

**DEVELOPMENT AND EVALUATION
OF A PERSONAL INTERNET-USAGE-AT-WORK STRUCTURAL MODEL**

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DECLARATION

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ABSTRACT

The advent of the internet and smartphones have brought luxuries into the daily routines of people world-wide, who are granted access to use them from basically anywhere in the world. Not only have these technological advances changed the lives of everyday individuals, but they have also brought changes to the world of work and have had a profound impact on the behaviour of employees.

The introduction of the internet into organisations leveraged an array of opportunities, applications and attendant advantages in the place of work, such as, for example, increased speed of communication between employees. However, despite the benefits of the internet in the workplace, internet use during office hours also has a downside. Accessibility to the internet allows employees the opportunity to engage in non-work-related web activities like cyberloafing, and as a consequence possibly increasing the personal internet use (PIU) of employees during office hours.

This study uses the Job Demands-Resources (JD-R) Model as an established theoretical framework to inform the development and evaluation of a PIU structural model, identifying specific antecedents influencing PIU at work. PIU is a valuable construct to investigate, as it is important to understand the level of PIU and what stimulates PIU behaviour in organisations. A review of the literature uncovered many antecedents of PIU, but the primary aim of this study was to examine how specific salient antecedents, that is specific personality traits (Agreeableness, Conscientiousness, Neuroticism, Openness to experience, and Extraversion), different organisational cultures (Clan, Adhocracy, Market and Hierarchy) and specific job demands influence PIU at work.

An ex-post factor correlation design was used to test the formulated hypotheses. Convenience sampling was used to select the sample. Furthermore, quantitative data was collected from 133 employees currently working in organisations. The variables in the proposed structural model were measured by sending a link with a comprehensive questionnaire to employees.

The questionnaire consisted of different measuring instruments, namely the Job Demands-Resources Scale, the Organisational Culture Measuring Instrument, the

Mini-PIPI and a PIU measure. Gender, employee's position in the company and age were measured via biographical questions in the survey.

Twenty-nine proposed hypotheses were tested. Item analysis, partial least squares (PLS) and multiple regression analysis were conducted to analyse the data that was collected and also to report on the nature of the paths.

From the 29 hypotheses formulated for this study, only two were found to be statistically significant, namely the relationship between cyberloafing and e-citizenship, as well as one moderating effect. From the 27 statistically insignificant paths, 17 were related to moderating effects. The statistically insignificant results could be due to many reasons and are discussed in the study.

The study highlights some interesting aspects regarding PIU and its antecedents. Based on the results, possible interventions are suggested to help reduce PIU during office hours. Furthermore, the limitations of the study and recommendations for future research are discussed.

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CHAPTER 1

BACKGROUND TO THE STUDY

1.1. INTRODUCTION

A lack of literature exploring the impact of the internet on daily work routines makes it difficult to state the impact thereof on organisations. The majority of employees have access to the internet, emphasising the significance of understanding employees' internet behaviour in the workplace. The internet has provided employers and organisations with a lot of benefits, such as reducing expenses, increasing access to information and systems, making communication easier and giving organisations access to global markets, to name only a few. Notwithstanding the benefits the internet has introduced into the workplace, the misuse of the organisational internet by employees for personal use has become rampant and is costing organisations money by decreasing employee productivity by up to 40% (Askew et al., 2014).

It is thus important to identify and understand the antecedent factors that influence employees' personal internet use (PIU) behaviour at work in order to reach optimal productivity and to achieve organisational goals/success. Prior studies have found a variety of reasons why employees engage in non-work-related PIU, such as role ambiguity and role conflict (Henle & Blanchard, 2008), self-control (Ugrin, Pearson, & Odom, 2008), self-regulation (Prasad, Lim, & Chen, 2010), perceived benefits, organisational security policies, social norms, habit (Moody & Siponen, 2013), and demographic factors (Jia, Jia, & Karau, 2013). Despite the fact that PIU could be limited through organisational policies, it does not necessarily influence the reasons why employees engage in PIU. Policies might only help to guide the activities in which employees engage (Van Doorn, 2011).

PIU encompasses the use of the organisational internet for non-work-related activities. Employees often engage in these internet activities during office hours through cyberloafing and/or e-citizenship. Both are defined as employees' voluntary use of organisational internet access for non-work-related purposes during office hours (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017).

On the one hand, we have cyberloafing, classified as a form of counterproductive work behaviour (CWB) resulting in production deviance (Askew et al., 2014). Examples of cyberloafing include sending and receiving personal e-mails, posting updates on social networks, online shopping, exploring leisure websites and downloading software such as music (Lieberman, Seidman, McKenna, & Buffardi, 2011). Some researchers refer to cyberloafing as the most prevalent way for employees to waste time at work (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017). According to one survey, 90% of employees admitted that they are guilty of using the internet for non-work-related matters while at work, and 84% said that they often send personal e-mails during office hours (Lieberman et al., 2011). Fox (2007) concludes that employees may engage in cyberloafing activities for as many as five to six hours.

On the other hand, e-citizenship or cybercivism behaviour is a different type of PIU. Contrary to cyberloafing behaviour, e-citizenship behaviour might hold organisational benefits. The behaviour of employees engaging in e-citizenship can be classified as organisational citizenship behaviour. Employees performing e-citizenship activities are able to provide benefits to the organisation – directly through including practices that might help to improve daily work processes and work design, and indirectly to the employee (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017). Examples of e-citizenship include interpersonally targeted internet behaviours (e-citizenship) by employees, such as responding to misdirected e-mails, voluntarily helping peers by sending Web information, or supporting peers online in their successes and setbacks. There are thus two types of PIU – a positive (e-citizenship) and a negative (cyberloafing).

A study done in America found that, due to cyberloafing, a staggering 200.6 million hours of productivity are lost per week (Lim & Chen, 2009). In a study done in 2010, Young concluded that, due to the loss of employee productivity, cyberloafing might cost organisations up to 54 billion dollars a year. Greengard (2000) concludes that more than 50% of internet usage in organisations is for personal use and is not related to work. Blanchard and Henle (2008) found in their study that organisations are unknowingly losing 2 to 2.5 hours per day due to cyberloafing activities by employees.

It is thus important to study both types of PIU behaviour in organisations, as they can have a significant impact on organisational productivity, resulting in decreased or

increased job performance. If specific antecedents can be linked to PIU behaviour at work, it should provide managers with helpful tools to effectively manage employee PIU. Once an organisation understands why its employees engage in PIU during office hours, it will be able to introduce human resource interventions aimed at improving employee engagement.

1.2. RELEVANCE OF THE STUDY/MOTIVATION FOR THE STUDY

The relevance of the study is twofold – both theoretical and practical. As there is very limited research available on the role that the internet has taken in the world of work, this study can produce valuable information for organisations and for possible future research studies.

The theoretical relevance of this study is that it will comprehensively test the extended proposed PIU structural model. As it is an extended proposed model, no other study was found that has tested all the components or the model in its entirety. The study used the JD-R model as a theoretical framework to develop the unique PIU model.

The practical relevance of the study is to investigate how specific salient antecedent variables, such as personal resources, organisational resources and job demands, are linked to/indicative of employees' personal internet use at work. Organisations could use this information to determine which of the above-mentioned factors pose problems within their working/organisational environment. This information can be used to invest in evidence-based HR development interventions and policies on the respective problematic factors that could potentially result in increased PIU at work.

This thesis aimed to create a comprehensive usage study of a PIU-at-work model in a practical context. Lastly, the researcher also aimed to investigate additional paths that could be explored within the model.

The internet offers endless opportunities, and Bill Gates was right when he said that the internet is becoming the town square for the global village of tomorrow (Gates, n.d.). One could argue that it has already become the town square: from the micro-economic scale of your local bakery having a website from which you can buy produce and a designer around the corner selling her clothes on eBay, to the macroeconomic scale, on which states trade arms – the potential is endless. However, it is not just the economics of the town square that can be practised on the internet. The internet also

plays host to all aspects of social life – friendships and relationships with friends, family and acquaintances can all be conducted online on social media. It therefore is relevant for organisations to know what salient variables will entice their employees to the *time square* internet.

PIU is becoming a general act at all levels of the organisation, with the central forms of behaviour being cyberloafing and e-citizenship. The various variables researched in this study provide a platform to better understand which salient variables are related to PIU, and how this could possibly affect an organisation. The research-initiating question is aimed at better understanding PIU in the workplace.

1.3. RESEARCH-INITIATING QUESTION (RIQ)

As a consequence of the above, it can be stated that some employees engage in cyberloafing and others do not, and some engage in e-citizenship and others do not. Also, some employees engage in more cyberloafing than others, and some workers engage in more e-citizenship behaviours than others.

The following research-initiating question was thus the driving force behind the study:

- Why is there variance in personal internet use in the workplace?

1.4. RESEARCH OBJECTIVES

Given the research question, the predominant aim of this study was to develop a nomological network of possible variables influencing the engagement of employees in PIU at work (cyberloafing and e-citizenship). A salient structural model therefore was presented for testing. The insight gained would prove useful in altering/managing PIU activities at work.

The study focused on the following objectives:

Objective 1: Develop a conceptual model that depicts the complex dynamics of the most salient variables proposed to explain the psychological processes underlying PIU.

Objective 2: Determine the strength of the influence of these salient variables on the execution of PIU at work; thus test the fit of the proposed model and assess the significance of the different hypothesised paths.

Objective 3: Evaluate the significance of the hypothesised paths in the model.

Objective 4: Examine modification indices to determine the recommended changes to the model.

Objective 5: Test the interaction effects in the conceptual model with moderated regression.

Objective 6: Highlight the findings and conclusions and suggest implications for organisations.

1.5. DELIMITATIONS

The primary objective of this research study was to determine whether the constructs in the proposed structural model account for the significant variance in PIU (cyberloafing and e-citizenship) by investigating the motivational process of the model and its outcomes. The study therefore places emphasis on how specific salient variables, such as personal resources, organisational resources and job demands, might be related to PIU at work.

The study concentrates on the paths stipulated in the model. Attention is not paid to sub-components of the constructs or hypotheses related to the sub-components. For example, although job demands consist of two sub-dimensions, namely job overload and job insecurity, no individual hypotheses are stated that would test the relationship between the sub-dimensions and, for example, cyberloafing. The reason for this is that the focus is not on hypotheses related to the sub-components of the constructs in the model, but rather on the constructs as a whole and how they relate to each other.

However, specific attention is paid to and hypothesis are formulated for each of the Big-5 personality types, and for each of the four organisational cultures. No effort was made to improve the psychometric properties of the measures utilised, for example manipulating the dataset using factor analyses, item deletion or attendant strategies.

1.6. OUTLINE OF THE RESEARCH STUDY

Chapter 1 provides an overview of PIU at work. This is followed by a discussion of how the proposed PIU model can be applied to investigate PIU at work in organisations. The relevance of the research is discussed and the research objectives are outlined.

Chapter 2 comprises an in-depth literature review to satisfy the theoretical objective of the study. Each of the latent variables of interest is defined, explained and discussed in terms of the existing academic literature. The relationships between these variables of interest are explored, and a theoretical model is developed to graphically portray the theorised relationships.

In Chapter 3, the methodology of this empirical, explanatory research study is presented. This includes a discussion of the research design, the research participants, the measuring instruments and the statistical analyses.

Furthermore, the substantive research hypothesis is outlined, and the structural model is presented. The results derived from the statistical analyses are reported and discussed in Chapter 4.

Lastly, managerial implications related to PIU at work are highlighted in Chapter 5, and practical interventions are discussed. In addition, the limitations of this research study and recommendations for future research endeavours are outlined.

CHAPTER 2

LITERATURE STUDY

2.1. INTRODUCTION

The purpose of this chapter is firstly to investigate the relevant constructs of the study through theoretically defining and explaining the relevant variables from which the proposed structural model was developed. The literature study will therefore focus on past studies done by other researchers to provide the foundational background to and basis for this study. The literature review starts with a short overview of the job demands-resources (JD-R) model, which was used as a conceptual framework to identify and isolate PIU antecedents by focusing on the job demands and the job and personal resources domains of an organisation.

Secondly, this section explains the relationships between the variables by stating the hypotheses. Thereafter, the moderating effect of the proposed structural model is explained. The chapter is concluded with a diagram of the extended proposed structural model.

2.2. A CONCEPTUAL FRAMEWORK FOR THE STUDY (JD-R MODEL)

The JD-R model states that the well-being of an organisation is, inter alia, supported by two basic psychological processes – a stress process and a motivational process. A stress process occurs when employees' job demands exceed their available resources. When employees have sufficient resources, even in abundance, this will lead to a motivational process resulting in positive organisational outcomes (Schaufeli, 2017).

There are numerous models focusing on employee well-being that state that the strain from the job demands employees experience is due to a disturbance of the equilibrium between their available resources and the demands placed on them to excel in their work. The job demands-resources model is a model that is widely used to demonstrate the impact of job stressors and job characteristics on employee health and well-being (Bakker & Demerouti, 2014; Demerouti, Bakker, Nachreiner & Schaufeli, 2001).

Bakker and Demerouti (2014) state that the JD-R model is influenced mainly by the following historical theories: Herzberg's two-factor theory (Herzberg, 1966), the job

characteristics model (Hackman & Oldman, 1980), the demand control model (Karasek, 1979), the effort-reward imbalance model (Siegrist, 1996) and the conservation theory model (Hobfoll, 2001).

As the JD-R model is used only as a conceptual framework for this research study, only the most relevant influence (pertaining to this study), namely the two-factor theory, will be discussed. This theory, in collaboration with the latest JD-R model, was used as a framework for the extended proposed structural model in this research study.

2.2.1 Two-factor theory

Herzberg (1966) developed the two-factor theory, suggesting that employees are motivated through two independent sets of needs. He classified these needs as motivating and hygiene factors. Motivating factors make employees feel good about their jobs, whereas hygiene factors make employees feel dissatisfied at work.

The two-factor theory argues that employees will most likely excel/perform if their job offers motivating factors, such as recognition and responsibility, etc. In the absence of motivating factors, employees will only perform their day-to-day tasks as per their job description.

Additionally, Herzberg proposed a two-dimensional model, in which satisfaction and dissatisfaction are polar opposites. According to Herzberg's theory, issues related to stress and motivation therefore can be addressed by ensuring employees have a balanced exposure to and combination of motivator and hygiene factors.

The two-factor theory can be linked to the current JD-R model, as motivational factors such as recognition will result in the motivational process in the JD-R model. According to Herzberg, hygiene factors will represent the stress process in the JD-R model, as it might cause employees to be dissatisfied at work. This dissatisfaction might result in employees feeling drained, experiencing strain and thus being disengaged.

2.2.2 Job demands-resources model

The job demands model was developed from various models that emphasise the effect of occupational health, stress and well-being. In short, the JD-R model suggests that, through a motivational process, job resources promote engagement and, through an

energy-depletion process (stress), job demands contribute to burnout. This can also be linked to Hertzberg's two-factor theory of motivational and hygiene factors.

Job resources refer to physical, psychological, social and organisational facets of a job that are functional in achieving organisational task goals; secondly, job resources reduce job demands and the accompanying physiological and psychological costs; and thirdly, job resources stimulate personal growth and development in employees (Bakker & Demerouti, 2018).

The initial JD-R model consisted of four core components, namely job demands, job resources, exhaustion and disengagement. Later, Schaufeli and Bakker (2003) proposed that work engagement and burnout should be included in the model. Since then, the model has been used to predict job burnout and the engagement of employees.

The theory behind the JD-R model suggests that the characteristics of the working environment can be classified into two essential categories – job demands and job resources. These two categories induce two independent yet related psychological processes. The one process is the health-impairment process, in which employees become exhausted due to sustained efforts elicited by high job demands, as job demands are the aspects of work that cost energy (Bakker & Demerouti, 2018). This can lead to undesired organisational outcomes, e.g. high absenteeism. The second process is the motivational process. During the motivational process, the accessibility of job resources leads to work engagement and organisational commitment. Job resources are seen as important predictors of work engagement, motivation and work enjoyment (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Another proposition of the JD-R model is that job resources and job demands interact in order to predict employee well-being (Bakker & Demerouti, 2014). Job resources and job demands may have a combined effect on employee well-being. Firstly, the impact of job demands on strain is buffered by job resources. Research has shown that the impact of job demands (work pressure, emotional demands, job overload, etc) is lessened by job resources, such as opportunities for development, autonomy and performance feedback. Thus, employees who have a variety of job resources available to them are shown to cope better with numerous job demands. Secondly, the impact of job resources on engagement/motivation is strengthened by job demands (Bakker

& Demerouti, 2014). Research has shown that job resources can have a positive impact on employee work engagement when there are high job demands. Thus, job resources become valuable to an employee confronted by high/challenging job demands and this, in turn, can foster dedication to the task.

At first, the JD-R model was formulated without the personal resources, as it only took job resources into account. Due to the limitations of employee interaction with the work environment, the model was revised and personal resources were added to better understand employee engagement. Personal resources refer to the psychological characteristics of an individual for functioning successfully in a work environment. Personal resources can thus contribute to the accomplishment of organisational tasks and goals and can be indicative of personal development (Bakker, Brummelhuis, Prins, & Van der Heijden, 2011).

The latter JD-R model, with personal resources as an individual's ability to affect and control their environment successfully, resulted in the model further suggesting that job and personal resources influence employee engagement. This influential relationship is then moderated by the presence of job demands (Bakker et al., 2011). The model therefore indicates that job resources, together with personal resources and job demands, will give rise to two different but related processes (Langenhoven, 2015). In the one process related to motivation, job resources increase employee motivation, resulting in high engagement. On the other hand, burnout might occur as a result of high job demands and low accessibility to resources (Rothmann, Mostert, & Strydom, 2006).

Past studies have concluded that job resources can help to decrease the strain caused by job demands. Employees who might have access to many existing job resources will be able to cope better with job demands (Bakker et al., 2011). In the JD-R model, demands can be utilised to strengthen the impact of job resources on engagement. Research has found that job resources become significant and have a stronger positive impact on employee engagement when job demands are higher (Bakker & Demerouti, 2007). This is why, when employees are under pressure from high job demands, their job resources will become more valuable and driven toward the completion of the task at hand (Bakker & Demerouti, 2007).

In linking the JD-R model to Herzberg theory, it is evident that the health impairment process goes hand in hand with the Herzberg stress process of the two-factor theory. The two motivational processes also serve as a connection between these two theories. Considering the empirical evidence in support of the JD-R model and the theory related to it, Figure 2.1 shows the latest JD-R model, which was used as a conceptual framework for this study.

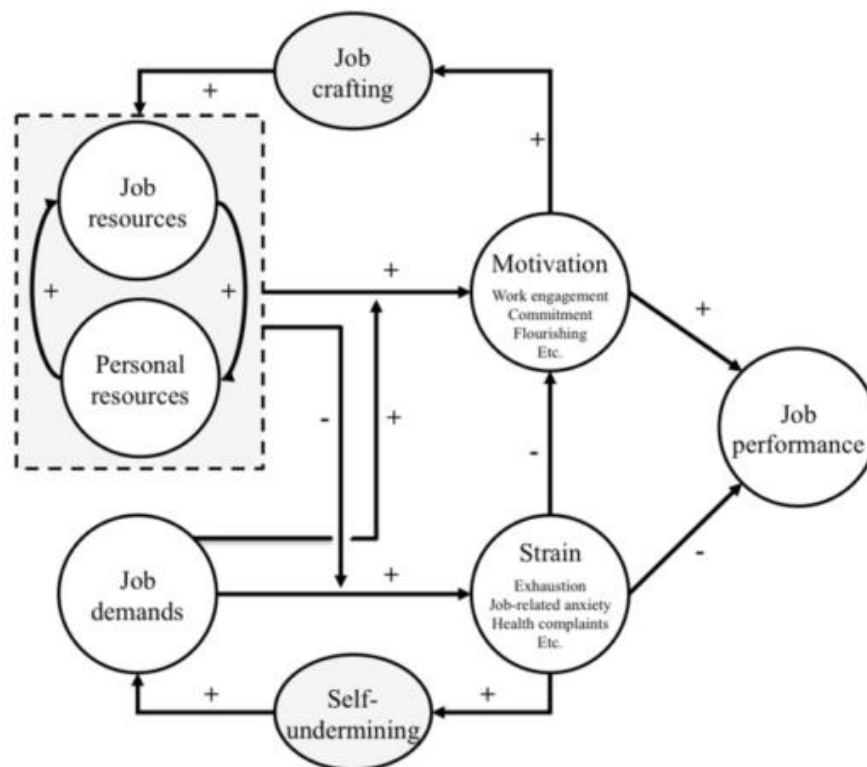


Figure 2.1. JD-R model formulated by Bakker and Demerouti (2018, p.2).

2.3. LATENT VARIABLES

As the primary aim of this study was to research why variance in PIU in the workplace exists, we had to measure specific salient variables such as cyberloafing, e-citizenship and job demands, as well as personal and organisational resources.

