Investigating an ageing workforce and skills transfer of the organisation

LC Mtshali

orcid.org 0000-0003-0400-2970

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Supervisor: Prof LTB Jackson

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Student number: 13119206

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COMMENTS

The reader is reminded of the following:

- The editorial style and referencing in this mini-dissertation follow the format prescribed by the Publication Manual (6th Edition) of the American Psychological Association (APA), and as prescribed in the NWU referencing guide. The use of the APA style in all scientific documents is in line with the policy and the Programme in Industrial Psychology of the North -West University since January 1999.
- This mini-dissertation is submitted in the form of a research article.

ABSTRACT

The competitive advantage of business lies within the intellectual property possessed by human capital. An ageing population has left most of the organisation with brain drainage, leaving the organisations with a host of issues, including pressure to attract suitable candidates, skills shortage, war for talent, and loss of institutional memory. Numerous organisations all over the world are proactively experiencing labour force crises due to ageing employees and a decreasing pool of a skilful younger generation who can replace retiring baby boomers.

The purpose of this study was to investigate the impact of an ageing workforce and skills transfer of the organisation, with the aim of coming up with strategies that can combat challenges pertaining to the dilemma. This study was conducted to assess the current challenges the organisation is facing regarding an ageing workforce. A focus will be placed on the importance of the loss of skills and how such skills can be retained and transferred to younger employees and recorded as institutional property.

Data was collected from Rand Water employees, i.e. operators, artisans, support staff and management. A questionnaire with a six-point Likert scale was used to collect data from 156 participants working in selected Rand Water sites to the investigation of an ageing workforce and skills transfer in the organisation.

The research results indicated that there is a strong positive relationship between *support older employees to transfer skills, skills and knowledge transfer, the use and willingness of older employees for skills transfer, the use of skills sharing to reach goals* and *skills shortage* among employees within the targeted Rand Water organisation. Such research results are very imperative to top management of the organisation for the execution of recommendations.

KEYWORDS: Ageing workforce, support older employees to transfer skills, skills sharing to support the goals, training and skills shortage

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LIST OF ABBREVIATIONS

ASGISA	Accelerated Shared Growth Initiative South Africa
CDE	Centre for Development and Enterprise
CoP	Communities of Practices
ETDC	Education Training and Development Coordinators
ETDP	Education Training Development Practitioners
EE	Employment Equity
EFA	Exploratory Factor Analysis
HC	Human Capital
HR	Human Resources
HRM	Human Resources Manager
JIPSA	Joint Initiative for Priority Skills Acquisition
KM	Knowledge Management
ROI	Return on Investment
TMC	Talent Management Consulting
SD	Standard Deviation
SDA	Skills Development Act
SDLA	Skills Development Levies Act
SETA	Sector Education Training Authority Skills Act
SHC	Strategic Human Capital
SME	Subject Matter Expert
SRI	Solidarity Research Institute

List of figures:

DECLARATION

I, Cathrine Lilahloane Mtshali (Student Number 13119206), declare that this mini-dissertation with the title "Investigating the role of an ageing workforce in skills transfer in a provincial utility" is my own work. It is submitted in partial fulfilment of the requirement for the degree of Masters in Business Administration at the North-West University School of Business and Governance, and that it has not been submitted before for any degree or examination in any other university. I declare that all necessary authorisation and consent was obtained to carry out this study.

Signed …….……..on this day……of……..Month, 2018

CHAPTER 1: INTRODUCTION AND OVERVIEW

1.1 INTRODUCTION

According to Harrypurshad (2015), human resource is perceived as a critical and exceptionally valuable resource in the workplace. Furthermore, the skills, abilities and knowledge of employees are known to contribute to the optimal performance of the organisation (Harrypurshad, 2015). Clarke, Seng and Whiting (2011) agree by highlighting that the literature on human resources frequently affirms that human capital (HC) is a source of competitive advantage in large enterprise as well as in small and medium enterprises (González-Loureiro & Pita-Castelo, 2012). Most managers have adopted the culture of stressing the importance of the existence of an ageing workforce within their organisation to preserve the efficiency and effectiveness of the organisation (Richert-Kaźmierska, 2015). In addition, various organisations all over the world are proactively approaching their labour force dilemma prompted by two merging demographic trends, which include the decreasing pool of knowledgeable ageing workforce with the potential to be replaced by younger employees (Phaladi, 2011).

The rapid aging of the world's population will bring about extraordinary and substantial changes in the global economic environment, with it creating unique challenges and opportunities for organisations (Chand & Tung, 2014). The aging workforce in the public utilities industry is a well-known and documented phenomenon in the literature (Blankenship & Brueck, 2009). According to Richert-Kaźmierska (2015), an ageing workforce can bring their knowledge, expertise and experience to shape a working environment, providing a competitive advantage and setting a standard to the younger workforce by highlighting the quality of knowledge and skills required. Liwinski and Sztanderska (2010), cited by Richert-Kaźmierska (2015), expanded on this matter by adding that the older workforce offers a unique set of soft and professional skills acquired through experience, which enhances the human capital of the employees and adds value to the workforce.

South Africa is facing a tremendous shortage of critical and technical skills due to a deteriorating workforce caused by attrition such as retirement, deaths and migration. Skills shortage is a foundation that hampers the quality and quantity of output of firms. In addition, the skills

shortage in South Africa originates from various aspects, namely a lack of investment in skills development; education; and rapid structural change, which is combined with high levels of overall unemployment; a cyclical surge in employment in parts of the economy; and because of a weakness in the training system (Richardson, 2007).

1.1.2 Overview of the study

An overview of history of research into the topic of ageing workforce and skills transfer reveals that, The Solidarity Research Institute (SRI) (2008) argued that the 2007 report, which was released by Deloite & Touché, indicated that 81% of South African companies struggle to find appropriate staff, with 76% having difficulty finding employment equity candidates. In 2011, figures released by Adcorp showed over eighty-two thousand unoccupied positions in high-skilled occupations in South Africa (Polity.org). As SRI (2008) indicated, the Human Sciences Research Council found that there is a shortage of between 350 000 and 500 000 qualified people to fill managerial and technical positions (SRI, 2008). Many of these may have emigrated. The CDE (2010) found that over one hundred and twenty professionals left South Africa.

An overview of the history of research also reveals that many studies have been conducted that assess the impact of skills shortage, Akoojee and McGrath (2007) came up with additional reasons for other factors that impact on skills shortage in South Africa, namely the Apartheid system, where skills were profoundly radicalized and gendered, which left black, particularly black female South Africans in complete denial of access to skills development. Breier and Erusmas (2009) later corresponded by placing the blame on skills shortage on an education system that still suffers from decades of neglect and dysfunction from Apartheid when Black people were educationally underprivileged. They also point to the insufficient education system that does not generate the necessary skills needed for the country's economy. However the purpose of this study therefore was to investigate the impact of an ageing workforce and skills transfer of the organisation.

1.1.3 BACKGROUND INFORMATION

Rand Water is the SOE in South Africa which is facing drastic generational change in its human capital due to ageing workforce. It was established in 1903 and currently 117 years old water utility is having a major challenge of aging infrastructure and ageing workforce in its core competencies manning points. Rand Water is the largest bulk water utility in Africa and is one of the largest in the world, providing bulk potable water to more than 11 million people in Gauteng, parts of Mpumalanga, the Free State and North West provinces. Rand Water draws water from its catchments and purifies it for human consumption. The water is then supplied to municipalities, mines and industries. Most of Rand Water employees are baby boomers generation, occupying critical core positions, who are retiring within 5 to 10 years. There are core skills, knowledge and competencies that this SOE will have to replace in other to meet its strategic objectives.

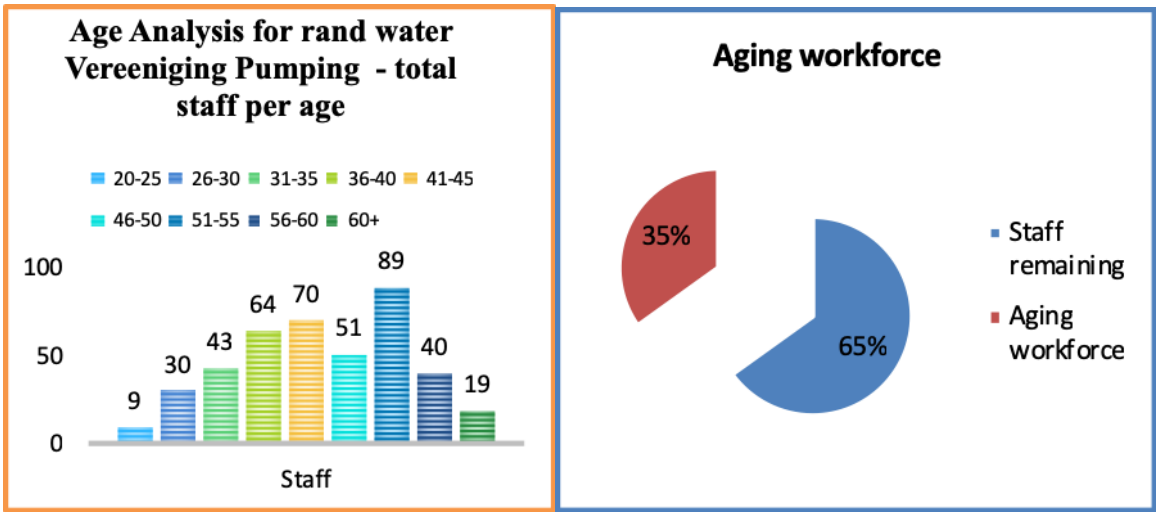

Figure 1: Rand Water VG Age Analysis

Rand Water, Vereeniging Pumping station is having staff complement of 415 employees, 148 of the total complement is the employees who are from 55-60+. This is a potential risk and challenge for the organization, should these employees choose for early retirement the organisation could find itself working with skeleton staff. This can also have a negative impact on the organisation as loss of critical skill and knowledge.

1.2 PROBLEM SATEMENT

Previous academic researchers have conducted a great deal of research to investigate the impact of ageing workforce in the organisations, few of these studies were conducted in South Africa and those focusing on water sector were minimum, in as far as Rand Water is concerned a reasonable contribution in relation to ageing workforce and skills transfer is still needed, however, Govender (2016) alludes to the fact that Rand Water has a vigorous drive to develop across the sector and also for governments, in particular, the War on Leaks Programme which entails artisans and operators' development. These efforts, however, seem to be random and have taken on the characteristic of *ad hoc* initiatives throughout the organisation. The focus seems a little diluted in that the resources are being spread over multiple projects internally and externally. Govender (2016) continues to state that the monitoring, evaluation and analysis of the return on investment seem not to be taking place except in some areas of Rand Water. This will yield long-term challenges in terms of resource sustainability; however, the primary focus tends to be on more effectively meeting current needs through generic Human Resources (HR) training initiatives, and proactively building a talent pipeline will be an integral and important part of creating talent pool which will replace ageing workforce through 18.2 projects. The Education Training and Development Coordinator (ETDC) and Education Training and Development Practitioner (ETDP) together with the Capacity Building (CB) staff will need to work together during the implementation of these projects, track the progress and match the future possible talent gaps that Rand Water will have in the future (Govender, 2016). Talent Management Consulting (TMC) also plays a very strategic role because it drives the workforce planning agenda at Rand Water. This function will also interface with the ETDP, particularly around critical skills and skills shortage emanating from ageing workforces that will enable the creation of talent pool within Rand Water; this function will also be a bridge between the talent management consultants and the training team. It is for this reason that the impact of skills and knowledge transfer, and the role of ageing workforce of the organisation be investigated. When older employees leave the organisation, the company loses key knowledge and decline in organisational memory, which will, on the other hand hamper the ability to use previous knowledge for competitive edge (De Massis *et al*., 2016).

1.3 LITERATURE REVIEW

Given the problem statement discussed above, the literature review below focuses on support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage experienced by employees.

1.3.1 Support older employees to transfer skills

Akkermans (2016) indicated that management's decision for older employees to continue to work is influenced by stereotypes and age norms that have a negative influence on motivation, resulting in limited opportunities for promotion, training and development, which reduce the relevant skills and the employability of older workers.

Kanfer, Beier and Ackerman (2013) familiarised motivation at work related to "effect, cognitions and behaviours directed toward job accomplishments", and behaviours related to participation in an observable work arrangement. Burmeister and Deller (2016) indicated that the major challenge for organisations already has been, and will continue to be, aging and the shrinking of skilled workforces. Burmeister and Deller (2016) further stated that taking into consideration the enormous wave of retirements of members of the baby boomer generation, the retention of valuable organisational knowledge from older and retiring workers has been identified as an urgent need. Conen, Henkens and Schippers (2012) mentioned that research among employers, conducted in the USA and European countries, shows that many employers portray biasness of older employees and do not have programmes in place to retain and to accommodate such employees.

Connell and Stanton (2015) indicate that some older workers report workplace problems that discourage and reduce their retention and participation. For example, researchers reported that, on average, older workers have reduced access to training and development programmes as compared to younger workers; in general, they tend to feel anxious and insecure about their future employment prospects; health and illness issues are prevalent for older workers in jobs that are physically demanding and many older workers would prefer to work fewer hours (Conen et al., 2015). When organisation loses ageing employees, it means that much needed information

on the basis of employers' competitive advantage is lost (Sumbal *et al.,* 2017). The company loses key knowledge and this may cause a decline in organisational memory when older employees leave, which will, on the other hand, hamper the ability to use previous knowledge for competitive advantage (De Massis *et al*., 2016). According to Jennex (2014), employers' demographics are changing, imposing a high risk of organisational knowledge loss due to the transition of baby boomers. Sumbal *et al.* (2017) indicated that the retirement of ageing employees is the major source of knowledge loss.

