptive statistics, it was clear that the mean for the offshoring group was substantially higher than that of the non-offshoring group. So, too, were the medians and maximums for the offshoring group in comparison with the non-offshoring group.

From the skewness values of 0.554 and 0.23 for the respective groups, it was derived that both distributions were positively skewed (clustering toward left of distribution) (Pallant, 2011). The kurtosis values of -0.95 for the offshoring group indicated that the distribution was somewhat flat, while the -0.601 of the non-offshoring group indicated the distribution was even flatter than that of the offshoring group (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was actually normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirms normality. Since both scores were above 0.05, it was concluded that both of the sample distributions were normally distributed.

Since both data sets were found to be independent of each other, normally distributed, and in the interval range, the parametric independent-samples t-test was selected to be used for the hypothesis test.

#### **5.6.4 Psychological contract breach**

The figures below show the descriptive statistics and distributions for the PC breach data, as generated by SPSS (In all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, where after these were removed from the data prior to any analysis. The comparative box plots of both distributions however showed no outliers (usually indicated with a numbered circle on the plot in SPSS).

Figure 5.6.16: PC breach comparative box plot

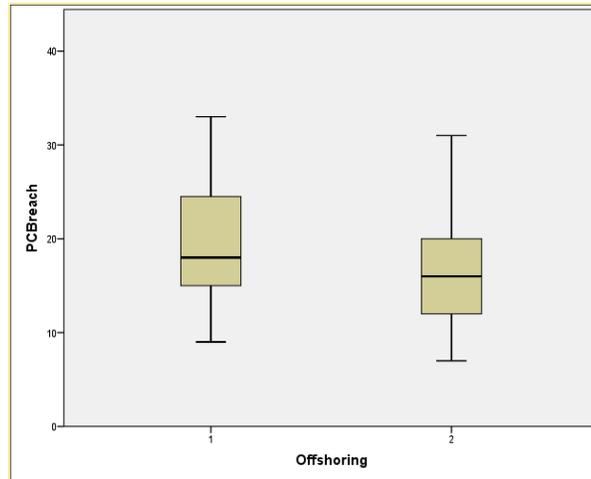


Figure 5.6.17: PC breach descriptive statistics (Offshoring)

N	Valid	55
	Missing	0
Mean		19.53
Median		18.00
Skewness		.290
Std. Error of Skewness		.322
Kurtosis		-.527
Std. Error of Kurtosis		.634
Minimum		9
Maximum		33

Figure 5.6.18: PC breach descriptive statistics (Non-Offshoring)

N	Valid	30
	Missing	0
Mean		16.70
Median		16.00
Skewness		.621
Std. Error of Skewness		.427
Kurtosis		.142
Std. Error of Kurtosis		.833
Minimum		7
Maximum		31

Figure 5.6.19: PC breach comparative histogram

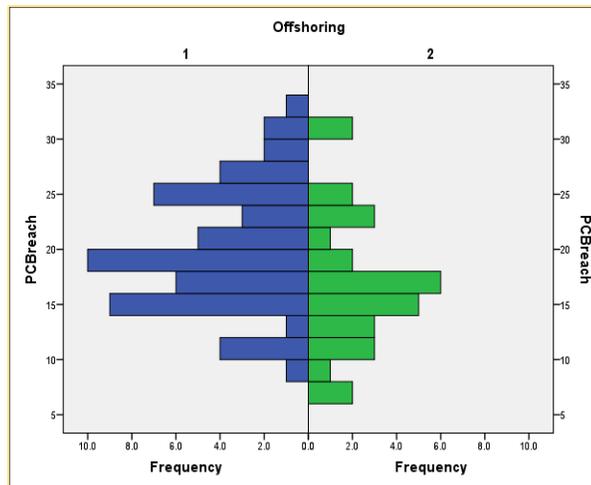


Figure 5.6.20: PC breach normality tests

Offshoring		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
1	PCBreach	.115	55	.066	.973	55	.263
2	PCBreach	.149	30	.089	.954	30	.213

From the two figures showing the descriptive statistics, it was clear that the mean and median for the non-offshoring group were slightly higher than that of the offshoring group. The minimum and maximum values for both distributions were found to be relatively comparable considering the long range.

From the skewness values of 0.290 and 0.621 for the respective distributions, it was derived that the distributions were both positively skewed (clustering to the left side of distribution) (Pallant, 2011). The kurtosis values of -0.527 and 0.142 for the respective groups indicated that the offshoring distribution was relatively flat, while the non-offshoring group was relatively normally distributed (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirms normality. Based on these results, both sample populations were found to be normally distributed.

Since both data sets were found to be independent of each other, normally distributed, and in the interval range, the parametric independent-samples t-test was selected to be used for the hypothesis test.

#### **5.6.5 Psychological contract violation**

The figures below show the descriptive statistics and distributions for the PC Violation data, as generated by SPSS (In all the below figures, a "1" for the offshoring variable indicates the offshoring group, while a "2" indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, where after these were removed from the data prior to any analysis. The comparative box plots of both distributions, however, showed no outliers (usually indicated with a numbered circle on the plot in SPSS).

Figure 5.6.21: PC violation comparative box plot

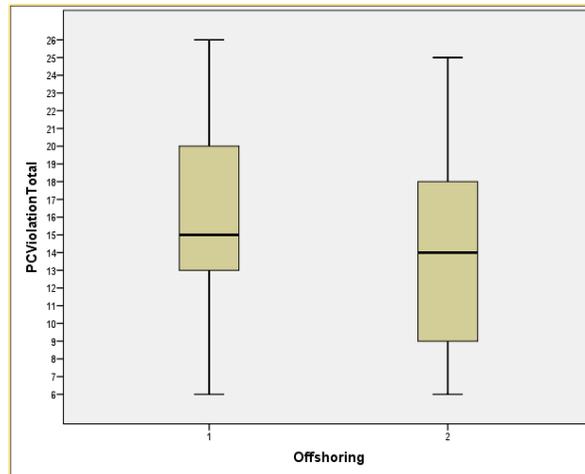


Figure 5.6.22: PC violation descriptive statistics (Offshoring)

N	Valid	55
	Missing	0
Mean		15.82
Median		15.00
Skewness		.014
Std. Error of Skewness		.322
Kurtosis		-.784
Std. Error of Kurtosis		.634
Minimum		6
Maximum		26

Figure 5.6.23: PC violation descriptive statistics (Non-Offshoring)

N	Valid	30
	Missing	0
Mean		13.33
Median		13.50
Skewness		.310
Std. Error of Skewness		.427
Kurtosis		-.479
Std. Error of Kurtosis		.833
Minimum		6
Maximum		25

Figure 5.6.24: PC violation comparative histogram

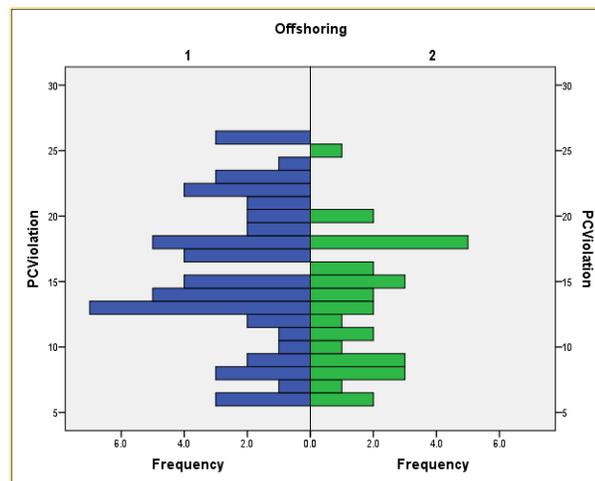


Figure 5.6.25: PC violation normality tests

Offshoring		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
1	PCViolationTotal	.086	55	.200 <sup>*</sup>	.969	55	.164
2	PCViolationTotal	.116	30	.200 <sup>*</sup>	.959	30	.295

From the two figures showing the descriptive statistics, it was clear that the mean and median for the offshoring group were slightly higher than that of the non-offshoring group. The minimum and maximum values for both distributions were, however, very similar.

From the skewness value of 0.014, for the offshoring group, it was derived that the distribution was not skewed, while the value of 0.310 for the non-offshoring group indicated that the distribution was slightly skewed to the right of the normal (Pallant, 2011). The kurtosis values of -0.784 and -0.479 for the respective groups indicated that both distributions were quite flat (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirmed normality. Based on these results, both sample populations were found to be normally distributed.

Lastly, the comparative box plots of both distributions show no outliers (usually indicated with a numbered circle on the plot), which indicates that the proposed statistical tests cannot be influenced negatively by it (Pallant, 2011).

Since both data sets were found to be independent of each other, normally distributed, and in the interval range, the parametric independent-samples t-test was selected to be used for the hypothesis test.

### **5.6.6 Job insecurity**

The figures below show the descriptive statistics and distributions for the job insecurity data, as generated by SPSS (In all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, where after these were removed from the data prior to any analysis. The comparative box plots of both distributions, however, showed no outliers (usually indicated with a numbered circle on the plot in SPSS).

Figure 5.6.26: Job insecurity comparative box plot

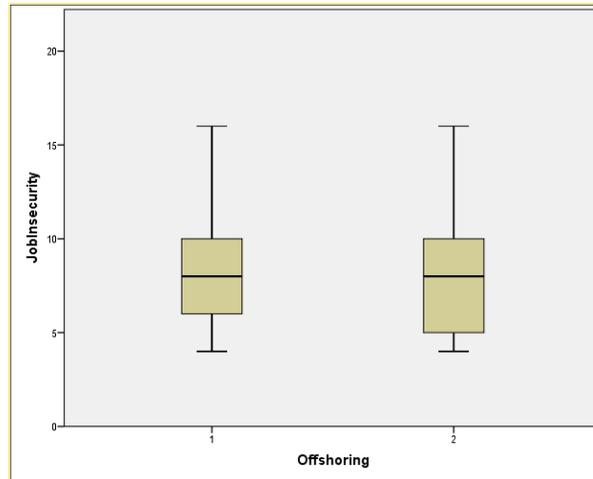


Figure 5.6.27: Job insecurity descriptive statistics (Offshoring)

N	Valid	55
	Missing	0
Mean		8.16
Median		8.00
Skewness		.593
Std. Error of Skewness		.322
Kurtosis		.210
Std. Error of Kurtosis		.634
Minimum		4
Maximum		16

Figure 5.6.28: Job insecurity descriptive statistics (Non-Offshoring)

N	Valid	30
	Missing	0
Mean		7.80
Median		8.00
Skewness		.551
Std. Error of Skewness		.427
Kurtosis		.180
Std. Error of Kurtosis		.833
Minimum		4
Maximum		16

Figure 5.6.29: Job insecurity comparative histogram

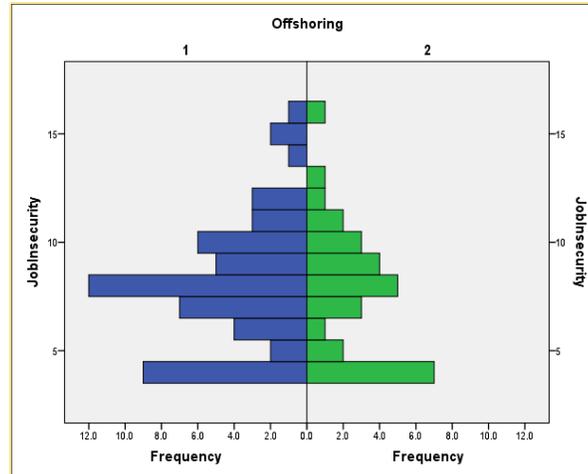


Figure 5.6.30: Job insecurity normality tests

Offshoring	JobInsecurity	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
1	JobInsecurity	.140	55	.009	.938	55	.007
2	JobInsecurity	.125	30	.200 <sup>*</sup>	.928	30	.043

From the two figures showing the descriptive statistics, it was clear that the means for the two groups were very similar, while the medians, the minimums and maximums were found to be the same for both groups.