2.3.1. Cyberloafing

Cyberloafing is defined as any voluntary act by employees to use their company's internet access during office hours, to surf non-work-related websites for non-work purposes, and to access (including receiving and sending) personal e-mails (Lim & Theo, 2005). A lack of self-regulation is classified as an important determinant of

cyberloafing. Lim and Chen (2012) define cyberloafing as an act of organisational distraction. Cyberloafing is becoming an organisational problem, as employees are wasting quality time in the office, thereby affecting organisational efficiency and productivity (Wagner, Barnes, Lim, & Ferris, 2012).

A study done by Anandarajan (2002) concluded that internet usage during office hours might be a double-edged sword for organisations. Despite the internet being a very efficient business tool, it also enables employees to gain access to the world's biggest playground. Most employees will argue that sending a personal e-mail or checking the cricket score only take a few seconds. A few seconds easily add up to an hour and results in counterproductive work behaviour (CWB). If most employees in an organisation only spend a few seconds on the internet for non-work-related matters, it can become an organisational problem.

A survey done on 1 000 employees in the USA revealed that 64% of the employees participating in the survey use the internet for personal interests during office hours (Cyberslackers at work, 2000). Furthermore, an online survey reported that approximately 84% of employees sent non-job-related e-mails, while 90% surfed the internet. In another study, Verton (2000) states that as much as 30% to 40% of organisational productivity can be lost due to employees surfing the internet for personal purposes.

Without even noticing it, employees using the internet for personal interest during office hours result in a decrease in employee productivity and an increase in organisational costs. Using the internet for non-work-related matters has become a general phenomenon. Cyberloafing is seen as unproductive time management, as it distracts employees from focusing on the job at hand and is therefore considered to be a form of deviant workplace behaviour.

It is easy for employees to engage in cyberloafing, as it is less visible than identifying employees who are loafing by chatting in the kitchen or employees taking regular smoke breaks. With applications like WhatsApp, Pinterest, LinkedIn, etc. available on employees' desktops, cyberloafers can spend a lot of time surfing the internet, switching from one website to the next without anyone noticing it.

2.3.2. E-citizenship

E-citizenship behaviours are classified as a form of organisational citizenship behaviour (OCB), as they might result in positive organisational outcomes. In contrast to cyberloafing, e-citizenship involve the prosocial use of the company's internet and resources. Although e-citizenship behaviour also makes use of the internet for nonwork activities during office hours, e-citizenship, unlike cyberloafing, does not result in CWB. Instead, organisations might benefit from such behaviour, as it might include practices that improve daily work processes and work design indirectly for the employee. E-citizenship activities typically include voluntarily helping peers by sending web information or responding to misdirected e-mails (Manrique-de-Lara, 2013).

2.3.3. Demands

Job demands represent aspects of the job that could potentially cause strain in cases where they exceed the employee's adaptive capability. Job demands are characterised by physical, psychological, social or organisational aspects of an employee's work, requiring physical and/or psychological (cognitive or emotional) effort from an employee. Job demands are often associated with certain physiological and/or psychological costs (Moura, Orgambidez-Ramos, & Goncalves, 2014). It is expected that job demands will have an influence on whether employees engage in PIU at work or not.

2.3.3.1. Job demands

Job demands represent aspects of the job that could potentially cause strain, as demands can exceed or meet resources. When demands exceed resources, they are high and resources are necessary to deal adequately with them. The JD-R model assumes that additional energy or input is required in order to meet work goals when job demands are high. This might come at a psychological and/or physical cost to employees (Schaufeli & Taris, 2014). Employees will attempt to counter the impact of mobilising the extra energy by utilising resources to recover. However, when recovery is not sufficient, this state of sustained activation might gradually lead to the emotional, mental and physical exhaustion of employees (Knardahl & Ursin, as cited in Schaufeli & Taris, 2014).

Some of the most prevalent job demands that employees have to deal with include role conflict, role ambiguity, work pressure, heavy workload, stressful events at work, etc. (Lee & Ashworth, 1996). Furthermore, Schaufeli and Taris (2014) identified various job demands (Table 2.1) in a critical overview of the JD-R model.

Table 2.1
List of Job Demands

Job demands	
<ul style="list-style-type: none"> - Centralisation - Cognitive demands - Complexity - Computer problems - Demanding contacts with patients - Downsizing - Emotional demands - Emotional dissonance - Impersonal conflict - Job insecurity - Negative spill-over from family to work - Harassment by patients - Performance demands - Physical demands - Problem planning 	<ul style="list-style-type: none"> - Pupils' misbehaviour - Qualitative workload - Reorganisation - Remuneration - Responsibility - Risks and hazards - Role ambiguity - Role conflict - Sexual harassment - Time pressure - Unfavourable shift-work pressure - Unfavourable working conditions - Work pressure - Work-home conflict - Work overload

According to Schaufeli and Taris (2014), the nature of the job demands can affect work engagement either negatively or positively. Numerous demands might increase an employee's probability to engage in cyberloafing behaviour. Job demands are not always negative, but may lead to job stress when employees are confronted by demands that require effort when they have not recovered from the stress caused by previous demands, or when they do not have the necessary resources available (Watanabe & Yamauchi, 2016).

Job demands can further be explained through three distinct states. Firstly, when job demands can meet resources, it could be reasoned that employees have sufficient resources to meet their high job demands. For example, employees with a high workload are provided with free coaching sessions once a month in which they can be taught the skills to effectively manage their workload and develop coping mechanisms to deal with their demands in a timely and effective manner. This refers to the motivational process that encourages growth by learning the skills to utilise resources and adapt to challenges (Derks, Bakker, Peters, & Van Wingerden, 2015). According

to Bakker (2011), in the presence of high job demands, job resources become relevant and have the potential to motivate employees to utilise these resources to meet demands (challenges). If employees are not confronted by high job demands, their available resources would not become evident and therefore not be utilised. Furthermore, the motivating power of utilising resources encourages employee growth, development and learning as alternative methods for dealing with high demands are sought (Bakker & Demerouti, 2007). Consequently, when employees are faced with certain job demands, they can utilise their resources readily to meet those demands.

Secondly, job demands can exceed job and personal resources. This occurs when employees are faced with high job demands and do not have enough resources to meet these high demands. For example, the environment within which the employee is working may not be able to provide the resources needed to effectively deal with the demands.

Some studies have suggested that engaging in cyberloafing when experiencing high job demands might be beneficial, as it can help employees to reduce their state of emotional exhaustion, it can act as a form of stress reliever, it might stimulate creativity and it can increase employees' job-related knowledge (Moura et al., 2014). Lim and Chen (2012) highlight the 'recovery' impact that cyberloafing can have on employees when employees engage in cyberloafing behaviour as a mode of recovery and relief from work stress. As a result of these positive effects that cyberloafing can have on employees, it might help employees to perform better. Interestingly, a study done found a positive link between cyberloafing and productivity. Sadly, most organisations do not see the benefits that cyberloafing might bring and only focus on the negative implications of such deviant workplace behaviour (Barraza, Smith, Mi, & Park, 2009).

Due to high job demands, employees often experience increased levels of stress and exhaustion, which are related to negative emotions such as anxiety (Rothmann et al., 2006). In order to cope, employees experiencing negative emotions have a higher probability to engage in counterproductive work behaviour that violates organisational norms. In these situations, cyberloafing is often used as a coping mechanism (Moura et al., 2014). By applying General Strain Theory, engaging in cyberloafing can be

interpreted as a form of corrective action to lessen the negative emotions stemming from job stress. Again, cyberloafing is used to cope with high job demands.

Lastly, job resources can exceed the demands of the job. Interestingly, when resources exceed demands, employees might become bored at work, as work can become dull. This could occur when employees are given too much time to complete work and do not have deadlines. An employee may have an abundance of resources but might not be able to utilise these, as minimal demands are present to do so. Over time, this can negatively impact employee engagement and, in turn, employee performance.

It therefore is essential that employees have sufficient job demands that challenge them in order to keep them engaged, yet these should not become a hindrance to their performance if they are unable to meet the high demands. As mentioned earlier, employees are often faced with job demands in the form of job overload and job insecurities. These are explained in the following section.

2.3.4. Resources

The JD-R model formulated by Demerouti et al. (2001) acknowledges that personal resources and organisational resources might influence employees' behaviour at work. Resources can help employees to buffer the negative effects that job demands and other variables might have on employees. The more demanding a job becomes, the more employees will rely on resources to help them direct their attention towards the task at hand. Sufficient resources are very important in order for employees to stay engaged and focused on their work. Different resources will help employees in different spheres of their job and personal life. Although there are many resources that can help employees to function at their optimal level of efficiency, this study focuses on one job resource, namely organisational culture, and on specific personal resources, namely personality traits.

2.3.4.1. Job resources

Job resources can be found at various levels in an organisation. At the organisational level, resources are evident in, for example, career opportunities or salaries. On an interpersonal level, resources are evident in the team climate or the supervisor's level of support. On the work level, resources are for example interpreted as job control or

role clarity, whereas at the task level resources would be regarded as autonomy or performance feedback (Bakker, Demerouti, & Schaufeli, 2003).

According to Bakker and Demerouti (2008), job resources play an essential role in motivating employees in the organisation in either an extrinsic or an intrinsic way. Job resources can motivate employees intrinsically through learning, development and growth opportunities. When this happens, basic human needs such as the need for autonomy are fulfilled. In contrast, job resources can also serve as an extrinsic motivational factor whereby an individual's willingness to dedicate effort and abilities to his or her work is fostered by an environment that offers many resources. In these environments, the likelihood of task completion and goal attainment is usually increased.

According to Hobfoll and Shirom (2001), employees need to contribute resources in order to prevent the total loss of resources. When employees contribute resources, the susceptibility to resource loss is decreased with increased accessibility to a greater pool of resources. Further, employees who have strong resources available are more likely to risk resources for an increased resource gain.

Job resources and personal resources are regarded as essential in order to keep employees engaged and for the organisation to function at an optimal level. Bakker (2011) is of the opinion that engaged employees will try to increase their job resources through mobilising their social network and asking for feedback from supervisors.

In a critical overview of the JD-R model, Schaufeli and Taris (2014) identified the job resources listed in Table 2.2

Table 2.2

List of Job Resources

Job resources	
<ul style="list-style-type: none"> - Advancement - Appreciation - Autonomy - Craftsmanship - Financial rewards - Goal clarity - Information - Innovative climate - Job challenge - Knowledge - Leadership 	<ul style="list-style-type: none"> - Safety climate - Safety routine violations - Social support from colleagues - Social support from supervisors - Skills utilisation - Strategic planning - Supervisory coaching - Task variety - Team cohesion - Team harmony - Trust in management

Table 2.2
List of Job Resources (Continued)

Job resources	
<ul style="list-style-type: none"> - Opportunities for professional development - Participation in decision making - Performance feedback - Positive spill-over from family to work - Professional pride - Procedural fairness - Positive patient contacts - Quality of the relationship with the supervisor 	

2.3.4.2. Personal resources

Personal resources refer to those intrinsic resources of the employee that can be utilised within the working environment. Personal resources can be defined as an individual's sense of ability to impact and control his/her environment successfully. It is generally an individual trait that can often be linked to being resilient. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009) state that personal resources are useful in helping employees to achieve personal goals to protect themselves from pressure and the associated psychological and physiological costs. Personal resources further help to stimulate development and personal growth in an employee. Bakker et al. (2008) found that certain personal resources might be linked to positive organisational outcomes, such as higher motivation, goal setting, adaptability, performance and other positive outcomes due to the related self-evaluations they produce.

As mentioned earlier, the combination of personal resources and job resources nurtures a degree of personal learning, development and growth. This enables an employee to mobilise his/her resources effectively in order to meet the required job demands (Bakker, 2011).

In Table 2.3 are the personal resources identified by Schaufeli and Taris (2014).

Table 2.3

List of Personal Resources

Personal resources	
<ul style="list-style-type: none"> - Emotional and mental competencies - Extraversion - Hope - Intrinsic motivation - Low neuroticism - Optimism - Resilience 	<ul style="list-style-type: none"> - Needs satisfaction (autonomy, belongingness, competence) - Organisation-based self-esteem - Regulatory focus (prevention and promotion focus) - Self-efficacy - Value orientation (intrinsic/extrinsic values)

2.4. RELATIONSHIPS BETWEEN VARIABLES**2.4.1. Cyberloafing as CWB**

CWB is focused on behaviour that might possibly be destructive or damaging to either the organisation and/or colleagues. CWB has a wide definition and includes behaviours such as stealing, verbal abuse, dishonesty, being uncooperative and working slowly, etc. From an organisational perspective, when employees are using the organisation's internet for personal matters, it is a form of disengagement and can thus be interpreted as CWB.

As cyberloafing entails that employees might be working slower, not cooperating fully during team tasks and even lying about what one is busy working on, cyberloafing is seen as CWB that might lead to negative organisational outcomes.

Numerous factors can have an influence on whether an employee is likely to engage in CWB or not. In this regard, personality traits such as conscientiousness and self-control give an indication of whether or not an individual is likely to engage in CWB such as cyberloafing.

2.4.2. E-citizenship behaviour as OCB

OCB constitutes a valued and prevalent benefit for organisations. OCB can be defined as the voluntary and discretionary behaviour of employees that, in the aggregate, is expected to promote overall organisational efficacy (Zoghbi Manrique de Lara, 2007).

E-citizenship is described as care and help for the organisation's information system and its users. The common denominator of most OCB antecedents is comprised of an

individual's positive judgments about several elements of his or her work environment, organisation, and workgroup (Zoghbi Manrique de Lara, 2007).

Studies have found several possible reasons why e-citizenship behaviour is expected to promote organisational effectiveness and enhance performance (Zoghbi Manrique de Lara, 2007). OCB contributes to positive organisational outcomes such as customer satisfaction, productivity, employee commitment and cohesion, etc. (Chowdhury, 2015). OCB is often used to describe the positive voluntary behaviour of employees. Usually, these behaviours are not expected of the employee and are therefore mostly carried out in the spirit of helping colleagues, as well as to act in the best interests of the organisation.

OCB can therefore be defined as behaviours that individuals exhibit voluntarily (in addition to their official role) with the aim of helping others in the organisation. When employees engage in e-citizenship behaviour, they are voluntarily helping others or the organisation.

From the above, the following hypothesis was formulated regarding the outcomes of PIU during office hours.

Hypothesis 1: Cyberloafing has a significant negative linear relationship with e-citizenship.

2.4.3. Job overload

Ganster and Schaubroeck (1991) conclude that individuals who experience job overload are more likely to disengage from their work and withdraw in order to replenish their diminishing energy levels. In 2005, Leiter and Maslach concluded that work overload might drive employees to a state of exhaustion, resulting in employees burning out. Work overload is prevalent when employees' high job demands exceed the time and resources available to meet the required demands. Accordingly, work overload can lead to employees being stressed, resulting in burnout where the requirements of the job do not meet the capabilities, resources or needs of the employee (Gryna, 2004).

A study done by French and Caplan (1981) distinguished between four different types of work overload, namely subjective, objective, and quantitative and qualitative job overload. According to them, objective overload is the actual amount of information

employees have to process within a given time. Subjective overload is the employee's perception of the amount of work he/she has, its level of difficulty and his/her ability to perform as expected (Pines, Aronson, & Kafry, 1981).

Qualitative and quantitative overload are associated with physiological and psychological indices of stress. Quantitative overload implies that an employee has more work tasks to do than what is attainable within a given period of time. Lastly, qualitative overload implies that the job role requires knowledge and skills surpassing that of the employee within the role.

Studies have found that employees who experience job overload demonstrate increased smoking habits, increased heart rate and serum cholesterol levels, increased job dissatisfaction and tension, as well as lower levels of self-esteem (Pine et al., 1981).

2.4.4. Job insecurity

Job insecurity refers to when employees fear that they might become unemployed in the near future due to the loss of their job. According to Greenhalgh and Rosenblatt (1984, p. 440), job insecurity refers to the "powerlessness to maintain desired continuity in a threatened job situation". Greenhalgh and Rosenblatt (1984) further state that the experienced threat of job insecurity is intensified by employees' sense of powerlessness regarding the situation.

A study done by McLaurine found that job insecurity was a significant factor that is negatively related to employee engagement. They further concluded that employees' levels of engagement and burnout are impacted by how secure they feel about their work (McLaurine, 2008).

While there are numerous job demands that can lead to cyberloafing, most variables used to measure job demands appear to represent predictors of work demands, and not work demands per se. Demand is a perceptual construct that accounts for employees' overall view of their work, their work responsibilities and insecurities. This includes pressure that originates from within the individual or from their environment. Employees therefore can experience positive, negative, or neutral emotions towards their perceived job demands (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017). The emotions employees experience will differ from individual to individual, as each one

has a different personality type that influences how he/she reacts to the world around them (Kargas & Varoutas, 2015).

It is clear that employees are regularly faced with overload and job insecurities, and that this might be the reason why some employees engage more in PIU at work than others. This study therefore will incorporate work overload and job insecurity as job demands in order to assess the relationship these two might have with employees engaging in PIU at work.

Hypothesis 2: *Job demands have a significant positive linear relationship with cyberloafing.*

2.4.5. Organisational culture as a job resource

According to Schreurs, De Cuyper, Van Emmerik, Notelaers, and De Witte (2011), job resources refer to the physical, psychological, social or organisational characteristics of the job. These characteristics can be useful in helping employees reach reduced job demands and the associated physiological and psychological costs. Furthermore, they might help the employee to be functional in achieving work goals, and to stimulate personal growth, as well as learning and development (Barraza et al., 2009). Job resources are not limited to only these characteristics; they are also present in the larger organisational context, such as in career opportunities, interpersonal relationships, organisational culture, etc. (Bakker, Demerouti, & Schaufeli, 2003).

An organisation's culture includes the expectations the organisation might have, the experience it has gained over the years, its philosophy about doing business and about life, and the values that hold the organisation together (Kargas & Varoutas, 2015). Furthermore, it is mostly based on shared attitudes, beliefs and customs, and written as well as unwritten rules the organisation might have. An organisation's corporate culture is firstly evident in the way the organisation conducts business – how it treats its employees and clients. Secondly, it is visible in the extent to which freedom is allowed; thirdly in how power and information flow through the organisation's hierarchy; and lastly in how committed the employees of the organisation are towards the organisation's goals and vision (Organisational Cultural Assessment Instrument [OCAI], 2018).

Social learning theory

The social learning theory of Bandura offers a rationale with which to justify why colleagues' performance and behaviours can influence employees to engage in PIU. According to Bandura (1997), employees will observe the consequences of others' behaviour (such as that of their colleagues), and then use this information to ethically guide their own behaviour. The theory focuses on learning that occurs within a social context, implying that people learn from one another. It proposes that people can learn new behaviours by observing others (McCullough Chavis, 2011).

Social learning theory rests on the rudimentary theory that human behaviour is learned rather than innate (Anderson & Kras, 2007). It focuses on external stimuli to deconstruct behaviour in connection with the response. The theory states that response patterns to certain stimuli are learned through experience or observation. Bandura (1973) was of the opinion that most responses are learned involuntarily or on purpose through example. This component of the theory is essential to understand the process or why employees engage in PIU. Bandura also states that no other influence is more powerful and omnipresent regarding how people learn behaviour than the actions of others.

Social learning theory suggests that behaviour is controlled through three governing systems, namely antecedent inducement, response feedback and cognitive functioning. The antecedent inducement greatly influences the time of and response to the behaviour. This entails that the stimuli that occur before a behavioural response is executed must be appropriate in relation to the social context and performers (Anderson & Kras, 2007).

Secondly, the feedback response serves an important function. The reoccurrence of the behaviour will be greatly affected by the response. The reinforcement, through the experience or observation that follows the behaviour, helps to direct future behaviour. Lastly, cognitive association allows for the connection of the stimuli and the response.

Social learning theory further states that modelling is essential in order to learn behaviour, as are repetition and symbolic reinforcement. An individual must have the initiative to respond or behave in a certain way. Also, a stimulus must be delivered at the appropriate time, and it must be consistent and associated with the response. The response will be the desired or undesired behaviour that follows the stimulus. Finally,

in order for the behaviour to be reinforced or learned by the individual, some kind of reward must follow the occurrence of a particular response (Anderson & Kras, 2007). Skinner (1974) concludes that whatever follows behaviour (the consequences of behaviour) can either increase or decrease the occurrence, duration, or intensity of the behaviour.

As employees in an organisation are in daily contact with their colleagues, the behaviour of those around them will unknowingly be learned. Different organisational cultures will have different policies and behavioural patterns within the organisation. It is predicted that four main organisational cultures will affect how employees within these organisations behave and use the organisational internet.

2.4.6. Organisational cultures (Job resource)

Cultures and the social environment shape individual behaviour. Today's social environment is one of many challenges. This warrants the use of evidence-based practices that focus on culture to meet needs. Being social beings, individuals carry within them their cultural experiences, which affect most aspects of their behaviour (McCullough Chavis, 2011).

According to research, most organisational cultures can be classified into one of four different culture clusters/categories – Clan Culture, Adhocracy Culture, Market Culture and Hierarchy Culture (Figure 2.2). Each organisation's culture is unique. Consequently, an organisational culture that works for one organisation might not guarantee success for another organisation (Kapur, 2018).