According Sumbal *et al.* (2017), older employees are more reliable, portray better reading and good communication skills, and moreover have excellent experience and are highly performance driven. Sumbal *et al.* (2017) further reason that ageing employees are regarded as huge assets to the organisation due to enormous amounts of experience they have obtained and deep understandings of the organisation, which they have acquired over a long period of time. Heisler and Bandow (2018) concur by mentioning that organisations can give older workers opportunities to apply a variety of acquired skills, knowledge and experiences they have obtained over a prolonged period of employment. Akkermans (2016) has argued that there is a need for a greater understanding of age-related factors that influence worker outcomes across their careers. More specifically, concepts such as psychological, organisational, and subjective age have been brought forward to provide better explanations of how age can influence important outcomes such as employee motivation. Supporting older employees to transfer skills refers to the presence of sufficient numbers of mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills.

1.3.2 Skills and knowledge transfer

Manuti **(**2015) describes workplace learning as a key part of skills and knowledge transfer, demonstrated and driven by improved technology, skills demands, changes in demographics, an ageing workforce, and people's relationships and roles within various institutions, organisations and communities. Hurt (2016) indicated that training transfer is critically important to organisations and progress is one of the most important topics within human resource development. He further mentioned that organisational objectives are compromised without a transfer of knowledge and skills obtained from training back to the workplace. Vignoli, Mariani,

Guglielmi and Violante (2017) describes the concepts of training transfer regarded as applying acquired knowledge during training to the job, which has been defined as "the extent to which the learning acquired from a training experience transfers to the job and leads to meaningful changes in work performance."

Managers and supervisors have the principal responsibility in the transfer of attained knowledge, skills, and competencies to the workplace through knowledgeable ageing employees (Hurt, 2016). Manuti (2015) mentioned that a workplace environment that allows employees to share knowledge and job-specific skills is encouraged to develop communities of practice, as the one that provides adequacy of resources and creates talent within the organisation. Banerjee, Gupta and Bates (2017) describe organisational learning culture as a culture that encourages the practices of attainment of information, distribution and transfer of learning and recognition for learning-based application. He further emphasised that culture such as this assists in the development of a mutual agreement among organisational employees pertaining to the value of learning and the utilisation of new learning tools in the working environment for the achievement of organisational goals and objectives. Skills and knowledge transfer, in this study, refers to skills transfer that encourages a culture of learning in the organisation, and skills transfer provides adequacy of resources and creates a pool of talent within the organisation.

1.3.3 The use of and willingness of older employees for skills transfer

Hurt (2016) indicates that, in order for the firm to continue to adapt and grow in the dynamic and competitive environment; they must be efficient in creating and transferring skills and knowledge. According to Curado, Henriques and Ribeiro (2015), training transfer is a task whereby individuals are motivated to take advantage of the opportunities of applying acquired learning to the transference context. He further emphasised, in the relationship between motivation and training transfer, that motivation to transfer is the desire of the trainee to use the skills, knowledge and capabilities acquired in the workplace and learned through training (Curado, Henriques & Ribeiro, 2015). Organisational learning culture and learning transfer climate are considered as important antecedents of employees' willingness to learn and share their knowledge (Banerjee *et al.*, 2017).

Agarwal and Islam (2015) mentioned that knowledge continuity involves capturing knowledge in the organisation, such as intellectual property, so that it can be used later for workplace training purposes; such process is regarded as a sub-discipline of KM (knowledge management) and is concerned with making sure that the organisation does not lose the knowledge held by knowledge workers who might exit the organisation**.** Hennekam (2015**)** mentioned that it is probable that, in the light of the aging population, older workers will have to keep on working until later ages. Due to the consequences of not being marketable after retirement, it is not easy for those older workers to opt for early retirement; therefore, they might be willing to transfer skills to younger employees. Certain organisations are proactively redesigning their HR strategies in response to creating a reasonable accommodation for ageing employees (Oude Mulders, Henkens & Schippers**,** 2015). The use and willingness of older employees for skills transfer in this study refers to older employees who are retained for the purpose of skills transfer; and older employees' skills would offer better skills transfer to protégées.

1.3.4 The use of skills sharing to reach goals

Developing the knowledge and skills of the workforce is a particularly important perspective of the knowledge-based view of the organisation. It is also consistent with the resource-based notion that organisations can create sustained competitive advantages by exploiting their resources to create valuable and imperfectly imitable resources (Hurt, 2016). Hurt (2016) further mentioned that it is the duty of organisations to show support of training initiatives by communicating their desired outcomes about the importance of training as a strategic objective, allocating appropriate resources, enabling employees to attend training, ensuring that trainees have been given the ability to utilise and share their acquired skills, encouraging training initiatives and holding managers accountable for the implementation of strategic training initiatives. The use of skills sharing to reach goals in this study refers to training to understand the job clearly and equips employees with new skills; and knowledge sharing will enable the organisation to record and transfer skills.

1.3.5 Skills shortage

Bryson (2018) quoted that technological change often leads to higher demand for skills and most employers expressed concern about shortages at intermediate and higher skills levels. According to Rasool and Botha (2011), skills shortage is worsened by poor labour market information systems and long overdue out dated manpower planning and forecasting models. Gamble *et al.* (2010) alluded to the fact that the most critical challenge facing the multinational organisation is the attraction and retention of appropriately skilled and knowledgeable staff. The world economy is trapped in financial uncertainty trench due to skills shortages and difficulties to retain and recruit employees who possess the skills that will have a positive influence on our economy (Gamble *et al.*, 2010).

According to Rasool and Botha (2011), skills shortages in South Africa are the consequences of the interplay of several complex socio-political and economic factors. Rasool and Botha (2011) state that South African economic and structural changes also contribute to skills shortages. Agarwal and Islam (2014) denoted that knowledge transfer is the means by which expertise, knowledge, skills and capabilities are transferred from the knowledge base to those in need of that knowledge, e.g. from outgoing to current employees, or from current to incoming employees, or from databases and documents to current or incoming employees. Windapo (2016) described a skills shortage as an inadequate supply of suitably qualified, competent and knowledgeable workers willing to work under existing market conditions, particularly at prevailing wages. Skills shortage, in this study, refers to the organisation facing skills shortages due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals.

1.4 RESEARCH QUESTIONS

Based on the above-mentioned, the following **research questions** arise:

RQ1: What is the level of support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage experienced by employees in the provincial utility company where the study was conducted?

RQ2: What is the relationship between support for older employees to transfer skills, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer and skills shortage?

RQ3: What is the role of support for older employees to transfer skills, skills transfer, and training as enabler of skills transfer on *older employees' willingness and preparedness to transfer skills?*

RQ4: What is the role of support for older employees to transfer skills, older employees' willingness and preparedness to transfer skills, skills transfer, and training as enabler of skills transfer on *skills shortage?*

1.5 RESEARCH OBJECTIVES

1.5.1 The primary objective

The primary objectives of the study was to assess the experiences of skills shortage, willingness of the ageing workforce to part with their skills, a culture of learning, training and development, training and development as enabler for skills transfer and skills transfer in the organisation.

1.5.2 The secondary objectives

The secondary objectives of this study were to determine:

- To determine whether employees experience support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage;
- To determine whether there is a significant relationship between support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage;
- To determine the role of support for older employees to transfer skills, skills transfer, training as enabler of skills transfer on older employees' willingness and preparedness to transfer skills; and

- To determine the role of a training and development culture, skills transfer, older employees' willingness and preparedness to transfer skills, and training as enabler of skills transfer on skills shortage.

1.6 RESEARCH METHODS

1.6.1 Research approach, sample and procedure

The quantitative approach was selected to reach the objectives of this project. A qualitative research refers to the systematic collection, organisation and interpretation of literal information derived questionnaires or interviews (Malterud, 2001). For the purpose of this study, questionnaires were used to collect data. The nature of the data influenced the selection of the quantitative approach, its advantage being the ability to control investigations and the research situation's structure in such a way that the study variables using a specific measuring instrument are isolated and identified, rather than the holistic approach.

1.6.2. Research design

Welman *et al.* (2010) explained a research design as a plan according to the manner one obtains research participants and the way information is collected from them. Therefore, a survey design, more specifically a cross-sectional design, in which a convenient sample was drawn from the target population at a particular time (Shaughnessy, Zechmeister & Zechmeister, 2006), was used to achieve the research objectives. The process of cross-sectional survey design involves the collection of data from the entire population or a subset in order to answer research questions of interest such that the information gathered represents the situation at only one point in time (Olsen & Marie, 2004). Data in this type of study was collected through the use of questionnaires (Olsen & Marie, 2004); this was done through the distribution of questionnaires via email and hard copies to departmental leaders and their subordinates. The returned questionnaires were captured and tested. This type of measuring instrument is relatively less expensive and takes up minimum time to conduct, and it can also estimate the prevalence of outcomes of interest because the sample is drawn from the entire population, and allows different variable assessments (Levin, 2006).

1.6.3. Research participants and procedure

The sample consisted of employees from a South African utility company based in Gauteng, South Africa. The proposal outlining the study was discussed at research meetings of the research unit where steps to adhere to the ethical standards were scrutinised by seasoned research unit members of the ethics committee. After ethical clearance was obtained, permission was requested via e-mail outlining the objectives and ethical aspects of the study from management. Once permission was granted, prospective participants were invited to information sessions on site. The anonymous and voluntary nature of the project was emphasised during the information session. Participants were also informed about the aim of the project and were encouraged to attend sessions on site where questionnaires were administered. Signed consent forms were obtained from respondents before questionnaires were given to them. Employees from all departments, job groups and educational levels in the provincial utility company were considered.

1.6.4. Measuring instruments

The following instruments that consider elements of skills and talent transfer and the role of the older employee were developed for the study and used in this project:

- *Support older employees to transfer skills.* This, scale with nine items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to the presence of enough mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills. A Cronbach alpha coefficient of .86 was obtained in this study.
- *Skills and knowledge transfer.* This scale, with seven items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to skills transfer that encourages a culture of learning in my organisation, and skills transfer provides adequacy of resources and creates a talent pool within the organisation. A Cronbach alpha coefficient of .89 was obtained in this study.
- *The use and willingness of older employees for skills transfer*. This scale, with 10 items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to older employees who are retained

for the purpose of skills transfer, and older employees' skills would offer better skills transfer to the protégées. A Cronbach alpha coefficient of .87 was obtained in this study.

- *The use of skills sharing to reach goals.* This scale, with seven items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to training that helps to understand the job clearly, and equips employees with new skills; and knowledge sharing will enable the organisation to record and transfer skills. A Cronbach alpha coefficient of .86 was obtained in this study.
- *Skills shortage.* This scale, with four items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to the organisation facing skills shortages due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals. A Cronbach alpha coefficient of .53 was obtained in this study.

1.6.5. Statistical analysis

The statistical analysis was carried out with the Statistical Package for the Social Sciences (SPSS; 2017). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to determine the distribution pattern of the data. Cronbach alpha coefficients were calculated to assess the reliability of the constructs measured in this study. Nunnally and Bernstein (1994) recommend a guideline of 0.70 as an acceptable cut-off point. Exploratory factor analyses were carried out to investigate the construct validity of the measuring instruments. Firstly, a simple principal component analysis was conducted on the constructs that form part of the measurement model, namely job demands and resources, and the eigenvalues and scree plot were studied to determine the number of factors to extract. Kaiser (1960) recommends extracting factors with eigenvalues higher than 1.00. Additionally, the scree plot can also be used to determine the number of factors. Cattell (1966) advises that the point of inflection of the scree plot should be considered. Secondly, a principal component analysis with a direct oblimin rotation was conducted if factors were related, and a principal component analysis with a Varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001). The following criteria were considered in deciding which factors to retain: (1) as a rule of thumb, item loadings had to be more than 0.32; (2) an item was not allowed to load onto more than one factor, as this was considered to indicate that the item either tapped more than one

factor (poor item) or that there was an overlap of factors or components; (3) a factor needed to have at least three substantive item loadings; and (4) the retained factor needed to make theoretical sense (Field, 2009; Tabachnick & Fidell, 2001). The obtained factors were consequently used as input in a second-order factor analysis. Varimax rotation was used to extract the factors because the factors were not correlated ($r < 0.30$).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, it was decided to set the value at a 95% confidence interval level ($p < 0.05$). Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. The parameters 0.10 (small effect), 0.30 (medium effect) and 0.50 (large effect) were set for the practical significance of the correlations (Steyn, 1999). A cut-off point of 0.30 (medium effect) was set for the practical significance of correlation coefficients (Cohen, 1988). A multiple regression analysis was also conducted to determine the proportion of variance in the dependent variables of productivity, job satisfaction and intentions to quit that were predicted by the independent variables, namely organisational support, growth opportunities, pay and advancement, overload and job insecurity. The effect size in the case of multiple regressions is given in the formula: $f^2 = \frac{R^2}{1-R^2}$ (Steyn, 1999), to indicate whether obtained results were practically important. The parameters 0.01 (small effect), 0.09 (medium effect) and 0.35 (large effect) were set for the practical significance of f^2 (Steyn, 1999).

1.6.6. Ethical consideration

Saunders, Lewis, and Thornhill, (2009) proclaim that research must conform to etiquette for academic research, and all transcribed conventions at all phases of the research study have to conform to these ethical considerations. Ethics are regarded as norms or standards for conduct that differentiate between right and wrong, which behaviour is accepted, and which is not accepted when embarking on research. The researcher must always conform to the following:

- Designed questionnaires must foster anonymity of the respondents, during and after projects.
- References and sources of literature used must be clearly indicated for the study.
- Information provided by respondents will only be used for the study.

The researcher required permission from the NWU ethics committee to conduct the study. The researcher also obtained permission from the population group, comprising colleagues,

subordinates, clerks and managers. The researcher ensured confidentiality of the information provided by the participants.

The following considerations (Walliman, 2011) were deliberated by the researcher:

- Information provided will be highly treated as confidential.
- The participants will not be forced to partake in the research.
- The research will be carried out with honesty and trustworthiness.
- The participants will not be bribed to complete the questionnaire.
- The participation of respondents should be voluntary.