From the skewness values of 0.593, and 0.551 for the respective groups, it was derived that the distributions were slightly skewed, while the kurtosis values of 0.210 and 0.180 respectively indicated that both distributions were quite flat (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirms normality. Based on these results, the sample population for the offshoring group was found to not be normally distributed, while the sample population for the non-offshoring group was found to be normally distributed.

Even though the datasets for the job insecurity variable complied with some of the assumptions required for parametric methods, one of the distributions was found not be normally distributed, and for that reason a non-parametric Mann-Whitney U test was selected as the method to be used for the hypothesis test.

### **5.6.7 Organisational commitment**

The figures below show the descriptive statistics and distributions for the organisational commitment data, as generated by SPSS (in all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, where after these were removed from the data prior to any analysis. As shown in the first figure below, an outlier (indicated by a numbered circle on the plot) was identified in the offshoring group, and was removed from the data accordingly. No figures that follow this boxplot, therefore, included this outlier.

Figure 5.6.31: Organisational commitment comparative box plot

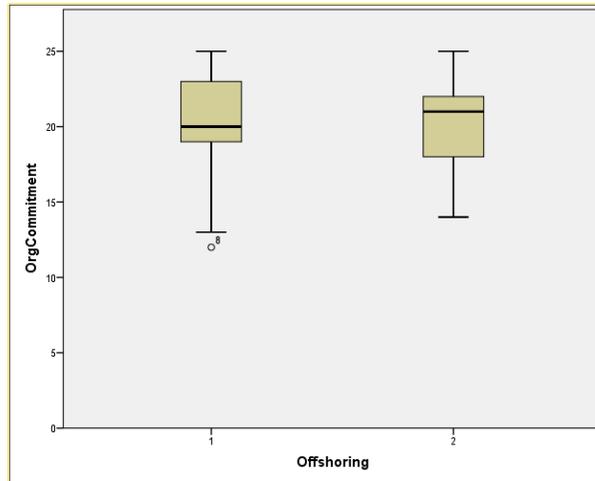


Figure 5.6.32: Organisational commitment descriptive statistics (Offshoring)

N	Valid	54
	Missing	1
Mean		20.59
Median		20.50
Skewness		-.611
Std. Error of Skewness		.325
Kurtosis		.159
Std. Error of Kurtosis		.639
Minimum		13
Maximum		25

Figure 5.6.33: Organisational commitment descriptive statistics (non-offshoring)

N	Valid	30
	Missing	0
Mean		20.50
Median		21.00
Skewness		-.416
Std. Error of Skewness		.427
Kurtosis		-.778
Std. Error of Kurtosis		.833
Minimum		14
Maximum		25

Figure 5.6.34: Organisational commitment comparative histogram

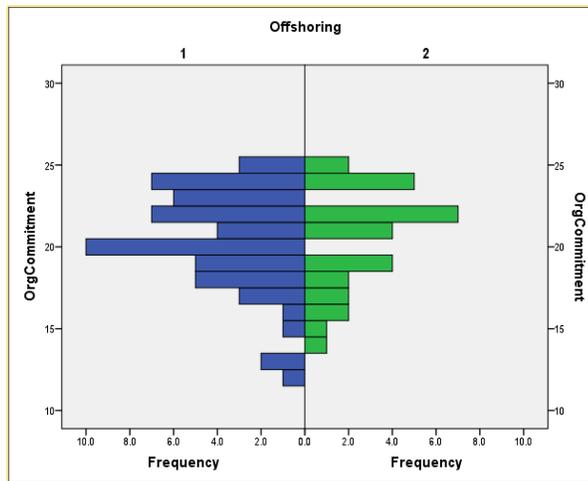


Figure 5.6.35: Organisational commitment normality tests

	Offshoring	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
OrgCommitment	1	.112	54	.087	.950	54	.026
	2	.164	30	.038	.940	30	.092

From the two figures showing the descriptive statistics, it was found that the means and medians for both groups were very similar. Furthermore, the minimum and maximum values of both distributions were also found to be very similar.

From the skewness values of -0.611 and -0.416 respectively, it was derived that both distributions were negatively skewed (clustering toward right of distributions) (Pallant, 2011). The kurtosis values of 0.159 for the offshoring group, indicated that the distribution was quite normal, while the -0.778 for the non-offshoring group indicated the distribution was quite flat (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution is normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirms normality. Based on the above results, the offshoring group was found to be normally distributed, while the non-offshoring group was found to be not normally distributed.

Even though the datasets for the organisational commitment variable complied with some of the assumptions required for parametric methods, one of the distributions was found not be normally distributed, and for that reason a the non-parametric Mann-Whitney U test was selected as the method to be used for the hypothesis test.

### **5.6.8 Turnover intention**

The figures below show the descriptive statistics and distributions for the Obligation difference data, as generated by SPSS (In all the below figures, a “1” for the offshoring variable indicates the offshoring group, while a “2” indicates the non-offshoring group).

Since Pallant (2011) suggested that outliers can negatively affect the outcome of statistical methods, boxplots were used to identify outliers, where after these were removed from the data prior to any analysis. The comparative box plots of both distributions, however, showed no outliers (usually indicated with a numbered circle on the plot in SPSS).

Figure 5.6.36: Turnover intention comparative box plot

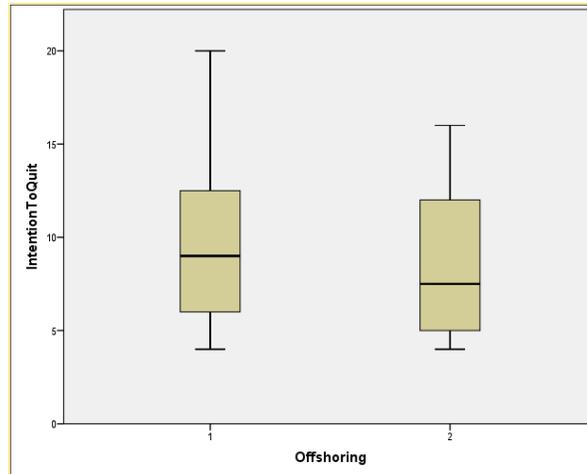


Figure 5.6.37: Turnover intention descriptive statistics (Offshoring)

N	Valid	55
	Missing	0
Mean		9.55
Median		9.00
Skewness		.624
Std. Error of Skewness		.322
Kurtosis		-.597
Std. Error of Kurtosis		.634
Minimum		4
Maximum		20

Figure 5.6.38: Turnover intention descriptive statistics (Non-Offshoring)

N	Valid	30
	Missing	0
Mean		8.57
Median		7.50
Skewness		.463
Std. Error of Skewness		.427
Kurtosis		-1.077
Std. Error of Kurtosis		.833
Minimum		4
Maximum		16

Figure 5.6.39: Turnover intention comparative histogram

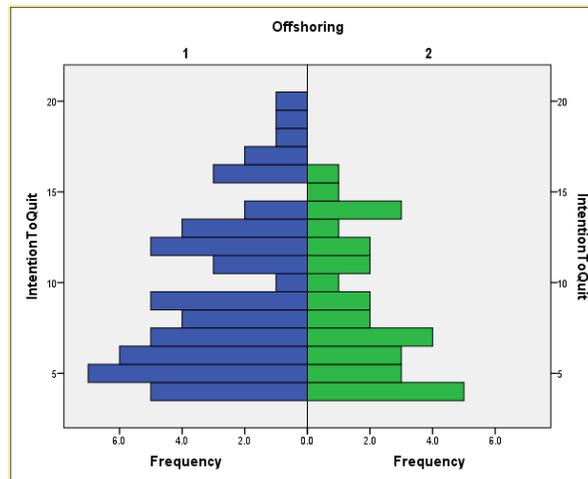


Figure 5.6.40: Turnover intention normality tests

Offshoring	IntentionToQuit	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
1	IntentionToQuit	.137	55	.012	.925	55	.002
2	IntentionToQuit	.161	30	.047	.915	30	.019

From the two figures showing the descriptive statistics, it was found that the mean and median of the offshoring group were slightly higher than that of the non-offshoring group. The minimum values for both distributions were the same, while

the maximum for the non-offshoring group was found to be slightly higher than that of the offshoring group.

From the skewness values of 0.624 and 0.463 for the respective groups, it was derived that both distributions were positively skewed (clustering on left side of distribution) (Pallant, 2011). The kurtosis values of -0.597 and -1.077 for the respective groups, indicated that both distributions were relatively flat (Pallant, 2011).

The next figure shows a comparative histogram of the two groups, which gives a graphical representation of the shape of the distributions, and the skewness and kurtosis values as discussed above. Since it was difficult to judge whether a distribution was normal, a Kolmogorov-Smirnov test of normality (results shown above) was run for both distributions. According to Pallant (2011), a *Sig.* result greater than 0.05, confirms normality. Since both scores were below 0.05, it was concluded that neither of the sample populations were normally distributed.

Even though the datasets for the turnover intention variable complied with some of the assumptions required for parametric methods, one of the distributions was found not be normally distributed, and for that reason a non-parametric Mann-Whitney U test was selected as the method to be used for the hypothesis test.

## 5.7 Hypothesis Testing

In this section, the statistical tests proposed in chapter 4 and the previous sections, were executed in SPSS. A confidence interval of 95% was used of all tests and analysis, which means that statistical significance was declared at the  $p < 0.05$  level.

### 5.7.1 Hypothesis 1a - Employer obligations

As discussed in chapter 3, hypothesis 1a was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \geq \mu_{\text{Non-offshoring}} \quad (\text{Left-tail test})$$

*The population mean of employer obligations scores of the offshoring group is greater than or equal to the population mean of employer obligations scores of the non-offshoring group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} < \mu_{\text{Non-offshoring}}$$

*The population mean of employer obligations scores of the offshoring group is less than the population mean employer obligations scores of the non-offshoring group.*

As discussed earlier, an independent sample T-Test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

**Figure 5.7.1: SPSS output of employer obligation group statistics**

	Offshoring	N	Mean	Std. Deviation	Std. Error Mean
EmployerObligations	1	54	66.04	12.127	1.650
	2	29	69.86	12.864	2.389

Based on the results shown in the group statistics, the employer obligations scores were lower for the offshoring group ( $M = 66.04$ ,  $SD = 12.127$ ) than for the non-offshoring group ( $M = 69.86$ ,  $SD = 12.864$ ).