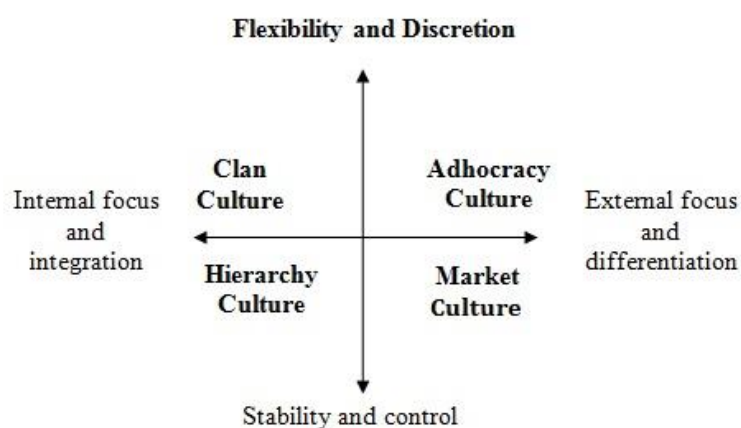


Figure 2.2. The four different organisational cultures (Kargas & Varoutas, 2015, p.8).

Clan Culture

Clan culture is mostly known for fostering an employee- and family-friendly working environment (Kargas & Varoutas, 2015). This culture supports an open and friendly place in which to work, where people share a lot of themselves (Kargas & Varoutas, 2015). Employees usually have a lot in common. Leaders are seen as mentors, taking on the “father” or “mother” role within the organisational family. These organisations are usually held together by the loyalty and morale of employees and by strong organisational traditions. Clan cultures value commitment, communication and development, and will often encourage teamwork, participation and consensus among employees (OCAI, 2018). Furthermore, they are found to place emphasis on the long-term benefits of development, and great importance is given to group cohesion (Kargas & Varoutas, 2015).

As clan cultures value commitment and are family oriented, one can assume that employees will be loyal towards their organisation and carry their organisational family’ best interest at heart. It can thus be supposed that employees working in an organisation with a clan culture will be committed to their “family” and give their all. These employees will try to avoid behaviour that might entail negative consequences for their organisational family.

Accordingly, the following hypothesis was formulated:

Hypothesis 3: Clan cultures are significantly positively related to e-citizenship.

Adhocracy Culture

Organisations fostering an adhocracy organisational culture will encourage a dynamic and creative working environment. Employees might even be encouraged to take risks, as leaders are usually innovative and risk takers (Kargas & Varoutas, 2015). These organisations encourage employees to experience new things, thereby promoting employee freedom and encouraging employees to use their creativity. As these organisations are mostly seen as visionary, innovative and entrepreneurial organisations, they focus mostly on long-term growth and on creating new resources along the way. Since these organisations encourage innovations by their employees, they will commonly celebrate organisational success when new products or services are industrialised (Kargas & Varoutas, 2015; OCAI, 2018).

This study thus assumes that employees expressing their creativity and having freedom in adhocracy organisational cultures are more likely to surf the internet, which might result in cyberloafing.

Consequently, the following hypothesis was proposed:

Hypothesis 4: *Adhocracy organisational cultures have a significant negative linear relationship with e-citizenship.*

Market Culture

Organisations with a market culture are results based and emphasise finished works or job completion. Employees working in these organisations are typically very competitive and goal driven. Leaders of market culture organisations tend to be hard drivers, producers, and rivals (Kargas & Varoutas, 2015). They are usually tough and have high expectations of their employees. As the corporate world can be demanding, these organisations are driven to be winners in their industries, and they value the organisation's reputation and success (Kargas & Varoutas, 2015). In these organisations, success is classified by their market reputation and their market share/stock exchange prices. Market culture organisations are very goal driven and place a high emphasis on effectiveness, as this will increase profitability (Kargas & Varoutas, 2015; OCAI, 2018).

This study proposes that market cultures emphasise employee commitment resulting in e-citizenship, and consequently the following hypothesis was proposed:

Hypothesis 5: *Market cultures have a significant, positive linear relationship with e-citizenship.*

Hierarchy Culture

Hierarchy organisational cultures are formalised and structured work environments in which rules and procedures govern behaviour. Due to these rigid working environments, employees have to abide by the rules, as procedures decide what employees will be doing. Leaders see the optimal functioning of the organisation as crucial, and therefore they prefer having formal policies and rules in place to ensure optimal functioning. These organisations are driven by efficiency, consistency and

uniformity (OCAI, 2018). Stability, performance and efficient operations are the long-term goals, and success means dependable delivery, smooth scheduling, and low cost (Kargas & Varoutas, 2015).

This study suggests that, due to the strict power play in hierarchy organisational cultures, these cultures strongly condemn cyberloafing.

The following hypothesis was therefore proposed:

Hypothesis 6: Hierarchy organisational cultures have a significant positive linear relationship with e-citizenship.

2.4.7. Personality traits as a personal resource

Personal resources refer to an individual's sense of his/her ability to successfully control and have an impact on the environment (Bakker, 2015). Furthermore, these resources are situated within individuals themselves and can be defined as "positive self-evaluation that is linked to resiliency and refers to an individual's sense of their ability to control and impact their environment successfully" (Hobfoll, Johnson, Ennis, & Jackson, 2003). Certain personal resources have been found to be related to outcomes such as goal-setting, determination, performance and other desired behavioural outcomes (Bakker, 2015).

Each employee is unique and has a unique personality make-up. It is thus important to look at individual differences when analysing why certain employees flourish in specific work environments or work settings, where others simply struggle to cope.

For the purpose of this study, the Big Five personality traits were studied and linked to PIU. The Big Five personality traits are Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness.

2.4.7.1. Big five personality traits (Personal resource)

Each individual is unique and has a different personality "make-up" – no one person has the same personality factors as another. The five-factor model is based on the personality traits embedded within an individual, which comprise the broad domains of one's personality. These broad personality traits could influence an employee's tendency to engage in PIU at work.

The Big Five Personality Model is considered the most comprehensive and accepted measurement of personality (Mayfield, Perdue, & Wooten, 2008). The five dimensions of the big five, as defined in Table 2.4, have been derived from extensive statistical analysis and have been proven to remain stable across situations. Each of the five factors comprises groups of personality traits that correlate closely with one another (Hunter, 2014). The Big Five Personality Factors are extraversion, neuroticism (emotional stability), agreeableness, conscientiousness, and openness to experience. Research shows that these five factors are compatible across various cultural and national groups (Hunter, 2014).

Table 2.4
Big Five Personality Traits (Mayfield et al., 2008)

Big 5 Personality	
Trait	Description
Extraversion (E)	High scores indicate assertiveness, sociability, talkativeness, optimism, and being upbeat and energetic.
Agreeableness (A)	High scores indicate altruism, personal warmth, sympathy towards others, helpfulness, and cooperation.
Conscientiousness (C)	High scores indicate purposefulness, being strong-willed, determination, organisation, reliability, and punctuality.
Openness to experience (O)	High scores indicate an active imagination, aesthetic sensitivity, a preference for variety, intellectual curiosity, and broad cultural interest.
Neuroticism (N)	High scores indicate tenseness, moodiness, anxiety, and insecurity.

Extraversion

Extraversion and introversion refer to form where an individual draws energy. Extravert individuals prefer social interaction with others and can be described as outgoing, assertive and energetic, where a more introverted person is reserved, timid, and quiet (Ackerman, 2017).

Extravert individuals are usually adventurous, assertive, sociable and talkative. These individuals have a desire for excitement and a need for stimulation (Anic, 2007). As stated in Table 2.4, extraverted individuals generally possess dispositional optimism. Optimistic individuals generally display a higher tendency to undertake risk (Belcher, 2007) and will continue to remain confident about the future, even in the face of negative events such as production deviance or missing tight deadlines.

A study found that extravert employees tend to be more confident in their abilities than those who are more introverted in nature (Ackerman, 2017). This tendency towards

being confident or even overconfident may result in these employees pushing boundaries or taking risks.

Based on these arguments, it is possible to conclude that extroverted employees will be more confident in their own abilities. As extroverted employees are also known to be social and energetic, they might engage more in social media networks than less-extroverted employees. As can be seen from Table 2.4, extroverted employees prefer a more upbeat, optimistic and lively lifestyle. They will thus prefer engaging in stimuli such as cyberloafing to keep life and work exiting. It is therefore predicted that extroversion will be positively related to cyberloafing.

A significant correlation between extraversion and sensation seeking has also been reported (Aluja, Garcia, & Garcia, 2003). Excitement-seeking individuals have a desire for excitement and a need for stimulation (Costa & McCrae, 1992). The internet can stimulate these employees in various ways, ranging from planning a holiday, commenting on social media posts or following a live court case or sports event. Therefore extroverted employees with a high need for stimulation or sensation seeking are expected to engage in cyberloafing as PIU during office hours.

Consequently, the following hypothesis was predicted:

Hypothesis 7: Extroversion has a significant negative linear relationship with e-citizenship.

Agreeableness

Agreeableness can be interpreted as the degree to which individuals are cooperative, warm and agreeable. People scoring low on the agreeable scale tend to be cold, disagreeable, rude, and antagonistic (Ackerman, 2017).

Agreeableness includes the ability of an individual to be flexible, courteous, and tolerant. Individuals high in agreeableness are likely to be gentle and compassionate when communicating with others (Brink, 2014). These individuals are perceived to have a general concern for the well-being of others, show sympathy and are often trusted (Anic, 2007).

This study assumes that agreeable employees will have a concern for the well-being of others and their organisation, as they are determined and reliable individuals. They

will consequently only engage in PIU if it can be to the benefit of the organisation. Thus, agreeableness will be positively related to e-citizenship behaviour, and the following hypothesis was presumed:

Hypothesis 8: Agreeableness has a significant, positive linear relationship with e-citizenship.

Conscientiousness

Conscientiousness refers to the degree to which individuals are hardworking, organised, dependable, reliable, and persevering. Conscientious behaviour is often interpreted as goal-directed behaviour, versus lazy, unorganised, and unreliable behaviour (Ackerman, 2017). Conscientiousness implies a desire to do a task well, and to take obligations to others seriously.

Individuals who are conscientious are said to be careful and hard workers. Individuals high in conscientiousness tend to have a preference for order and structured procedures, and are known for exerting high levels of effort when doing a task.

Conscientiousness is a measure of goal-directed behaviour and the level of control an individual has over impulses (Charles & Kasilingham, 2014). Highly conscientious individuals have the ability and tendency to exert control over their behaviour and impulses in order to follow socially prescribed norms and rules, as well as personal goals (Rustichini, De Young, Anderson, & Burks, 2012). This subsumes several other traits, such as self-discipline, self-efficacy, thoroughness, deliberation, and need for achievement. Studies have found that the more conscientious individuals are, the more competent, dutiful, orderly, responsible and thorough they tend to be (McCrae & Costa, 1991).

Conscientiousness as defined above can be argued to have a positive, linear relationship with e-citizenship. The need for employees to master difficult challenges and to meet high organisational and personal standards is related to excellence and self-efficacy. This further strengthens the employee's belief in his/her own abilities to reach desired organisational and/or personal goals. Being focused on goals, these employees can be argued not to engage in PIU as often due to their high standards of excellence. As a result of this, the following hypothesis was stated:

Hypothesis 9: *Conscientiousness has a significant, positive linear relationship with e-citizenship.*

Neuroticism

Neuroticism refers to the degree to which individuals are secure, non-anxious, calm, self-confident, and cool versus individuals who feel more insecure, anxious, depressed, and emotional (Ackerman, 2017). Neuroticism can result in employees being calm and relaxed, despite high job demands (Everton, Mastrangelo, & Jolton, 2005).

Neuroticism form part of emotional stability. Emotional stability is associated with an individual's adjustment to situations and affect (feelings). Individuals with low emotional stability are perceived to be neurotic. Emotional stability refers to the ability to be even-tempered, composed under stress and resilient (Dahlen, Edwards, Tubré, Zyphur, & Warren, 2012). Neuroticism includes characteristics such as negative affectivity, self-consciousness, physiological reactivity and behavioural inhibition (McCrae & John, 1992). Individuals high on neuroticism tend to use more negative emotional words to express themselves than those low on neuroticism. Research shows that other traits associated with neuroticism are the likeliness to be tense, restless, irritable, uneasy, moody, etc. (Kwantes, Derbentseva, Lam, Vartanian, & Marmurek, 2016). Studies have found that neurotic individuals are prone to respond to stressful situations with intense, often unpleasant emotions, such as nervousness, worry, fear and anxiety (Anic, 2007).

In contrast, it is argued that emotionally stable individuals may have superior coping abilities under conditions of stress and uncertainty. Due to the stress experienced by neurotic employees, it can be argued that these employees will engage in cyberloafing behaviour as a coping mechanism, resulting in the following hypothesis.

Hypothesis 10: *Neuroticism has a significant negative linear relationship with e-citizenship.*

Openness to experience

Openness to experience is linked to values relating to universalism. Individuals scoring high on openness to experience can be defined as individuals who are creative, curious, and cultured (Ackerman, 2017).

A study done on people's cell phone habits discovered that some people have a "checking habit". This is defined as repetitive checking of one's phone, and organisations may interpret it as cyberloafing. These habits are often triggered and stimulated through the phone's vibration, a sound notification, or a flashing light. In another study, it was found that individuals scoring high on narcissism and neuroticism have a higher tendency to smartphone addiction (Zhitomirsky-Geffet & Blau, 2016).

A study done in Taiwan established that individuals scoring high on agreeableness, conscientiousness, and neuroticism have a higher tendency to be linked to addiction to social network platforms. Interestingly, these personality traits are also positively linked to smartphone addiction (Zhitomirsky-Geffet & Blau, 2016).

Openness to experience encompasses the tendency to have a rich inner life and to experience the world in unusual and creative ways. Therefore, it could be argued that such employees might be more prone to engage in PIU, as they tend to be curious and will be on the lookout for creative stimuli. From this assumption, the following hypothesis was proposed.

Hypothesis 11: Openness to experience has a significant, positive linear relationship with e-citizenship.

2.5. MODERATING RELATIONSHIPS BETWEEN LATENT VARIABLES

A moderating variable is a third variable that affects the strength of the relationship between the dependant and independent variables. If a moderating variable is found to be significant through statistical analysis, moderators can cause an amplifying or weakening effect between variables (Theron, 2017).

For the purpose of this study, it was assumed that job resources and personal resources would amplify the impact of job demands on cyberloafing. The following hypotheses were formulated concerning the moderating effect that job resources

(organisational culture) and personal resources (personality traits) have on the relationship between job demands and cyberloafing.

2.5.1. First interaction effect

The first interaction is where the impact of job demands on cyberloafing is buffered by job resources and personal resources in terms of organisational culture. Studies have indicated that the impact of job demands on an employee can be reduced by the necessary resources. Some of the resources that can lessen the impact include development opportunities, autonomy and performance feedback. It can consequently be argued that employees who have the required resources will cope better with numerous job demands.

Although workplace cyberloafing has been recognised as a form of counterproductive work behaviour, and as having a negative effect on the organisation, an opposing view might argue that cyberloafing can help employees cope with workplace boredom. This results in cyberloafing serving as a potential positive function.

Boredom at work is part of how employees perceive their working environment and might have an effect on employee well-being. By linking cyberloafing to CWB, it is conceptually closest to both production deviance (doing work incorrectly or poorly) and working fewer hours doing work-related work.

The workload can be defined as the perceived amount of work in terms of difficulty, volume and pace. When the workload is relatively low and employees have little to do, activation is low. As employees' workloads increase, so does activation. When employees experience high levels of workload, this can lead to burnout, as the optimal level of activation can be exceeded. This is why employees might then engage in behaviours such as cyberloafing in order to "escape" or cope with their workload.

Boredom is "an unpleasant state of relatively low arousal and dissatisfaction, which is attributed to an inadequately stimulating work situation" (Schaufeli & Salanova, 2007, P. 143). In a study done in 2007, Game concluded that employees use a variety of ways to cope with boredom at work. The study categorised coping into two groups – engagement coping and disengagement coping. Engagement coping entails trying to make one's work more interesting, whereas disengagement coping is related to

distractions as a form of momentary relief. Cyberloafing fits within the disengagement or distraction coping.

Thus, the relationship between job demands and cyberloafing is weaker where employees have a high degree of job resources available, as they will not have to “escape” in order to cope with high job demands.

Different organisational cultures have different effects on employees behaviour. Therefore it was hypothesised that organisational culture will play a buffering role in the relationship between work overload, job insecurity, and cyberloafing.

According to Xanthopoulou et al. (2007), personal resources have a negative relationship with exhaustion. Employees who are optimistic or efficacious may be more resistant to adverse conditions, as they show lower reported levels of severe fatigue. Furthermore, employees feel more capable to perform their tasks when working in a resourceful environment without having to exert excessive effort, and therefore they are less likely to become fatigued. Xanthopoulou et al. (2007) assert that employees who utilise personal resources do not perceive fewer job demands; however, they experience less fatigue and stress in meeting the demands.

Different personalities respond differently to stress. For some, stress serves as a motivating factor, while others are numb with high levels of stress.

From this it can be deduced, for example, that employees with high levels of neuroticism will focus less on job demands and more on their available job resources. They will therefore not feel overwhelmed by high job demands. Neuroticism is regarded as a personal resource and is hypothesised to play a buffering role in the relationship between job overload, job insecurity and cyberloafing.

The following moderating hypotheses were formulated with regard to the buffering effect of job resources and personal resources on the relationship between job demands and cyberloafing:

For the purpose of this study, it was anticipated that personality moderates the relationships between job demands and cyberloafing.

Hypothesis 12: *Openness to experience moderates the relationship between job demands and cyberloafing.*

Hypothesis 13: *Conscientiousness moderates the relationship between job demands and cyberloafing.*

Hypothesis 14: *Extroversion moderates the relationship between job demands and cyberloafing.*

Hypothesis 15: *Agreeableness moderates the relationship between job demands and cyberloafing.*

Hypothesis 16: *Neuroticism moderates the relationship between job demands and cyberloafing.*

Secondly, this study made use of the assumption that organisational culture moderates the relationship between job demands and cyberloafing.

Hypothesis 17: *Hierarchical cultures moderate the relationship between job demands and cyberloafing.*

Hypothesis 18: *Market cultures moderate the relationship between job demands and cyberloafing.*

Hypothesis 19: *Adhocracy cultures moderate the relationship between job demands and cyberloafing.*

Hypothesis 20: *Clan cultures moderate the relationship between job demands and cyberloafing.*

2.5.2. Second interaction effect

The second interaction effect is where the impacts of the job and personal resources are buffered/strengthened by job demands. Past studies have concluded that job resources can have a positive impact on employees' work engagement. In this study, it was thus argued that an organisation's culture will have an influence on whether employees engage in personal internet use (PIU) at work.

Job resources such as organisational culture can become of great value to an employee confronted with high and challenging job demands. Challenges are those demands that are considered stressful, yet have the ability to promote personal

growth, mastery and future gains (e.g. high workload, high levels of job responsibility and time pressure). Such demands are perceived as opportunities to learn, achieve results and demonstrate competence, which in turn is rewarded.

In the present study, job overload and job insecurity were regarded as the job demands. It was therefore hypothesised that the job overload and job insecurity experienced by employees increase the impact of job resources and personal resources on employees' engagement.

This study amplified the impact of job demands on resources affecting e-citizenship behaviour. The following hypotheses were formulated concerning the moderating effect that job demands have on the relationships between the two types of resources (organisational culture and personality traits) and e-citizenship.

The third suggestion of a moderating hypothesis was based on the belief that job demands moderate the relationship between personality and e-citizenship.

Hypothesis 21: *Job demands moderate the relationship between openness to experience and e-citizenship.*

Hypothesis 22: *Job demands moderate the relationship between conscientiousness and e-citizenship.*

Hypothesis 23: *Job demands moderate the relationship between extroversion and e-citizenship.*

Hypothesis 24: *Job demands moderate the relationship between agreeableness and e-citizenship.*

Hypothesis 25: *Job demands moderate the relationship between neuroticism and e-citizenship.*

The last suggestion regarding moderating hypotheses was based on the suggestion that job demands moderate the relationship between organisational culture and e-citizenship.

Hypothesis 26: *Job demands moderate the relationship between hierarchy cultures and e-citizenship.*

Hypothesis 27: Job demands moderate the relationship between market cultures and e-citizenship.

Hypothesis 28: Job demands moderate the relationship between adhocracy cultures and e-citizenship.

Hypothesis 29: Job demands moderate the relationship between clan cultures and e-citizenship.

2.6. CHAPTER SUMMARY

This section has provided an overview of the constructs included in the study and led to the development of the conceptual model (Figure 2.3). After careful examination of the literature through the literature review, the model was developed from a reduced structural model, as well as modification effects. From the literature, it is evident that antecedents such as job demands, the big five personality traits and different organisational cultures, are able to explain why variance exists in PIU.