1.7. Limitations

Like any other empirical study, this study is not without any limitations. Firstly, the research design is a cross-sectional survey design, which makes it difficult to prove causal relationships. Secondly, the results will be obtained solely by means of self-report measures. This may lead to a problem commonly referred to as 'common method variance', which could give rise to an overestimation of the correlations studied. Thirdly, this study will focus on a provincial utility company only. This has implications for the generalizability of the findings to other provincial and national utility companies, and therefore the results of this study could not be extended to other provincial and national utility companies in South Africa.

1.8. STRUCTURE OF THE MINI-DISSERTATION

Chapter 1: Introduction

This chapter introduced the topic and provided the background of the study. Over and above that, the problem statement, the objective of the study, the research methodology, the assumptions and layout of the study were outlined.

Chapter 2: Research article

Included in this chapter is the literature review. The literature review mainly focuses on measures of support for older employees to transfer skills, skills and knowledge transfer, the use and willingness of older employees for skills transfer, the use of skills sharing to reach goals and

skills shortage, which were found in Google Scholar searches as well as from articles and journals.

Chapter 3: Conclusion and recommendations

This chapter provided a summary of the research, conclusions, recommendations as well as recommendations for future research. Thereafter, a reference list and annexures followed.

1.9. Chapter summary

This chapter offered an introduction to the study, the problem statement, literature review, research question, research objectives, research methods, statistical analysis, ethical considerations, limitations and structure of the mini-dissertation. Chapter 2 will focus on the literature of the study in the form of an article.

CHAPTER 2: RESEARCH ARTICLE

INVESTIGATING AN AGEING WORKFORCE AND SKILLS TRANSFER OF THE ORGANISATION

ABSTRACT

The competitive advantage of business lies within the intellectual property possessed by human capital. An ageing population has left most of the organisation with brain drainage, leaving the organisations with a host of issues, including pressure to attract suitable candidates, skills shortage, war for talent, and loss of institutional memory. Numerous organisations all over the world are proactively experiencing labour force crises due to ageing employees and a decreasing pool of a skilful younger generation who can replace retiring baby boomers.

The purpose of this study was to investigate the impact of an ageing workforce and skills transfer of the organisation, with the aim of coming up with strategies that can combat challenges pertaining to the dilemma. This study was conducted to assess the current challenges the organisation is facing regarding an ageing workforce. A focus will be placed on the importance of the loss of skills and how such skills can be retained and transferred to younger employees and recorded as institutional property.

Data was collected from Rand Water employees, i.e. operators, artisans, support staff and management. A questionnaire with a six-point Likert scale was used to collect data from 156 participants working in selected Rand Water sites to the investigation of an ageing workforce and skills transfer in the organisation.

The research results indicated that there is a strong positive relationship between *support older employees to transfer skills, skills and knowledge transfer, the use and willingness of older employees for skills transfer, the use of skills sharing to reach goals* and *skills shortage* among employees within the targeted Rand Water organisation. Such research results are very imperative to top management of the organisation for the execution of recommendations.

KEYWORDS: Ageing workforce, support older employees to transfer skills, skills sharing to support the goals, training and skills shortage

INVESTIGATING AN AGEING WORKFORCE AND SKILLS TRANSFER OF THE ORGANISATION

INTRODUCTION

According to Harrypurshad (2015), human resources are perceived as a critical and exceptionally valuable resource in the workplace. Furthermore, the skills, abilities and knowledge of employees are known to contribute to the optimal performance of the organisation (Harrypurshad, 2015). Clarke, Seng and Whiting (2011) agree by highlighting that the literature on human resources frequently affirms that Human Capital (HC) is a source of competitive advantage in large enterprise as well as in small and medium enterprises (González-Loureiro & Pita-Castelo, 2012). Most managers have adopted the culture of stressing the importance of the existence of an ageing workforce within their organisation to preserve the efficiency and effectiveness of the organisation (Richert-Kaźmierska, 2015). In addition, various organisations all over the world are proactively approaching their labour force dilemma prompted by two merging demographic trends, which include the decreasing pool of knowledgeable ageing workforce with the potential to be replaced by younger employees (Phaladi, 2011).

The rapid aging of the world's population will bring about extraordinary and substantial changes in the global economic environment, with it creating unique challenges and opportunities for organisations (Chand & Tung, 2014). The aging workforce in the public utilities industry is a well-known and documented phenomenon in the literature (Blankenship & Brueck, 2009). According to Richert-Kaźmierska (2015), an ageing workforce can bring their knowledge, expertise and experience to shape a working environment, providing a competitive advantage and setting a standard to the younger workforce by highlighting the quality of knowledge and skills required. Liwinski and Sztanderska (2010), cited by Richert-Kaźmierska (2015), expanded on this matter by adding that the older workforce offers a unique set of soft and professional skills acquired through experience, which enhances the human capital of the employees and adds value to the workforce.

South Africa is facing tremendous shortages of critical and technical skills due to a deteriorating workforce caused by attrition such as retirement, deaths and migration. Skills shortage is a

foundation that hampers the quality and quantity of output of firms. In addition, skills shortage in South Africa originates from various aspects, namely a lack of investment in skills development; education; rapid structural change, which is combined with high levels of overall unemployment; a cyclical surge in employment in parts of the economy; and because of a weakness in the training system (Richardson, 2007).

BACKGROUND INFORMATION

Rand Water is the SOE in South Africa which is facing drastic generational change in its human capital due to ageing workforce. It was established in 1903 and currently 117 years old water utility is having a major challenge of aging infrastructure and ageing workforce in its core competencies manning points. Rand Water is the largest bulk water utility in Africa and is one of the largest in the world, providing bulk portable water to more than 11 million people in Gauteng, parts of Mpumalanga, the Free State and North West provinces. Rand Water draws water from its catchments and purifies it for human consumption. The water is then supplied to municipalities, mines and industries. Most of Rand Water employees are baby boomers generation, occupying critical core positions, who are retiring within 5 to 10 years. There are core skills, knowledge and competencies that this SOE will have to replace in other to meet its future objectives.

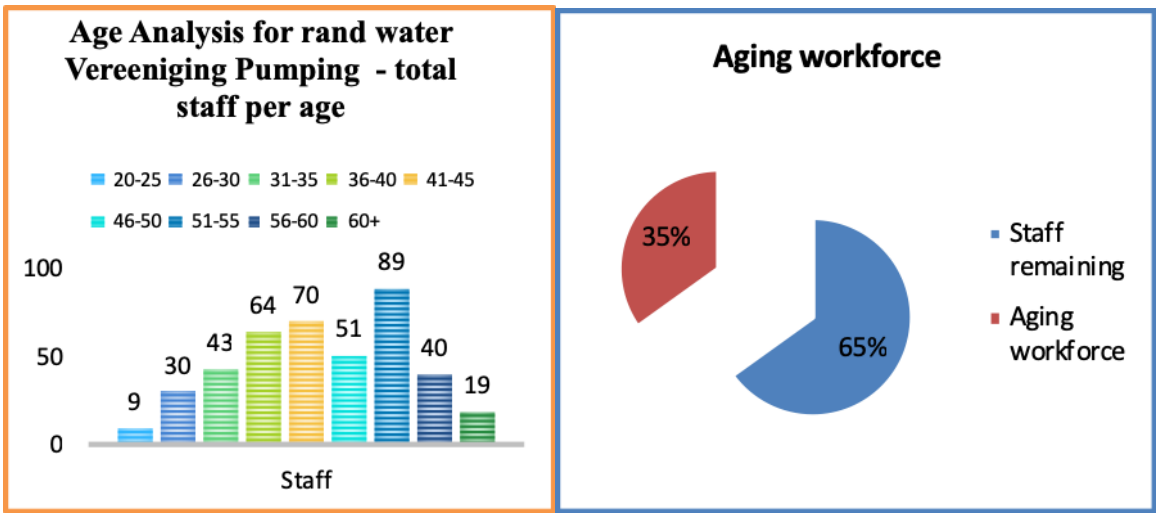

Figure 1: Rand Water VG Age Analysis

Rand Water, Vereeniging Pumping station is having staff complement of 415 employees, 148 of the total complement is the employees who are from 55-60+. This is a potential risk and

challenge for the organization, should these employees opt for early retirement the organisation could find itself working with skeleton staff. This can also have a negative impact on the organisation as loss of critical skill and knowledge.

PROBLEM SATEMENT

Govender (2016) states that Rand Water has a vigorous drive to develop across the sector and also for governments in particular, the War on Leaks Programme, which entails artisans and operators' development. These efforts, however, seem to be random and have taken on the characteristic of *ad hoc* initiatives throughout the organisation. The focus seems a little diluted in that the resources are being spread over multiple projects internally and externally. Govender (2016) continues to state that monitoring, evaluation and analysis of the return on investment seem not to be taking place, except in some areas of Rand Water. This will yield long-term challenges in terms of resource sustainability; however, the primary focus tends to be on more effectively meeting current needs through generic HR training initiatives, and proactively building a talent pipeline that will be an integral and important part of creating a talent pool through 18.2 projects. The ETDC and ETDP together with the CB staff will need to work together in the implementation of these projects, track the progress and match the future possible talent gaps that Rand Water will have in the future (Govender, 2016). Talent Management Consulting also plays a very strategic role, because it drives the workforce planning agenda at Rand Water. This function will also interface with the ETDP, particularly around critical skills that will enable the creation of a talent pool within Rand Water. This function will also be a bridge between the talent management consultants and training team.

LITERATURE REVIEW

Given the problem statement discussed above, the literature review below focuses on support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortages experienced by employees.

Support older employees to transfer skills

Workforces are aging across the globe, raising pressing issues such as how to extend working lives and how to motivate aging workers of organisations, governments and employees (Kooij, 2015). Radović-Marković (2013) indicated that due to the dilemma of an increasingly aging workforce, organisations should focus on addressing their work prospects as well as the obstacles older employees face in achieving employment security. An ageing workforce is facing a range of specific barriers related to their age. One of the biggest hurdles is age discrimination, based on stereotypes and myths about the limitations of older workers (Radović-Marković, 2013). Research has found that many organisations fail to train their older workforce, assuming those who are retirement eligible are either slow learner, or else will soon be out the door (Moen, Kojola & Schaefers, 2017). Radović-Marković (2013) further stated that the negative consequences of age discrimination of older workers in an organisation can include barriers to recruitment and hiring, diminished conditions of work and employment, limited career development and, in the absence of legislation, diminished employment protection and rights. He emphasised that recent literature cites age discrimination that occurs when preferential decisions are based on age, rather than on an individual's merits, credentials or job performance.

Appelbaum (2017) mentioned that people experience a loss in cognitive resources as they age, such as physical functioning and mental well-being, but, on the other hand, they gain new valuable resources such as knowledge and experience. He further alludes to the fact that companies should try to use resources gained by older employees to their advantage. One method that businesses can utilise new resources acquired by older employees is by creating mentorship programmes, where older employees counsel younger employees and assist in their career development. Mentoring opportunities can increase contributions from both older mentors as well as younger employees (Appelbaum, 2017). Mentorship programmes also allow older employees to interact with younger employees and participate more strongly in the company. This is especially important considering the fact that older workers sometimes face difficulties connecting with younger employees, which may decrease job satisfaction (Appelbaum, 2017). Mentoring programmes, coaching, counselling and work-life-balance provide excellent opportunities for intergenerational competence capacity. Andresen and Nowak (2015), likewise, mentioned that mentoring and coaching allow the different generations to interact and share their

experiences and competencies. Appelbaum (2017) referred to other researchers who stressed that acquiring new technological skills is a good compensation strategy regarding loss of resources and performance; however, it is imperative to reiterate that these solutions focus on looking past age stereotypes while examining motivators in order to accommodate and incorporate older employees properly with the aim of raising productivity levels. According to Leppel, Brucker and Cochran (2012), programmes such as education compensation and professional development promote older employees' job satisfaction, permitting them to continue to learn, build their skills, and even take on new jobs offering the chance to use different talents.

There are increasing numbers of policy actions by government to encourage aging workers to extend their working lives beyond the usual retirement age (Raemdonck Beausaert, Fröhlich, Kochoian & Meurant., 2015). Studies have shown that knowledge retention from older and retiring workers becomes a crucial component in ensuring continued organisational success (Burmeister & Deller, 2016). In addition, some employers are citing that it has become increasingly difficult to find workers with the skills set they require to fill vacancies (Kruman, 2014). Therefore, organisations should strive to prioritise skills transfer within the organisation. According to Grohmann, Beller and Kauffeld, (2014), organisations devote significant amounts of resources to enhancing their employees' knowledge and skills. However, motivation to transfer skills has been shown to predict transfer intentions and is generally assumed to be a central variable in the transfer process (Grohmann *et al.*, 2014). Wang *et al. (*2014) also stress the importance of studying the behaviour of transferring knowledge from pensioners to younger employees. Knowledge retention from older employees has been found to be a key element of ensuring continued organisational success (Burmeister & Deller, 2016). Kanfer Beier and Ackerman (2013) came up with a framework that makes it necessary to understand motivation and work objectives among older employees as they considered the importance and attractiveness of their jobs, retirement, future work, and the best way of satisfying their personal requirements in their particular life circumstances. Support for older employees to transfer skills refers to the presence of enough mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills.

Skills and knowledge transfer

Corporate training expenditure is the investment in firm-specific, internal training that aims to achieve immediate skills building and performance gain, which directly address the current and impending training needs of an organisation (Sung & Choi, 2014). Learning may happen either formally, i.e. inside a structure deliberately created for that purpose, or informally. Informal learning is less pre-structured, more in control of the learner, embedded in daily working activities of the employee and therefore often a by-product of some other activity and may happen subconsciously (Raemdonck *et al.*, 2015). Learning and development enable managers and subordinates to enter into a partnership for the employees' development in exchange for a commitment to lifelong learning (Baker, 2015). Being a lifelong learner reinforces the concept of action and meaningful learning, which goes beyond mutual benefits for employees and organisations. Baker (2015) emphasised how employees enjoy employability through the development of new skills and competencies, greater job satisfaction and more autonomy to play an active role in the organisation's decision-making processes. Through knowledgeable employees an organisation obtains greater flexibility, increased market share, a collaborative environment, responsiveness and competitive advantage in the marketplace (Kahn & Louw, 2016). Research has found that there is a positive relationship between organisational climate and support, and skills transfer training that result in job performance (Zumrah & Boyle, 2015). According to Blume, Ford, Baldwin and Huang (2010), the transfer of training denotes the constant application of skills, attitudes and knowledge gained during training to the workplace. An employee is considered to have transferred the training to their workplace when they can apply the new learned knowledge, skills and attitudes to their job (Zumrah & Boyle, 2015). This transfer of training has been found to have a positive relationship with the quality of service in the organisation (Zumrah, Boyle & Fein, 2013).