**Figure 5.7.2: SPSS output of employer obligations independent sample t-Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
EmployerObligations	Equal variances assumed	.895	.347	-1.341	81	.184	-3.825	2.852	-9.499	1.849
	Equal variances not assumed			-1.317	54.540	.193	-3.825	2.903	-9.645	1.995

The SPSS output as shown above provided a result of a Levene's test for Equality of Variances. In statistical terms, this result ( $p = 0.347$ ) meant that there was homogeneity of variances for the employer obligation scores of the offshoring and non-offshoring groups. According to Pallant (2011) this result was constituted by a p-value (Sig.) greater than 0.05, which meant that the population variances of both tested groups were equal, and that the "equal variances assumed" line in "t-test for Equality of Means" results should be used for further analysis.

The SPSS output for the t-test for Equality of means showed a corresponding  $p = 0.184$  (Sig. 2-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right tail test), required a 1-tailed result, which was obtained by halving the p-value, if the corresponding t-value had the correct sign (negative for left-tail, and positive for right tail), or calculating a new p-value by using the formula  $p_{\text{new}} = 1 - (p_{\text{old}}/2)$ , if the sign was not correct.

Since this hypothesis test constituted a left-tail test and the t-value was a negative value, the p-value as given in the figure was halved for a result of  $p = 0.092$ .

According to Field (2013), a one tailed p-value greater than 0.025, entailed a non-significant result, which meant that the employer obligation mean scores of the offshoring group was not significantly different from the employer obligation mean scores of the non-offshoring group. According to Pallant (2011), such a result indicated that the null hypothesis should stand ( $\rho > 0.25$ ). Since there was no statistical significant result for this hypothesis, no effect size was calculated.

### 5.7.2 Hypothesis 1b - Employee obligations

As discussed in chapter 3, hypothesis 1b was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive lower levels of employee obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \leq \mu_{\text{Non-offshoring}} \quad (\text{Right-tail test})$$

*The population mean of employee obligation scores of the offshoring group is less than or equal to the population mean of employee obligation scores of the non-offshoring group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} > \mu_{\text{Non-offshoring}}$$

*The population mean of employee obligation scores of the offshoring group is greater than the population mean employee obligation scores of the non-offshoring group.*

As discussed earlier, an independent sample T-Test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

**Figure 5.7.3: SPSS output of employee obligation group statistics**

	Offshoring	N	Mean	Std. Deviation	Std. Error Mean
EmployeeObligations	1	54	90.11	7.635	1.039
	2	28	89.18	9.557	1.806

Based on the results shown in the group statistics, the employee obligation mean scores were higher for the offshoring group ( $M = 90.11$ ,  $SD = 7.6$ ) than for the non-offshoring group ( $M = 89.18$ ,  $SD = 9.5$ ).

**Figure 5.7.4: SPSS output of employee obligations independent sample t-Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
EmployeeObligations	Equal variances assumed	2.670	.106	.481	80	.632	.933	1.941	-2.929	4.795
	Equal variances not assumed			.448	45.299	.657	.933	2.084	-3.263	5.128

The SPSS output as shown above provided a result of a Levene's test for Equality of Variances. In statistical terms, this result ( $\rho = 0.106$ ) meant there was homogeneity of variances for the employee obligation scores of the offshoring and non-offshoring groups. According to Pallant (2011) this result was constituted by a p-value (Sig.) greater than 0.05, which meant the population variances of both tested groups were equal, and that the "equal variances assumed" line in "t-test for Equality of Means" results could be used for further analysis.

The SPSS output for the t-test for Equality of means indicated a corresponding  $\rho = 0.632$  (Sig. 2-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right-tail test), required a 1-tailed result, which was obtained by halving the p-value if the corresponding t-value had the correct sign (negative for left-tail, and positive for right tail), or calculating a new p-value by using the formula  $\rho_{\text{new}} = 1 - (\rho_{\text{old}}/2)$ , if the sign was not correct.

Since this hypothesis test constituted a right-tail test and the t-value was a positive value, the p-value as given in the figure was halved for a result of  $\rho = 0.316$ . According to Field (2013), a one tailed p-value greater than 0.025, entailed a non-significant result, which meant the employee obligation mean scores of the offshoring group were not significantly different from the employee obligation mean scores of the non-offshoring group. According to Pallant (2011), such a result indicated that the null hypothesis should stand ( $\rho > 0.25$ ). Since there was no statistical significant result for this hypothesis, no effect size was calculated.

### 5.7.3 Hypothesis 1c - Obligations differences

As discussed in chapter 3, hypothesis 1c was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive a bigger difference between employee obligations and employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \leq \mu_{\text{Non-offshoring}} \quad (\text{Right-tail test})$$

The population mean of obligation difference scores of the offshoring group is less than or equal to the population mean of obligation difference scores of the non-offshoring group.

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} > \mu_{\text{Non-offshoring}}$$

The population mean of obligation difference scores of the offshoring group is greater than the population mean obligation difference scores of the non-offshoring group.

As discussed earlier, an independent-samples T-Test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

**Figure 5.7.5: SPSS output of obligation differences group statistics**

	Offshoring	N	Mean	Std. Deviation	Std. Error Mean
ObligationDifference	1	53	22.62	11.131	1.529
	2	28	15.18	7.944	1.501

Based on the results shown in the group statistics, the employee obligation means scores were higher for the offshoring group ( $M = 22.62$ ,  $SD = 11.131$ ) than for the non-offshoring group ( $M = 15.18$ ,  $SD = 7.944$ ).

**Figure 5.7.6: SPSS output of obligation differences independent sample t-Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ObligationDifference	Equal variances assumed	4.025	.048	3.138	79	.002	7.444	2.372	2.722	12.166
	Equal variances not assumed			3.474	71.892	.001	7.444	2.143	3.172	11.716

The SPSS output as shown above provided a result of a Levene's test for Equality of Variances. In statistical terms, this result ( $\rho = 0.048$ ) meant there was no homogeneity of variances for the Obligation difference scores of the offshoring and non-offshoring groups. According to Pallant (2011), this result was constituted by a  $\rho$ -value (Sig.) less than 0.05, which meant that the population variances of both tested groups were not equal, and that the "equal variances not assumed" line in "t-test for Equality of Means" results should be used for further analysis.

The SPSS output for the t-test for Equality of means indicated a corresponding  $\rho = 0.001$  (Sig. 2-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right-tail test), required a 1-tailed result, which was obtained by halving the  $\rho$ -value if the corresponding t-value had the correct sign (negative for left-tail,

and positive for right tail), or calculating a new  $p$ -value by using the formula  $p_{\text{new}} = 1 - (\rho_{\text{old}}/2)$ , if the sign was not correct.

Since this hypothesis test constituted a right-tail test and the  $t$ -value was a positive value, the  $p$ -value as given in the figure was halved for a result of  $p = 0.0005$ . According to Field (2013), a one tailed  $p$ -value smaller than 0.025, entailed a significant result, which meant the Obligation difference mean scores of the offshoring group were significantly smaller than the Obligation difference mean scores of the non-offshoring group. According to Pallant (2011), this result entailed that the null hypothesis should be rejected, and that the alternative hypothesis should be accepted ( $p < 0.25$ ).

According to Pallant (2011), an effect size for the T-test also had to be calculated to provide an indication of the magnitude of the differences between the groups and whether there was actually practical significance in the statistical results. Cohen's  $d$  was calculated as the appropriate effect size measure and a  $d$ -value of 0.73 was obtained. Pallant (2011) suggested that this indicates a medium sized difference, which is practically significant.

#### 5.7.4 Hypothesis 1d - Psychological contract breach

As discussed in chapter 3, hypothesis 1d was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract breach, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \leq \mu_{\text{Non-offshoring}} \quad (\text{Right-tail test})$$

*The population mean of PC breach scores of the offshoring group is less than or equal to the population mean of PC breach scores of the non-offshoring group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} > \mu_{\text{Non-offshoring}}$$

*The population mean of PC breach scores of the offshoring group is greater than the population mean of PC breach scores of the non-offshoring group.*

As discussed earlier, an independent sample T-Test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

Figure 5.7.7: SPSS output of PC breach group statistics

	Offshoring	N	Mean	Std. Deviation	Std. Error Mean
PCBreach	1	55	19.53	5.673	.765
	2	30	16.70	6.081	1.110

Based on the results shown in the group statistics, the PC breach scores were higher for the offshoring group ( $M = 19.53$ ,  $SD = 5.673$ ) than for the non-offshoring group ( $M = 16.70$ ,  $SD = 6.08$ ).

Figure 5.7.8: SPSS output of PC breach independent sample t-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PCBreach	Equal variances assumed	.014	.907	2.141	83	.035	2.827	1.321	.201	5.454
	Equal variances not assumed			2.097	56.259	.040	2.827	1.348	.127	5.528

The SPSS output as shown above provided a result of a Levene's test for Equality of Variances. In statistical terms, this result ( $\rho = 0.907$ ) meant there was homogeneity of variances for the PC breach scores of the offshoring and non-offshoring groups. According to Pallant (2011), this result was constituted by a p-value (Sig.) greater than 0.05, which meant the population variances of both tested groups were equal, and that the "equal variances assumed" line in "t-test for Equality of Means" results should be used for further analysis.

The SPSS output for the t-test for Equality of means indicates a corresponding  $p = 0.35$  (Sig. 2-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right-tail test) required a 1-tailed result, which was obtained by halving the p-value if the corresponding t-value had the correct sign (negative for left-tail, and positive for right tail), or calculating a new p-value by using the formula  $\rho_{\text{new}} = 1 - (\rho_{\text{old}}/2)$ , if the sign was not correct.

Since this hypothesis test constituted a right-tail test and the t-value was a positive value, the p-value as given in the figure was halved for a result of  $p = 0.0175$ . According to Field (2013), a one tailed p-value smaller than 0.025, entailed a significant result, which meant that the PC breach mean scores of the offshoring group were significantly smaller than the mean scores of the non-offshoring group. According to Pallant (2011), this result entailed that the null hypothesis should be rejected, and that the alternative hypothesis should be accepted ( $\rho < 0.25$ ).

According to Pallant (2011), an effect size for the T-test also had to be calculated, to provide an indication of the magnitude of the differences between the groups and whether there was actually practical significance in the statistical results.

Cohen's  $d$  was calculated as the appropriate effect size measure and a  $d$ -value of 0.48 was obtained. Pallant (2011) suggests that this indicated a small sized difference between the means of the groups, which might not be practically significant.

### 5.7.5 Hypothesis 1e - Psychological contract violation

As discussed in chapter 3, hypothesis 1e was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract violation, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \leq \mu_{\text{Non-offshoring}} \quad (\text{Right-tail test})$$

*The population mean of PC violations of the "offshoring group" is less than or equal to the population mean of PC violations of the "non-offshoring" group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} > \mu_{\text{Non-offshoring}}$$

*The population mean of PC violations of the "offshoring" group is greater than the population mean of PC violations of the "non-offshoring" group.*

As discussed earlier, an independent sample T-Test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown the figures below.