The presented structural model was tested to determine whether it does, in fact, offer a valid explanation for the research-initiating question. In the next chapter, more detail will be presented on how the study was executed.

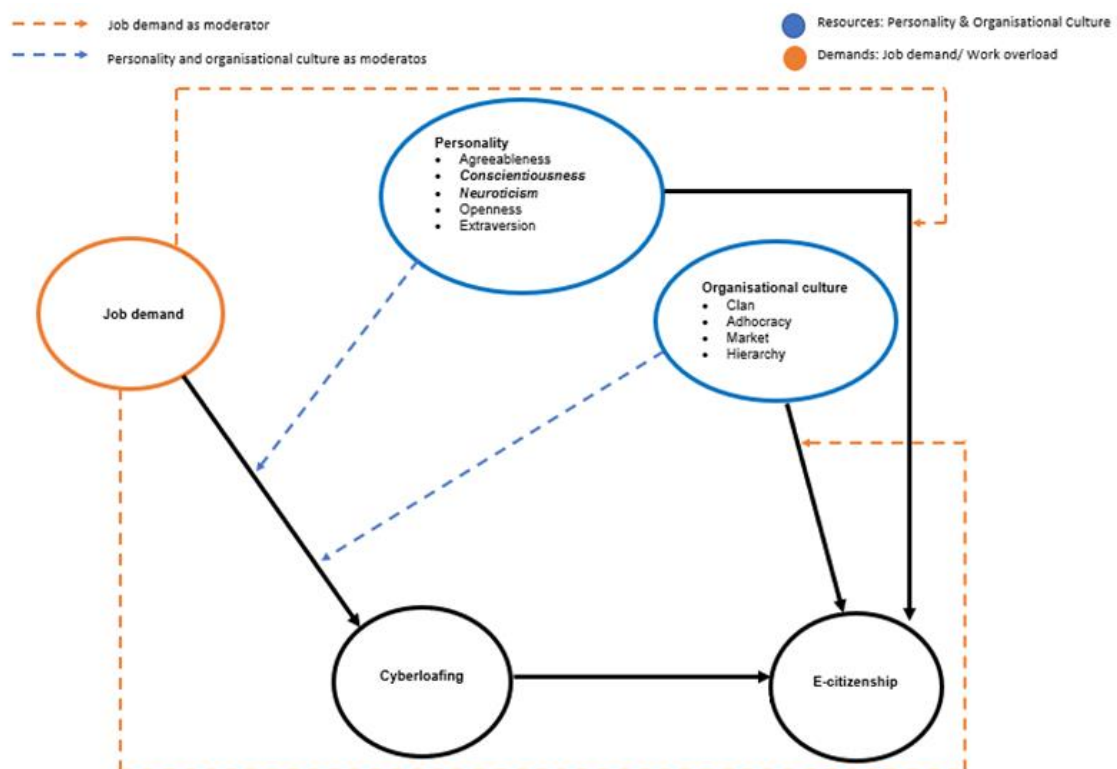


Figure 2.3. Proposed conceptual model of PIU at work.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. INTRODUCTION

Following the comprehensive literature review that was done with the aim of finding an answer to the research-initiating question (RIQ) of “why is there variance in personal internet usage?”, this section focuses on the methodology applied throughout the research process in order to answer the RIQ.

In order to purposefully answer the RIQ, a conceptual model was developed that identified the antecedents and outcomes of personal internet use (PIU) at work. For the extended developed model to add value to the field of research, the proposed model needed to give valid and credible explanations of the underlying constructs anticipating employees’ PIU at work. A specific research methodological approach was required in order to empirically test the RIQ. The reduced structural model (derived from Figure 2.1) could only be considered valid to the extent that the model fit the empirical data and regression analyses.

This section specifies the procedures used to evaluate the validity of the methodological process by providing a description of the research design chosen for the study. This is followed by a discussion of the selected participants and the relevant sample. The measurement instruments used in the current study are also discussed. Particular attention is paid to the research question, the aims of the study, the research hypotheses and ethical considerations. In conclusion, data collection and data capturing are explained, followed by a discussion of the statistical analysis that was conducted.

3.2. RESEARCH QUESTION AND STUDY OBJECTIVES

The intention of this study was to propose a nomological network of variables that give reasonable explanations for why variance exists in employees’ PIU while at work. Gaining insight into valid reasons why employees engage in PIU during office hours might help organisations effectively manage PIU. From the insight gained through the literature review, a conceptual model was proposed for PIU at work. This model frames three latent variables (job demands, personality traits and organisational culture)

within the JD-R model to predict employees' PIU (cyberloafing and e-citizenship) while at work.

The formulated research question investigates 'Why does variance in PIU at work occur?'

The following research objectives helped to answer the research question:

- Develop a conceptual model that clarifies the variance in PIU at work.
- Assess the significance of the different hypothesised paths.
- Evaluate the modification indices to make the necessary changes to the model where needed.
- Examine through moderated regression the interaction effects of the model.
- Highlight findings and conclusions and suggest implications for organisations.

3.3. SUBSTANTIVE RESEARCH HYPOTHESES

Substantive hypotheses should be subjected to empirical testing, highlighting the importance of the relationships between variables presented in the hypotheses. The proposed structural model presented in Figure 3.1 schematically portrays the hypotheses developed through theorising in Chapter 2.

The aim was to determine if different variables (job demands, personality traits and organisational culture) can be used to explain employees' PIU at work. The overarching substantive hypothesis of this study was to use the reduced structural model (Figure 3.1) to provide a valid and reliable description of the factors causing variance in employees' PIU at work.

The following path-specific substantive research hypotheses were formulated:

Hypothesis 1: Cyberloafing (η_1) has a significant negative linear relationship with e-citizenship (η_2).

Hypothesis 2: Job demands (ξ_1) have a significant positive linear relationship with cyberloafing (η_1).

Hypothesis 3: Clan cultures (ξ_7) have a significant positive relationship with e-citizenship (η_2).

Hypothesis 4: Adhocracy (ξ_8) organisational cultures have a significant negative linear relationship with e-citizenship (η_2).

Hypothesis 5: Market cultures (ξ_9) have a significant positive linear relationship with e-citizenship (η_2).

Hypothesis 6: Hierarchy organisational cultures (ξ_{10}) have a significant positive linear relationship with e-citizenship (η_2).

Hypothesis 7: Extraversion (ξ_5) has a significant negative linear relationship with e-citizenship (η_2).

Hypothesis 8: Agreeableness (ξ_3) has a significant positive linear relationship with e-citizenship (η_2).

Hypothesis 9: Conscientiousness (ξ_6) has a significant negative linear relationship with e-citizenship (η_2).

Hypothesis 10: Neuroticism (ξ_2) has a significant positive linear relationship with e-citizenship (η_2).

Hypothesis 11: Openness to experience (ξ_4) has a significant negative linear relationship with e-citizenship (η_2).

The model is indicative of seventeen possible moderating effects. These interaction effects are hypothesised through:

Hypothesis 12: Openness to experience (ξ_4) moderates the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 13: Conscientiousness (ξ_6) moderates the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 14: Extroversion (ξ_5) moderates the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 15: Agreeableness (ξ_3) moderates the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 16: Neuroticism (ξ_2) moderates the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 17: Hierarchy cultures (ξ_{10}) moderate the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 18: Market cultures (ξ_9) moderate the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 19: Adhocracy cultures (ξ_8) moderate the relationship between job demands (ξ_1) and cyberloafing.

Hypothesis 20: Clan cultures (ξ_7) moderate the relationship between job demands (ξ_1) and cyberloafing (η_1).

Hypothesis 21: Job demands (ξ_1) moderate the relationship between openness to experience (ξ_5) and e-citizenship (η_2).

Hypothesis 22: Job demands (ξ_1) moderate the relationship between conscientiousness (ξ_3) and e-citizenship (η_2).

Hypothesis 23: Job demands (ξ_1) moderate the relationship between extroversion (ξ_6) and e-citizenship (η_2).

Hypothesis 24: Job demands (ξ_1) moderate the relationship between agreeableness (ξ_2) and e-citizenship (η_2).

Hypothesis 25: Job demands (ξ_1) moderate the relationship between neuroticism (ξ_4) and e-citizenship (η_2).

Hypothesis 26: Job demands (ξ_1) moderate the relationship between hierarchy cultures (ξ_{10}) and e-citizenship (η_2).

Hypothesis 27: Job demands (ξ_1) moderate the relationship between market cultures (ξ_9) and e-citizenship (η_2).

Hypothesis 28: Job demands (ξ_1) moderate the relationship between adhocracy cultures (ξ_8) and e-citizenship (η_2).

Hypothesis 29: Job demands (ξ_1) moderate the relationship between clan cultures (ξ_7) and e-citizenship (η_2).

3.4. STATISTICAL HYPOTHESES FOR THE REDUCED STRUCTURAL MODEL

The statistical hypotheses for the reduced structural model were formulated using PLS. The statistical hypotheses were formulated in a way that depicts the logic underlying the proposed research design, as well as the nature of the envisaged statistical analyses.

The formulation of statistical hypotheses for any study should be based on two aspects. Firstly, the nature of the substantive hypotheses that have been determined, and secondly, the research design. These factors act as parameters for the development of the hypotheses (Theron, 2017). The model for this study indicates some of the antecedents of PIU. The variables that possibly affect PIU act as independent variables, and the dependant variable is PIU in the form of cyberloafing and e-citizenship.

The number of statistical hypotheses developed should represent the number of paths in the structural model. The following statistical hypotheses were formulated using the structural model depicted in Figure 3.1. The overarching substantive research hypothesis states that the structural model provides a valid account of the antecedents influencing employees' behaviour in relation to PIU at work.

The overarching substantive research hypothesis was separated into eleven, more detailed, specific substantive research hypotheses. These research hypotheses were translated into the following twelve path coefficient statistical hypotheses:

Hypothesis 1: Cyberloafing (η_1) has a significant negative linear relationship with e-citizenship (η_2).

$$H_{03}: \beta_{12} = 0$$

$$H_{a3}: \beta_{12} < 0$$

Hypothesis 2: Job demands (ξ_1) have a significant positive linear relationship with cyberloafing (η_1).

$$H_{05}: \gamma_{11} = 0$$

$$H_{a5}: \gamma_{11} > 0$$

Hypothesis 3: Clan cultures (ξ_7) have a significant positive relationship with e-citizenship (η_2).

$$H_{06}: \gamma_{27} = 0$$

$$H_{a6}: \gamma_{27} > 0$$

Hypothesis 4: Adhocracy organisational cultures (ξ_8) have a significant negative linear relationship with e-citizenship (η_2).

$$H_{07}: \gamma_{28} = 0$$

$$H_{a7}: \gamma_{28} < 0$$

Hypothesis 5: Market cultures (ξ_9) have a significant positive linear relationship with e-citizenship (η_2).

$$H_{08}: \gamma_{28} = 0$$

$$H_{a8}: \gamma_{28} > 0$$

Hypothesis 6: Hierarchy organisational cultures (ξ_{10}) have a significant positive linear relationship with e-citizenship (η_2).

$$H_{09}: \gamma_{210} = 0$$

$$H_{a9}: \gamma_{210} > 0$$

Hypothesis 7: Extroversion (ξ_6) has a significant negative linear relationship with e-citizenship (η_2).

$$H_{12}: \gamma_{26} = 0$$

$$H_{a12}: \gamma_{26} < 0$$

Hypothesis 8: Agreeableness (ξ_2) has a significant positive linear relationship with e-citizenship (η_2).

$$H_{13}: \gamma_{22} = 0$$

$$H_{a13}: \gamma_{22} < 0$$

Hypothesis 9: Conscientiousness (ξ_3) has a significant positive linear relationship with e-citizenship (η_2).

$$H_{11}: \gamma_{23} = 0$$

$$H_{a11}: \gamma_{23} > 0$$

Hypothesis 10: Neuroticism (ξ_4) has a significant negative linear relationship with e-citizenship (η_2).

$$H_{14}: \gamma_{24} = 0$$

$$H_{a14}: \gamma_{24} < 0$$

Hypothesis 11: Openness to experience (ξ_5) has a significant negative linear relationship with e-citizenship (η_2).

$$H_{10}: \gamma_{25} = 0$$

$$H_{a10}: \gamma_{25} < 0$$

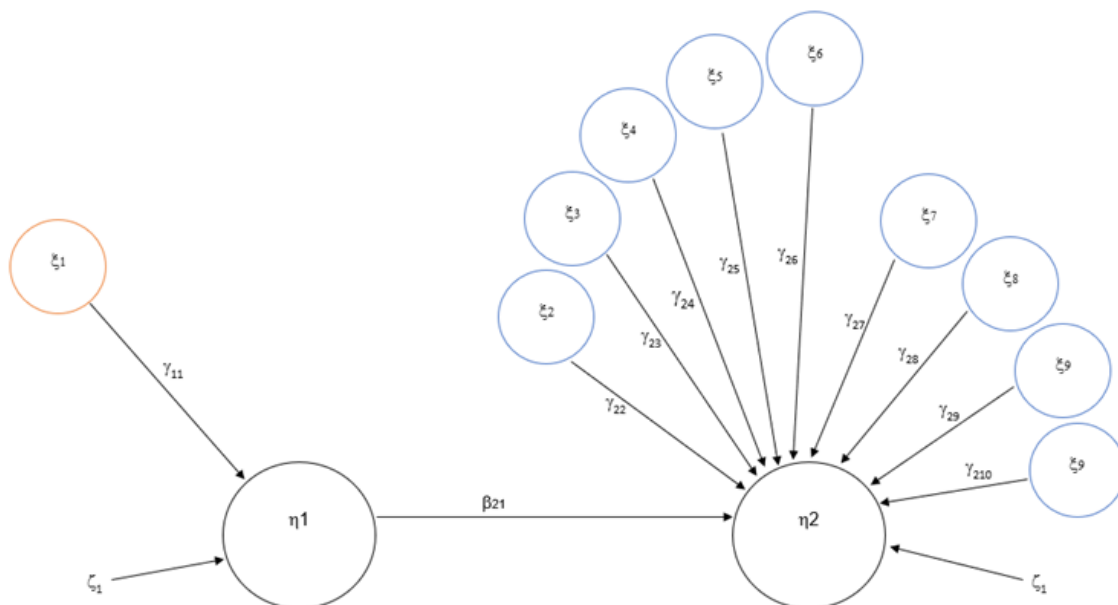


Figure 3.1. Structural model of PIU at work.

Table 3.1
Summary of Latent Variables

Latent variables	
Symbol	Variable
η1	Cyberloafing
η2	E-citizenship
ξ1	Job demands
ξ2	Agreeableness
ξ3	Conscientiousness
ξ4	Neuroticism
ξ5	Openness to experience
ξ6	Extroversion
ξ7	Clan cultures
ξ8	Adhocracy
ξ9	Market cultures
ξ10	Hierarchy cultures

3.5. RESEARCH DESIGN

A research design can be defined as the plan and structure of how one intends to obtain an answer to the RIQ (De Villiers, 2012). The ideal would be to be able to fit the covariance matrix as closely as possible. If the model fails to accurately reproduce the observed covariance matrix, it can be assumed that the reduced structural model does not provide an acceptable clarification of the observed covariance matrix. However, the opposite is not true. A high degree of fit only implies that the psychological processes represented in the structural model provide but one plausible explanation for the observed covariance matrix.

The chosen research design for this study was the non-experimental ex-post facto correlational design. The justification for this choice of research design was that the non-experimental ex-post facto correlational design is characterised by the measurement of the exogenous latent variables, rather than the experimental manipulation of them. This is due to the fact that the researcher is unable to control or manipulate the selected variables, and the manifestations of the phenomena have already accrued. Therefore, the research design was not randomly selected/ assigned, as it is a product of the type of RIQ, the research question as well as the need for empirical evidence to test the hypotheses.

When choosing a research design, it is important to be aware of the limitations that might be associated with it. The ex-post facto correlation design has three shortcomings. Firstly, no manipulation of independent variables can be done, there is a lack of power to randomise and, thirdly, there is a risk that one may interpret the results in an improper manner (Kerlinger & Lee, 2000). Despite these shortcomings, it is still a valuable research design to use. This design adds value to the fact that most research on variables in the field of industrial psychology and other social sciences cannot be manipulated. In this case, ex-post facto correlational design was much more preferable than experimental design, in which manipulation is usually done.

The appropriate statistical analysis technique to use to analyse the data derived from an ex-post facto correlation design with more than two indicators per latent variable is structural equation modelling (SEM). As the SEM convention is related to the usage of LISREL, the notational system used for the formulation of these statistical

hypotheses is that of SEM. Due to the number of variables and moderators, PLS was used during the statistical analysis process.

3.6. SAMPLING

Selecting an appropriate sample involves the selection of a subset, or segment, of the total population. Sampling strives to select a number of final sampling objects from a target population in a manner that allows the statistical characteristics of particular attributes of those sampling objects to depict the parameters of the population from which they were drawn (Babbie & Mouton, 2001). The target population was the theoretical sum of elements implied by the RIQ. For the purpose of this study, the target population was employees currently working within an organisation.

The literature differentiates between two types of sampling, namely probability and non-probability sampling. In probability sampling, each element in the sampling population has a known, but not necessarily equal, probability of being selected for the sample. Probability sampling is thus the best way to select a recognised sample that is representative of the population from which it is drawn. Examples of probability sampling techniques include simple random sampling, stratified sampling, cluster sampling and systematic sampling.

On the other hand, non-probability sampling is a less representative approach. Although probability samples are often preferred, they are not always practical or feasible (Salkind, 2010). Probability sampling can only be utilised when the population is not completely known. The probability of each individual being selected is unknown, and the method of sampling is based on factors such as common sense or ease, with an effort being made to avoid bias and maintain representativeness (Babbie & Mouton, 2001). Examples of non-probability sampling techniques include convenience sampling, snowball sampling, quota sampling and purposive sampling (Salkind, 2010).

For the purpose of this study, non-probability sampling was used, and a convenience sampling design was employed. Convenience sampling consists of using individuals who are readily available (Salkind, 2010). It was decided that this technique would be best due to organisational time constraints as well as practical limitations. In the selection of the sample, possible bias was taken into consideration. Sampling bias

refers to the systematic under- or overrepresentation of certain segments of the population regarding characteristics relevant to the research question.

No one was pressured to participate in the study, as an e-mail was sent out to employees with a link to the questionnaire which they could complete voluntarily. In the end, a final sample of 133 participants completed the survey. However, 128 volunteers did not complete the survey. Table 3.2 and Table 3.3 provides a summary of the biographical information of the sample population.

Table 3.2
Biographical Information (Gender) of the Sample (n = 133)

Gender		
Variables	Frequency	Percentage (%)
Male	50	38
Female	83	62

Table 3.3
Biographical Information (Age) of the Sample (n = 133)

Age		
Most frequent	Mean	Standard deviation
20 - 29	34	12

3.7. RESEARCH PARTICIPANTS

According to Polit and Hungler (1989), sampling refers to the process of selecting a portion of the population to represent the entire population. Sampling strives to select a number of final sampling units (FSU) from the target population in a manner that allows the statistical characteristics of the particular attributes of those sampling units to depict the parameters of the population from which they were drawn (Babbie & Mouton, 2001).

This study was done using non-probability random sampling. An e-mail was sent out to all randomly selected participants. Before completing the survey, participants were expected to sign a form explaining the purpose of the study and assuring them that the data collection, storage, and reporting techniques would protect their confidentiality and anonymity.

The e-mail with the attached questionnaire was sent to employees in various work industries. Table 3.4 represents the positions that participants held in the organisations.

Table 3.4
Position in Organisation

Position in organisation		
Variables	Frequency	Percentage (%)
Employee	78	59
Middle management	35	26
Top management	20	15

3.8. DATA COLLECTION PROCEDURE

Upon receiving ethical clearance from the departmental ethics screening committee and the Research Ethics Committee of Stellenbosch University, permission was requested from organisations and individuals to conduct the study. On approval from all the relevant parties involved, contact was made with employees.

Employees were encouraged to participate in the study by explaining the purpose of the study to them, as well as the concepts of informed consent and voluntary participation. A link that directed the employees to the online survey was sent to all employees participating in the study.

3.9. ETHICAL CONSIDERATIONS

It is vital to assess the ethical implications of research to ensure that the dignity, safety, rights and well-being of the participants are protected (Salkind, 2010). Ethics is typically associated with morality and deals with issues of right and wrong in society, communities or groups. It is therefore important that everyone involved in the research should be mindful of ethical concerns (Babbie & Mouton, 2001).

As empirical behavioural research requires the active involvement of individuals, the dignity, rights, safety and well-being of individuals need to be taken into account. Potential participants had to be made aware of the fact that their participation was voluntary and that they had all right to withdraw from the study at any time they wish. Moreover, the aim of the study was explained to all participants. Each participant was

requested to sign an informed consent form before participation in the research study was allowed.

The present study could be considered as a low-risk study. It was crucial that questions were answered anonymously, and that the participants' names and identities were disclosed, as the research did not want to have a negative affect on any individual/employee who participated in the study because of the results of the study. If participants had any concerns regarding possible negative repercussions after completing the questionnaire, these were addressed by assuring them of the confidentiality of the results.