Harrypurshad (2015) cited, through the continuous use of resources, Baldwin and Ford (1988), that the transfer of skills is defined as an execution of training behaviours in working environment. According to Holton, Bates, Seyler, and Carvalho (1997), the transfer of training may be influenced by a range of factors consisting of the following; trainee features, scope of training, training proposal and the performance measurement of the individual and organization

(as seen in figure 2.2 below). Harrypurshad (2015) highpoints that the purpose and use of training transfer will rest on the quality of training presented.

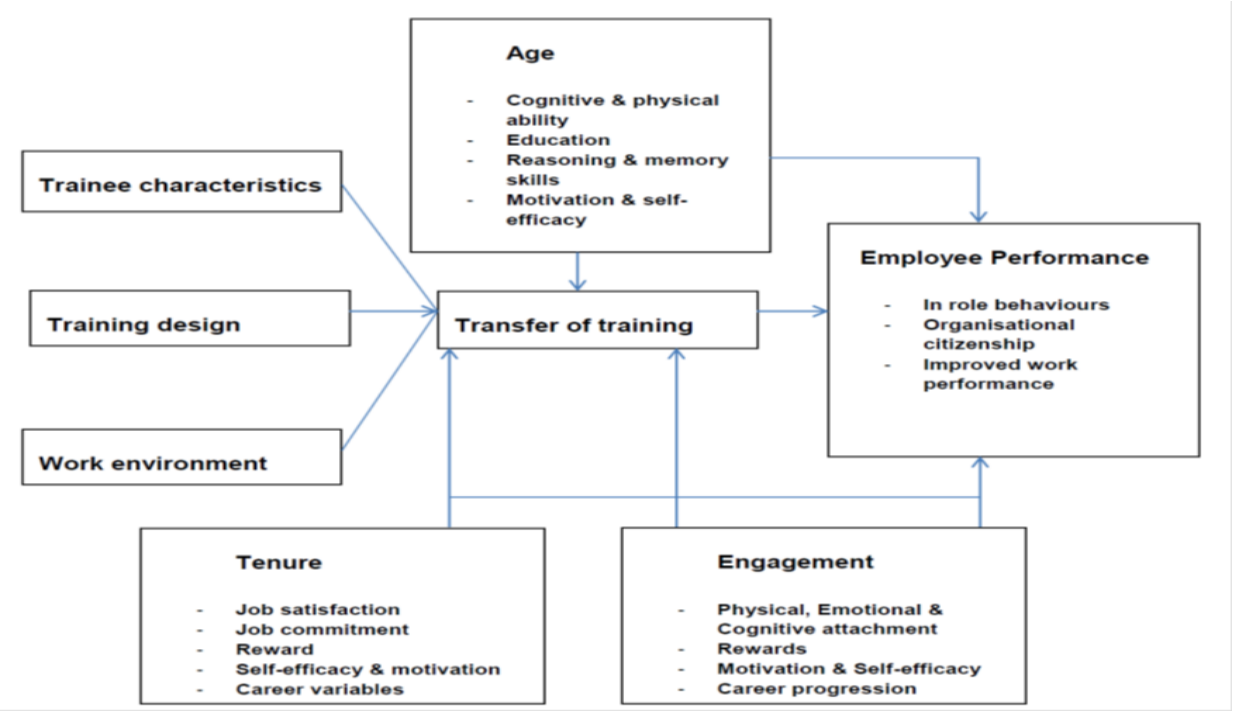

Figure 2: *Adaptation of Baldwin and Ford (1988) Skills transfer model cited by Harrypurshad (2015)*

Source: Adapted from Harrypurshad (2015)

Many policies to date have focused on trying to encourage older workers to maintain their employability and postpone retirement (Griffin & Beddie, 2011). In contrast, literature reports that employers are generally reluctant to hire people aged in their fifties and sixties and to train those already in employment (Burmeister & Deller, 2016). As life expectancy increases, greater proportions of employees will begin departing the workforce due to retirement or other reasons. However, the primary concern for organisations is not the number of departing experts, but rather the high level of expertise and knowledge that departing workers will take with them (Morar & Yoong, 2015). Scholars have argued that training practices enhance innovation through promoting a learning climate and exploratory learning (Sung & Choi, 2014). Organisational learning is a central process for innovation, which promotes the absorption and

utilisation of external knowledge, and integrates internal knowledge by allowing the effective transfer and application of knowledge among organisational members (Sung & Choi, 2014). Skills and knowledge transfer in this study refers to skills transfer that encourages a culture of learning in my organisation, and skills transfer provides adequacy of resources and creates talent within the organisation.

The use and willingness of older employees for skills transfer

Moen *et al.* (2016) mentioned that the degree to which older employees have control and autonomy in making decisions about continuing work longer is essential. If they are compelled to work, due to finances or the need for benefits, they may have negative health, social and productivity consequences. However, if they are being forced to retire due to a lack of reasonable accommodations or downsizing, it may lead to undesirable results. He further emphasised that the crucial issue is for the organisations to provide ageing employees with voluntary options and ways to control how they organise their time, but the low-road may mean increased pressure to keep working without transforming how work is organised (Moen *et al*., 2016). According to Moen *et al.* (2016), many organisations are evolving towards an institutional logic appreciating all workforces, irrespective of age group, and are mindful that implementing age-neutral policies and procedure for flexible work and job shifting makes the workplace more welcoming and accommodating to their increased older workforces. In response to accommodating older employees, selected organisations are redesigning their HR strategies (Mulders *et al.*, 2015). The use and willingness of older employees for skills transfer in this study refer to older employees who are retained for the purpose of skills transfer, and older employees' skills would offer better skills transfer to protégées.

The use of skills sharing to reach goals

Nonaka (1994) explores the idea of an environment where knowledge is shared, through the creation of knowledge among the individuals in the working environment. The relation and interaction between the individuals sharing the skills in a working environment enable the individuals to grow in their perception of the world, with the result of increasing the growth in value of the organisation. In addition, Nonaka (1994) stresses the importance of an organisation to set up a field for interaction, made up of several individuals from different departments. This

interaction field will be used as a platform where the individuals share their knowledge and skills. For the interaction field to inaugurate and run effectively there should be trust among the individuals in that interaction group.

Based on Simpson (2009), there should be existing support of a relationship between the employee's activity and the firm's performance. An employee who is committed will be motivated to increase their job performance and increase the productivity of the organisation. The results of a positive work environment will positively influence the transfer activity and performance development. Harrypurshad (2015) states that the organisational citizen behaviour theory will help the employees' ability to exceed their formal job requirements, to the benefit of the organisation. Organisational citizen behaviour encourages employees to have the desire to be inquisitive within the work environment and engagement with fellow employees, to expand their knowledge and skills. Therefore, Harrypurshad (2015) concludes that employee engagement will positively influence the employee's performance. This indicates that when there is a learning culture within an organisation, employees will often express themselves to exceed the normal job requirements and the results will increase their productivity.

Phaladi (2011) magnifies the importance of an organisational culture in the method of retention and knowledge transfer. The organisational culture will have different values such as individual development, trust and motivation. The success of transferring and retaining knowledge will strongly rest on the systems and processes that the organisation has in place.

A knowledge culture will contribute to the results of a long-term competitive edge of the organisation. Knowledge culture is when an organisation's lifestyle enables and motivates the employees to identify the need for knowledge, to share and apply the knowledge that effectively contributes towards the organisation's growth further, adding value to the organisation (Phaladi, 2011). Such a phenomenon can be achieved by identifying the individuals (normally the ageing or retiring employees) who are more likely to possess the knowledge and to whom it should be transferred to. Factors that hinder an organisation from promoting a knowledge culture lifestyle are systems that do not encourage knowledge to be shared, promotions that frown on the improvement of profound knowledge within hasty promotions to management ranks, and

systems that do not promote personal development (Phaladi, 2011). The use of skills sharing to reach goals in this study refers to training that helps to understand the job clearly, and equips employees with new skills; knowledge sharing will also enable the organisation to record and transfer skills.

Skills shortage

Rasool and Botha (2011) indicated that in order for one to understand the nature of skills shortages in South Africa, it is imperative for one to have a working definition of the term 'skills shortage'. Many scholars provide several different perspectives on what a 'skills shortage' is. Studies use different explanations according to their objectives (Rasool & Botha, 2011). Trendle (2008) explains that the term 'skills shortages' applies when the quantity of skills particular to work-related categories of demand exceeds the supply of these skills. Shah and Burke (2003) associate a skill with professional qualifications or occupations. Rasool and Botha (2011), on the other hand, define a skills shortage as employees who lack certain skills, knowledge and qualifications, or as an unavailability of workers in a certain employment.

Rasool and Botha (2011), on the other hand, mentioned that other worrying factors of skills shortage in SA is the emigration of skilled employees, particularly white skilled professionals who are discriminated against due to a large concern of affirmative action. Rampele (2008) denotes that South Africans have left their country to seek greener pastures because of affirmative action. Rogerson (2000) mentioned that 74% of the people who emigrated were unhappy with the level of taxation, 68% were concerned with family safety and security and 71% were unhappy with living costs.

Expressions of concern about South Africa's skills shortage are not something new, but have become more apparent in recent years. The Centre for Development and Enterprise (CDE) (2007) argues that skills shortage in South Africa is entirely because of increasing demand, which is driven by more rapid growth coinciding with continuing supply pressures. These are caused by pull factors of the global skills market and the country's inability to develop, utilise, and retain sufficient human capital from its own resources (Robert & Bohlmann, 2010). In recognition of the skills shortage in South Africa, particularly scarce critical skills, the Joint

Initiative for Priority Skills Acquisition (JIPSA) was initiated as part of Accelerated Shared Growth Initiative for South Africa (ASGISA) that was launched by the Presidency to develop a second economy in the country (Thekiso, 2011). The Skills Development Act (SDA) of 1998 and the Skills Development Levies Act (SDLA) of 1999 were introduced by the Department of Labour to incentivise employers who participate in the skills revolution in that they can recover 50% of the 1% skills levies paid via the Sector Education Training Authority (SETA) skills grants. The Skills Development Act of 1988 plays a vital role in assuring that companies comply with the legislation aiming to enforce training in organisations. This Act brought about new programmes and funding mechanisms aimed at increasing training spent on skills development (Maboa, 2009). It is expected that companies' return on investment from training will add value and can be achieved through the improved job performance of trainees. To validate the return on investment and the issues affecting the yield, studies have focused on the impact of training transfer to the work environment through job observation, coaching and mentoring done by subject matter expects (older, skilful employees) towards improving performance and its reputation. There is an assumption that the training spent will result in increased firm performance (Salas & Cannon-Bowers, 2001). It is this combination of explicit and tacit knowledge that mature workers possess that has become the most "strategically significant resource of organisations" (Calo, 2008). Lefkovich (1992) concurs that organisations need to come up with the skills retention policies with the aim of soliciting skills from ageing employees. Therefore, with these assertions, it is envisaged that older-worker recruitment and retention efforts will become one of the dominant business and industrial issues in coming decades. Skills shortages in this study refer to the organisation facing skills shortages due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals

Based on the above-mentioned, the following ***research questions*** arise:

- What is the level of support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortages experienced by employee in the provincial utility company where the study was conducted?

- What is the relationship between support for older employees to transfer skills, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer and skills shortage?
- What is the impact of support for older employees to transfer skills, skills transfer, training as enabler of skills transfer on older employees' willingness and preparedness to transfer skills?
- What is the impact of support for older employees to transfer skills, older employees' willingness and preparedness to transfer skills, skills transfer, and training as enabler of skills transfer on skills shortage?

RESEARCH OBJECTIVES

The primary objective of the study was to assess the experiences of skills shortage, willingness of the ageing workforce to part with their skills, a culture of learning, training and development, training and development as enabler for skills transfer and skills transfer in the organisation

The secondary objectives of this study were:

- To determine whether employee experiences support older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage.
- To determine whether there is a significant relationship between the training and development culture of the organisation, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer and skills shortage.
- To determine the impact of support for older employees to transfer skills, skills transfer, training as enabler of skills transfer on older employees' willingness and preparedness to transfer skills.
- To determine the impact of a training and development culture, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer on skills shortage.

RESEARCH METHODS

Research approach, sample and procedure

The quantitative approach was selected to reach the objectives of this project. A survey design, more specifically a cross-sectional design, in which a convenient sample was drawn from the target population at a particular time (Shaughnessy, Zechmeister & Zechmeister, 2006), was

used to achieve the research objectives. The sample consisted of employees from a South African utility company based in Gauteng, South Africa, Rand Water. The proposal outlining the study was discussed at research meetings of the research unit where steps to adhere to the ethical standards were scrutinised by seasoned research unit members of the ethics committee. After ethical clearance was obtained, permission was requested via e-mail outlining the objectives and ethical aspects of the study from management. Once permission was granted, prospective participants were invited to information sessions on site. The anonymous and voluntary nature of the project was emphasised during the information session. Participants were also informed about the aim of the project and were encouraged to attend sessions on site where questionnaires were administered. Signed consent forms were obtained from respondents before questionnaires were given to them. Employees from all departments, job groups and educational levels in the provincial utility company were considered. The biographical characteristics of the participants are presented in Table 1.