**Figure 5.7.9: SPSS output of PC violation group statistics**

	Offshoring	N	Mean	Std. Deviation	Std. Error Mean
PCViolation	1	55	15.82	5.491	.740
	2	30	13.33	4.809	.878

Based on the results shown in the group statistics, the PC violation scores were lower for the offshoring group ( $M = 15.82$ ,  $SD = 5.49$ ) than for the non-offshoring group ( $M = 13.33$ ,  $SD = 4.81$ ).

**Figure 5.7.10: SPSS output of PC violation independent sample t-Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
PCViolation	Equal variances assumed	.787	.377	2.080	83	.041	2.485	1.194	.109	4.861
	Equal variances not assumed			2.164	66.776	.034	2.485	1.149	.192	4.777

The SPSS output as shown above provides a result of a Levene's test for Equality of Variances. In statistical terms, this result ( $\rho = 0.377$ ) meant there was homogeneity of variances for the PC Violation scores of the offshoring and non-offshoring groups. According to Pallant (2011) this result was constituted by a p-value (Sig.) greater than 0.05, which meant the population variances of both tested groups were equal, and that the "equal variances assumed" line in "t-test for Equality of Means" results should be used for further analysis.

The SPSS output for the t-test for Equality of means indicated a corresponding  $p = 0.41$  (Sig. 2-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right-tail test), required a 1-tailed result, which was obtained by halving the p-value if the corresponding t-value had the correct sign (negative for left-tail, and positive for right tail), or calculating a new p-value by using the formula  $\rho_{\text{new}} = 1 - (\rho_{\text{old}}/2)$ , if the sign was not correct.

Since this hypothesis test constituted a right-tail test and the t-value was a positive value, the p-value as given in the figure was halved for a result of  $p = 0.21$ . According to Field (2013), a one tailed p-value smaller than 0.025, entailed a significant result, which meant the PC violation mean scores of the offshoring group were significantly smaller than the PC Violation mean scores of the non-offshoring group. According to Pallant (2011), this result entailed that the null hypothesis should be rejected, and that the alternative hypothesis should be accepted ( $\rho < 0.25$ ).

According to Pallant (2011), an effect size for the T-test also had to be calculated to provide an indication of the magnitude of the differences between the groups and whether there was actually practical significance in the statistical results. Cohen's d was calculated as the appropriate effect size measure and a d-value of 0.47 was obtained. Pallant (2011) suggested this indicates a small sized difference, which might not be practically significant.

### 5.7.6 Hypothesis 2 - Job insecurity

As discussed in chapter 3, hypothesis 2 was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of job insecurity, than knowledge workers who work for organisation, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \leq \mu_{\text{Non-offshoring}} \quad (\text{Right-tail test})$$

*The population mean of job insecurity scores of the offshoring group is less than or equal to the population mean of job insecurity scores of the non-offshoring group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} > \mu_{\text{Non-offshoring}}$$

*The population mean of job insecurity scores of the offshoring group is greater than the population mean of job insecurity scores of the non-offshoring group.*

As discussed earlier, a non-parametric Mann-Whitney U test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

**Figure 5.7.11: SPSS output of job insecurity group statistics**

	Offshoring	N	Mean Rank	Sum of Ranks
JobInsecurity	1	55	43.82	2410.00
	2	30	41.50	1245.00
	Total	85		

Based on the results shown in the group statistics, the mean rank scores were slightly higher for the offshoring group ( $M = 43.82$ ) than for the non-offshoring group ( $M = 7.80$ ).

**Figure 5.7.12: SPSS output of job insecurity Mann-Whitney U Test**

	JobInsecurity
Mann-Whitney U	780.000
Wilcoxon W	1245.000
Z	-.418
Asymp. Sig. (2-tailed)	.676
Exact Sig. (2-tailed)	.679
Exact Sig. (1-tailed)	.340
Point Probability	.002

The SPSS output for the Mann-Whitney U-test indicated a  $p = 0.679$  (Sig. 2-tailed) result and a  $p = 0.340$  (Sig. 1-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right tail test), required a 1-tailed result, which was already given in the result of this SPSS output.

According to Field (2013), a one tailed p-value greater than 0.025, entailed a non-significant result, which meant that the job insecurity mean scores of the offshoring

group were not significantly higher than the job insecurity mean scores of the non-offshoring group. According to Pallant (2011), such a result indicated that the null hypothesis should stand ( $\rho > 0.25$ ). Since there was not a statistical significant result for this hypothesis, no effect size was calculated.

### 5.7.7 Hypothesis 3 - Organisational commitment

As discussed in chapter 3, hypothesis 3 was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, show lower levels of organisational commitment, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \geq \mu_{\text{Non-offshoring}} \quad (\text{Left-tail test})$$

*The population mean of organisational commitment scores of the offshoring group is less than or equal to the population mean of organisation commitment scores of the non-offshoring group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} < \mu_{\text{Non-offshoring}}$$

*The population mean of organisational commitment scores of the offshoring group is greater than the population mean of organisational commitment scores of the non-offshoring group.*

As discussed earlier, a non-parametric Mann-Whitney U test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

**Figure 5.7.13: SPSS output of organisational commitment group statistics**

	Offshoring	N	Mean Rank	Sum of Ranks
OrgCommitment	1	54	42.69	2305.50
	2	30	42.15	1264.50
	Total	84		

Based on the results shown in the group statistics, the mean rank scores were slightly higher for the offshoring group ( $M = 42.69$ ) than for the non-offshoring group ( $M = 42.15$ ).

Figure 5.7.14: SPSS output of organisational commitment Mann-Whitney U Test

	OrgCommitment
Mann-Whitney U	799.500
Wilcoxon W	1264.500
Z	-.099
Asymp. Sig. (2-tailed)	.921
Exact Sig. (2-tailed)	.924
Exact Sig. (1-tailed)	.462
Point Probability	.002

The SPSS output for the Mann-Whitney U-test indicated a  $p = 0.924$  (Sig. 2-tailed) result and a  $p = 0.462$  (Sig. 1-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right tail-test), required a 1-tailed result, which was already supplied in the result of this SPSS output.

According to Field (2013), a one tailed  $p$ -value greater than 0.025, entailed a non-significant result, which meant the organisational commitment mean scores of the offshoring group were not significantly higher than the mean scores of the non-offshoring group. According to Pallant (2011), such a result indicated that the null hypothesis should stand ( $p > 0.25$ ). Since there was not a statistical significant result for this hypothesis, no effect size was calculated.

#### 5.7.8 Hypothesis 4 - Turnover intention

As discussed in chapter 3, hypothesis 4 was defined as follows:

*Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of turnover intention, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Based on this, the null hypothesis was written as follows:

$$H_0: \mu_{\text{Offshoring}} \leq \mu_{\text{Non-offshoring}} \quad (\text{Right-tail test})$$

*The population mean of turnover intention scores of the offshoring group is less than or equal to the population mean turnover intention scores of the non-offshoring group.*

The alternative hypothesis was written as follows:

$$H_A: \mu_{\text{Offshoring}} > \mu_{\text{Non-offshoring}}$$

*The population mean of turnover intention scores of the offshoring group is greater than the population mean of turnover intention scores of the non-offshoring group.*

As discussed earlier, a non-parametric Mann-Whitney U test was selected for this analysis. The analysis was performed in SPSS, and the output of the test is shown in the figures below.

**Figure 5.7.15: SPSS output of turnover intention group statistics**

	Offshoring	N	Mean Rank	Sum of Ranks
IntentionToQuit	1	55	44.75	2461.00
	2	30	39.80	1194.00
	Total	85		

Based on the results shown in the group statistics, the mean rank scores were slightly higher for the offshoring group ( $M = 44.75$ ) than for the non-offshoring group ( $M = 39.80$ ).

**Figure 5.7.16: SPSS output of turnover intention Mann-Whitney U Test**

	IntentionToQuit
Mann-Whitney U	729.000
Wilcoxon W	1194.000
Z	-.886
Asymp. Sig. (2-tailed)	.375
Exact Sig. (2-tailed)	.379
Exact Sig. (1-tailed)	.189
Point Probability	.001

The SPSS output for the Mann-Whitney U-test indicated a  $p = 0.379$  (Sig. 2-tailed) result and a  $p = 0.189$  (Sig. 1-tailed) result. According to Field (2013), a directional hypothesis test (left-tail or right tail-test), required a 1-tailed result, which was already supplied in this SPSS output.

According to Field (2013), a one tailed p-value greater than 0.025, entailed a non-significant result, which meant the turnover intention mean scores of the offshoring group were not significantly higher than the mean scores of the non-offshoring group. According to Pallant (2011), such a result indicated that the null hypothesis should stand ( $p > 0.25$ ). Since there was not a statistical significant result for this hypothesis, no effect size was calculated.

### 5.7.9 Summary of hypothesis tests

A summary of the hypothesis tests executed in this chapter is given in the following table.

*Table 5.7.1: Summary of hypothesis tests and results*

Hypothesis	Significance of result	Hypothesis	Final Result
<b>1a – Employer Obligations</b>	Not Significant ( $\rho = 0.152$ )	Rejected (null hypothesis accepted)	The population mean of employer obligation scores for the offshoring group is less than or equal to the population mean employer obligation scores of the non-offshoring group.
<b>1b – Employee Obligations</b>	Not Significant ( $\rho = 0.117$ )	Rejected (null hypothesis accepted)	The population mean of employee obligation scores for the offshoring group is less than or equal to the population mean employee obligation scores of the non-offshoring group.
<b>1c – Obligation difference</b>	Significant ( $\rho = 0.005$ )	Accepted (null hypothesis rejected)	The population mean of Obligation difference scores of the offshoring group is greater than the population mean of Obligation difference scores of the non-offshoring group
<b>1d – PC Breach</b>	Significant ( $\rho = 0.017$ )	Accepted (null hypothesis rejected)	The population mean of PC breach scores of the offshoring group is greater than the population mean of PC breach scores of the non-offshoring group
<b>1e – PC Violation</b>	Significant ( $\rho = 0.021$ )	Accepted (null hypothesis rejected)	The population mean of PC violations of the offshoring group is greater than the population mean of PC violation scores of the non-offshoring group
<b>2 – Job Insecurity</b>	Not Significant ( $\rho = 0.299$ )	Rejected (null hypothesis accepted)	The population mean of job insecurity scores for the offshoring group is less than or equal to the population mean job insecurity scores of the non-offshoring group.
<b>3 – Organisational Commitment</b>	Not Significant ( $\rho = 0.464$ )	Rejected (null hypothesis accepted)	The population mean of organisational commitment scores for the offshoring group is less than or equal to the population mean organisational commitment scores of the non-offshoring group.
<b>4 – Turnover Intention</b>	Not Significant ( $\rho = 0.154$ )	Rejected (null hypothesis accepted)	The population mean of turnover intention scores for the offshoring group is less than or equal to the population mean of turnover intention scores of the non-offshoring group.

## Chapter 6 – Discussion of Results

### 6.1 Introduction

In this chapter, the results as achieved in chapter 5 are discussed in detail. The result for each separate hypothesis is analysed and discussed in relation to relevant literature on the topic. Furthermore, the limitations of this research study are discussed.