The participants in the study were informed of the objectives and purpose of the study. According to Annexure 12 of the Ethical Rules of Conduct for Practitioners Registered under the Health Professions Act (Act no. 56 of 1974) (Republic of South Africa, 2006), psychological researchers are required to obtain institutional permission from the organisation where the research will be conducted. Hence, only once organisational permission was granted could the data gathering process begin.

Annexure 12 further requires of the researcher to enter into an agreement with all participants on the nature of the research study, the participants' responsibilities, as well as the responsibilities of the researcher. Consequently, all participants were informed about the following:

- The objectives and purpose of the research study.
- What participation in the study would involve.
- How the research results would be disseminated and used.
- Who the researcher is.
- Where participants could make further inquiries about the research if they wish to do so.
- What the rights of participants are.

The informed consent form that the participants had to sign had to align with the requirements of Annexure 12 of the Act (Republic of South Africa, 2006), namely:

- The researcher used language that was reasonably understandable to the research participant concerned when obtaining his/her informed consent.
- The informed consent was appropriately documented.

In order to obtain permission and consent from the participants, the researcher had to:

- Inform participants of the nature of the research.
- Inform the participants that they were free to participate or decline to participate, or to withdraw from the study at any time.
- Explain the foreseeable consequences of declining or withdrawal from the study.
- Inform participants of any factors that could be expected to influence their willingness to participate.

The study did not include any major ethical threats for the participants. The above-mentioned procedures were to ensure the protection and anonymity of participants. With the above procedures in place, the researcher was confident that all ethical and legal requirements had been complied with.

3.10. STATISTICAL ANALYSIS

This section describes the various techniques that were used for the statistical analysis in this study. A variety of techniques were used to analyse the data, including missing values, item analysis, exploratory factor analysis (EFA) if necessary, confirmatory factor analysis and fitting the structural equation modelling (SEM), as well as conducting a series of moderated multiple regressions with mean centring. The aim of the data analysis was to test the structural model and the formulated hypotheses.

Item analysis and partial least squares (PLS) analysis methods were used to analyse the collected data. Smart PLS was used to test the relationships between the different variables, to provide the path coefficients between the variables and to estimate the PLS model.

3.10.1. Missing values

The chance of encountering missing values when working with survey data is high. The incidence of missing values needs to be addressed before the data can be analysed statistically. A missing value can occur if someone does not complete the questionnaire (non-response), or if an employee is absent when the questionnaire is sent out. If the number of returned questionnaires does not equal the number of sent questionnaires, the concept of missing values needs to be dealt with, as this has a

detrimental effect on the results if it is not acknowledged before the analysis of the data commences.

Various methods can be utilised to rectify the problems associated with missing values. The methods mostly depend on the number of missing values, as well as the nature of the data (e.g. normalised data) and the range from data deletion (list-wise deletion or pair-wise deletion) to data imputation (multiple imputations, imputation by matching, and full information maximum likelihood imputation) (Jöreskog & Sörbom, 1996).

3.10.2. Item analysis

Various scales can be utilised to measure the latent variables in the structural model. Each measurement instrument includes items that measure the actual latent variable or dimensions of the latent variable that are supposed to be measured. The items in the questionnaires act as stimuli, with the aim to elicit the participants' responses in terms of the behaviour of the underlying constructs. The item responses therefore record the behaviour that underlies the construct, and consequently makes the behaviour "observable" in the form of data (Theron, 2017). Item analysis can indicate why tests are reliable and may also provide suggestions for the improvement of a test's measurement characteristics. Item analysis can serve to pinpoint test items that do not measure the correct constructs, or ones that are poorly worded, thereby limiting the reliability and validity of tests. Once such items have been removed, the reliability and validity of the test can be improved (Murphy & Davidshofer, 2005). Various ways exist in which items can be poor, for example they can be insensitive, inconsistent or portray a poor interpretation of the construct (Theron, 2017). The practice of item analysis is used to determine the quality and internal consistency reliability of the items of the respective scales. The literature suggests that reliabilities (Cronbach's alphas) of .70 or higher are sufficient (Babbie & Mouton, 2001).

3.11. FACTOR ANALYSIS

Factor analysis can be defined as "a complex algebraic method for determining the general dimensions or factors that exist within a set of concrete observations" (Babbie & Mouton, 2001). Factor analysis can be conducted through exploratory factor analysis (EFA) or through confirmatory factor analysis (CFA). EFA is generally used

when the CFA results indicate that the measurement models of the various instruments did not obtain a good fit. In this study, PLS was used, and therefore CFA and EFA analysis was irrelevant.

3.12. STRUCTURAL EQUATION MODELLING (SEM): PARTIAL LEAST SQUARES (PLS)

Structural equation modelling (SEM) is used to analyse multivariate data and is an appropriate method to test theory (Savalei & Bentler, 2010). SEM is useful, as it integrates multiple independent and dependent variables. It also integrates hypothetical latent constructs that may be represented by different groups of observed variables.

When using structural equation modelling, researchers have a choice between covariance SEM and partial least squares (PLS) path modelling. PLS was used in the current study and is a soft modelling approach (compared to covariance SEM, which uses maximum likelihood). In contrast to covariance SEM, PLS is a prediction-orientated approach that aims to maximise latent variables' explained variance (Hair, Ringle, & Sarstedt, 2012). The PLS statistical method was useful for its explorative and predictive nature, rather than the confirmatory nature of covariance SEM (Henseler, Ringle, & Sinkovics, 2009).

For the purpose of this study, PLS was practical, as the sample size was relatively small and the model had a lot of variables and moderating effects. If covariance SEM had been used, the number of paths in the model would have been problematic (Hair et al., 2012).

Another reason for using PLS is that, unlike SEM, PLS is not influenced by the distribution of data (Chin, 1998). PLS models consist of two linear equations – the inner model (can be compared to the structural model that is used in SEM) and the outer model (can be compared to the measurement model used in SEM) (Henseler, Ringle, & Sinkovics, 2009).

The PLS approach is distribution-free, thus the data is not required to be normally distributed (Chin, 1998). The outer model analyses the relationships between latent variables and their observed or manifest variables. The inner model analyses the relationships between unobserved or latent variables (Henseler et al., 2009). The outer

model in PLS can be compared to the measurement model used in SEM. The inner model in PLS can be compared to the structural model used in SEM.

When making use of PLS, composite reliabilities are usually the first step. These evaluate the reliability of the latent variables necessary to estimate measurement model fit. Average variance extracted (AVE) was analysed for this purpose. The reliability coefficients have to be greater than 0.70 for them to be regarded as satisfactory (Langenhoven, 2015). Once the reliabilities have been evaluated, the measurement model's validity and reliability can be evaluated. The structural model estimates have to be examined once the latent variable scores prove to be sufficiently reliable and valid (Chin, 1998).

Moderating effects are applicable to the current study and were analysed using PLS path modelling. The process can be explained in two steps: The process commences with an iterative process. This process is characterised by latent variable scores estimated for each latent variable. The latent variable scores are then entered as dependent and independent variables into one or more regressions. Owing to the nature of the second step, most of the recommendations for testing moderating effects in multiple regression hold for PLS path modelling as well. When the researcher mentions moderating effects, it is in the context of PLS path modelling, which means it is the moderating relationships within the structural model.

The structural model of PIU at work (Figure 3.1) was analysed by fitting different models. This was to simplify the measurement analysis, as organisational culture has four different sub-scales and personality has five different sub-scales. The outer loadings as well as the path coefficients, which will be reported on in Chapter 4, obtained very similar results, and therefore only the first values of the different models are reported on. Appendix A contains all the values that were obtained from fitting the different models.

3.13. MEASURING INSTRUMENTS

All latent variables presented within the structural/conceptual model need to be measured by an instrument that can provide empirical evidence against which hypotheses can be tested. To draw valid and reliable results from the data collected, the instruments utilised to measure the latent variables in question had to possess the

necessary psychometric properties. The measurement instruments operationalise the constructs by making them measurable.

A composite questionnaire was compiled that consisted of questions from different existing questionnaires. The composite self-administered questionnaire consists of five sections. Firstly, the participants were asked to provide their consent. In the first section of the questionnaire, the questions were asked about the biographical information of the participants. Sections two to five measured the relevant variables. Four validated questionnaires were utilised to measure the constructs for the purpose of this study.

The measurement instruments that were used for this research study are: the Big Five Personality Test, the Organisational Culture Instrument (OCAI), the Job Demands-Resources Scale (JDRS), and PIU measures.

An in-depth discussion detailing the measuring instruments and the psychometric properties of each is provided next.

3.13.1. The Big Five Personality Test

The Mini-IPIP developed by Donnellan, Oswald, Baird and Lucas (2006) was used to measure the Big Five personality factors. The Mini-IPIP consist of 20 items and is a shorter and adapted version of the 50-item IPIP Five-Factor Model, with four items per Big Five trait. The Mini-IPIP was validated across five studies by Donnellan et al. (2006) and showed consistent and acceptable internal consistencies across all five studies (α at or well above 0.60). It was found that the Mini-IPIP gives consistencies of similar coverage as other Big Five measures, as well as test-retest correlations (Donnellan et al., 2006). The reliability coefficients of the instrument ranged from 0.65 for Imagination (Openness to experience) to 0.93 for Extraversion. The Mini-IPIP scales furthermore showed a comparable pattern of convergent, discriminant and criterion-related validity with other Big Five measures (Cooper, Smillie & Corr, 2009).

The multiple R-values are very similar across the general Big Five measure (BFI R = 0.55, IPIP-FFM R = 0.60, Mini-IPIP R = 0.54). In a confirmatory factor analysis, the Mini-IPIP resulted in acceptable reliability and a clearly interpretable factor structure (Cooper et al., 2009).

The analysis of the Mini-IPIP showed that it is a psychometrically acceptable and practically useful short measure of the Big Five factors of personality.

The Mini-IPIP make use of a five-point Likert scale ranging from *very inaccurate* to *very accurate*. Participants are required to read each item and then rate the item making use of the five-point Likert scale. Below (Table 3.5) is an example of what the questions in the measurement looked like and could be scored.

Table 3.5
Personality Measurement

Personality measurement scale					
Items	Very inaccurate	Moderately inaccurate	Neither accurate nor inaccurate	Moderately accurate	Very accurate
I don't talk a lot	1	2	3	4	5

The scoring keys for the Mini-IPIP questionnaire are as follows:

- Extroversion is tested in questions 1, 6, 11 and 16;
- Agreeableness is tested in questions 2, 7, 12 and 17;
- Conscientiousness is tested in questions 3, 8, 13 and 18;
- Neuroticism is tested in questions 4, 9, 14 and 19;
- Openness to experience is tested in questions 5,10, 15 and 20.

The researcher had to bear in mind that the following items are reverse scored:

- Extroversion: Items 2 and 4
- Agreeableness: Items 2 and 4
- Conscientiousness: Item 2 and 4
- Openness to experience: Items 2, 3 and 4

3.13.2. The Organisational Culture Instrument

Organisational culture was measured by the validated organisational culture assessment instrument (OCAI) developed by Cameron and Quinn (1999). The OCAI uses six blocks containing four items each, where each item measures a type of culture. This instrument contains six questions about the company, including dominant characteristics, leadership, how employees are managed, the type of “glue” that unites them, strategic profile, and criteria for success.

For each question, participants need to distribute 100 points among four possible item alternatives. The points corresponded to each type of culture averaged for each employee in the sample.

The OCAI is an organisational culture taxonomy, grounded in the existing culture literature, and it is chosen as a culture measure for use in most sectors (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017).

Descriptive statistics are indicative that, in most cases, the Cronbach's α exceeds the 0.7 level as recommended by researchers (Kargas & Varoutas, 2015). The specific values for each culture are as follows: Clan culture α - 0.721, Adhocracy α - 0.691, Market culture α - 0.778, and Hierarchy culture α - 0.723.

Table 3.6
Example of Organisational Culture Measurement Items

Organisational culture measure		
No.	Items	Score
	Dominant characteristics	
A	The organisation is a very personal place. It is like extended family. People seem to share a lot of values.	
B	The organisation is a very dynamic, entrepreneurial place. People are willing to stick their necks out and take risks.	
C	The organisation is very results orientated. A major concern is getting the job done. People are very competitive and achievement orientated.	
D	The organisation is a very controlled and structured place. Formal procedures generally govern what people do.	

The scoring keys for the OCAI questionnaire are as follows:

- Clan culture is tested through the average of all the A scores;
- Adhocracy culture is tested through the average of all the B scores;
- Market culture is tested through the average of all the C scores; and
- Hierarchy culture is tested through the average of all the D scores.

3.13.3. Job Demands-Resources Scale (JDRS)

This study made use of the Job Demands-Resources Scale to measure job demands. The Job Demands-Resources Scale (JDRS) was developed by Jackson and Rothmann (2005) to measure job demands and job resources.

The full JDRS consists of 40 items about pace and amount of work, mental load, emotional load, variety in work, opportunities to learn, independence in work, relationships with colleagues, relationship with immediate supervisor, ambiguities

about work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration, and career possibilities. For the purpose of this study, only 11 of the 40 items were used. The 11 items that were measured are all related to job demands.

The items were rated on a four-point scale ranging from 1 (never) to 4 (always). The dimensions of the JDRS consisted of reliable factors with overload ($\alpha = 0,76$) and job insecurity ($\alpha = 0,89$) (Rothmann et al., 2006).

Table 3.3 shows an example of how a job demands item would be measured. The scoring for job demands is just the total points.

Table 3.7
Job Demands Measurement

Job demands measurement				
Items	Never	Seldom/rarely	Sometimes	Always
Do you have to much work to do?	1	2	3	4

3.13.4. PIU measures

For the purpose of this study, PIU is classified into two different concepts – cyberloafing and e-citizenship. Both were measured using the 10 items (five measuring cyberloafing and five measuring e-citizenship) proposed by Zoghbi-Manrique-de-Lara and Viera-Armas (2017). The items were scored on a seven-point Likert-type scale, ranging from 1 (never) to 7 (constantly).

The cyberloafing scale is expected to be one-dimensional, with an acceptable Cronbach's alpha value of 0.935 ($\alpha = 0.935$). The five items measuring cyberloafing refer to browsing and e-mail activities (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017).

E-citizenship was measured with the same scale, using five items of different PIU-related activities. The Cronbach's alpha of e-citizenship is acceptable at a value of 0.740 ($\alpha = 0.740$) (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017).

Table 3.8 gives in indication of what the e-citizenship measurement looked like.

Table 3.8
PIU Measurement Scale

PIU measurement scale							
Items	Never	Very rarely	Rarely	Occasionally	Frequently	Very frequently	Constantly
When I am connected to the internet, voluntary...							
I send web information to help peers with queries.	1	2	3	4	5	6	7

The scoring keys for the PIU are as follows:

- Items 1 to 5 are the Cyberloafing subscale.
- Items 6 to 10 are the E-citizenship subscale.

The scoring for PIU is just the total points for each subscale.

3.14. CHAPTER SUMMARY

Chapter 3 has provided a description of the methodical choices made for this study to obtain answers to the RIQ and the formulated hypotheses.

To conclude, an ex-post facto correlation research design was used to collect data for this study. Non-probability convenience sampling was used to select the sample. Quantitative data was collected from employees who are currently working in organisations. The data was collected through an online survey that participants could access through a link sent to them via e-mail.

The following measures were used:

- Job Demands-Resources Scale (Jackson & Rothmann, 2005).
- PIU measurement (Zoghbi-Manrique-de-Lara & Viera-Armas, 2017).
- Mini-IPIP (Donnellan et al., 2006).
- Organisational Culture Assessment Instrument (Cameron & Quinn, 1999).

The item analysis and partial least squares (PLS) analysis methods were used to analyse the collected data. The next chapter, Chapter 4, presents the research findings derived from the statistical analyses and their interpretation.

CHAPTER 4

RESULTS

4.1. INTRODUCTION

This chapter contains the results that were obtained from analysing the data for this study, as discussed in Chapter 3. PLS was used to analyse and investigate the relevant paths between the variables in order to confirm the structural model fit.

The purpose of Chapter 4 is to present and discuss the statistical results obtained from the various analyses that were performed in this study.

Firstly, an item analysis was performed to determine the psychometric soundness of the measurement instruments that were used to represent the various latent variables. After establishing an acceptable measurement model fit, a path analysis of the structural model was fitted to determine structural model fit. Selected paths were supplemented by regression and multiple regression analyses. Finally, the final scores and hypotheses were interpreted.

4.2. VALIDATING THE MEASUREMENT MODEL

4.2.1. Item Analysis

Item analysis provides a preliminary indication of the statistical analysis performed in the study. Item correlations are the subtype of internal consistency reliability. A study's validity and reliability criteria normally depend on the nature of the constructs included in the study. By using item analysis, an individual can increase his/her understanding of the validity and reliability of tests. Item correlations were used to examine the consistency between items in the various measurements instruments used. Inter-item correlation values of 1.00 and > 0.50 were considered as excellent. Values of 0.00 and < 0.50 were regarded as acceptable (Tabachnick & Fidell, 2013).

Item analysis was performed for all items included in the questionnaire. Table 4.1 gives a summary of the items measuring each sub-dimension of the constructs. The summary of the item analysis includes the Cronbach's alpha and average inter-item correlation of all the items that measure the specific latent variables (i.e. subscales).

Table 4.1
Internal Consistency Reliabilities of Subscales

Reliabilities of subscales				
Scale	Sample size	No of items	Cronbach's alpha	Average inter-item correlation
JD_JO	133	8	0.77	0.30
JD_JI	133	3	0.92	0.79
PIU_CL	133	5	0.84	0.53
PIU_EC	133	5	0.87	0.60
OC_Clan	133	6	0.84	0.48
OC_Adh	133	6	0.74	0.33
OC_Mark	133	6	0.87	0.55
OC_Hier	133	6	0.76	0.35
Pers_Ext	133	4	0.75	0.43
Pers_Agr	133	4	0.71	0.39
Pers_Con	133	4	0.63	0.30
Pers_Neur	133	4	0.55	0.24
Pers_Intel	133	4	0.72	0.39

JD_JO = Job Overload; JD_JI = Job Insecurity; PIU_CL = Cyberloafing; PIU_EC = E-Citizenship; OC = Organisational Culture; Clan = Clan; Adh = Adhocracy; Mark = Market; Hier = Hierarchy; Pers = Personality; Ext = Extroversion; Agr = Agreeableness; Con = Contentious; Neu = Neuroticism; Inte = Intellect

* A high score for inter-item correlation can be regarded as a good score – it illustrates that these items are measuring the same construct to a certain degree.

4.2.2. Job Demands

Job demands consist of two subscales, namely job overload and job insecurity. Job overload obtained a high reliability score (Cronbach's alpha = 0.77). The average inter-item correlation for insecurity was 0.30 and is regarded as acceptable.

Job insecurity obtained a Cronbach's alpha score of 0.92, indicating excellent reliability. Its average inter-item correlation score was also good, with a value of 0.79.

4.2.3. Personal Internet Use

PIU is measured through two subscales, cyberloafing and e-citizenship. Both these subscales obtained high Cronbach's alpha values, as well as high average inter-item correlation scores. Cyberloafing obtained a Cronbach's alpha value of 0.84 and an inter-item correlation score of 0.53. E-citizenship obtained even better scores, with a Cronbach's alpha score of 0.89 and an inter-item correlation score of 0.60. These scores are very good, indicating satisfactory internal consistency reliability.

4.2.4. Organisational Culture

Organisational culture was measured through the organisational culture assessment instrument (OCAI). The instrument divides organisational culture into four subscale cultures: Clan, Adhocracy, Market and Hierarchy. All four of the organisational culture subscales obtained desired Cronbach's alpha values of > 0.70 (Clan = 0.84; Adhocracy = 0.74; Market = 0.87; Hierarchy = 0.76). This is indicative that all four measures have high reliability. All four the inter-item correlation scores support these findings, with scores > 0.33 . This is indicative that the OCAI has satisfactory internal consistency reliability.

4.2.5. Personality

The Mini-IPIP consists of five subscales to measure an individual's personality, namely extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. The first subscale, extraversion (Pers_Ext) obtained a Cronbach's alpha score of 0.75, indicating high reliability. The inter-item correlation of 0.43 was regarded as acceptable. Both these scores indicate that the internal consistency reliability was satisfactory.

Agreeableness (Pers_Agr) obtained a Cronbach's alpha of 0.71, also indicating high reliability. The average inter-item correlation for conscientiousness was 0.39 and is regarded as acceptable. This gives agreeableness a satisfactory internal consistency reliability.

The third subscale of personality, namely conscientiousness (Pers_Con), obtained a Cronbach's alpha of 0.63. Although this is below 0.70, it can still be assumed to be satisfactorily reliable, as it is relatively close to 0.7. The average inter-item correlation was found to be 0.3 and, even though this was slightly below 0.5, it was still regarded as acceptable.