Table 1: *Characteristics of the participants*

Biographic feature	Category	Frequency	Percentage
Gender	Male	100	66.2
	Female	51	33.8
Age	20-30 years	28	18.5
	31-40 years	47	31.1
	41-50 years	39	25.8
	51-60 years	31	20.5
	61+	5	4.0
Race	African	121	80.1
	White	21	13.9
	Coloured	5	3.3
	Asian	2	1.3
	Other	2	1.3
Home language	English	6	4.0
	Afrikaans	23	15.2
	Sesotho	67	44.3
	Xitsonga	9	6.0
	isiZulu	27	17.9
	isiXhosa	10	6.6
	Other	9	6.0
Qualifications	Not matriculated	21	13.9
	Matric	57	37.7
	Diploma	34	22.5
	Bachelor degree	13	8.6
	Honours degree	5	3.3
	Master's degree	7	4.6
	PhD	0	0.0
	Other qualifications	14	9.3

Closer inspection of Table 1 revealed that the majority of the sample was male (66.2%), between the ages of 41 and 50 years old (25.8), African (80.1%), Sesotho speaking (44.3%), and with a matric as educational attainment.

Measuring instruments

The following instruments that consider elements of skills and talent transfer and the role of the older employee were developed for the study and used in this project:

- *Support older employees to transfer skills.* This scale, with nine items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 =

agree; and 6 = strongly agree) and refers to the presence of enough mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills. A Cronbach alpha coefficient of .86 was obtained in this study.

- *Skills and knowledge transfer.* This scale, with seven items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to skills transfer encouraging a culture of learning in my organisation, and skills transfer provides adequacy of resources and creates a talent within the organisation. A Cronbach alpha coefficient of .89 was obtained in this study.
- *The use of and willingness of older employees for skills transfer*. This scale, with 10 items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to older employees who are retained for the purpose of skills transfer, and older employees' skills would offer better skills transfer to protégées. A Cronbach alpha coefficient of .87 was obtained in this study.
- *The use of skills sharing to reach goals.* This scale, with seven items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to training that helps to understand the job clearly, and equips employees with new skills, and knowledge sharing will enable the organisation to record and transfer skills. A Cronbach alpha coefficient of .86 was obtained in this study.
- *Skills shortage.* This scale, with four items, used a six-point scale (1 = strongly disagree, 2 = disagree, 3 = disagree some-what; 4 = agree some-what; 5 = agree; and 6 = strongly agree) and refers to the organisation facing skills shortages due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals. A Cronbach alpha coefficient of .53 was obtained in this study.

Statistical analysis

The statistical analysis was carried out with the Statistical Package for the Social Sciences (SPSS; 2017)**.** Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) were used to determine the distribution pattern of the data. Cronbach alpha coefficients were calculated to assess the reliability of the constructs measured in this study. Nunnally and Bernstein (1994) recommend a guideline of 0.70 as an acceptable cut-off point. Exploratory factor analyses were carried out to investigate the construct validity of the measuring

instruments. Firstly, a simple principal component analysis was conducted on the constructs that form part of the measurement model, namely job demands and resources, and the eigenvalues and scree plot were studied to determine the number of factors to extract. Kaiser (1960) recommends extracting factors with eigenvalues higher than 1.00. Additionally, the scree plot can also be used to determine the number of factors. Cattell (1966) advises that the point of inflection of the scree plot should be considered. Secondly, a principal component analysis with a direct oblimin rotation was conducted if factors were related, and a principal component analysis with a Varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001). The following criteria were considered in deciding which factors to retain: (1) as a rule of thumb, item loadings had to be more than 0.32; (2) an item was not allowed to load onto more than one factor, as this was considered to indicate that the item either tapped more than one factor (poor item) or that there was an overlap of factors or components; (3) a factor needed to have at least three substantive item loadings; and (4) the retained factor needed to make theoretical sense (Field, 2009; Tabachnick & Fidell, 2001). The obtained factors were consequently used as input in a second-order factor analysis. Varimax rotation was used to extract the factors because the factors were not correlated ($r < 0.30$).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, it was decided to set the value at a 95% confidence interval level ($p < 0.05$). Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. The parameters 0.10 (small effect), 0.30 (medium effect) and 0.50 (large effect) were set for the practical significance of the correlations (Steyn, 1999). A cut-off point of 0.30 (medium effect) was set for the practical significance of correlation coefficients (Cohen, 1988). A multiple regression analysis was also conducted to determine the proportion of variance in the dependent variables of *willingness of older employees to transfer skills and skills shortage* predicted by the independent variables, namely *culture that use older employees to transfer skills, skills and knowledge transfer, the use/willingness of older employees for skills transfer, the use of skills sharing to reach goals and skills shortage*. The effect size in the case of multiple regressions is given in the formula: $f^2 = \frac{R^2}{1-R^2}$ (Steyn, 1999), to indicate whether obtained results were practically important. The parameters 0.01 (small effect),

0.09 (medium effect) and 0.35 (large effect) were set for the practical significance of f^2 (Steyn, 1999).

RESULTS

The findings of this study will be presented in the following sections: (1) exploratory factor analysis; (2) descriptive statistics and correlations; and (3) regression analysis.

Exploratory factor analysis

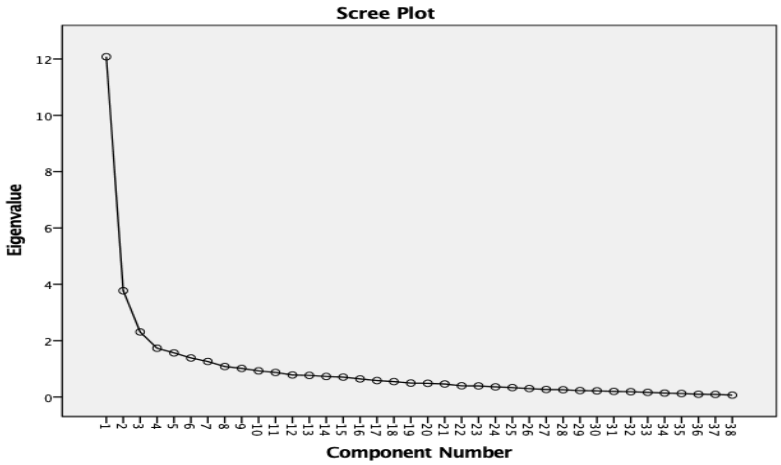

Figure 3: ***Simple principal component analysis - Scree plot***

A simple principal component analysis was carried out on all the items used to assess the number of factors to be extracted. An analysis of the eigenvalues (>1) in line with literature (Cattel, 1966) and the screen plot (Figure 3) indicated that five factors could be extracted, which explained 55.46% of the total variance. The eigenvalues of these factors were as follows: Factor 1 = 31.79; Factor 2 = 9.93; Factor 3 = 6.07; Factor 4 = 4.56; and Factor 5=4.12. Factor 1 was labelled *Support older employees to transfer skills.* This factor (10 items) refers to the presence of enough mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills. Factor 2 was labelled *Skills and knowledge transfer.* This factor (7 items) refers to skills transfer encouraging a culture of learning in my organisation, and skills transfer provides adequacy of resources and creates talent within the organisation. Factor 3 was labelled *The use and willingness of older employees for skills transfer*. This factor (6 items) refers to older employees who are retained for the purpose of skills transfer,

and older employees' skills would offer better skills transfer to protégées. Factor 4 was labelled *The use of skills sharing to reach goals.* This factor (7 items) refers to training that helps to understand the job clearly and equips employees with new skills, and knowledge sharing will enable the organisation to record and transfer skills. Factor 5 was labelled *Skills shortage.* This factor (4 items) refers to the organisation facing skills shortages due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals. The results of the principal component analysis with a Varimax rotation are reported in Table 2.

Next, the individual items of the sub-scales were subjected to individual exploratory factor analysis. EFA of the individual sub-scales revealed the following: Factor 1 (*Support older employees to transfer skills*): 4.33 = The Eigen values; .48 - .80 = Range of item loadings; 48.15 = variance explained; Factor 2 (*The use of and willingness of older employees for skills transfer*): 4.75 = The Eigen values; .40 - .91 = Range of item loadings; 67.89 = variance explained; Factor 3 (*The use of and willingness of older employees for skills transfer*): 4.59 = The Eigen values; .60 - .72 = Range of item loadings; 45.90 = variance explained; Factor 4 (*The use of skills sharing to reach goals*): 3.86 = The Eigen values; .63 - .81 =Range of item loadings; 55.17 = variance explained; and Factor 5 (*Skills shortage*): 1.67 = The Eigen values; .53 - .79 =Range of item loadings; 41.64 = variance explained.

Table 2: *Exploratory factor analysis (EFA)*

	Component				
Items	**1**	**2**	**3**	**4**	**5**
Experienced employees assist in skills transfer	0.65	0.17	0.19	0.34	0.14
Experienced employees are involved in mentoring and coaching programmes	0.68	0.02	0.22	0.24	0.10
Older employees understand the vision and mission of the organisation	0.61	0.09	-0.15	0.06	0.13
Older employees are recognised for sharing their knowledge and skills	0.56	0.03	0.37	-0.01	0.05
Mature employees' skills and knowledge can be solicited and recorded to enable future training	0.46	0.09	0.32	0.30	0.22
My organisation embarks on workforce planning exercise to address ageing workforce	0.46	0.03	0.45	0.07	-0.32
There are enough mentors and coaches in your organisation to transfer skills	0.59	0.14	0.18	0.14	-0.30
My organisation implement a clear and focused succession planning to enable older employees' s contribution	0.68	0.09	0.23	0.15	-0.40
My organisation portrays a culture that acknowledges the strengths and benefits of mature workers	0.65	0.07	0.22	0.14	-0.30
Training helps to understand the job clearly, and equips employees with new skills	0.11	0.24	0.13	0.72	0.03
Training provides effectiveness in completion of tasks allocated.	0.16	0.26	0.21	0.73	0.06
Training and development programmes meet the employees' needs	0.38	0.08	0.10	0.72	-0.09
Knowledge sharing will enable the organisation to record and transfer skills.	0.01	0.36	0.06	0.62	0.04

My organisation supports a culture of skills transfer	0.53	0.27	0.15	0.31	-0.14
Managers take effort to release employees for training and development initiatives	0.35	0.29	0.13	0.53	-0.04
Training initiatives are aligned to the organisation's goals	0.34	0.31	0.11	0.60	-0.11
Transferred skills will assist my organisation to perform when I retire	0.14	0.77	0.30	0.23	0.14
Skills transfer encourages a culture of learning in my organisation	0.23	0.74	0.19	0.06	0.07
Knowledge transfer will enhance the positive work contribution	0.14	0.83	0.23	0.22	0.09
I highly recommend the skills transfer initiatives in the organisation	-0.02	0.82	0.14	0.35	0.09
Knowledge sharing imposes more opportunities to learn new skills	0.19	0.85	0.02	0.24	0.09
Skills transfer provides adequacy of resources and creates talent within the organisation	0.06	0.82	0.11	0.30	0.10
Management encourages older employees to transfer their skills to young employees	0.48	0.25	0.44	0.08	0.03
My level of experience determines how critical my skills to the organisation are	0.11	0.38	0.57	0.27	-0.24
Older employees are prepared to work extra years after retirement for the sake of skills transfer	0.33	-0.11	0.62	0.10	0.23
Older employees' skills would offer better skills transfer to protégées	0.05	0.36	0.64	0.16	0.27
Older employees are retained for the purpose of skills transfer	0.36	0.06	0.63	-0.09	-0.08
I am prepared to work after my retirement for the sake of knowledge and skills transfer	0.10	0.17	0.58	0.15	-0.03
I believe that my organisation is dependent on my skills and knowledge	-0.02	0.14	0.65	0.32	0.17
My competencies, knowledge and skills can be solicited and stored as IP of the organisation	0.12	0.20	0.58	0.37	0.11
There are policies in place that support skills transfer initiatives in my organisation	0.42	0.22	0.52	-0.02	0.10
There are training programmes that are aligned to skills transfer in my organisation	0.50	0.30	0.43	0.16	-0.14
My employer is experiencing a high shortage of critical and core skills	-0.06	0.35	0.04	-0.03	0.62
The organisation is facing skills shortages due to the transition of ageing employees	0.15	0.07	0.16	-0.08	0.58
It takes long for my organisation to fill the vacancies with the right people with the right skills	-0.04	0.03	-0.06	0.02	0.49
My organisation requires highly skilled employees to meet its strategic goals	-0.08	0.07	0.22	0.13	0.50

Descriptive statistics and correlations

Cronbach alpha coefficients (individual sub-scales), descriptive statistics (means, standard deviations skewness and kurtosis) and the correlations between the variables are reported in Table 3 below.