### 6.2 Hypothesis 1a – Employer Obligations

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence from chapters two and three, it was expected that knowledge workers who work for organisations that offshore activities would perceive a higher level of employer obligations than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology as described in chapter 4 was used to obtain samples to test this hypothesis. The instrument used to measure the levels of employer obligations consisted of 15 items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.89. The data was found to be reliable within the context of this study.

Using SPSS, an independent samples T-test was run to determine if the levels of employer obligations were higher for the offshoring group than for the non-offshoring group. SPSS returned a statistically non-significant result for this hypothesis,  $t(81) = -3.141$ ,  $p(1\text{-tailed}) = p(2\text{-tailed})/2 = 0.092$ .

The hypothesis was, therefore rejected, which means that the perceived employer obligations for the offshoring group were not higher than those of the non-offshoring group. Based on this, the conclusion can be made that offshoring does not affect the perceived employer obligations of knowledge workers in a negative way.

Since the purpose of this hypothesis was to compare the two groups and not to actually test the level of employer obligations of each group, no comment can be made about the actual levels of the two individual groups.

The PC is an important constitutive element of the employment relationship between employees and their organisation (Rousseau, 1995) and the PC is an individual's belief of the mutual expectations and obligations in the context of a relationship with another party (Freese & Schalk, 2008). Based on this result, it can be concluded that offshoring does not influence the employer expectations of a knowledge worker and therefore also does not influence the PC element of the employment relationship between knowledge workers and their organisations.

The PC shapes the employment relationship and governs behaviour within relationship (Freese & Schalk, 2008). Based on this and the abovementioned results, it furthermore means that offshoring will not affect the behaviour of knowledge workers within their employment relationship negatively.

Bligh and Carsten (2005) believe that PCs are critical for understanding employee reactions to change. Freese et al. (2011) stated that the PC is affected when organisational changes are implemented. Based on the abovementioned and the employer obligation results, it can be argued that offshoring does not seem to come across as a major organisational change that actually affects the PC.

It can however not be ignored that the actual period between when the offshoring was implemented and when this research was compiled might have had an influence on the effect that the offshoring change has on the PC. Furthermore, it is more than likely that change management strategies that are implemented by most organisations during organisational changes might have mitigated the actual effect of the change on the PC.

Since PCs also influence employee commitment to their work and therefore their organisation (Conway & Briner, 2005), and since the PC does not seem to negatively influence offshoring, it can be concluded that offshoring would therefore not influence employee commitment to the organisation. This finding is also consistent with the findings that are mentioned in hypothesis 3.

Based on these result, it can lastly be concluded that organisations do not have to be concerned about the effect that offshoring has on the perceived employer obligations of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted only of knowledge workers within this country.

What, however, needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation.

This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### **6.3 Hypothesis 1b – Employee Obligations**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive lower levels of employee obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence from chapter two and three, it was expected that knowledge workers who work for organisations that offshore activities would perceive a lower level of employer obligations than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology as described in chapter four was used to obtain samples to test this hypothesis. The instrument used to measure the levels of employee obligations consisted of 17 items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.92. The data was found to be reliable within the context of this study.

Using SPSS, an independent samples T-test was run to determine if the levels of employer obligations were higher for the offshoring group than for the non-offshoring group. SPSS returned a statistically non-significant result for this hypothesis,  $t(80) = 0.481$ ,  $p(1\text{-tailed}) = p(2\text{-tailed})/2 = 0.316$ .

The hypothesis was, therefore, rejected, which means that the perceived employee obligations for the offshoring group were not lower than those of the non-offshoring group. Based on this the conclusion can be made that offshoring does not affect the perceived employee obligations of knowledge workers in a negative way.

Since the purpose of this hypothesis was to compare the two groups and not to actually test the level of employer obligations of each group, no comment can be made about the actual levels of the two individual groups.

As also mentioned in the previous section, the PC is an important constitutive element of the employment relationship between employees and their organisation (Rousseau, 1995) and the PC is an individual's belief of the mutual expectations and obligations in the context of a relationship with another party (Freese & Schalk, 2008). Based on the results of this research, it can be concluded that offshoring does not influence the perceived employee expectations of a knowledge worker and therefore also does not

influence the PC element of the employment relationship between knowledge workers and their organisations.

The PC shapes the employment relationship and governs behaviour within relationship (Freese & Schalk, 2008). Based on this and the abovementioned results, it furthermore means that offshoring will not affect the behaviour of knowledge workers within their employment relationship negatively.

Bligh and Carsten (2005) believe that PCs are critical for understanding employee reactions to change. Freese et al. (2011) stated that the PC is affected when organisational changes are implemented. Based on the abovementioned and the employee obligation results, it can be argued that offshoring does not seem to come across as a major organisational change that actually affects the PC.

It can however not be ignored that the actual period between when the offshoring was implemented and when this research was compiled might have had an influence on the effect that the offshoring change has on the PC. Furthermore, it is more than likely that change management strategies that are implemented by most organisations during organisational changes might have mitigated the actual effect of the change on the PC.

Since PCs also influence employee commitment to their work and therefore their organisation (Conway & Briner, 2005), and since the PC does not seem to negatively influence offshoring, it can be concluded that offshoring would therefore not influence employee commitment to the organisation. This finding is also consistent with the findings that are mentioned in hypothesis 3.

Based on the results, it can lastly be concluded that organisations do not have to be concerned about the effect that offshoring has on the perceived employee obligations of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted only of knowledge workers within this country.

What, however, needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

#### **6.4 Hypothesis 1c – Obligation Differences**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive a bigger difference between employee obligations and employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence from chapter two and three, it was expected that knowledge workers who work for organisations which offshore activities would perceive a bigger difference between employee obligations and employer obligations than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology as described in chapter four was used to obtain samples to test this hypothesis. The difference between perceived employee and employer obligations was calculated using the sample data collected through the employee and employer obligations scales. Since these scales returned high levels of internal consistency (Cronbach alphas of 0.89 and 0.92 respectively), the data was, therefore, found to be reliable within the context of this study.

Using SPSS, an independent samples T-test was run to determine if the difference between perceived employee and employer obligations was higher for the offshoring group than for the non-offshoring group. SPSS returned a statistically significant result for this hypothesis groups,  $t(71.892) = 3.474$ ,  $p(1\text{-tailed}) = p(2\text{-tailed})/2 = 0.0005$ .

The hypothesis was accepted, which meant that the difference between perceived employee and employer obligations for the offshoring group was higher than those of the non-offshoring group. A Cohen's  $d$  ( $d = 0.73$ ) effect size was calculated for this result, showing a medium difference between the groups. This was interpreted as the offshoring group having substantially higher differences between perceived employee and employer obligations than the non-offshoring group, which was seen to be a practically significant result.

Based on this, the conclusion can be made that offshoring does affect the difference between employee and employer obligations of knowledge workers in a negative way, and to a substantial extent.

Since the purpose of this hypothesis was to compare the two groups and not to test the different levels of each group, no comment can be made on the actual levels of the two individual groups.

The result of this hypothesis was found to be very interesting, since the previous two findings, regarding employer obligations and employee obligations, did not show any

significant differences between the offshoring and non-offshoring groups. The only possible explanation that can be proposed is that the combination of two small and insignificant statistical results, has amounted to a large enough value to cause a statistically significant result.

Considering that in the search for balance in modern employment relationships, one of the greatest challenges is to match the needs of organisations and employees (Freese et al., 2011), the finding through this hypothesis test might however be a major concern. Since a balanced PC means that perceived employer obligations and employee obligations are matched, a significant difference between the employer obligation scores and employee obligation scores for knowledge workers in offshoring firms would mean that offshoring causes an unbalanced PC. An unbalanced PC would mean that employees perceived relatively high employer obligations and relatively low employee obligations, which means that employees expect more from the organisation than what they expect to give to the organisation.

This result is therefore quite concerning, since a largely unbalanced PC which has not been breached, means that an employee is very happy with his circumstances, even though he has high expectations of the organisation. This might also mean that the organisation is doing too much for the employment relationship, while the employee does not expect himself to do nearly as much in return.

Based on the result of the research, it can lastly be concluded that organisations have to be concerned about the effect that offshoring has on the difference between the employee and employer obligations levels of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted only of knowledge workers within this country.

What, however also needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### **6.5 Hypothesis 1d – Psychological Contract Breach**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract breach, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence from chapters two and three, it was expected that knowledge workers who work for organisations which offshore activities would perceive higher levels of PC breach than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology as described in chapter 4 was used to obtain samples to test this hypothesis. The instrument used to measure the level of PC breach consisted of 7 items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.88. The data was, therefore, found to be reliable within the context of this study.

Using SPSS, an independent samples T-test was run to determine if the levels of PC breach was higher for the offshoring group than for the non-offshoring group. SPSS returned a statistically significant result for this hypothesis groups,  $t(83) = 2.141$ ,  $p$  (1-tailed) =  $p$  (2-tailed)/2 = 0.017.

The hypothesis was accepted, which meant that the perceived PC breach levels for the offshoring group was higher than those of the non-offshoring group. A Cohen's  $d$  ( $d = 0.48$ ) effect size was calculated for this result, showing a small difference between the groups. This was interpreted as the offshoring group having only slightly higher PC breach levels than the non-offshoring group, which was not seen to be a practically significant result (even though statistically significant).

Since PC breach refers to the cognition that one's organisation has failed to meet one or more obligations within one's PC (Robinson & Morrison, 2000), it can be concluded based on this result, that the business process of offshoring has caused the organisation to fail to meet more obligations than organisations who do not offshore tasks.

The fact that the result was statistically significant but not practically significant does however not mean that the result can be ignored.

Depending on the severity and nature of the PC breach, it may cause employees to withhold their contributions or change their behaviour toward the organisation (Restubog et al., 2006). Based on this it can be argued that knowledge workers who work for organisations that offshore tasks, might withhold their contributions toward their organisation to a larger degree than knowledge workers who work for organisations who do not offshore tasks.

The negative outcomes of PC breach can be mitigated by employee trust in the employer (Parzefall & Coyle-Shapiro, 2011), by the level of organisational support

(Dulac, Coyle-Shapiro, Henderson & Wayne, 2008), and by support from supervisors and mentors (Zagenczyk et al., 2009). Based on this, it can be concluded that organisations that offshore tasks, would need to improve the levels of organisational support, need to improve employee trust perceptions, and also put in place support from supervisors and mentors, to ensure that the PCs of knowledge workers who work for them are not breached.

Furthermore, since employees will downplay their PC breach perceptions if working conditions are satisfactory (Dulac et al., 2008), it can be concluded that if organisations who offshore tasks can ensure that the working conditions remain satisfactory, even when offshoring is implemented, they will be able to reduce possible breaches of the PCs of the knowledge workers.

Based on this, the conclusion can be made that offshoring does affect the PC breach levels of knowledge workers in a negative way, but only to a small extent.

Since the purpose of this hypothesis was to compare the two groups and not to test the PC breach levels of each group, no comment can be made on the actual levels of the two individual groups.

Based on the result, it can lastly be concluded that organisations have to be concerned about the effect that offshoring has on the PC breach levels of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted only of knowledge workers within this country.