The fourth personality trait, neuroticism (Pers_Neu), had the lowest Cronbach's alpha (0.55) and inter-item correlation scores ($r = 0.24$). Although both these scores are low, they can still be regarded as satisfactory.

Both of these subscales had an item that could possibly be deleted to improve the Cronbach's alpha scores. The improvement would be marginal and it was noted that

both scales' poor items were reversed items. It was thus speculated that the reversed nature of these items could have caused some confusion among the participants.

Even though the Cronbach's alpha reliability scores of these two sub-dimensions of personality were not satisfactory, the composite reliability scores are high Cronbach's alpha coefficients, which indicates acceptable internal consistency reliability. The deletion of the items was thus not warranted, as the deletion of items would only improve the Cronbach's alpha coefficient marginally.

The last personality measure, openness to experience/intellect (Pers_Int), obtained a satisfactory Cronbach's alpha of 0.72, as well as an acceptable average inter-item correlation of 0.39, giving intellect satisfactory internal consistency reliability.

The five subscales of the Mini-IPIP all produced satisfactory internal consistency reliability scores. No item deletion was necessary, as the Cronbach's alpha for these subscales was not negatively affected by individual items. The personality measure thus measured what it was supposed to measure.

4.3. DECISION REGARDING THE LATENT VARIABLE SCALES

Item analysis was performed to evaluate the psychometric integrity of the different variables. The results obtained were satisfactory and supported all the individual items in the measurement instruments. Most of the items were proven to be reliable and consistent at a satisfactory level, with all, except two (neuroticism and conscientiousness), having Cronbach's alpha scores of above 0.70.

As item deletion would only result in a marginal improvement in the Cronbach's alpha reliability coefficient for these two subscales, no item deletion had to be done. It was therefore decided to retain all the items.

The average inter-item correlations of the different measurement scales ranged between 0.24 and 0.79; even though there were scores lower than 0.50, the results were still acceptable.

The results for the item analysis were thus satisfactory and further analysis was performed and reported.

4.4. PARTIAL LEAST SQUARES (PLS) ANALYSES

Making use of PLS analysis for structural equation modelling should be done in a two-step process. First, the measurement model needs to be evaluated, after which the structural model should be evaluated. The evaluation of the measurement model is important to be able to determine the quality of the construct used in the evaluation of the inner model.

After the reliability of all the latent variable scales has been determined, path coefficients are examined to determine the significance (and strength) of the relationships that were hypothesised (Langenhoven, 2015). Thus, as the fit of the measurement model is confirmed, the significance of the paths between latent variables is tested to confirm the fit of the structural model.

4.4.1. Evaluation and Interpretation of the Measurement Model

The average variance extracted (AVE), as well as the composite reliability, was used to evaluate and interpret the reliabilities of each of the latent variables.

Composite reliability values indicate whether the reliability of the latent variable scale is satisfactory or not. Ideally, the composite reliability values need to be > 0.70 to be deemed satisfactory.

Most of the reliability scores of the latent variables were shown to be > 0.70 , which is indicative that they were satisfactory. Only three variables obtained a reliability of < 0.70 . All three were subscales of personality (agreeableness, neuroticism and intellect).

The AVE value is used to investigate the amount of variance in the indicator variables. Reliability scores of > 0.50 are indicative that the variables do measure the relevant construct (Pennstate, 2015). The AVE score can be compared to the other reliability scores, although the AVE is a stricter measure of reliability. All scores except that of neuroticism were above 0.50. The score for neuroticism was 0.49, which can still be regarded as acceptable as it is very close to 0.50. This is indicative that all constructs explained more than 50% of the variance in the items.

These reliability statistics can be found in Table 4.2.

Table 4.2
Reliability Statistics of the PLS Model

Reliability statistics		
Scale	Average variance extracted (AVE)	Composite reliability
CL	0.62	0.89
EC	0.67	0.91
JD	0.56	0.68
OC_Clan	0.54	0.88
OC_Adh	0.29	0.62
OC_Mark	0.45	0.82
OC_Hier	0.44	0.82
Pers_Ext	0.53	0.81
Pers_Agr	0.24	0.45
Pers_Con	0.38	0.67
Pers_Neu	0.26	0.49
Pers_Intel	0.33	0.59

CL = Cyberloafing; EC = E-citizenship; OC = Organisational Culture; Clan = Clan; Adh = Adhocracy; Mark = Market; Hier = Hierarchy; Pers = Personality; Ext = Extroversion; Agr = Agreeableness; Con = Contentious; Neu = Neuroticism; Inte = Intellect

Another analysis that was performed was to evaluate construct validity. Construct validity is the degree to which a scale measures what it is supposed to measure. The discriminant validity of each scale was also tested using the Heterotrait-Monotrait ratio. It is evident that all the scales passed the test and therefore it can be concluded that all the constructs are unique and not highly correlated with the other constructs.

4.4.2. Outer Loadings

The last item reliability evaluation was done through a PLS bootstrap analysis to determine whether or not the item loadings were significant when looking at the factor loadings. The factor loadings were evaluated by identifying whether or not zero falls within the 95% confidence interval. If zero does fall within the interval, the factor loading would not be significant. The opposite is also true; if zero does not fall within the interval, the factor loading would be regarded as significant.

Table 4.3 illustrates the strength of the relationships between latent variables and the relevant items measuring them in the survey. It can be concluded that the paths between items and their relevant latent variables Cyberloafing, E-citizenship, Job Demands, Market Culture, Hierarchy Culture and Extraversion were all statistically significant. These results were obtained where zero did not fall within the 95%

confidence interval. This confirms the reliability of each item included in the latent variable scales.

The paths between clan and its six items, adhocracy and its six items, and agreeableness, conscientiousness, neuroticism and intellect with their four items, were found to be insignificant. This is indicative of a problem with the measurement of the scale.

The findings are summarised in Table 4.3.

In conclusion, the results indicate that a number of latent variables were deemed statistically significant.

Table 4.3
Outer Loadings

Outer loadings					
Latent variable	Path	Original sample	95% confidence interval (lower)	95% confidence interval (upper)	Description
Cyberloafing	PIU_Cyberloafing1	0,87	0,81	0,91	Significant
	PIU_Cyberloafing2	0,7	0,57	0,79	Significant
	PIU_Cyberloafing3	0,81	0,72	0,87	Significant
	PIU_Cyberloafing4	0,73	0,59	0,81	Significant
	PIU_Cyberloafing5	0,82	0,73	0,88	Significant
E-citizenship	PIU_E-citizenship1	0,81	0,69	0,88	Significant
	PIU_E-citizenship2	0,83	0,74	0,89	Significant
	PIU_E-citizenship3	0,86	0,76	0,91	Significant
	PIU_E-citizenship4	0,77	0,61	0,86	Significant
	PIU_E-citizenship5	0,82	0,69	0,88	Significant
Job Demands	Job demands_Job Insecurity	0,42	-0,33	0,86	Not significant
	Job demands_Job Overload	0,97	0,65	1	Significant
Clan	Organisational Culture_Clan1	0,62	-0,1	0,83	Not significant
	Organisational Culture_Clan2	0,73	-0,01	0,9	Not significant
	Organisational Culture_Clan3	0,61	-0,15	0,82	Not significant
	Organisational Culture_Clan4	0,8	-0,04	0,88	Not significant
	Organisational Culture_Clan5	0,79	-0,19	0,91	Not significant
	Organisational Culture_Clan6	0,83	-0,18	0,93	Not significant
Adhocracy	Organisational Culture_Adhocracy1	0,7	-0,47	0,87	Not significant
	Organisational Culture_Adhocracy2	0,65	-0,28	0,9	Not significant
	Organisational Culture_Adhocracy3	0,81	-0,44	0,92	Not significant
	Organisational Culture_Adhocracy4	0,38	-0,27	0,84	Not significant
	Organisational Culture_Adhocracy5	-0,03	-0,51	0,87	Not significant
	Organisational Culture_Adhocracy6	0,13	-0,43	0,76	Not significant
Market	Organisational Culture_Market1	0,5	-0,03	0,84	Significant
	Organisational Culture_Market2	0,32	-0,19	0,91	Significant
	Organisational Culture_Market3	0,54	0	0,9	Not significant
	Organisational Culture_Market4	0,66	0,07	0,9	Not significant
	Organisational Culture_Market5	0,92	-0,29	0,93	Significant
	Organisational Culture_Market6	0,88	-0,19	0,92	Significant
Hierarchy	Organisational Culture_Hierarchy1	0,64	-0,02	0,84	Not significant
	Organisational Culture_Hierarchy2	0,52	-0,21	0,81	Not significant
	Organisational Culture_Hierarchy3	0,5	-0,14	0,76	Not significant
	Organisational Culture_Hierarchy4	0,82	0,17	0,89	Significant
	Organisational Culture_Hierarchy5	0,74	0,08	0,85	Significant
	Organisational Culture_Hierarchy6	0,71	0,04	0,86	Significant
Conscientiousness	Personality_Conscientiousness1	0,95	-0,61	0,97	Not significant
	Personality_Conscientiousness2 (reversed)	0,56	-0,19	0,83	Not significant
	Personality_Conscientiousness3	0,31	-0,47	0,84	Not significant
	Personality_Conscientiousness4 (reversed)	0,44	-0,29	0,78	Not significant
Neuroticism	Personality_Neuroticism1	0,59	-0,32	0,92	Not significant

Table 4.3
Outer Loadings (Continued)

Outer loadings					
Latent variable	Path	Original sample	95% confidence interval (lower)	95% confidence interval (upper)	Description
	Personality_Neuroticism2 (reversed)	0,75	-0,42	0,94	Not significant
	Personality_Neuroticism3	0	-0,65	0,95	Not significant
	Personality_Neuroticism4 (reversed)	0,33	-0,56	0,85	Not significant
Agreeableness	Personality_Agreeableness1	-0,01	-0,36	0,95	Not significant
	Personality_Agreeableness2 (reversed)	0,49	-0,19	0,9	Not significant
	Personality_Agreeableness3	0,78	-0,41	0,96	Not significant
	Personality_Agreeableness4 (reversed)	0,31	-0,28	0,91	Not significant
Intellect	Personality_Intellect1	0,91	-0,54	0,96	Not significant
	Personality_Intellect2 (reversed)	0,1	-0,37	0,95	Not significant
	Personality_Intellect3 (reversed)	0,31	-0,21	0,88	Not significant
	Personality_Intellect4 (reversed)	0,64	-0,36	0,87	Not significant
Extraversion	Personality_Extraversion1	0,75	0,11	0,89	Significant
	Personality_Extraversion2 (reversed)	0,86	0,19	0,97	Significant
	Personality_Extraversion3	0,51	-0,24	0,79	Not significant
	Personality_Extraversion4 (reversed)	0,74	0,1	0,87	Significant

4.4.3. Evaluation and Interpretation of the Structural Model

To determine the quality of the relationships between the latent variables in this study, the structural model was analysed. PLS analysis was done to determine the extent to which the latent variables are related to each other. The relationships and influences of the dependent and independent variables were also analysed and reported on. The structural model can also be referred to as the 'inner model', as it considers all the relevant factors inside the structural model. The analysis of the structural model includes the following: the testing of multicollinearity, analysing the R-square values, and the evaluation of the main effects together with the moderating effects.

4.4.4. Multicollinearity

Many predictor variables are present during regression analysis and therefore one must assume that all the predictors that are present are uncorrelated with each other. Often, the correlation between predictors is too high, which results in unstable regressions determined by the estimated coefficients. The researcher tested for multicollinearity using the variance inflation factor (VIF).

Variance inflation factors measure how much the variance in the estimated regression coefficients is inflated compared to when the predictor variables are not linearly related. This information is used to describe how much multicollinearity (correlation between predictors) exists in a regression analysis. Multicollinearity is problematic, as it can increase the variance of the regression coefficients, resulting in the regression coefficients possibly being unstable and difficult to interpret.

There are various acceptable results for VIF values. A value of 10 is most commonly recommended as the maximum level of VIF. Further research has indicated that a maximum value of 5 or even 4 would be ideal (Pennstate, 2015). One can assume that researchers use whichever criterion would help serve their own purposes. A maximum VIF value of 5 or higher was considered problematic in this study (Kidd, 2018). All the scores for this study were found to be below 5, hence there was no indication of multicollinearity problems.

4.4.5. Evaluation and Interpretation of the R-square

The R-square value determines the amount of variance in the endogenous variable that is explained by the exogenous variables. Table 4.4 below illustrates the R-square scores for the endogenous variables of PIU.

Table 4.4

R-Square Scores for the Endogenous Variables of Organisational Culture

R-square scores				
Endogenous variables	Clan	Adhocracy	Market	Hierarchy
Cyberloafing	0.06	0.11	0.09	0.1
E-citizenship	0.2	0.23	0.19	0.2

Table 4.5

R-Squares Scores for the Endogenous Variables of Personality

R-square scores					
Endogenous variables	Conscientiousness	Neuroticism	Agreeableness	Intellect	Extraversion
Cyberloafing	0.11	0.07	0.09	0.11	0.09
E-citizenship	0.19	0.2	0.19	0.21	0.19

All the R-square values are extremely low. This indicates that the model explains very little of the variability in the responses. As human behaviour is complex, these low scores are an indication that there might be other variables that could possibly have an impact on the endogenous variables that are not part of this study. These low scores are a possible limitation of the study and will be discussed in detail in the next chapter.

4.5. EVALUATION AND INTERPRETATION OF THE MAIN EFFECTS

When making use of PSL, it is important to remember that PSL path modelling is not implemented to test theory, but rather facilitates predictions (Henseler et al., 2009). After the reliability of the various latent variable scales was determined, the path

coefficients were analysed in order to determine the significance and strength of the various hypothesised relationships. The bootstrapping method was used to determine the relationship among variables. When making use of the bootstrapping method, the related coefficient will be seen as not significant if zero falls within the confidence interval, and vice versa.

Table 4.6 indicates whether or not the path coefficients were significant. For the researcher to determine the strength and significance of the hypothesised paths proposed in the structural model (Figure 3.1), the path coefficients were investigated by evaluating whether zero fell within the 95% confidence interval. Furthermore, the significance of the path coefficients was analysed and, on this basis, information was provided on the hypothesised paths and their significance.

Table 4.6
Path Coefficients between Variables

Path coefficients					
Hypothesis	Path	Path coef.	95% confidence interval (lower)	95% confidence interval (upper)	Description
H1	Cyberloafing -> E-citizenship	0.41	0.24	0.57	Significant
H2	Job demands -> Cyberloafing	-0.22	-0.42	0.04	Not significant
H3	OC_clan -> E-citizenship	0.15	-0.19	0.32	Not significant
H4	OC_Adhocracy -> E-citizenship	-0.18	-0.35	0.27	Not significant
H5	OC_Market -> E-citizenship	-0.02	-0.2	0.21	Not significant
H6	OC_Hierarchy -> E-citizenship	-0.1	-0.33	0.12	Not significant
H7	Extraversion -> E-citizenship	0.1	-0.15	0.28	Not significant
H8	Agreeableness -> E-citizenship	0.06	-0.3	0.23	Not significant
H9	Conscientiousness -> E-citizenship	-0.07	-0.25	0.22	Not significant
H10	Neuroticism -> E-citizenship	0.11	-0.22	0.29	Not significant
H11	Intellect -> E-citizenship	0.11	-0.14	0.3	Not significant

Hypothesis 1: Cyberloafing (η_1) has a significant negative linear relationship with e-citizenship (η_2).

The hypothesised negative relationship between cyberloafing and e-citizenship was found to be significant. The PLS coefficient of 0.41 and zero falling within the 95% confidence interval support these findings.

The reason for this is that, when employees do engage in PIU, they either do so in the form of e-citizenship or in the form of cyberloafing. Consequently, the more time

employees spend on cyberloafing activities, the less time they will have to help their fellow employees in the form of e-citizenship.

Hypothesis 2: Job demands (ξ_1) have a significant positive linear relationship with cyberloafing (η_1).

The hypothesised positive relationship between job demands and cyberloafing was found to be not significant (PLS path coefficient = -0.22), with zero falling within the 95% confidence interval. The P-value for job demands was found to be 0.05.

These findings imply that job demands per se do not influence whether an employee engages in cyberloafing or not. It can therefore be concluded that individuals who do experience high job demands might engage in cyberloafing, but they might also not. From this it can also be assumed that there might be other variables that are not present in this study that might have an influence on employees' PIU.

Hypothesis 3: Clan cultures (ξ_7) have a significant positive relationship with e-citizenship (η_2).

The hypothesised positive relationship between clan culture and e-citizenship was found not to be significant (PLS path coefficient = 0.15), with zero falling within the 95% confidence interval. The P-value of 0.23 supports the PLS findings, as a P-value of > 0.05 is an indication of weak evidence for the hypothesis.

Consequently, organisations fostering a clan culture within their organisation will not necessarily lead to employees engaging in PIU to the benefit of the company in the form of e-citizenship behaviour. These findings are interesting, as clan cultures value commitment and are family orientated, and one thus will assume that employees will be loyal towards their organisation and co-workers through helping them.

The reason for this finding might be that employees in clan cultures are willing to help fellow employees, but they might just not execute their help and support through the internet.

Hypothesis 4: Adhocracy organisational cultures (ξ_8) have a significant negative linear relationship with e-citizenship (η_2).

The hypothesised negative relationship between an adhocracy organisational culture and employees engaging in PIU in the form of e-citizenship was found not to be significant (PLS path coefficient = -0.18), with zero falling within the 95% confidence interval. Even though the results prove that the relationship between an adhocracy organisational culture and e-citizenship was negative, the relationship between the two constructs was insignificant. This is further supported by the P-value, as a P-value of 0.26 was obtained, indicating weak evidence against the proposed hypothesis.

Consequently, these findings imply that employees in adhocracy cultures engaging in PIU do not necessarily do so in the form of e-citizenship. E-citizenship can thus be considered as a separate construct that is not dependent on/related to an adhocracy organisational culture and will not be influenced negatively by the type of organisational culture. It can be concluded that employees engaging in PIU might engage in e-citizenship to an extent, but not necessary on a regular basis. As adhocracy organisational cultures encourage employees to experience new things and encourage employees to use their creativity, one can assume that internet usage must form part of the freedom employees experience in these cultures.

Hypothesis 5: Market cultures (ξ_9) have a significant positive, linear relationship with e-citizenship (η_2).

For this hypothesis, a P-value of 0.85 was obtained. This rather high P-value is indicative that the data match the proposed hypothesis. Furthermore, the hypothesised positive relationship between a market culture within an organisation and e-citizenship was found not to be significant. The PLS was equal to -0.02, with zero falling within the 95% confidence interval. Therefore, whether employees execute e-citizenship behaviour when engaging in PIU is most likely not affected by the organisation's market culture.

These findings are to some extent in contrast with previous findings, which indicated that market culture organisations are very goal driven and place a great deal of emphasis on effectiveness, as this will increase profitability (Kargas & Varoutas, 2015; OCAI, 2018). The reason for this contradiction could be that employees are goal driven and do help each other through media other than the internet, such as helping with workload or supporting one another emotionally so that productivity is still high.

Hypothesis 6: Hierarchy organisational cultures (ξ_{10}) have a significant positive linear relationship with e-citizenship (η_2).

The hypothesised positive relationship between a hierarchy organisational culture and e-citizenship was found to be statistically insignificant (PLS path coefficient = -0.1), with zero not falling within the 95% confidence interval. These values are further supported by a P-value of 0.39, indicating weak evidence for the proposed hypothesis.

As hierarchy organisations are driven by efficiency, consistency and uniformity (OCAI, 2018), these findings might make sense, as employees might see the internet as a distraction that could have a negative effect on their efficiency when completing tasks.

None of the organisational cultures had a significant relationship with e-citizenship; this poor relationship between the items and the measurement scale could fail to provide an accurate indication of employees' PIU behaviour.

Hypothesis 7: Extraversion (ξ_1) has a significant negative linear relationship with e-citizenship (η_2).

Interestingly, although extravert individuals are usually adventurous, assertive, sociable and talkative, and have a desire for excitement and a need for stimulation (Anic, 2007), it seems as if extroverts do not necessarily get their stimulation from the internet or social media, as some might think.

The hypothesised negative relationship between extraversion and e-citizenship was found to be not significant. The PLS coefficient was equal to 0.1, with zero falling within the 95% confidence interval. This insignificance was further supported by the P-value of 0.38.

Hypothesis 8: Agreeableness (ξ_2) has a significant positive linear relationship with e-citizenship (η_2).

For this proposed hypothesis, a P-value of 0.7 and a PLS path coefficient of 0.06 was obtained. As the path coefficient score is relatively close to zero, it is indicative that there is not really a relationship between agreeableness and employees engaging in e-citizenship.

This is interesting, as the hypothesis was formulated on the assumption that agreeable employees will have a concern for the well-being of others and their organisation, as they are determined and reliable individuals. One would therefore assume that they would consequently only engage in PIU if it can be to the benefit of the organisation. Although the hypothesis was found to be negative, it does not mean that agreeable employees now care less about their organisation than previously. These results might be indicative that employees do not regard the internet per se as a way to interact with or show loyalty towards fellow employees or their organisation.