Table 3: *Descriptive statistics and the correlations between the variables*

Variable	α	Mean	SD	Skewness	Kurtosis	1	2	3	4
1. Support older employees to transfer skills	.86	3.94	.88	-.13	.19				
2. Skills and knowledge transfer	.89	4.88	.85	-1.56	.19	.28			
3. The use / willingness of older employees for skills transfer	.87	4.24	.88	-.64	.19	.64	.50		
4. The use of skills sharing to reach goals	.86	4.68	.84	-.91	.19	.57	.55	.56	
5. Skills shortage	.53	4.39	.90	-.59	.19	-.02	.44	.19	.08

Inspection of Table 3 revealed that acceptable alpha coefficients were obtained for all scales. All alpha coefficient were higher than the recommended lower limit of 0.70 (Nunnally & Bernstein,

1994), except the "skills transfer" alpha coefficient which is 0.53, however George and Mallery (2003) mentioned that the criteria of Cronbach alpha for establishing the internal consistence reliability are as follows: Excellent ($\alpha > 0.9$), good ($0.7 < \alpha < 0.9$) acceptable ($0.6 < \alpha < 0.7$) poor ($0.5 < \alpha < 0.6$) unacceptable ($\alpha < 0.5$) even though 0.53 skills transfer alpha coefficient is poor, but it is still tolerated. This means that the scales developed for and used in this study are reliable. According to this standard, acceptable levels of internal consistency were obtained in the current study. Table 3 indicates that all the scores on the subscales are above the mid-point and normally distributed. This means that respondents do experience *Support older employees to transfer skills* (e.g. presence of enough mentors and coaches in the organisation to transfer skills and older employees are recognised for sharing their knowledge and skills), *Skills and knowledge transfer* (e.g. skills transfer encourages a culture of learning in my organisation and skills transfer provides adequacy of resources and create a talent within the organisation), *The use of and willingness of older employees for skills transfer* (e.g. older employees are retained for the purpose of skills transfer, and older employees' skills would offer better skills transfer to the protégées), *The use of skills sharing to reach goals* (e.g. training helps to understand the job clearly, and equips employees with new skills, and knowledge sharing will enable the organisation to record and transfer skills), and *Skills shortage* (e.g. the organisation is facing skills shortage due to the transition of ageing employees and my organisation requires highly skilled employees to meet its strategic goals). Correlational analysis suggests that a culture that *supports older employees to transfer skills* is statistically significantly related to skills and knowledge transfer (small effect), the use and willingness of older employees for skills transfer (large effect), and the use of skills sharing to reach goals (large effect). *Skills and knowledge transfer* is statistically significantly related to the use and willingness of older employees for skills transfer (large effect), the use of skills sharing to reach goals (large effect) and skills shortage (large effect). *The use and willingness of older employees for skills transfer skills* is statistically significantly related to the use of skills sharing to reach goals (large effect) and skills shortages (small effect).

Regression analysis

Next, the presentation on the results focuses on the regression analysis, with willingness of older employees to transfer skills and skill shortage as *dependent variables* and support for older

employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, and training as an enabler for skills transfer, and support for older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, and training as an enabler for skills transfer as predictors, respectively.

Table 4: *Regression analysis willingness of older employees to transfer skills and skill shortage as dependent variables*

Variable	***Willingness of older employees for skills transfer.***			***Skills shortage***		
	Standardized ß	**t**	***p***	**Standardized ß**	**t**	***p***
1. Culture that use older employees to transfer skills	.49	7.26	.00	-.12	-1.23	.22
2. Skills and knowledge transfer	.30	4.47	.00	.53	5.88	.00
3. The use / willingness of older employees for skills transfer.	-	-	-	.12	1.15	.25
4. The use of skills sharing to reach goals	.12	1.49	.14	-.21	-2.06	.04
5. Skills shortage	-	-	-	-	-	-
R		.73			.49	
R^2		.53			.24	

Inspection of Table 4 revealed that 53% of the variance in *willingness of older employees to transfer skills* was predicted by support older employees to transfer skills, skills transfer within the organisation and training as an enabler for skills transfer, with support older employees to transfer skills (*ß* = .49; t = 7.26; p = .00) and skills transfer within the organisation (*ß* = .30; t = 4.47; p = .00) proving to be the only statistically significant predictors of support older employees to transfer skills. In addition, 24% of the variance in *skills shortage* were explained by support older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, and training as an enabler for skills transfer, with skills transfer within the organisation (*ß* = .53; t = 5.88; p = .00) and the use of skills sharing to reach goals (*ß* = -.21; t = -2.06; p = .00) proving to be the only statistically significant predictors of skills shortage.

DISCUSSION

The primary objective of the study was to assess the experiences of skills shortage, willingness of the ageing workforce to part with their skills, a culture of learning, training and development, training and development as enabler for skills transfer and skills transfer in the organisation. Therefore, *the first specific objectives* of this study was to determine whether employee experiences support older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage. The findings suggest that all the scores on the subscales are above the mid-point and normally distributed. This means that respondents do experience *Support older employees to transfer skills* (e.g. presence of enough mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills), *Skills and knowledge transfer* (e.g. skills transfer encourages a culture of learning in my organisation and skills transfer provides adequacy of resources and create a talent within the organisation), *The use of and willingness of older employees for skills transfer* (e.g. older employees are retained for the purpose of skills transfer, and older employees' skills would offer better skills transfer to protégées), *The use of skills sharing to reach goals* (e.g. training helps to understand the job clearly and equips employees with new skills, and knowledge sharing will enable the organisation to record and transfer skills), and *Skills shortage* (e.g. the organisation is facing skills shortage due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals).

The second specific objective of this study was to determine whether there is a significant relationship between the training and development culture of the organisation, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer and skills shortage. The results of the study suggest that a culture that supports older employees to transfer skills is statistically significantly related to skills and knowledge transfer, the use and willingness of older employees for skills transfer, and the use of skills sharing to reach goals. Actual skills and knowledge transfer is statistically significantly related to the use and willingness of older employees for skills transfer, the use of skills sharing to reach goals and skills shortage. The use and willingness of older employees for skills transfer is statistically significantly related to the use of skills sharing to reach goals and skills shortage. This means

that if the company culture supports older employees to transfer skills, then older employees will be more willing to transfer their skills and knowledge and it becomes easier for organisations to use skills transfer and sharing to reach its goals. In addition, if older employees are willing to part with their skills and knowledge because the culture of the organisation supports them to do so, it becomes easier to transfer skills and knowledge and to use skills and knowledge transfer to reach the objectives of the organisation as well as to address skills shortage. The literature suggests that companies lose key knowledge and may cause a decline of organisational memory when older employees leave, which will, on the other hand, hamper the ability to use previous knowledge for competitive advantage (De Massis *et al*., 2016). Sumbal *et al.* (2017) indicated that the retirement of ageing employees is a major source of knowledge loss. Hurt (2016) indicated that organisational objectives are compromised without a transfer of knowledge and skills obtained from training back to the workplace

The third specific objective of this study was to determine the role of support for older employees to transfer skills, skills transfer, and training as enabler of skills transfer on older employees' willingness and preparedness to transfer skills. The results indicate that 53% of the variance in *willingness of older employees to transfer skills* was predicted by support older employees to transfer skills and skills transfer within the organisation and training as an enabler for skills transfer. Research has found that there is a positive relationship between organisational climate and support and skills transfer training that results in job performance (Zumrah & Boyle, 2015). Hurt (2016) mentioned that it is the duty of organisations to show support for training initiatives by communicating their desired outcomes about the importance of training as a strategic objective, allocating appropriate resources, enabling employees to attend training, ensuring that trainees have been given the ability to utilise and share their acquired skills, encouraging training initiatives and holding managers accountable for the implementation of strategic training initiatives.

The fourth specific objective of this study was to determine the impact of support for older employees to transfer skills, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer on skills shortage. Findings of this study suggest that 24% of the variance in *skills shortage* were explained by actual skills transfer within

the organisation, and the use of skills sharing to reach goals proving to be the only statistically significant predictors of skills shortage. This means that skills shortage can only be reduced by actual skills transfer programmes and the use of skills transfer to reach the objectives of the organisation. Banerjee, Gupta, and Bates (2017) describe an organisational learning culture as a culture that encourages the practices of attainment of information, distribution and transfer of learning and recognition for learning-based application. He further emphasised that culture like this assists in the development of a mutual agreement among organisational employees pertaining to the value of learning and the utilisation of new learning tools in the working environment for the achievement of organisational goals and objectives.

Limitations

Like any other empirical study, this study is not without any limitations. Firstly, the research design was a cross-sectional survey design, which makes it difficult to prove causal relationships. Secondly, the results were obtained solely by means of self-report measures. This may lead to a problem commonly referred to as 'common method variance', which could give rise to an overestimation of the correlations studied. Thirdly, this study focused on a provincial utility company only. This has implications for the generalisability of the findings to other provincial and national utility companies, and therefore this study could be extended to other provincial and national utility companies in South Africa.

Recommendation for the organisation and future studies

Knowing that this study's main emphasis was to investigate the ageing workforce and skills transfer in the organisation, recommendations are specifically based on the improvement of the use of intended resources.

Accommodating ageing workforce

In order to meet the strategic objectives of the organisation associated with ageing employees and skills transfer, Strategic Human Capital (SHC) division must come up with an integrated and holistic approach which will assist in combating skills shortage emanating from ageing workforce. Initiatives such as dual career path, succession planning, training programs for older employees, job shadowing, rotation of employees within other manning points, recognizing

of mentors and coaches, accelerated skills and knowledge transfer and retention models should be considered. It is therefore recommended that Rand Water must also embark on the down mentioned initiatives

Flexible retirement contracts

Methods that can also assist organisations to retain the knowledge of the ageing workforce are catering for flexible retirement contracts to allow veterans to work in accordance with their needs. Rand Water may formulate programmes that will allow them to rehire the veterans as contractors or consultants where they can bring their valuable knowledge to the corporates and provide guidance to the younger employees. Although rehiring the retirees may be an option, there could be financial constraints or a lack of resources from organisations to recompense for retirees' services. This will lead to organisations having no other choice but to recreate the knowledge with the junior employees, effectively being slow and resulting in more costs.

Incentive

Corporates should consider drafting and implementing incentive measures consisting of financial, non-financial or performance-based incentives, which will encourage the ageing workforce to remain in the workforce, and further augment the performance of employees with greater tasks. This recommendation emphasises retaining the valuable workforce and improving the performance of employees. Incentive systems should be integrated through all departments to ensure a competitive environment resulting in enhanced performance. The reward of an incentive system is that the incentives introduced will contribute to the retaining of the ageing workforce. The incentives introduced will furthermore create an environment of competitiveness that will result in the enhancement of their performance.

Proactive HR initiatives

Organisations must come up with a proactive and thoughtful approach that will deal with issues pertaining to ageing employees and skills transfer. They need to assess age demographics and come up with innovative policies, procedures, processes and standards designed to retain older employees with the aim of transferring skills to younger employees.

An effective skills gap analysis will enable Human Resources (HR) to act strategically on focusing on resources that are more critical, which the organisation will need for the future purposes. Succession planning, dual career path, and accelerated skills transfer initiatives must form part of Strategic Human Capital (SHC) objectives as a model aiming to incorporate knowledge transfer, skills shortage and accommodating aging employees. Over and above the Rand Water must consider the following:

- Rand Water must come up with total reward structure initiative that include more than compensation.
- Create employee value proposition initiative that will enhance the retention of older employee.
- Develop the best retention strategy which is aligned to the main objectives and needs of the organisation.
- Continuously assess organisational talent needs through the auditing of skills matrix, skills gaps and competency profile processes.
- Implement advanced Talent Management (TM) resolutions, which will melodramatically reduce staff turnover and improve goal alignment.
- Engaging baby boomers/retirees in skills transfer programs to enable impartation of knowledge and skills.
- Embark on continuous development of existing talent within the organisation through Personal Development Programs (PDP)
- Mitigate future skills shortage by reviewing the pool of successors with the aim to address gaps through competency profiling initiatives, which will be regarded as a method to identify the knowledge, skills attitude and behaviour to fulfil a job or task as an enabler and business driver in accomplishing the organisational strategies.
- The organisation must embark on Communities of Practice (CoP) that will encourage Subject Matter Expects (SME) to share their expertise more extensively, in order to make knowledge to continuously take its toll in the organisation after the SMEs retire.

Future researchers might focus on more widespread investigations to recognise the challenges of the skills shortage, and addressing Employment Equity (EE) as barrier, and how the

organisations can create a reasonable accommodation of the ageing workforce across South Africa. Researchers must come up with case studies, reports and findings that will provide direction to the organisations in response to actions that will combat challenges pertaining to the impact of ageing employees and skills transfer.

REFERENCES

Andresen, M., & Nowak, C., (2015). *Human resource manage-ment practise: assessing added value*. Switzerland: Springer International Publishing.

Appelbaum, S.H., Wenger, R., Buitrago, C.P., & Kaur, R., (2017). The effects of old-age stereotypes on organizational productivity (part three). *Industrial and Commercial Training, 48*(6), 303-310.

Baker, T., (2015). *Attracting and retaining talent: becoming an employer of choice*. Publisher Palgrave Macmillan, New York.

Banerjee, P., Gupta, R. & Bates, R., (2017). Influence of organizational learning culture on knowledge worker's motivation to transfer training: testing moderating effects of learning transfer climate. *Current Psychology*, *36*(3), 606-617.

Blankenship, L., Brueck, T., Lee, J., O'Berry, D., & Rettie, M. (2009). *Strategies to help drinking water utilities ensure effective retention of knowledge*. Water Environment Research Foundation.

Blume, B. D., Ford, J. K., Baldwin, T. T., & Huang, J. L. (2010). Transfer of training: A meta-analytic review. *Journal of management*, *36*(4), 1065-1105.

Burmeister, A., & Deller, J., (2016). Knowledge retention from older and retiring workers: What do we know, and where do we go from here? *Work, Aging and Retirement*, *2*(2), 87-104

Calo, T. J. (2008). Talent management in the era of the aging workforce: The critical role of knowledge transfer. *Public Personnel Management*, *37*(4), 403-416.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate behavioral research*, *1*(2), 245-276.

Chand, M., & Tung, R.L., (2014). The aging of the world's population and its effects on global business. *The Academy of Management Perspectives*, *28*(4), 409-429.

Clarke, M., Seng, D., & Whiting, R.H., (2011). Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*, *12*(4), 505-530.

Cohen, J. (1988). Statistical power analysis for the behavioural sciences.

Cronk, B. C. (2017). *How to use SPSS®: A step-by-step guide to analysis and interpretation*. Routledge.

De Massis, A., Frattini, F., Kotlar, J., Petruzzelli, A. M., & Wright, M. (2016). Innovation through tradition: Lessons from innovative family businesses and directions for future research. *Academy of management Perspectives*, *30*(1), 93-116.

Field, A. (2009). *Discovering statistics using SPSS*. Sage publications.

González-Loureiro, M., & Pita-Castelo, J., (2012). A model for assessing the contribution of innovative SMEs to economic growth: The intangible approach. *Economics Letters*, *116*(3), 312-315.

Govender, E.C., (2016). *An examination of Rand Water's skills development for the production of quality drinking water locally*. Doctoral dissertation. University of the Witwatersrand.