What, however, needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### **6.6 Hypothesis 1e – Psychological Contract Violation**

*Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract violation, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence from chapters two and three, it was expected that knowledge workers who work for organisations which offshore activities would perceive higher levels of PC violation than knowledge workers who work for organisations which do not offshore knowledge tasks.

The methodology as described in chapter four was used to obtain samples to test this hypothesis. The instrument used to measure the level of PC violation consisted of six items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.86. The data was, therefore, found to be reliable within the context of this study.

Using SPSS, an independent samples T-test was run to determine if the levels of PC violation was higher for the offshoring group than for the non-offshoring group. SPSS returned a statistically significant result for this hypothesis groups,  $t(83) = 2.080$ ,  $p$  (1-tailed) =  $p$  (2-tailed)/2 = 0.0205.

The hypothesis was accepted, which meant that the perceived PC violation levels for the offshoring group were higher than those of the non-offshoring group. A Cohen's  $d$  ( $d = 0.47$ ) effect size was calculated for this result, showing a small difference between the groups. This was interpreted as the offshoring group having only slightly higher PC violation levels than the non-offshoring group, which was not seen to be a practically significant result (even though statistically significant).

Based on this, the conclusion can be made that offshoring does affect the PC violation levels of knowledge workers in a negative way, but only to a small extent.

Since the purpose of this hypothesis was to compare the two groups and not to test the PC violation levels of each group, no comment can be made on the actual levels of the two individual groups.

Robinson and Morrison (2000) suggested that PC violation refers to the emotional and affective state that may follow from the belief that one's organisation has failed to adequately maintain the PC. Since PC violation is an emotional state that follows PC breach, the alignment of the results of hypothesis 1d and 1e, shows consistency with the abovementioned theory.

Since the perception of PC violation is also associated with lower organisational commitment and trust (Grimmer & Oddy, 2007), it can be concluded that knowledge workers that work for organisation that offshore activities will have lower organisational commitment and trust than knowledge workers who work for organisations that do not offshore activities. Contrary to this it was however found that this was not the case for organisational commitment (through the testing of hypothesis 5), which leads to the conclusion that even though the knowledge workers of offshoring organisations might have a higher level of PC violations than other knowledge workers, it might not be regarded as PC violations based on the scale.

Empirical research has also shown the possible outcomes of PC violation to be, higher turnover, lower trust, lower job satisfaction, higher neglect and lower commitment to the organisation (Conway & Briner, 2005). It can therefore be concluded that organisations that offshore tasks, need to be aware that their knowledge workers might show higher turnover, lower trust, lower job satisfaction, higher neglect and lower commitment.

Based on the results, it can lastly be concluded that organisations have to be concerned about the effect that offshoring has on the PC violation levels of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted of only knowledge workers within this country.

What, however, needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### **6.7 Hypothesis 2 – Job Insecurity**

*Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of job insecurity, than knowledge workers who work for organisation, which do not offshore knowledge tasks.*

Given the evidence from chapter two and three, it was expected that knowledge workers, who work for organisations that offshore activities, would have a higher level of perceived job insecurity than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology, as described in chapter 4, was used to obtain samples to test this hypothesis. The instrument used to measure the perceived level of job security consisted of 4 items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.726. The data was found to be reliable within the context of this study.

Using SPSS, A Mann-Whitney U test was run to determine if the perceived job insecurity was higher for the offshoring group than for the non-offshoring group. The SPSS result returned no statistically significant difference between the two groups,  $U=780$ ,  $z = -0.418$ ,  $p (1\text{-tailed}) = 0.340$ .

The hypothesis was therefore rejected, which means that the perceived job insecurity is either the same for the two groups or higher for the non-offshoring group than for the offshoring group. Based on this, the conclusion can be made that offshoring does not affect the perceived job insecurity of knowledge workers in a negative way.

It must be noted that the purpose of this hypothesis was to compare the two groups and not to actually test the level of perceived job insecurity of each group, and therefore, no comment can be made on the actual levels of the two individual groups.

This result can possibly be explained by the conclusion of Somaya and Williamson (2008) that knowledge workers are renowned to be the most mobile type of workers and their retention within an organisation is difficult to maintain. This might imply that because knowledge workers are so mobile, they have become accustomed to the changing employment relationship in which organisations can no longer exchange commitment and loyalty for a promise of long-term employment (Benson, 2006). If this is in fact the case, the knowledge worker of today will also not be concerned about the reduction in local the local workforce caused by offshoring (Mir et al. , 2007).

The result can also be explained by the research by Horwitz et al. (2003), which found that 39% of knowledge worker turnover is caused by better pay and prospects at other organisations, which means a healthy market exists for alternative employment, which also naturally reduces the feeling of job insecurity.

Furthermore, as stated by Waters and Beruvides (2012), humankind is now in an economy based mainly on knowledge work. It can be argued that today's knowledge worker has come to realise this what value they can bring to various organisations, and are not concerned about the possible reduction in workforce caused by offshoring (Mir et al., 2007), since they can very easily walk over to another organisation and add value there.

Lastly, it can be argued that as mentioned by Benson (2006), it is possible that the organisations and employees involved in the study were successfully influenced by human resource policies intended to retain employees when job security cannot be guaranteed (Benson, 2006).

Based on this result, it can lastly be concluded that organisations do not have to be concerned about the effect that offshoring has on the perceptions of job insecurity of their knowledge workers. This would especially apply to organisations within South Africa, since the research sample consisted of only knowledge workers within this country.

What, however also needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### **6.8 Hypothesis 3 – Organisational Commitment**

*Knowledge workers, who work for organisations which offshore knowledge tasks, show lower levels of organisational commitment, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence given in chapters two and three, it was expected that knowledge workers who work for organisations that offshore activities would have lower levels of organisational commitment than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology as described in chapter 4 was used to obtain samples to test this hypothesis. The instrument used to measure the levels of organisational commitment consisted of 5 items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.75. The data was found to be reliable within the context of this study.

Using SPSS, A Mann-Whitney U test was run to determine if organisation commitment levels were lower for the offshoring group than for the non-offshoring group. The SPSS result returned no statistically significant difference between the two groups,  $U = 799$ ,  $z = -0.099$ ,  $p$  (1-tailed) = 0.462.

The hypothesis was, therefore, rejected, which means that the organisational commitment for the offshoring group was not lower than those of the non-offshoring group. Based on this the conclusion can be made that offshoring does not affect the organisation commitment of knowledge workers in a negative way.

Since the purpose of this hypothesis was to compare the two groups and not to actually test the level of organisational commitment of each group, no comment can be made about the actual levels of the two individual groups.

This result can possibly be explained by the fact that since individuals with a higher position in the firm will be exposed to jobs with higher variety and autonomy, and therefore, show higher levels of commitment compared to their lower-level counterparts (De Clercq & Rius, 2007) and a large percentage of respondents (40% as

shown in section 5.3) were middle management or senior management, this could have greatly affected the sample based on the above statement, and might explain why the expected result was not achieved.

Furthermore, the result can possibly be explained by policies that have successfully been implemented by organisations. Since organisational commitment is so important to organisational success (Dunn, Dastoor & Sims, 2012), and is a well know term in much literature, it can be concluded that organisations would spend sufficient money and time to ensure that the organisational commitment of their employees remain high, especially when implementing a process like offshoring.

Furthermore, since attainment of high levels of workforce commitment is seen as significant goals of human resource management (Geare et al., 2006), it could be implied that organisations would spend substantial amounts of time and resources to ensure this. Most organisations that currently offshore tasks, are big multinational organisations with significant human resources management functions, and it can therefore be argued that such organisations would implement strategies that would ensure organisational commitment of their employees. These large human resource functions would ensure that all employees are reached and that the programs are effective. If such practices were implemented successfully by the offshoring organisations, this result would have been logical.

Another possible explanation for the result is that since organisational commitment is defined as a strong identification with and involvement in the organisation and it is reflected by the employee's acceptance of organisational goals (Knights & Kennedy, 2005), and since the intellectual ability of knowledge workers enables them to understand, analyse, synthesise and evaluate information in complex, dynamic and unpredictable environments, it can be argued that they might be able to understand the business implications and goals of the business better than a regular worker. This would mean that whether a business practice can be seen as positive or negative for the greater organisation, it can be argued that a knowledge worker will not allow it to influence his organisational commitment, since he would understand what the goals of the organisation is and rather try to be aligned to it.

Lastly, as stated by Mustapha and Daud (2012), the commitment of knowledge workers are more occupationally motivated than organisationally motivated. This would imply that knowledge workers are more concerned about business practices that influence their occupational role, than would business practices that influence their

organisation. This might also explain why offshoring does not seem to have an effect on the organisational commitment of knowledge workers.

Based on the result of this research, it can be concluded that organisations do not have to be concerned about the effect that offshoring has on the organisational commitment of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted only of knowledge workers within this country.

What, however, needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### **6.9 Hypothesis 4 – Turnover intention**

*Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of turnover intention, than knowledge workers who work for organisations, which do not offshore knowledge tasks.*

Given the evidence from chapter two and three, it was expected that knowledge workers who work for organisations that offshore activities would show higher levels of turnover intention than knowledge workers who work for organisations who do not offshore knowledge tasks.

The methodology as described in chapter 4 was used to obtain samples to test this hypothesis. The instrument used to measure the turnover intention levels consisted of 4 items and returned a high level of internal consistency as determined by a Cronbach alpha of 0.88. The data was found to be reliable within the context of this study.

Using SPSS, A Mann-Whitney U test was run to determine if the levels of turnover intention was higher for the offshoring group than for the non-offshoring group. The SPSS result returned no statistically significant difference between the two groups,  $U=729$ ,  $z = -0.886$ ,  $p (1\text{-tailed}) = 0.189$ .

The hypothesis was therefore rejected, which means that the turnover intention level for the offshoring group was not higher than those of the non-offshoring group. Based on this the conclusion can be made that offshoring does not affect the turnover intention of knowledge workers in a negative way.

Since the purpose of this hypothesis was to compare the two groups and not to test the turnover intention level of each group, no comment can be made on the actual levels of the two individual groups.

Research has shown that when an employee feels the organisation is not delivering on his/her expectations, they may lead to consequences, such as absenteeism, turnover intention, job dissatisfaction and reduced performance (Schalk & Roe, 2007). Based on this result and the fact that offshoring does not seem to affect the turnover intention of knowledge workers, it can be implied that offshoring does not make knowledge workers feel that the organisation is not delivering on their expectations.

The fact that the research showed turnover intention is not affected by offshoring, means that knowledge workers will also not necessarily decide to leave the organisation because of offshoring.

Furthermore, it can be concluded that organisations do not have to be concerned about the effect that offshoring has on the turnover intention of their knowledge workers. This would especially apply to organisations within South Africa, since the sample consisted only of knowledge workers within this country.

What, however, needs to be taken into account is whether the knowledge workers in the offshoring group were directly affected by the offshoring activities, and whether the offshored activities could just as easily be completed within the local organisation. This was found to be a limitation of this study, since these questions were not asked as part of the questionnaire.