Hypothesis 9: Conscientiousness (ξ_3) has a significant negative linear relationship with e-citizenship (η_2).

The hypothesised negative relationship between conscientiousness and e-citizenship was found to be not significant. The PLS path coefficient was equal to -0.07, with zero falling within the 95% confidence interval. In support of this finding, a P-value of 0.58 was obtained.

According to the results of this study, it is clear that employees' e-citizenship behaviour is not dependent on their conscientiousness. In other words, the level of conscientiousness does not affect an employee's PIU to be focused more on e-citizenship than on cyberloafing.

Hypothesis 10: *Neuroticism (ξ_5) has a significant, positive linear relationship with e-citizenship (η_2).*

As conscientious behaviour is often interpreted as goal-directed behaviour versus lazy, unorganised and unreliable behaviour (Ackerman, 2017), these findings are possibly not too surprising.

The hypothesised positive relationship between neuroticism and e-citizenship was found to be not significant (PLS path coefficient = 0.11), with zero falling within the 95% confidence interval. Even though the result of the path coefficient was positive, the relationship was found to be insignificant. This is supported by the P-value that is equal to 0.4.

As conscientiousness implies a desire to do a task well, and to take obligations to others seriously, conscientious employees might be of the opinion that the internet, in

general, is distractive and therefore they prefer not to engage in either cyberloafing or e-citizenship.

Hypothesis 11: *Openness to experience (ξ_6) has a significant, negative linear relationship with e-citizenship (η_2).*

The hypothesised negative relationship between openness to experience and e-citizenship was found not to be significant (PLS path coefficient = 0.11), with zero falling within the 95% confidence interval.

Even though the results proved that the relationship between the two variables is positive, the relationship between the two variables is not significant (P-value of 0.35). These findings imply that those who score high on openness to experience could either engage in e-citizenship behaviour, or not. Openness to experience does not affect employees' PIU.

4.6. EVALUATING AND INTERPRETING THE PROPOSED MODERATING HYPOTHESES

All five the personality types, job demands, as well as the four organisational cultures were tested as moderating variables according to the different hypotheses proposed. The moderators and their relevant hypotheses are presented and discussed below.

4.6.1. Personality as a moderator

The hypothesised moderating effect of personality on the relationship between job demands and cyberloafing was found to be statistically insignificant.

Hypothesis 12: *Openness to experience moderates the relationship between job demands and cyberloafing.*

Hypothesis 13: *Conscientiousness moderates the relationship between job demands and cyberloafing.*

Hypothesis 14: *Extroversion moderates the relationship between job demands and cyberloafing.*

Hypothesis 15: *Agreeableness moderates the relationship between job demands and cyberloafing.*

Hypothesis 16: *Neuroticism moderates the relationship between job demands and cyberloafing.*

The findings of the above hypothesis are based on the P-values provided in Table 4.7. The P-values help to evaluate whether moderating effects exist/are present between the paths of the hypotheses. A p-value of < 0.05 indicate that the relationship between the variables is significant at the 95% confidence interval. As no P-value between these variables was found to be $p < 0.05$, not one of the five personality types was found to moderate the relationship between job demands and cyberloafing.

Table 4.7
P-values of Hypotheses 12 to 16

		P-values	
Hypothesis	Path	Interaction coefficient	P-value
H12	Personality*Intellect_JD - CL	-0,17	0,25
H13	Personality*Conscientiousness_JD - CL	0,04	0,72
H14	Personality*Extraversion_JD - CL	0,06	0,51
H15	Personality*Agreeableness_JD - CL	-0,04	0,7
H16	Personality*Neuroticism_JD - CL	0,05	0,66

4.6.2. Organisational culture as a moderator

The hypothesised moderating effect of organisational culture on the relationship between job demands and cyberloafing was found to be statistically insignificant.

Hypothesis 17: *Hierarchic cultures moderate the relationship between job demands and cyberloafing.*

Hypothesis 18: *Market cultures moderate the relationship between job demands and cyberloafing.*

Hypothesis 19: *Adhocracy cultures moderate the relationship between job demands and cyberloafing.*

Hypothesis 20: *Clan cultures moderate the relationship between job demands and cyberloafing.*

As all the P-values are above 0.05, it is indicative that organisational culture does not moderate the relationship between job demands and cyberloafing.

Table 4.8 presents hypotheses 17 to 20 and their p-values.

Table 4.8
P-values of Hypotheses 17 to 20

P-values			
Hypothesis	Path	Interaction coefficient	P-value
H17	Organisational Culture*Hierarchy_JD - CL	0,07	0,42
H18	Organisational Culture*Market_JD - CL	-0,08	0,49
H19	Organisational Culture*Adhocracy_JD - CL	-0,16	0,27
H20	Organisational Culture*Clan_JD - CL	-0,06	0,62

4.6.3. Job demands as a moderator

All except one p-value of job demands as a moderator of the relationship between personality and e-citizenship, as well as between organisational culture and e-citizenship, were found to be higher than 0.05. A p-value higher than 0.05 means that job demands do not have a statistically significant moderating effect on the relationship between personality or organisational culture and e-citizenship.

Hypothesis 21: Job demands moderate the relationship between openness to experience and e-citizenship.

Hypothesis 22: Job demands moderate the relationship between conscientiousness and e-citizenship.

Hypothesis 23: Job demands moderate the relationship between extroversion and e-citizenship.

Hypothesis 24: Job demands moderate the relationship between agreeableness and e-citizenship.

Hypothesis 25: Job demands moderate the relationship between neuroticism and e-citizenship.

Hypothesis 26: Job demands moderate the relationship between hierarchic cultures and e-citizenship.

Hypothesis 27: Job demands moderate the relationship between market cultures and e-citizenship.

Hypothesis 28: Job demands moderate the relationship between adhocracy cultures and e-citizenship.

Hypothesis 29: Job demands moderate the relationship between clan cultures and e-citizenship.

The moderating effect that job demands has on the relationship between adhocracy culture and e-citizenship was the only P-value to be smaller than 0.05 ($P = 0.03$). Hypothesis 28 is thus the only hypothesis to be true. An interaction effect occurs when the effect of the one variable depends on the value of another variable. Figure 4.1 is indicative that the level of job demands (high or low) of employees in an adhocracy culture will determine whether they will engage in e-citizenship or not. The interaction coefficient indicates that low job demands will have a positive relationship with e-citizenship behaviour, whereas higher job demands will have a negative relationship with e-citizenship.

From this moderating relationship it can be concluded that, when employees in adhocracy organisational cultures have lower levels of job demands, they will willingly help peers, for example by redirecting misdirected e-mails. When their job demands are high, these employees will not necessarily engage in e-citizenship behaviour. The reason for this might be that employees in adhocracy cultures are encouraged to be creative and to use their freedom. When under high demands, employees might be focused only on themselves, whereas when job demands are lower, they might use their creativity and freedom to help others by engaging in e-citizenship behaviour.

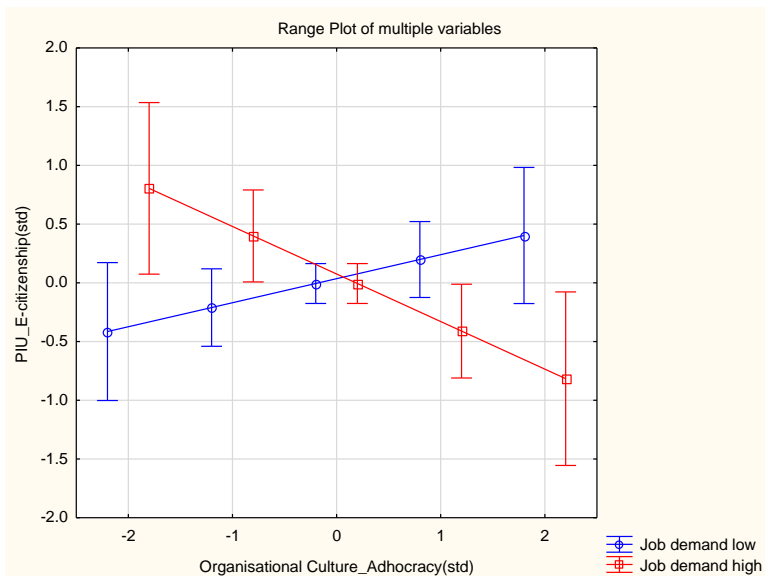


Figure 4.1. Interaction effect – Job demands and adhocracy culture

Table 4.9
Univariate P-values of Hypotheses 21 to 29

P-values			
Hypothesis	Path	Interaction coefficient	P-value
H21	JD_Personality*Intellect - EC	0,09	0,36
H22	JD_Personality*Conscientiousness - EC	0.09	0.94
H23	JD_Personality*Extraversion - EC	0.12	0.97
H24	JD_Personality*Agreeableness - EC	0.09	0.32
H25	JD_Personality*Neuroticism - EC	0.09	0.91
H26	JD_Organisational Culture*Hierarchy - EC	0.09	0.17
H27	JD_Organisational Culture*Market - EC	0.09	0.80
H28	JD_Organisational Culture*Adhocracy - EC	0.08	0.03
H29	JD_Organisational Culture*Clan - EC	0.12	0.99

4.7 CHAPTER SUMMARY

The purpose of this chapter was to report on and the discuss the findings of the proposed hypotheses and the data that was collected. The measurement model was validated by performing item analysis on each measurement tool to establish the reliability of each of the questionnaire items. PLS was used to evaluate and determine the reliability of each measurement scale used in this study.

Thereafter, the structural model was tested to help determine the quality of the relationships between the latent variables used in the measurement questionnaires. Lastly, the scores, as well as the main and moderating hypotheses, were interpreted and discussed. Sadly, almost all of the hypotheses were found to be insignificant. No individual items were removed, as the researcher did not want to influence the results of any of the measurement model fits.

Of the 29 hypotheses formulated for this study, only two were found to be significant. Of the non-significant paths, 17 were related to moderating effects. The insignificant results could be due to many reasons.

The next chapter presents the managerial implications of the study to assist South African industrial psychologists, managers and organisations to address the issue of PIU among employees. Lastly, the limitations of this study will be outlined, followed by recommendations for future research endeavours.

CHAPTER 5

IMPLICATIONS, LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

5.1 INTRODUCTION

Chapter 1 contextualised the study and gave an overview of the research-initiating question as well as the research objective. In Chapter 2, an in-depth literature review was conducted on the relevant variables of this study. The hypotheses that were formulated for this study were also outlined in Chapter 2. Chapter 3 gave an overview of the methodology, sample and the statistical analyses that were used for this study.

In Chapter 4, the results were discussed, and the participants' scores and the hypotheses were analysed. In this chapter, Chapter 5, the managerial implications to assist South African industrial psychologists and line managers addressing problems related to the findings in Chapter 4 and PIU are discussed.

In the course of this study, it became clear that employees' PIU at work is the result of intricate interactions in the working environment. The model presented in Chapter 1 (Figure 1.1) illustrates the complex nature of the PIU model. This model was used to illustrate the relationship that PIU at work has with job demands, personality and different organisational cultures.

Organisations often struggle with the consequence of CWB due to employees engaging in PIU during office hours. Organisations should be able to acknowledge and recognise their responsibility to help employees to be more engaged and goal driven, and to help fellow employees through e-citizenship behaviour.

There are a number of implications and interventions that could be applied in the working environment in order to help employees engage in less PIU or to engage in e-citizenship rather than cyberloafing when engaging in PIU. Practical and possible interventions are discussed in the next section.

Lastly, the limitations of this study are discussed, along with recommendations for future research related to this field of study.

5.2 PRACTICAL IMPLICATIONS

Research studies in which mostly significant relationships are found between variables are of great value for any organisation, as well as for the industrial psychologist. Although this study did not prove many significant relationships between variables, it still provides valuable information regarding PIU during office hours. The mostly insignificant relationships that were found could be attributed to the fact that there are far more variables influencing employees' PIU than just the variables that were included in this study.

It is important to focus on the aspects of PIU, as well as other, general variables that might be related to PIU during office hours. PIU during office hours can have a major impact on individuals, but also on the daily operations of an organisation. Failure to effectively manage PIU in organisations can become very costly for organisations, as PIU might be a form of CBW. It is therefore critical that managers and industrial psychologists consider interventions to decrease or manage employees' PIU during office hours. As the internet has become part of almost all employees' everyday life, it is difficult to determine who is engaging in cyberloafing or e-citizenship.

This section is divided into two sections – general implications, and implications and organisational level interventions specifically related to PIU.

5.2.1. General implications for employees

Although some employees might engage in PIU as a form of stress relief or to escape from their work, PIU might have an effect on employees' general behaviour.

One can easily become side-tracked, especially when on social media. Employees might lose track of time, not realising that they are being unproductive and wasting valuable time. This might result in employees having to work overtime to finish their work, which can then lead to burnout.

If employees engage in a lot of PIU during office hours, their day-to-day work tasks might not get done and this can lead to increased stress levels. Switching between work tasks and PIU might be stimulating for some, but for others it might be distracting, as they lose focus when switching between work tasks and PIU. This might also result in employees experiencing more stress to reach tight deadlines.

Although many employees might see nothing wrong with PIU, organisations regard it differently. Organisations see time as money, and therefore organisations need interventions regarding PIU to help employees to reach optimal productivity.

5.2.2. Organisation-level interventions

Studies have found that an employee engaging in one form of CWB is more likely to engage in other forms of CWB as well. When employees engage in cyberloafing activities, it can be regarded as a form of CWB in organisations (Berry, Ones, & Sackett, 2007). Managers and leaders in organisations are responsible for implementing policies and regulations to which employees should adhere. However, it might become problematic when leaders and managers are not consistent in the implementation of rules and regulations.

The next section focuses specifically on the variables of this study. It considers interventions that could be implemented to foster a focused and productive organisational culture using the variables in this study. These interventions usually consist of training programmes, as well as redesigning some jobs/duties within different departments in organisations. Linking to JD-R theory, possible interventions proposed specifically by the current study are to reduce job demands, manage personal resources (personality types) and improve job resources (organisational culture) within the organisation.

5.2.3. Reducing job demands

As high job demands might cost a lot of effort, it is important to examine possible ways to reduce the number/load of job demands that employees experience. Usually, high levels of job demands are stressful for employees, as they are often seen as unnecessarily thwarting personal growth and goal attainment (Callaghan & Thompson, 2002).

One way of decreasing job demands is through job redesign. Job redesign is when organisations or managers change elements of the job tasks, responsibilities, roles, conditions, etc. with the aim of optimising the balance between demands and resources (Bakker, Demerouti, & Sanz-Vergel, 2014). Examples of job redesign would be to increase support and provide supervisory coaching and performance feedback

(job resource), and to assign additional job responsibilities (challenging job demands) in order for employees to better deal/cope with the emotional demands.

Additionally, managers within each department could conduct an organisational survey to determine which job resources and demands employees would like to see addressed, with the aim of improving engagement and e-citizenship to decrease PIU in the form of cyberloafing (Bakker & Demerouti, 2014). It is crucial to start the intervention with the assessment of the most important job demands and job resources that need attention (Bakker et al., 2014) within the organisation.

5.2.4. Improve job resources (organisational culture) through training

Every organisation is different, and therefore different organisational cultures will work for different organisations. It is important that employees always feel valued and needed in an organisation. If employees feel part of the organisational “family”, they are more likely to give their full co-operation and be present and engaged during office hours. Training interventions focused on improving engagement might help employees to become aware of PIU. Often, employees are not aware of the value that time has for managers, and interventions aimed at time management might also help to make employees aware that valuable time cannot be wasted through cyberloafing activities during office hours.

Another way to improve resources is to educate employees on how to effectively use sites such as LinkedIn. If employees are able to utilise these sources, it might be to the benefit of the organisation. This would be regarded as positive PIU in the form of e-citizenship.

5.2.5. Manage personal resources (personality types) through training

Training interventions are aimed at the organisational level with the purpose to develop personal resources. Training and development are among the foundations of human resource management functions. In the South African context, organisations that meet specific requirements have to be able to prove that they invest sufficiently in the training and development of employees. The aim of training is to develop employees' skills, knowledge and problem-solving abilities. Bakker et al. (2014) put forward that training could also be targeted at developing employees' personal resources.

A study done by Luthans, Avolio, Avey and Norman (2007) suggests micro-interventions targeted at developing psychological capital elements in employees. These elements are focused on hope, optimism, self-efficacy and resilience. They found that the interventions not only improved the employees' psychological capital, but also had a positive effect on financial metrics and had a high return on investment. Organisations similarly can invest in psychological capital training at an organisational level.

Psychological capital is seen as a construct that thus can be developed (Luthans et al., 2007). There are specific guidelines and numerous successful applications in the positive psychology literature for enhancing these constructs, including hope, optimism, resilience and self-efficacy.

Time is often very valuable for organisations and it might become problematic to implement time-consuming interventions. Therefore, alternative and shorter training interventions could be considered. Luthans, Avey and Patera (2008) recommend web-based training for the development of psychological capital. They promote the ease of implementation, delivery, reduced cost and accessibility of web-based training interventions that take the format of two 45-minute online sessions.

5.3. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Although this study added value to organisations and the field of psychology, there were several limitations. These limitations did not significantly undermine the results presented in Chapter 4, and could be valuable for future research and provide guidelines and possible areas for improvement.

Firstly, although the sample size of 133 was satisfactory, a bigger sample size would have provided more credible results. It therefore is recommended that future studies attempt to gain a larger sample size.

Secondly, the study made use of self-reported measures. Method bias or impression management could have been present. The measures used do not indicate the level of impression management, therefore one can only assume that social desirability was high. Participants most likely responded in a way that would put them in a favourable light. Consequently, the exclusive use of self-reported questionnaires could artificially

inflate correlations between variables (Langenhoven, 2015). It is suggested that future research should consider objective measures.

The web-based nature of the questionnaire can also be seen as a limitation, as many organisations did not want to participate as their systems might be hacked. Furthermore, even though confidentiality was assured, it is likely that the respondents did not trust that their information would remain confidential and as a result might have answered dishonestly.

Another limitation is that the questionnaire was only available in English. English might have been some respondents' second or third language, which could have made items difficult to understand. As a result, some of the items could have been interpreted incorrectly and could have influenced the results of the study.

The lack of significant paths between any of the Big Five traits and PIU may be due to the fact that the measurement of the personality variables included in this study might have been too broad. The use of the Mini-IPIP as a measure of the Big Five personality traits may have contributed to a loss of explanatory power. As only four items were used to measure each personality trait, it might have contributed to a loss of explanatory power, as lower order factors might have lost significance within the broader structure. The lack of significance in the path coefficients might be due to the underestimation of relationships.

The measurement that was used to measure PIU had rather few items measuring this construct. As it was a valid measure for PIU, no additional items were added to the measurement. However, to give participants a better understanding of what PIU is, some additional questions could be added to this measurement in the future.

5.4. DISCUSSION

Generally, the primary objective of this research study was to test the extended JD-R model, namely the PIU structural model. The model proposes relationships between job demands, different organisations' cultures and different personalities to determine why employees engage in PIU. The structural model was an extension of the JD-R model, which anticipated that personal and organisational resources might be related to the stress process and a motivational process of the initial JD-R model, resulting in employees using the organisational internet for personal use during office hours.

Despite a comprehensive literature study, this study does not support previous studies and theoretical assumptions formulated in past studies.

The researcher aimed to highlight the results and managerial implications of the research findings and recommended practical interventions to help manage employees' PIU at work. Reflecting on the research objectives, the researcher concluded that all the research objectives of this study were met. The RIQ asked, "Why is there variance in personal internet use in the workplace?"

From the 29 hypotheses formulated for this study, two were found to be significant. However, 17 of the non-significant paths were related to the moderating effects. The non-significant paths might be due to many reasons. The relatively small sample size on which the study was conducted could potentially have influenced the results.

Consequently, more research needs to be done on the moderating effects of the specific job demands, job resources and personal resources.

5.5. CHAPTER SUMMARY

Through researching variables that could possibly affect PIU, this study has made an important contribution to the field of psychology and why employees engage in PIU during office hours.

The study has contributed to a better understanding of PIU. Based on the results that were reported in Chapter 4, possible interventions for organisations were suggested to help employees be more engaged and to focus on e-citizenship if they do use the organisation's internet during office hours. Lastly, further limitations and recommendations for future research studies were discussed and suggested.

The study initially proposed/predicted that specific organisational cultures and personality types might be linked to PIU. The results indicated that PIU cannot be seen in isolation and that PIU is more complex and goes beyond the individual and the organisation. Since most of the hypotheses of this study were found to be insignificant, one can assume that variables that were not included in this study might rather affect whether or not employees engage in PIU. Such variables might potentially be values and beliefs, cultural background, internet dependency, social media interaction, the nature of jobs, etc.