Grohmann, A., Beller, J., & Kauffeld, S. (2014). Exploring the critical role of motivation to transfer in the training transfer process. *International Journal of Training and Development*, *18*(2), 84-103.

Harrypurshad, A., (2015). *Impact of Age, Tenure and Engagement on Training Transfer and Employee Performance in South Africa*. Doctoral dissertation, University of the Witwatersrand, Faculty of Commerce, Law and Management, Graduate School of Business Administration.

Heisler, W., & Bandow, D. (2018). Retaining and engaging older workers: A solution to worker shortages in the US. *Business Horizons*, *61*(3), 421-430.

Holton, E. F., Bates, R. A., Seyler, D. L., & Carvalho, M. B. (1997). Toward construct validation of a transfer climate instrument. Human Resource Development Quarterly, 8(2), 95-113.

Hurt, J. S. (2016). *Elementary schooling and the working classes, 1860-1918*. Routledge.

Jinks, C., Ong, B. N., & Richardson, J. (2007). A mixed methods study to investigate needs assessment for knee pain and disability: population and individual perspectives. *BMC musculoskeletal disorders*, *8*(1), 59.

Kahn, S.B. & Louw, V., (2016). Maximising generational capacity for an effective South African public service. *Journal of Public Administration*, *51*(4), 741-757.

Kaiser, H.F., (1960). The application of electronic computers to factor analysis. *Educational and psychological measurement*, *20*(1), 141-151.

Kanfer, R., Beier, M.E. & Ackerman, P.L., (2013). Goals and motivation related to work in later adulthood: An organizing framework. *European Journal of Work and Organizational Psychology*, *22*(3), 253-264.

Kooij, D.T., (2015). Successful aging at work: The active role of employees. *Work, Aging and Retirement, 1*(4), 309-319.

Lefkovich, J. L. (1992). Older workers: Why and how to capitalize on their powers. *Employment Relations Today, 19*(1), 63-79.

Leppel, K., Brucker, E., & Cochran, J. (2012). The importance of job training to job satisfaction of older workers. *Journal of Aging and Social Policy, 24*(1), 62–76.

Ljungberg, B., Bensalah, K., Canfield, S., Dabestani, S., Hofmann, F., Hora, M., ... & Mulders, P. (2015). EAU guidelines on renal cell carcinoma: 2014 update. *European urology, 67*(5), 913-924.

Maboa, T. E. I. (2009). *Evaluating the impact of employment skills development services (ESDS) training programme of the Department of Labour* (Doctoral dissertation, University of Pretoria).

Moen, P., Kojola, E., & Schaefers, K. (2017). *Boomers at Work and in Transition.*

Morar, C. & Yoong, P., (2015). A stage model of knowledge retention and the departing older expert. In *Proceedings of 4th European Business Research Conference*, 1-15.

Ng, T.W., & Feldman, D.C., (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology, 65*(4),. 821-858.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science, 5*(1), 14-37.

Nunnally, J.C. & Bernstein, I.H., (1994). The theory of measurement error. *Psychometric theory*, (3rd ed.). 209-247.

Oude Mulders, J., Henkens, K. & Schippers, J., (2013). Organizations' ways of employing early retirees: The role of age-based HR policies. *The Gerontologist, 55*(3), 374-383.

Phaladi, M.P., (2011). *Knowledge transfer and retention: the case of a public water utility in South Africa*. Doctoral dissertation, Stellenbosch: University of Stellenbosch.

Radović-Marković, M., (2013). An aging workforce: employment opportunities and obstacles. *Cadmus*, *1*(6), 142.

Raemdonck, I., Beausaert, S., Fröhlich, D., Kochoian, N., & Meurant, C., (2015). Aging workers' learning and employability. In *Aging workers and the employee-employer relationship* (pp. 163-184). Springer, Cham.

Ramphele, M. (2008). How does one speak of social psychology in a nation in transition?. *Journal of Analytical Psychology*, *53*(2), 157-167.

Rasool, F., & Botha, C. J. (2011). The nature, extent and effect of skills shortages on skills migration in South Africa. *SA Journal of Human Resource Management*, *9*(1), 1-12.

Richert-Kaźmierska, A., (2015). Ageing Workforce–a Challenge for Organizations. *Social Sciences*, *89*(3), 33-50.

Robert, J.A. & Bohlmann, J., (2010). Behavioral and reproductive response of white pine weevil (Pissodes strobi) to resistant and susceptible Sitka spruce (Picea sitchensis). *Insects*, *1*(1), 3-19.

Rogerson, C. (2000). Local economic development in an era of globalisation: the case of South African cities. *Tijdschrift voor economische en sociale geografie*, *91*(4), 397-411.

Salas, E. & Cannon-Bowers, J.A., (2001). The science of training: A decade of progress. *Annual review of psychology*, *52*(1), 471-499.

Simpson, M. R. (2009). Engagement at work: A review of the literature. *International journal of nursing studies*, *46*(7), 1012-1024.

Steyn, H. S. (2000). Practical significance of the difference in means. *SA journal of industrial psychology*, *26*(3), 1-3.

Sumbal, M. S., Tsui, E., & See-to, E. W. (2017). Interrelationship between big data and knowledge management: an exploratory study in the oil and gas sector. *Journal of Knowledge Management*, *21*(1), 180-196.

Sung, S.Y. & Choi, J.N., (2014). Do organizations spend wisely on employees? Effects of training and development investments on learning and innovation in organizations. *Journal of organizational behavior*, 35(3), pp.393-412.

Tabachnick, B. G., & Fidell, L. S. (2001). *Computer-assisted research design and analysis* (Vol. 748). Boston: Allyn and Bacon.

Thekiso, T.A., (2011). *Management performance measurement of business school educated managers in the North West and Vaal Triangle Areas*. Unpublished MBA dissertation, North-West University, Potchefstroom.

Zechmeister, E.B., Shaughnessy, J.J. & Zechmeister, J.S., (2009). Research Methods in Psychology, Boston [etc.].

Zumrah, A. R., & Boyle, S. (2015). The effects of perceived organizational support and job satisfaction on transfer of training. *Personnel Review*, *44*(2), 236-254.

Zumrah, A. R., Boyle, S., & Fein, E. C. (2013). The consequences of transfer of training for service quality and job satisfaction: an empirical study in the Malaysian public sector. *International Journal of Training and Development*, *17*(4), 279-294.

CHAPTER 3: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

3.1. CONCLUSIONS

The primary objective of the study was to assess the experiences of skills shortage, willingness of the ageing workforce to part with their skills, a culture of learning, training and development, training and development as enabler for skills transfer and skills transfer in the organisation. Therefore, *the first specific objectives* of this study was to determine whether employee experiences support older employees to transfer skills, skills transfer within the organisation, older employees' willingness and preparedness to transfer skills, training as an enabler for skills transfer and skills shortage. The findings suggest that all the scores on the subscales are above the mid-point and normally distributed. This means that respondents do experience *Support older employees to transfer skills* (e.g. presence of enough mentors and coaches in the organisation to transfer skills, and older employees are recognised for sharing their knowledge and skills), *Skills and knowledge transfer* (e.g. skills transfer encourages a culture of learning in my organisation and skills transfer provides adequacy of resources and create a talent within the organisation), *The use of and willingness of older employees for skills transfer* (e.g. older employees are retained for the purpose of skills transfer, and older employees' skills would offer better skills transfer to protégées), *The use of skills sharing to reach goals* (e.g. training helps to understand the job clearly and equips employees with new skills, and knowledge sharing will enable the organisation to record and transfer skills), and *Skills shortage* (e.g. the organisation is facing skills shortage due to the transition of ageing employees, and my organisation requires highly skilled employees to meet its strategic goals).

The second specific objectives of this study was to determine whether there is a significant relationship between the training and development culture of the organisation, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer and skills shortage. The results of the study suggest that a culture that supports older employees to transfer skills is statistically significantly related to skills and knowledge transfer, the use and willingness of older employees for skills transfer, and the use of skills sharing to

reach goals. Actual skills and knowledge transfer is statistically significantly related to the use and willingness of older employees for skills transfer, the use of skills sharing to reach goals and skills shortage. The use and willingness of older employees for skills transfer is statistically significantly related to the use of skills sharing to reach goals and skills shortage. This means that if the company culture supports older employees to transfer skills, then older employees will be more willing to transfer their skills and knowledge and it becomes easier for organisations to use skills transfer and sharing to reach its goals. In addition, if older employees are willing to part with their skills and knowledge because the culture of the organisation supports them to do so, it becomes easier to transfer skills and knowledge and to use skills and knowledge transfer to reach the objectives of the organisation as well as to address skills shortage. The literature suggests that companies lose key knowledge and may cause a decline of organisational memory when older employees leave, which will, on the other hand, hamper the ability to use previous knowledge for competitive advantage (De Massis *et al*., 2016). Sumbal *et al.* (2017) indicated that the retirement of ageing employees is a major source of knowledge loss. Hurt (2016) indicated that organisational objectives are compromised without a transfer of knowledge and skills obtained from training back to the workplace

The third specific objective of this study was to determine the role of support for older employees to transfer skills, skills transfer, and training as enabler of skills transfer on older employees' willingness and preparedness to transfer skills. The results indicate that 53% of the variance in *willingness of older employees to transfer skills* was predicted by support older employees to transfer skills and skills transfer within the organisation and training as an enabler for skills transfer. Research has found that there is a positive relationship between organisational climate and support and skills transfer training that results in job performance (Zumrah & Boyle, 2015). Hurt (2016) mentioned that it is the duty of organisations to show support for training initiatives by communicating their desired outcomes about the importance of training as a strategic objective, allocating appropriate resources, enabling employees to attend training, ensuring that trainees have been given the ability to utilise and share their acquired skills, encouraging training initiatives and holding managers accountable for the implementation of strategic training initiatives.

The fourth specific objective of this study was to determine the impact of support for older employees to transfer skills, skills transfer, older employees' willingness and preparedness to transfer skills, training as enabler of skills transfer on skills shortage. Findings of this study suggest that 24% of the variance in *skills shortage* were explained by actual skills transfer within the organisation, and the use of skills sharing to reach goals proving to be the only statistically significant predictors of skills shortage. This means that skills shortage can only be reduced by actual skills transferring programmes and the use of skills transfer to reach the objectives of the organisation. Banerjee, Gupta and Bates (2017) describe organisational learning culture as a culture that encourages the practices of attainment of information, distribution and transfer of learning and recognition for learning-based application. He further emphasised that a culture like this assists in the development of a mutual agreement among organisational employees pertaining to the value of learning and the utilisation of new learning tools in the working environment for the achievement of organisational goals and objectives.

3.2. LIMITATIONS

Like any other empirical study, this study is not without any limitations. Firstly, the research design was a cross-sectional survey design, which makes it difficult to prove causal relationships. Secondly, the results were obtained solely by means of self-report measures. This may lead to a problem commonly referred to as 'common method variance', which could give rise to an overestimation of the correlations studied. Thirdly, this study focused on a provincial utility company only. This has implications for the generalizability of the findings to other provincial and national utility companies, and therefore this study could be extended to other provincial and national utility company in South Africa.

3.3. RECOMMENDATIONS

Recommendation for the organisation and future studies

Knowing that this study's main emphasis was to investigate the ageing workforce and skills transfer in the organisation, recommendations are specifically based on the improvement of the use of intended resources.

Accommodating ageing workforce

In order to meet the strategic objectives of the organisation associated with ageing employees and skills transfer, Strategic Human Capital (SHC) division must come up with an integrated and holistic approach which will assist in combating skills shortage emanating from ageing workforce. Initiatives such as dual career path, succession planning, training programs for older employees, job shadowing, rotation of employees within other manning points, recognizing of mentors and coaches, accelerated skills and knowledge transfer and retention models should be considered. It is therefore recommended that Rand Water must also embark on the down mentioned initiatives

Flexible retirement contracts

Methods that can also assist organisations to retain the knowledge of the ageing workforce are catering for flexible retirement contracts to allow veterans to work in accordance with their needs. Rand Water may formulate programmes that will allow them to rehire the veterans as contractors or consultants where they can bring their valuable knowledge to the corporates and provide guidance to the younger employees. Although rehiring the retirees may be an option, there could be financial constraints or a lack of resources from organisations to recompense for retirees' services. This will lead to organisations having no other choice but to recreate the knowledge with the junior employees, effectively being slow and resulting in more costs.

Incentive

Corporates should consider drafting and implementing incentive measures consisting of financial, non-financial or performance-based incentives, which will encourage the ageing workforce to remain in the workforce, and further augment the performance of employees with greater tasks. This recommendation emphasises retaining the valuable workforce and improving the performance of employees. Incentive systems should be integrated through all departments to ensure a competitive environment resulting in enhanced performance. The reward of an incentive system is that the incentives introduced will contribute to the retaining of the ageing workforce.
The incentives introduced will furthermore create an environment of competitiveness that will result in the enhancement of their performance.

Proactive HR initiatives

Organisations must come up with a proactive and thoughtful approach that will deal with issues pertaining to ageing employees and skills transfer. They need to assess age demographics and come up with innovative policies, procedures, processes and standards designed to retain older employees with the aim of transferring skills to younger employees.

An effective skills gap analysis will enable Human Resources (HR) to act strategically on focusing on resources that are more critical, which the organisation will need for the future purposes. Succession planning, dual career path, and accelerated skills transfer initiatives must form part of Strategic Human Capital (SHC) objectives as a model aiming to incorporate knowledge transfer, skills shortage and accommodating aging employees. Over and above the Rand Water must consider the following:

- Rand Water must come up with total reward structure initiative that include more than compensation.
- Create employee value proposition initiative that will enhance the retention of older employee.
- Develop the best retention strategy which is aligned to the main objectives and needs of the organisation.
- Continuously assess organisational talent needs through the auditing of skills matrix, skills gaps and competency profile processes.
- Implement advanced Talent Management (TM) resolutions, which will melodramatically reduce staff turnover and improve goal alignment.
- Engaging baby boomers/retirees in skills transfer programs to enable impartation of knowledge and skills.
- Embark on continuous development of existing talent within the organisation through Personal Development Programs (PDP)
- Mitigate future skills shortage by reviewing the pool of successors with the aim to address gaps through competency profiling initiatives, which will be regarded as a method to identify the knowledge, skills attitude and behaviour to fulfil a job or task as an enabler and business driver in accomplishing the organisational strategies.