### ***6.10 Conclusion***

As detailed in Chapter 1, the primary objective of this research was to gain an understanding of the impact that knowledge task offshoring has on the employment relationship of knowledge workers. Since a preliminary literature review revealed that the employment relationship was related to constructs like the PC, job insecurity, organisational commitment, and turnover intention, the primary objective was divided into secondary objectives as defined below:

- To gain an understanding of the impact that knowledge task offshoring has on the PC of knowledge workers;
- To gain an understanding of the impact that knowledge task offshoring has on the job insecurity of knowledge workers;

- To gain an understanding of the impact that knowledge task offshoring has on the organisational commitment of knowledge workers;
- To gain an understanding of the impact that knowledge task offshoring has on the turnover intention of knowledge workers.

As discussed in the results of hypotheses 1a, b, c, d and e, it was found that knowledge task offshoring increases the knowledge workers' perception of PC breach and PC violation, and also increases the difference between the employees' perceptions of employer and employee obligations. It was found that offshoring does not affect the employees' perception of employer obligations or employee obligations. All these components are part of the PC and therefore it can be concluded that this particular secondary objective was met.

As discussed in the results of hypothesis 2, it was found that knowledge task offshoring does not affect the job insecurity of knowledge workers negatively (does not increase job insecurity). It can therefore be concluded that this particular secondary objective was met.

As discussed in the results of hypothesis 3, it was found that knowledge task offshoring does not affect the organisational commitment of knowledge workers negatively (does not decrease organisational commitment). It can be therefore be concluded that this particular secondary objective was met.

As discussed in the results of hypothesis 4, it was found that knowledge task offshoring does not affect the turnover intention of knowledge workers negatively (does not increase turnover intention). It can therefore be concluded that this particular secondary objective was met.

Since all the secondary objectives of the study was met, and the literature review proved that the PC, organisational commitment, job insecurity and turnover intention are strongly related to employment relationship between employers and employees, it can be concluded the primary objective of the study was also met.

## Chapter 7 – Conclusion

### 7.1 Introduction

In this chapter, a conclusion is drawn around the main findings of the study, based on the results discussion in chapter 6. Furthermore, the managerial implications of the research, the limitations of the overall research project and recommendations for future research is discussed.

### 7.2 Main Findings of Study

As discussed in Chapter 6, both the primary and secondary objectives of this study were met. By comparing two groups, one consisting of knowledge workers who work for organisations who offshore activities, with another consisting of knowledge workers who work for organisations who do not offshore activities, and by using various components related to the employment relationship, valuable results were obtained.

It was found that offshoring impacts negatively on certain aspects of the employment relationship in the following manners:

- Increases perceptions of PC breach
- Increases perceptions of PC Violation
- Increases the difference between employee perceptions of employer and employee obligations

It was found that offshoring does not impact the following components of the employment relationship negatively:

- Job insecurity
- Turnover intention
- Employee perceptions of employer obligations
- Employee perceptions of employee obligations
- Organisational commitment

These findings improves our understanding of the impact that knowledge task offshoring has on the employment relationship of knowledge workers.

These findings should assist organisations that employ knowledge workers to improve the employment relationship between them and their knowledge workers, especially when the business process of offshoring is planned or being executed.

### ***7.3 Managerial Implications of Findings***

Referring to the discussion of the main findings of the research, a number of managerial implications were derived.

Seeing that offshoring increases the perception of PC breach of employees, it means that employees attribute perceptions that the organisation has failed to meet some of its obligations to the employees. Organisations and managers therefore need to be aware that a planned implementation of an offshoring practice has the potential to cause a PC breach, and should therefore implement strategies to counter this effect. With proper change management procedures, these perceptions of PC breach can possibly be reduced.

Furthermore, seeing that offshoring increases the perception of PC violation of employees, it means that employees would show emotional behaviour following a PC breach related to offshoring. Organisations and managers therefore need to implement human resource strategies to cater for these emotions of betrayal and anger that employees might feel. These strategies should be implemented in organisations where offshoring has already been implemented and especially where proper change management procedures have not been implemented.

As it was also found that offshoring increases the difference between employees' perceptions of employer obligations and employee obligations, it means that employees would expect more from the employer, but would give less to the employer, in an organisation that offshores tasks. This means that managers in such organisations would need to implement strategies that rebuild mutual trust and loyalty, which is required for a relational PC, or adopt strategies that incentivise employees toward a balanced PC.

Lastly, it should be noted that even though this study found that offshoring does not impact the job insecurity, organisational commitment or turnover intention of knowledge workers, organisations and managers should not turn a blind eye to these constructs. Since the literature review showed that knowledge workers are extremely mobile, and so valuable to the future of organisations, managers should always aim to further reduce job insecurity, increase organisational commitment, and reduce turnover intention of these workers.

#### **7.4 Limitations of Research**

The study had several limitations. Firstly, the final samples for both groups were rather small, with the sample of knowledge workers who worked for organisations that offshored activities, consisting of 55 respondents, while the sample of knowledge workers who worked for organisations which did not offshore, only amounting to 30 respondents. It has to be noted that the latter furthermore consisted of a group of 22 respondents who were all aware that their organisations do not offshore activities, and a group of 8 who were not sure whether their organisation offshores activities.

Secondly, the fact that the sample was mainly obtained from respondents within a certain geographic region of South Africa, further limited the applicability of the study to the world stage. South Africa is regarded as a lower labour cost destination, when compared to first world countries, and only a few multinational firms within South Africa actually offshore activities, especially when related to knowledge work. This might furthermore add to the explanation of the small sample sizes.

A third limitation of the study was the sampling method used. Since a purposive sampling method was used, only the organisations, which the researcher and his contacts had access to, were used for data capturing.

A fourth limitation that was found during the hypothesis testing was that there was no indication whether the knowledge workers were directly affected by the offshoring activities. It would have been relevant to ask the respondents whether their organisations offshored tasks that were directly related to their jobs, and furthermore, whether these offshored activities could just as easily be performed by knowledge workers within their local organisation.

#### **7.5 Recommendations for Future Research**

As stated in chapter 1, very little empirical or academic research has been done on the actual effect that offshoring has on the employment relationship, and even less on the employment relationship of knowledge workers in particular. Even though this research has made some worthwhile findings, it will only fill a very small space in the large gap of academic research. The following recommendations are made for future research around this topic.

Firstly, the logical recommendation would be to perform this research on a larger and more diverse group of knowledge workers, throughout the entirety of South Africa. If the sample of respondents is large enough, the researcher will be able to make very

useful conclusions about the differences in knowledge workers based on different demographical groupings. Furthermore, it would be beneficial if the survey would question whether the offshoring affects the knowledge worker directly.

Secondly, it would make sense to run the research in other countries to be able to compare knowledge workers in different countries, and to see how the results differ between countries.

Lastly, considering the importance of retaining knowledge workers in the future, more research is required on what exactly constitutes the employment relationship of knowledge workers, and what the best means would be of retaining these invaluable resources.

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## Appendix A – Research Consistency Matrix

Title: *The impact of knowledge task offshoring on the employment relationships of knowledge workers*

Propositions/Questions/Hypothesis'	Literature Review	Collection Tool	Analysis
<b>Hypothesis 1a:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Freese et al. (2011) Rousseau (1995)	Questionnaire – Section C (Appendix B)	Independent samples t-Test
<b>Hypothesis 1b:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, perceive lower levels of employee obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Freese et al. (2011) Rousseau (1995)	Questionnaire – Section D (Appendix B)	Independent samples t-Test
<b>Hypothesis 1c:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, perceive a bigger difference between employee obligations and employer obligations, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Freese et al. (2011) Rousseau (1995)	Questionnaire – Section C & Section D (Appendix B)	Independent samples t-Test
<b>Hypothesis 1d:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract breach, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Freese et al. (2011) Rousseau (1995)	Questionnaire – Section F (Appendix B)	Independent samples t-Test
<b>Hypothesis 1e:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, perceive higher levels of psychological contract violation, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Freese et al. (2011) Rousseau (1995)	Questionnaire – Section E (Appendix B)	Independent samples t-Test
<b>Hypothesis 2:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of job insecurity, than knowledge workers who work for organisation, which do not offshore knowledge tasks.	De Cuyper & De Witte (2006)	Questionnaire – Section H (Appendix B)	Mann-Whitney U Test
<b>Hypothesis 3:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, show lower levels of organisational commitment, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Mir et al. (2007)	Questionnaire – Section G (Appendix B)	Mann-Whitney U Test
<b>Hypothesis 4:</b> Knowledge workers, who work for organisations which offshore knowledge tasks, show higher levels of turnover intention, than knowledge workers who work for organisations, which do not offshore knowledge tasks.	Schalk & Roe, (2007)	Questionnaire – Section I (Appendix B)	Mann-Whitney U Test

## Appendix B – Proposed Survey Questionnaire

### Section A - General Information

Section	Question	Description of Section/Question	Scale						
<b>A</b>		<b>GENERAL INFORMATION</b> Please fill out the following information							
A-1	1	Age			20-29	30-39	40-49	50+	
A-2	2	Gender					Male	Female	
A-3	3	Ethnicity (if other, please specify)		White	Black	Coloured	Indian	Asian	
A-4	4	Highest level of education (if other, please specify)	Doctorate Degree	Masters Degree	Honours Degree	Bachelors Degree	B.Tech Degree	National diploma	Other
A-5	5	Profession (if other, please specify)		Engineer	IT professional	Analyst	Accounting professional	Scientist	Other
A-6	6	Job Classification (if other, please specify)				Skilled professional	Middle management	Senior management	Other
A-7	7	Current employment contract type (if other, please specify)				Permanent	Contract (1 to 6 months)	Contract (7 to 12 months)	Contract (12 months +)
A-8	8	Duration of employment at current organisation?			Less than 1 year	1-2 Years	2-3 Years	3-4 Years	5 Years +

### Section B – Offshoring of Knowledge tasks

Section	Question	Description of Section/Question	Scale				
<b>B</b>		<b>OFFSHORING OF KNOWLEDGE TASKS</b> Please answer the following questions related to the offshoring of knowledge tasks.  (Definitions: Offshoring - the business practice of moving certain business activities or tasks to foreign units within the same organisation, as a means to lower costs (not to be confused with offshore outsourcing, where business activities are outsourced to other foreign organisations). Knowledge worker - an employee whose job involves developing and using knowledge rather than producing goods or services (usually engineers, IT professionals, accounting professionals, analysts, architects etc. Knowledge task - A task performed by a knowledge worker, which involves using knowledge/expertise rather than producing goods or services.)					
B-9	9	Does your organisation (local office) offshore knowledge tasks to foreign locations (foreign offices) within the greater organisation?			Yes	No	I don't know

### Section C - Employer Obligations

Section	Question	Description of Section/Question	Scale					
<b>C</b>		<b>EMPLOYER OBLIGATIONS</b> Next follows a list of some promises and commitments which organizations sometimes make to their employees. For each, I would like you to consider whether such a promise has been made by this organisation, either formally or informally, and the extent to which it has been fulfilled. Has your organisation promised or committed itself to ...						
C-1	12	Provide you with interesting work?	0 No	1 Yes, But promise not kept at all	2 Yes, but promise only kept a little	3 Yes, promise half kept	4 Yes, but promise largely kept	5 Yes, promise fully kept
C-2	13	Provide you with a reasonably secure job?						
C-3	14	Provide you with good pay for the work you do?						
C-4	15	Provide you with a job that is challenging?						
C-5	16	Allow you to participate in decision-making?						
C-6	17	Provide you with a career?						
C-7	18	Provide a good working atmosphere?						
C-8	19	Ensure fair treatment by managers and supervisors?						
C-9	20	Be flexible in matching demands of non-work roles with work?						
C-10	21	Provide possibilities to work together in a pleasant way?						
C-11	22	Provide you with opportunities to advance and grow?						
C-12	23	Provide you with a safe working environment?						
C-13	24	Improve your future employment prospects?						
C-14	25	Provide an environment free from violence and harassment?						
C-15	26	Help you deal with problems you encounter outside work?						