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APPENDIX A

Table 1

Outer Loadings: Clan Culture

Clan							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Job demands * OC_clan ≤ JD*clan ≤	Job demands * OC_clan	JD*clan	1,01	0,76	1,27	yes	0
Job demands_Job Insecurity ≤ Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,33	0,86	no	0,16
Job demands_Job Overload ≤ Job demands	Job demands_Job Overload	Job demands	0,97	0,65	1	yes	0
OC_clan * Job demands ≤ clan*JD	OC_clan * Job demands	clan*JD	1,01	0,76	1,27	yes	0
Organisational Culture_Clan1 ≤ OC_clan	Organisational Culture_Clan1	OC_clan	0,62	-0,1	0,83	no	0,01
Organisational Culture_Clan2 ≤ OC_clan	Organisational Culture_Clan2	OC_clan	0,73	-0,01	0,9	no	0
Organisational Culture_Clan3 ≤ OC_clan	Organisational Culture_Clan3	OC_clan	0,61	-0,15	0,82	no	0,01
Organisational Culture_Clan4 ≤ OC_clan	Organisational Culture_Clan4	OC_clan	0,8	-0,04	0,88	no	0
Organisational Culture_Clan5 ≤ OC_clan	Organisational Culture_Clan5	OC_clan	0,79	-0,19	0,91	no	0
Organisational Culture_Clan6 ≤ OC_clan	Organisational Culture_Clan6	OC_clan	0,83	-0,18	0,93	no	0
PIU_Cyberloafing1 ≤ Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,91	yes	0
PIU_Cyberloafing2 ≤ Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,7	0,57	0,79	yes	0
PIU_Cyberloafing3 ≤ Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,81	0,72	0,87	yes	0
PIU_Cyberloafing4 ≤ Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,73	0,59	0,81	yes	0
PIU_Cyberloafing5 ≤ Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,82	0,73	0,88	yes	0
PIU_E-citizenship1 ≤ E-citizenship	PIU_E-citizenship1	E-citizenship	0,81	0,69	0,88	yes	0
PIU_E-citizenship2 ≤ E-citizenship	PIU_E-citizenship2	E-citizenship	0,83	0,74	0,89	yes	0
PIU_E-citizenship3 ≤ E-citizenship	PIU_E-citizenship3	E-citizenship	0,86	0,76	0,91	yes	0
PIU_E-citizenship4 ≤ E-citizenship	PIU_E-citizenship4	E-citizenship	0,77	0,61	0,86	yes	0
PIU_E-citizenship5 ≤ E-citizenship	PIU_E-citizenship5	E-citizenship	0,82	0,69	0,88	yes	0

Table 2

Outer Loadings: Adhocracy Culture

Adhocracy							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Job demands * OC_Adhocracy ≤ JD*adhocracy	Job demands * OC_Adhocracy	JD*adhocracy	1,02	0,75	1,23	yes	0
Job demands_Job Insecurity ≤ Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,34	0,85	no	0,16
Job demands_Job Overload ≤ Job demands	Job demands_Job Overload	Job demands	0,97	0,64	1	yes	0
OC_Adhocracy * Job demands ≤ Adhocracy*JD	OC_Adhocracy * Job demands	Adhocracy*JD	1,02	0,75	1,23	yes	0
Organisational Culture_Adhocracy1 ≤ OC_Adhocracy	Organisational Culture_Adhocracy1	OC_Adhocracy	0,7	-0,47	0,87	no	0,05
Organisational Culture_Adhocracy2 ≤ OC_Adhocracy	Organisational Culture_Adhocracy2	OC_Adhocracy	0,65	-0,28	0,9	no	0,03
Organisational Culture_Adhocracy3 ≤ OC_Adhocracy	Organisational Culture_Adhocracy3	OC_Adhocracy	0,81	-0,44	0,92	no	0,02
Organisational Culture_Adhocracy4 ≤ OC_Adhocracy	Organisational Culture_Adhocracy4	OC_Adhocracy	0,38	-0,27	0,84	no	0,2
Organisational Culture_Adhocracy5 ≤ OC_Adhocracy	Organisational Culture_Adhocracy5	OC_Adhocracy	-0,03	-0,51	0,87	no	0,93
Organisational Culture_Adhocracy6 ≤ OC_Adhocracy	Organisational Culture_Adhocracy6	OC_Adhocracy	0,13	-0,43	0,76	no	0,67
PIU_Cyberloafing1 ≤ Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,92	yes	0
PIU_Cyberloafing2 ≤ Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,7	0,56	0,8	yes	0
PIU_Cyberloafing3 ≤ Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,81	0,72	0,87	yes	0
PIU_Cyberloafing4 ≤ Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,72	0,58	0,8	yes	0
PIU_Cyberloafing5 ≤ Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,82	0,75	0,88	yes	0
PIU_E-citizenship1 ≤ E-citizenship	PIU_E-citizenship1	E-citizenship	0,8	0,71	0,88	yes	0
PIU_E-citizenship2 ≤ E-citizenship	PIU_E-citizenship2	E-citizenship	0,83	0,75	0,89	yes	0
PIU_E-citizenship3 ≤ E-citizenship	PIU_E-citizenship3	E-citizenship	0,86	0,76	0,91	yes	0
PIU_E-citizenship4 ≤ E-citizenship	PIU_E-citizenship4	E-citizenship	0,78	0,65	0,86	yes	0
PIU_E-citizenship5 ≤ E-citizenship	PIU_E-citizenship5	E-citizenship	0,83	0,71	0,88	yes	0

Table 3

Outer Loadings: Market Culture

Market							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Job demands * OC_Market \leq JD*market	Job demands * OC_Market	JD*market	0,98	0,81	1,19	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,41	-0,47	0,82	no	0,18
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,66	1	yes	0
OC_Market * Job demands \leq Market*JD	OC_Market * Job demands	Market*JD	0,98	0,81	1,19	yes	0
Organisational Culture_Market1 \leq OC_Market	Organisational Culture_Market1	OC_Market	0,5	-0,03	0,84	no	0,03
Organisational Culture_Market2 \leq OC_Market	Organisational Culture_Market2	OC_Market	0,32	-0,19	0,91	no	0,24
Organisational Culture_Market3 \leq OC_Market	Organisational Culture_Market3	OC_Market	0,54	0	0,9	yes	0,02
Organisational Culture_Market4 \leq OC_Market	Organisational Culture_Market4	OC_Market	0,66	0,07	0,9	yes	0
Organisational Culture_Market5 \leq OC_Market	Organisational Culture_Market5	OC_Market	0,92	-0,29	0,93	no	0
Organisational Culture_Market6 \leq OC_Market	Organisational Culture_Market6	OC_Market	0,88	-0,19	0,92	no	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,88	0,82	0,92	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,7	0,55	0,79	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,8	0,72	0,86	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,71	0,56	0,81	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,83	0,75	0,88	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,72	0,9	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,84	0,77	0,9	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,85	0,75	0,9	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,6	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,81	0,67	0,87	yes	0

Table 4

Outer Loadings: Hierarchy Culture

Hierarchy							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Job demands * OC_Hierarchy \leq JD*Hierarchy	Job demands * OC_Hierarchy	JD*Hierarchy	1,32	0,71	1,82	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,4	0,85	no	0,17
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,67	1	yes	0
OC_Hierarchy * Job demands \leq Hierarchy*JD	OC_Hierarchy * Job demands	Hierarchy*JD	1,32	0,71	1,82	yes	0
Organisational Culture_Hierarchy1 \leq OC_Hierarchy	Organisational Culture_Hierarchy1	OC_Hierarchy	0,64	-0,02	0,84	no	0
Organisational Culture_Hierarchy2 \leq OC_Hierarchy	Organisational Culture_Hierarchy2	OC_Hierarchy	0,52	-0,21	0,81	no	0,04
Organisational Culture_Hierarchy3 \leq OC_Hierarchy	Organisational Culture_Hierarchy3	OC_Hierarchy	0,5	-0,14	0,76	no	0,04
Organisational Culture_Hierarchy4 \leq OC_Hierarchy	Organisational Culture_Hierarchy4	OC_Hierarchy	0,82	0,17	0,89	yes	0
Organisational Culture_Hierarchy5 \leq OC_Hierarchy	Organisational Culture_Hierarchy5	OC_Hierarchy	0,74	0,08	0,85	yes	0
Organisational Culture_Hierarchy6 \leq OC_Hierarchy	Organisational Culture_Hierarchy6	OC_Hierarchy	0,71	0,04	0,86	yes	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,91	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,71	0,58	0,8	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,81	0,73	0,87	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,72	0,57	0,81	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,82	0,74	0,87	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,72	0,89	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,84	0,76	0,9	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,85	0,74	0,9	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,6	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,8	0,67	0,87	yes	0

Table 5

Outer Loadings: Conscientiousness

Conscientiousness							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Conscientiousness * Job demands \leq Cons*JD	Conscientiousness * Job demands	Cons*JD	1,06	0,8	1,23	yes	0
Job demands * Conscientiousness \leq JD*Cons	Job demands * Conscientiousness	JD*Cons	1,06	0,8	1,23	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,26	0,84	no	0,14
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,65	1	yes	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,91	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,67	0,52	0,78	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,79	0,7	0,86	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,75	0,61	0,82	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,83	0,75	0,88	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,71	0,89	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,84	0,76	0,9	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,85	0,74	0,91	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,6	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,81	0,67	0,88	yes	0
Personality_Conscientiousness1 \leq Conscientiousness	Personality_Conscientiousness1	Conscientiousness	0,95	-0,61	0,97	no	0,02
Personality_Conscientiousness2 (reversed) \leq Conscientiousness	Personality_Conscientiousness2 (reversed)	Conscientiousness	0,56	-0,19	0,83	no	0,05
Personality_Conscientiousness3 \leq Conscientiousness	Personality_Conscientiousness3	Conscientiousness	0,31	-0,47	0,84	no	0,38
Personality_Conscientiousness4 (reversed) \leq Conscientiousness	Personality_Conscientiousness4 (reversed)	Conscientiousness	0,44	-0,29	0,78	no	0,12

Table 6

Outer Loadings: Neuroticism

Neuroticism							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Job demands * Neuroticism \leq JD*neur	Job demands * Neuroticism	JD*neur	0,84	0,79	1,33	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,41	-0,33	0,83	no	0,17
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,69	1	yes	0
Neuroticism * Job demands \leq Neurot*JD	Neuroticism * Job demands	Neurot*JD	0,84	0,79	1,33	yes	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,82	0,91	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,7	0,56	0,79	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,81	0,72	0,86	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,71	0,57	0,8	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,83	0,74	0,88	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,71	0,89	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,84	0,76	0,89	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,85	0,76	0,9	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,61	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,81	0,68	0,87	yes	0
Personality_Neuroticism1 \leq Neuroticism	Personality_Neuroticism1	Neuroticism	0,59	-0,32	0,92	no	0,07
Personality_Neuroticism2 (reversed) \leq Neuroticism	Personality_Neuroticism2 (reversed)	Neuroticism	0,75	-0,42	0,94	no	0,04
Personality_Neuroticism3 \leq Neuroticism	Personality_Neuroticism3	Neuroticism	0	-0,65	0,95	no	0,99
Personality_Neuroticism4 (reversed) \leq Neuroticism	Personality_Neuroticism4 (reversed)	Neuroticism	0,33	-0,56	0,85	no	0,39

Table 7

Outer Loadings: Agreeableness

Agreeableness							
	manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Agreeableness * Job demands \leq Agree*JD	Agreeableness * Job demands	Agree*JD	0,96	0,77	1,14	yes	0
Job demands * Agreeableness \leq JD*agree	Job demands * Agreeableness	JD*agree	0,96	0,77	1,14	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,36	0,83	no	0,17
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,7	1	yes	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,91	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,68	0,52	0,8	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,82	0,71	0,87	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,72	0,59	0,81	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,83	0,75	0,88	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,72	0,89	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,84	0,76	0,89	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,85	0,76	0,9	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,59	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,8	0,67	0,87	yes	0
Personality_Agreeableness1 \leq Agreeableness	Personality_Agreeableness1	Agreeableness	-0,01	-0,36	0,95	no	0,97
Personality_Agreeableness2(reversed) \leq Agreeableness	Personality_Agreeableness2 (reversed)	Agreeableness	0,49	-0,19	0,9	no	0,09
Personality_Agreeableness3 \leq Agreeableness	Personality_Agreeableness3	Agreeableness	0,78	-0,41	0,96	no	0,02
Personality_Agreeableness4(reversed) \leq Agreeableness	Personality_Agreeableness4 (reversed)	Agreeableness	0,31	-0,28	0,91	no	0,31

Table 8

Outer Loadings: Intellect/Openness to Experience

Intellect/ Openness to experience							
	Manifest variable	latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Intellect * Job demands \leq Intellect*JD	Intellect * Job demands	Intellect*JD	1,08	0,83	1,34	yes	0
Job demands * Intellect \leq JD*intellect	Job demands * Intellect	JD*intellect	1,08	0,83	1,34	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,34	0,84	no	0,16
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,66	1	yes	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,91	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,67	0,53	0,8	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,8	0,71	0,86	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,75	0,54	0,82	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,83	0,74	0,88	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,71	0,89	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,85	0,77	0,9	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,84	0,74	0,9	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,62	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,8	0,66	0,87	yes	0
Personality_Intellect1 \leq Intellect	Personality_Intellect1	Intellect	0,91	-0,54	0,96	no	0,03
Personality_Intellect2 (reversed) \leq Intellect	Personality_Intellect2 (reversed)	Intellect	0,1	-0,37	0,95	no	0,79
Personality_Intellect3 (reversed) \leq Intellect	Personality_Intellect3 (reversed)	Intellect	0,31	-0,21	0,88	no	0,3
Personality_Intellect4 (reversed) \leq Intellect	Personality_Intellect4 (reversed)	Intellect	0,64	-0,36	0,87	no	0,05

Table 9

Outer Loadings: Extraversion

Extraversion							
	Manifest variable	Latent variable	Loading	95% lower	95% upper	Significant from CI	p-value from T-test
Extraversion * Job demands \leq Extrav*JD	Extraversion * Job demands	Extrav*JD	0,98	0,84	1,13	yes	0
Job demands * Extraversion \leq JD*extrav	Job demands * Extraversion	JD*extrav	0,98	0,84	1,13	yes	0
Job demands_Job Insecurity \leq Job demands	Job demands_Job Insecurity	Job demands	0,42	-0,33	0,8	no	0,15
Job demands_Job Overload \leq Job demands	Job demands_Job Overload	Job demands	0,97	0,73	1	yes	0
PIU_Cyberloafing1 \leq Cyberloafing	PIU_Cyberloafing1	Cyberloafing	0,87	0,81	0,91	yes	0
PIU_Cyberloafing2 \leq Cyberloafing	PIU_Cyberloafing2	Cyberloafing	0,69	0,53	0,79	yes	0
PIU_Cyberloafing3 \leq Cyberloafing	PIU_Cyberloafing3	Cyberloafing	0,81	0,73	0,87	yes	0
PIU_Cyberloafing4 \leq Cyberloafing	PIU_Cyberloafing4	Cyberloafing	0,71	0,56	0,8	yes	0
PIU_Cyberloafing5 \leq Cyberloafing	PIU_Cyberloafing5	Cyberloafing	0,83	0,76	0,88	yes	0
PIU_E-citizenship1 \leq E-citizenship	PIU_E-citizenship1	E-citizenship	0,82	0,69	0,9	yes	0
PIU_E-citizenship2 \leq E-citizenship	PIU_E-citizenship2	E-citizenship	0,84	0,76	0,9	yes	0
PIU_E-citizenship3 \leq E-citizenship	PIU_E-citizenship3	E-citizenship	0,85	0,74	0,91	yes	0
PIU_E-citizenship4 \leq E-citizenship	PIU_E-citizenship4	E-citizenship	0,76	0,62	0,85	yes	0
PIU_E-citizenship5 \leq E-citizenship	PIU_E-citizenship5	E-citizenship	0,81	0,67	0,88	yes	0
Personality_Extraversion1 \leq Extraversion	Personality_Extraversion1	Extraversion	0,75	0,11	0,89	yes	0
Personality_Extraversion2 (reversed) \leq Extraversion	Personality_Extraversion2 (reversed)	Extraversion	0,86	0,19	0,97	yes	0
Personality_Extraversion3 \leq Extraversion	Personality_Extraversion3	Extraversion	0,51	-0,24	0,79	no	0,05
Personality_Extraversion4 (reversed) \leq Extraversion	Personality_Extraversion4 (reversed)	Extraversion	0,74	0,1	0,87	yes	0



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APPROVED WITH STIPULATIONS
REC Humanities New Application Form

6 June 2018

Project number: IPSY-2018-7019

Project title: DEVELOPMENT AND EVALUATION OF A PERSONAL INTERNET USAGE AT WORK
STRUCTURAL MODEL

Dear Mrs Narica Joubert

Your REC Humanities New Application Form submitted on **05 June 2018** was reviewed by the REC: Humanities on and approved with stipulations.

Ethics approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
06 June 2018	05 June 2021

REC STIPULATIONS:

The researcher may proceed with the envisaged research provided that the following stipulations, relevant to the approval of the project are adhered to or addressed:

The researcher is requested to upload the signed outstanding Permission Letters once she has received them.

**[ACTION
REQUIRED]**

HOW TO RESPOND:

Some of these stipulations may require your response. Where a response is required, you must respond to the REC within **six**

(6) months of the date of this letter. Your approval would expire automatically should your response not be received by the REC within 6 months of the date of this letter.

Your response (and all changes requested) must be done directly on the electronic application form on the Infonetica system: <https://applyethics.sun.ac.za/Project/Index/7772>

Where revision to supporting documents is required, please ensure that you replace all outdated documents on your application form with the revised versions. Please respond to the stipulations in a separate cover letter titled **“Response to REC stipulations”** and attach the cover letter in the section **Additional Information and Documents**.

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Please use your **SU project number (IPSY-2018-7019)** on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

FOR CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

Please note that a progress report should be submitted to the Research Ethics Committee: Humanities before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary)

Included Documents:

Document Type	File Name	Date	Version
Data collection tool	Study Questionnaire	26/04/2018	1
Informed Consent Form	Consent Form	29/05/2018	2
Research Protocol/Proposal	Joubert N Proposal 2018	29/05/2018	2
Request for permission	Asking for institutional permission	05/06/2018	2
Default	DESC Report N Joubert DESC comments 04 06 18 (1)	05/06/2018	2

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Human Research (Humanities)

National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.

The Research Ethics Committee: Humanities complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research:

Principles Structures and Processes (2nd Ed.) 2015. Annually a number of projects may be selected randomly for an external audit.

Investigator Responsibilities Protection of Human Research Participants

Some of the general responsibilities investigators have when conducting research involving human participants are listed below:

1. Conducting the Research. You are responsible for making sure that the research is conducted according to the REC approved research protocol. You are also responsible for the actions of all your co-investigators and research staff involved with this research. You must also ensure that the research is conducted within the standards of your field of research.

2. Participant Enrollment. You may not recruit or enroll participants prior to the REC approval date or after the expiration date of REC approval. All recruitment materials for any form of media must be approved by the REC prior to their use.

3. Informed Consent. You are responsible for obtaining and documenting effective informed consent using **only** the REC-approved consent documents/process, and for ensuring that no human participants are involved in research prior to obtaining their informed consent. Please give all participants copies of the signed informed consent documents. Keep the originals in your secured research files for at least five (5) years.

4. Continuing Review. The REC must review and approve all REC-approved research proposals at intervals appropriate to the degree of risk but not less than once per year. There is **no grace period**. Prior to the date on which the REC approval of the research expires, **it is your responsibility to submit the progress report in a timely fashion to ensure a lapse in REC approval does not occur**. If REC approval of your research lapses, you must stop new participant enrollment, and contact the REC office immediately.

5. Amendments and Changes. If you wish to amend or change any aspect of your research (such as research design, interventions or procedures, participant population, informed consent document, instruments, surveys or recruiting material), you must submit the amendment to the REC for review using the current

Amendment Form. You **may not initiate** any amendments or changes to your research without first obtaining written REC review and approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the REC should be immediately informed of this necessity.

6. Adverse or Unanticipated Events. Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research related injuries, occurring at this institution or at other performance sites must be reported to Malene Fouche within **five (5) days** of discovery of the incident. You must also report any instances of serious or continuing problems, or non-compliance with the REC's requirements for protecting human research participants. The only exception to this policy is that the death of a research participant must be reported in accordance with the Stellenbosch University Research Ethics Committee Standard Operating Procedures. All reportable events should be submitted to the REC using the Serious Adverse Event Report Form.

7. Research Record Keeping. You must keep the following research related records, at a minimum, in a secure location for a minimum of five years: the REC approved research proposal and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence from the REC

8. Provision of Counselling or emergency support. When a dedicated counsellor or psychologist provides support to a participant without prior REC review and approval, to the extent permitted by law, such activities will not be recognised as research nor the data used in support of research. Such cases should be indicated in the progress report or final report.

9. Final reports. When you have completed (no further participant enrollment, interactions or interventions) or stopped work on your research, you must submit a Final Report to the REC.

10. On-Site Evaluations, Inspections, or Audits. If you are notified that your research will be reviewed or audited by the sponsor or any other external agency or any internal group, you must inform the REC immediately of the impending audit/evaluation.