**Section D - Employee Obligations**

Section	Question	Description of Section/Question	Scale				
			0 No	1 Yes, But promise not kept at all	2 Yes, but promise only kept a little	3 Yes, But promise half kept	4 Yes, Promise largely kept
<b>EMPLOYEE OBLIGATIONS</b>							
The following list consists of some promises and commitments that people sometimes make to their organisation. For each, I would like you to consider whether you made such a promise to this organisation, either formally or informally, and the extent to which it has been fulfilled.							
<b>D</b>		<b>Have you promised or committed yourself to...</b>					
D-1	27	Go to work even if you don't feel particularly well?					
D-2	28	Protect your company's image?					
D-3	29	Show loyalty to the organisation?					
D-4	30	Work overtime or extra hours when required?					
D-5	31	Be polite to customers or the public even when they are being rude and unpleasant to					
D-6	32	Be a good team player?					
D-7	33	Turn up for work on time?					
D-8	34	Assist others with their work?					
D-9	35	Volunteer to do tasks outside your job description?					
D-10	36	Develop your skills to be able to perform well in this job?					
D-11	37	Meet the performance expectations for your job?					
D-12	38	Accept an internal transfer if necessary?					
D-13	39	Provide the organization with innovative suggestions for improvement?					
D-14	40	Develop new skills and improve your current skills?					
D-15	41	Respect the rules and regulations of the company?					
D-16	42	Work enthusiastically on jobs you would prefer not to be doing?					
D-17	43	Take responsibility for your career development?					

**Section E – PC Violation**

Section	Question	Description of Section/Question	Scale				
			1 Strongly Disagree	2 Somewhat Disagree	3 Partly agree, partly disagree	4 Somewhat agree	5 Strongly Agree
<b>EMOTIONS CONCERNING PSYCHOLOGICAL CONTRACT</b>							
Looking overall at how far this organisation has or has not kept its promises and commitments, to what extent do you agree with the following statements?							
<b>E</b>		<b>I feel...</b>					
E-1	44	Happy					
E-2	45	Angry					
E-3	46	Pleased					
E-4	47	Violated					
E-5	48	Dissatisfied					
E-6	49	Grateful					

**Section F – PC Breach**

Section	Question	Description of Section/Question	Scale				
			1 Not at all	2 Partly not	3 Partly not, Partly so	4 Partly so	5 Totally
<b>STATE OF THE PSYCHOLOGICAL CONTRACT</b>							
<b>Please answer the following questions</b>							
F-1	50	Overall, do you feel you are rewarded fairly for the amount of effort you put into your job?					
F-2	51	To what extent do you trust senior management to look after your best interests?					
F-3	52	Do you feel that organisational changes are implemented fairly in your organisation?					
F-4	53	In general, how much do you trust your organisation to keep its promises or commitments to you and other employees?					
F-5	54	Do you feel you are fairly paid for the work you do?					
F-6	55	To what extent do you trust your immediate line manager to look after your best interests?					
F-7	56	Do you feel fairly treated by managers and supervisors?					

**Section G – Organisational Commitment**

Section	Question	Description of Section/Question	Scale				
			1 Strongly Disagree	2 Somewhat Disagree	3 Neither agree or Disagree	4 Somewhat agree	5 Strongly Agree
<b>ORGANISATIONAL COMMITMENT</b>							
<b>Please state to what extent you agree with the following statements</b>							
G-1	57	To know that my own work had made a contribution to the good of the organisation would please me.					
G-2	58	I feel myself to be part of the organization.					
G-3	59	Even if this organisation was not doing too well, I would be reluctant to change to another employer.					
G-4	60	In my work, I like to feel that I am making some effort, not just for myself but for the organization as well.					
G-5	61	I am quite proud to be able to tell people who it is I work for.					

**Section H – Job Insecurity**

Section	Question	Description of Section/Question	Scale				
			1 Strongly Disagree	2 Somewhat Disagree	3 Neither agree or Disagree	4 Somewhat agree	5 Strongly Agree
H		<b>JOB INSECURITY</b> Please answer the following questions					
H-1	62	Chances are, I will soon lose my job					
H-2	63	I am sure I can keep my job					
H-3	64	I feel insecure about the future of my job					
H-4	65	I think I might lose my job in the near future					

**Section I – Turnover intention**

Section	Question	Description of Section/Question	Scale				
			1 Strongly Disagree	2 Somewhat Disagree	3 Neither agree or Disagree	4 Somewhat agree	5 Strongly Agree
I		<b>INTENTION TO QUIT</b> Please answer the following questions					
I-1	66	These days, I often feel like quitting					
I-2	67	Despite the obligations I have made to this organisation, I want to quite my job as soon as possible					
I-3	68	At this moment, I would like to stay with this organisation as long as possible					
I-4	69	If I could, I would quit today					

## Appendix C – Informed Consent Letter



20 June 2013

Dear Respondent

As part of a GIBS research project, I am conducting research on the impact that offshoring knowledge tasks has on the employment relationships of knowledge workers in South Africa.

If you classify yourself as a knowledge worker (regardless if your organisation offshores/doesn't offshore knowledge tasks), I would like to request your assistance in completing an online survey questionnaire. Your valued contribution will assist us in obtaining a better understanding of this interesting relationship.

Definitions:

Offshoring - the business practise of moving certain business activities or tasks to foreign units within the same organisation (not to be confused with offshore outsourcing, where business activities are outsourced to other foreign organisations).

Knowledge worker - an employee whose job involves developing and using knowledge rather than producing goods or services (usually engineers, IT professionals, accounting professionals, etc.)

Knowledge task - A task that can only be performed by a knowledge worker.

The questionnaire has been designed to be simple and quick, and should not take more than 15 minutes of your time. Your participation is voluntary and you can withdraw at any time without penalty. All data will be kept confidential. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact me or my supervisor (details provided below).

Please press "ctrl" while "clicking" on the link below, or copy it to your web browser to access the survey. The closing date for the survey is 30 July 2013.

<http://www.surveymonkey.com/s/xxxxxx> (This link will be updated once the survey has been uploaded)

Your assistance would be greatly appreciated.

Yours Faithfully

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## Appendix D – Statistical Analysis

### *Reliability analysis of instruments*

#### Employer obligation scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.893	.898	15

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PC_ER_O Q1	62.34	154.346	.600	.766	.885
PC_ER_O Q2	61.69	160.215	.532	.475	.888
PC_ER_O Q3	62.51	156.943	.498	.386	.890
PC_ER_O Q4	62.09	151.753	.687	.804	.882
PC_ER_O Q5	62.38	156.261	.539	.453	.888
PC_ER_O Q6	62.35	151.469	.727	.651	.880
PC_ER_O Q7	62.00	152.190	.704	.740	.881
PC_ER_O Q8	61.93	152.924	.716	.713	.881
PC_ER_O Q9	62.55	155.774	.505	.478	.889
PC_ER_O Q10	62.02	155.547	.681	.676	.883
PC_ER_O Q11	62.36	153.949	.650	.606	.883
PC_ER_O Q12	61.61	162.883	.409	.532	.892
PC_ER_O Q13	62.25	151.950	.682	.667	.882
PC_ER_O Q14	61.27	164.295	.399	.390	.892
PC_ER_O Q15	62.71	162.567	.271	.376	.902

#### Employee obligation scale

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.918	.934	17

<b>Item-Total Statistics</b>					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PC_EE_O Q1	83.06	134.104	.385	.545	.921
PC_EE_O Q2	82.82	127.718	.770	.805	.909
PC_EE_O Q3	82.71	129.567	.789	.817	.909
PC_EE_O Q4	82.72	130.062	.686	.766	.911
PC_EE_O Q5	82.66	133.156	.591	.748	.914
PC_EE_O Q6	82.58	133.890	.681	.822	.913
PC_EE_O Q7	82.81	135.464	.476	.536	.917
PC_EE_O Q8	82.49	137.658	.598	.611	.915
PC_EE_O Q9	82.94	127.937	.649	.646	.912
PC_EE_O Q10	82.81	131.107	.729	.766	.911
PC_EE_O Q11	82.84	131.401	.756	.752	.910
PC_EE_O Q12	84.02	125.761	.382	.383	.932
PC_EE_O Q13	83.00	130.119	.724	.610	.911
PC_EE_O Q14	82.86	129.266	.734	.761	.910
PC_EE_O Q15	82.69	135.786	.606	.479	.914
PC_EE_O Q16	83.35	126.445	.767	.762	.909
PC_EE_O Q17	83.14	130.432	.654	.652	.912

**PC breach scale**

<b>Reliability Statistics</b>		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.888	7

<b>Item-Total Statistics</b>					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PC State Q1	20.19	26.774	.620	.620	.877
PC State Q2	20.15	26.822	.699	.552	.867
PC State Q3	20.26	26.551	.646	.503	.873
PC State Q4	20.44	25.820	.667	.504	.871
PC State Q5	20.35	26.541	.644	.638	.874
PC State Q6	19.74	25.932	.723	.756	.864
PC State Q7	19.69	26.548	.759	.775	.861

**PC violation scale**

<b>Reliability Statistics</b>		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.860	.864	6

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PCEmotionQ1	17.55	20.917	.734	.638	.825
PCEmotionQ2	17.53	19.633	.751	.661	.818
PCEmotionQ4	17.06	21.866	.492	.437	.865
PCEmotionQ5	17.74	19.718	.632	.441	.842
PCEmotionQ3	17.65	20.493	.727	.678	.824
PCEmotionQ6	17.76	20.706	.614	.652	.844

**Job insecurity scale**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.729	.742	4

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
JIQ1	6.15	5.512	.579	.427	.635
JIQ2	6.28	6.015	.554	.407	.656
JIQ3	5.53	5.490	.397	.187	.756
JIQ4	6.14	5.266	.589	.348	.625

**Organisational commitment scale**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.753	.778	5

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OC Q1	15.84	7.425	.494	.380	.726
OC Q2	16.34	6.394	.646	.449	.670
OC Q3	17.19	5.964	.397	.215	.781
OC Q4	16.11	6.929	.534	.459	.708
OC Q5	16.36	5.449	.651	.461	.655

**Turnover intention scale**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.881	.882	4

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ItQQ1	6.53	10.562	.657	.521	.881
ItQQ2	7.24	9.968	.853	.762	.805
ItQQ3	6.68	11.124	.676	.495	.872
ItQQ4	7.15	9.607	.796	.714	.825