- The organisation must embark on Communities of Practice (CoP) that will encourage Subject Matter Expects (SME) to share their expertise more extensively, in order to make knowledge to continuously take its toll in the organisation after the SMEs retire.

Future researchers might focus on more widespread investigations to recognise the challenges of the skills shortage, and addressing Employment Equity (EE) as barrier, and how the organisations can create a reasonable accommodation of the ageing workforce across South Africa. Researchers must come up with case studies, reports and findings that will provide direction to the organisations in response to actions that will combat challenges pertaining to the impact of ageing employees and skills transfer.

REFERENCES

Agarwal, N. K. & Islam, M. A., (2015). Knowledge retention and transfer: how libraries manage employees leaving and joining. *Vine*, *45*(2), 150-171.

Akkermans, J., de Lange, A.H., van der Heijden, B.I., Kooij, D.T., Jansen, P.G. & Dikkers, J.S., (2016). What about time? Examining chronological & subjective age and their relation to work motivation. *Career Development International*, *21*(4), 419-439.

Akoojee, S., & McGrath, S. (2007). Public and private Further Education and Training in South Africa: a comparative analysis of the quantitative evidence. *South African Journal of Education*, *27*(2).

Andresen, M., & Nowak, C., (2015). *Human resource manage-ment practise: assessing added value*. Switzerland: Springer International Publishing.

Appelbaum, S.H., Wenger, R., Buitrago, C.P., & Kaur, R., (2017). The effects of old-age stereotypes on organizational productivity (part three). *Industrial and Commercial Training*, *48*(6), 303-310.

Baker, T., (2015). *Attracting and retaining talent: becoming an employer of choice*. Publisher Palgrave Macmillan, New York.

Banerjee, P., Gupta, R. & Bates, R., (2017). Influence of organizational learning culture on knowledge worker's motivation to transfer training: testing moderating effects of learning transfer climate. *Current Psychology*, *36*(3), 606-617.

Blankenship, L., Brueck, T., Lee, J., O'Berry, D., & Rettie, M. (2009). *Strategies to help drinking water utilities ensure effective retention of knowledge*. Water Environment Research Foundation.

Blume, B. D., Ford, J. K., Baldwin, T. T., & Huang, J. L. (2010). Transfer of training: A meta-analytic review. *Journal of management*, *36*(4), 1065-1105.

Burmeister, A., & Deller, J., (2016). Knowledge retention from older and retiring workers: What do we know, and where do we go from here? *Work, Aging and Retirement*, *2*(2), 87-104.

Calo, T. J. (2008). Talent management in the era of the aging workforce: The critical role of knowledge transfer. *Public Personnel Management*, *37*(4), 403-416.

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate behavioral research*, *1*(2), 245-276.

Chand, M., & Tung, R.L., (2014). The aging of the world's population and its effects on global business. *The Academy of Management Perspectives*, *28*(4), 409-429.

Clarke, M., Seng, D., & Whiting, R.H., (2011). Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*, *12*(4), 505-530.

Cohen, J., (1988). Set correlation and contingency tables. *Applied Psychological Measurement*, *12*(4), 425-434.

Conen, W. S., Henkens, K., & Schippers, J. (2012). Employers' attitudes and actions towards the extension of working lives in Europe. *International Journal of Manpower*, *33*(6), 648-665.

Connell, J., & Stanton, P., (2014). Skills and the role of HRM: towards a research agenda for the Asia Pacific region. *Asia Pacific Journal of Human Resources, 52*(1), 4-22.

Cronk, B. C. (2017). *How to use SPSS®: A step-by-step guide to analysis and interpretation*. Routledge.

Curado, C., Henriques, P.L. & Ribeiro, S., (2015). Voluntary or mandatory enrollment in training and the motivation to transfer training. *International Journal of Training and Development*, *19*(2), 98-109.

De Massis, A., Frattini, F., Kotlar, J., Petruzzelli, A. M., & Wright, M. (2016). Innovation through tradition: Lessons from innovative family businesses and directions for future research. *Academy of management Perspectives*, *30*(1), 93-116.

European Centre for the Development of Vocational Training (Cedefop), (2011). *Shaping lifelong learning: making the most of European tools and principles.* Centre for educational Sociology, University of Edinburgh, United Kingdom.

Field, A. (2009). *Discovering statistics using SPSS*. Sage publications.

Jennex, E.M., (2014). A proposed method for assessing knowledge loss risk with departing personnel. *VINE: The journal of information and knowledge management systems*, *44*(2), pp.185-209.

George, D., & Mallery, P. (2003). SPSS for windows step by step: a simple guide and reference. 11.0 update (4th ed.). Boston: Allyn & Bacon

González-Loureiro, M., & Pita-Castelo, J., (2012). A model for assessing the contribution of innovative SMEs to economic growth: The intangible approach. *Economics Letters*, *116*(3), 312-315.

Govender, E.C., (2016). *An examination of Rand Water's skills development for the production of quality drinking water locally*. Doctoral dissertation. University of the Witwatersrand

Greenwood, D. J., & Levin, M. (2006). *Introduction to action research: Social research for social change*. SAGE publications.

Griffin, T. A., & Beddie, F., (2011). Older Workers: Research Readings. National Centre for Vocational Education Research, Griffith University, Adelaide.

Grohmann, A., Beller, J., & Kauffeld, S. (2014). Exploring the critical role of motivation to transfer in the training transfer process. *International Journal of Training and Development*, *18*(2), 84-103.

Harrypurshad, A., (2015). *Impact of Age, Tenure and Engagement on Training Transfer and Employee Performance in South Africa*. Doctoral dissertation, University of the Witwatersrand, Faculty of Commerce, Law and Management, Graduate School of Business Administration.

Heisler, W., & Bandow, D. (2018). Retaining and engaging older workers: A solution to worker shortages in the US. *Business Horizons*, *61*(3), 421-430.

Hennekam, S., (2015). Employability of older workers in the Netherlands: antecedents and consequences. *International Journal of Manpower*, *36*(6), 931-946.

Holton, E. F., Bates, R. A., Seyler, D. L., & Carvalho, M. B. (1997). Toward construct validation of a transfer climate instrument. Human Resource Development Quarterly, 8(2), 95-113.

Hurt, K.J., (2016). A theoretical model of training and its transference: the pivotal role of top management team composition and characteristics. *Human Resource Development International*, *19*(1), 44-66.

Jinks, C., Ong, B. N., & Richardson, J. (2007). A mixed methods study to investigate needs assessment for knee pain and disability: population and individual perspectives. *BMC musculoskeletal disorders*, *8*(1), 59.

Kahn, S.B. & Louw, V., (2016). Maximising generational capacity for an effective South African public service. *Journal of Public Administration*, *51*(4), 741-757.

Kaiser, H.F., (1960). The application of electronic computers to factor analysis. *Educational and psychological measurement*, *20*(1), 141-151.

Kanfer, R., Beier, M.E. & Ackerman, P.L., (2013). Goals and motivation related to work in later adulthood: An organizing framework. *European Journal of Work and Organizational Psychology*, *22*(3), 253-264.

Kirkham, J. J., Dwan, K. M., Altman, D. G., Gamble, C., Dodd, S., Smyth, R., & Williamson, P. R. (2010). The impact of outcome reporting bias in randomised controlled trials on a cohort of systematic reviews. *Bmj*, *340*, c365.

Kooij, D.T., (2015). Successful aging at work: The active role of employees. *Work, Aging and Retirement*, *1*(4), 309-319.

Lefkovich, J. L. (1992). Older workers: Why and how to capitalize on their powers. *Employment Relations Today*, *19*(1), 63-79.

Leppel, K., Brucker, E., & Cochran, J. (2012). The importance of job training to job satisfaction of older workers. *Journal of Aging and Social Policy*, *24*(1), 62–76.

Levy, M., (2011). Knowledge retention: minimizing organizational business loss. *Journal of Knowledge Management*, *15*(4), 582-600.

Linstow, M. L. V., Larsen, H. H., Eugen-Olsen, J., Koch, A., Winther, T. N., Meyer, A. M., ... & Høgh, B. (2004). Human metapneumovirus and respiratory syncytial virus in hospitalized danish children with acute respiratory tract infection. *Scandinavian journal of infectious diseases*, *36*(8), 578-584.

Ljungberg, B., Bensalah, K., Canfield, S., Dabestani, S., Hofmann, F., Hora, M., ... & Mulders, P. (2015). EAU guidelines on renal cell carcinoma: 2014 update. *European urology*, *67*(5), 913-924.

Maboa, T. E. I. (2009). *Evaluating the impact of employment skills development services (ESDS) training programme of the Department of Labour* (Doctoral dissertation, University of Pretoria).

Malterud, K., (2001). Qualitative research: standards, challenges, and guidelines. The lancet, 358(9280), pp.483-488.

Manuti, A., Pastore, S., Scardigno, A.F., Giancaspro, M.L. & Morciano, D., (2015). Formal and informal learning in the workplace: a research review. *International journal of training and development*, *19*(1), pp.1-17.

Marvell, R. & Cox, A., (2016). Fulfilling work.

Miller, R. L. (2017). *SPSS for social scientists*. Macmillan International Higher Education.

Moen, P., Kojola, E. & Schaefers, K., (2017). Organizational change around an older workforce. *The Gerontologist*, *57*(5), 847-856.

Morar, C. & Yoong, P., (2015). A stage model of knowledge retention and the departing older expert. In *Proceedings of 4th European Business Research Conference*, 1-15.

Ng, T.W., & Feldman, D.C., (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology*, *65*(4),. 821-858.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization science*, *5*(1), 14-37.

Nunnally, J.C. & Bernstein, I.H., (1994). The theory of measurement error. *Psychometric theory*, (3rd ed.). 209-247.

Oude Mulders, J., Henkens, K. & Schippers, J., (2013). Organizations' ways of employing early retirees: The role of age-based HR policies. *The Gerontologist*, *55*(3), 374-383.

Phaladi, M.P., (2011). *Knowledge transfer and retention: the case of a public water utility in South Africa*. Doctoral dissertation, Stellenbosch: University of Stellenbosch.

Radović-Marković, M., (2013). An aging workforce: employment opportunities and obstacles. *Cadmus*, *1*(6), 142.

Raemdonck, I., Beausaert, S., Fröhlich, D., Kochoian, N., & Meurant, C., (2015). Aging workers' learning and employability. In *Aging workers and the employee-employer relationship* (pp. 163-184). Springer, Cham.

Ramphele, M. (2008). How does one speak of social psychology in a nation in transition?. *Journal of Analytical Psychology*, *53*(2), 157-167.

Rasool, F., & Botha, C. J. (2011). The nature, extent and effect of skills shortages on skills migration in South Africa. *SA Journal of Human Resource Management*, *9*(1), 1-12.

Richert-Kaźmierska, A., (2015). Ageing Workforce–a Challenge for Organizations. *Social Sciences*, *89*(3), 33-50.

Robert, J.A. & Bohlmann, J., (2010). Behavioral and reproductive response of white pine weevil (Pissodes strobi) to resistant and susceptible Sitka spruce (Picea sitchensis). *Insects*, *1*(1), 3-19.

Rogerson, C. (2000). Local economic development in an era of globalisation: the case of South African cities. *Tijdschrift voor economische en sociale geografie*, *91*(4), 397-411.

Salas, E. & Cannon-Bowers, J.A., (2001). The science of training: A decade of progress. *Annual review of psychology*, *52*(1), 471-499.

Samani M & Thomas R.J (2016). Your Leadership Program needs an overhaul. Harvard Business Review, 1-6 Sung, S.Y. and Choi, J.N., 2014. Do organisations spend wisely on employees? Effects of training and develop investments on learning and development investments on learning and innovation in organisations. Journal of organisational behaviour, 35(3), pp.393-412.

Saunders, M., Lewis, P. and Thornhill, A., (2009). *Research methods for business students*. Pearson education.

Simpson, M. R. (2009). Engagement at work: A review of the literature. *International journal of nursing studies*, *46*(7), 1012-1024.

Steyn, H. S. (2000). Practical significance of the difference in means. *SA journal of industrial psychology*, *26*(3), 1-3.

Sumbal, M. S., Tsui, E., & See-to, E. W. (2017). Interrelationship between big data and knowledge management: an exploratory study in the oil and gas sector. *Journal of Knowledge Management*, *21*(1), 180-196.

Sung, S.Y. & Choi, J.N., (2014). Do organizations spend wisely on employees? Effects of training and development investments on learning and innovation in organizations. *Journal of organizational behaviour*, 35(3), pp.393-412.

Tabachnick, B. G., & Fidell, L. S. (2001). *Computer-assisted research design and analysis* (Vol. 748). Boston: Allyn and Bacon.

Thekiso, T.A., (2011). *Management performance measurement of business school educated managers in the North West and Vaal Triangle Areas*. Unpublished MBA dissertation, North-West University, Potchefstroom.

Trendle, B. (2008). Skill and labour shortages-definition, cause and implications. *Department of Education, Training, and the Arts*.

Vignoli, M., Mariani, M.G., Guglielmi, D. & Violante, F.S., (2017). Leadership styles and self-efficacy in determining transfer intentions of safety training. *Journal of Workplace Learning*, (just-accepted), pp.00-00.

Walliman, N. (2011). *Your research project: Designing and planning your work*. Sage Publications.

Windapo, A. O. (2016). Skilled labour supply in the South African construction industry: The nexus between certification, quality of work output and shortages. *SA Journal of Human Resource Management*, *14*(1), 1-8.

Zechmeister, E.B., Shaughnessy, J.J. & Zechmeister, J.S., (2009). Research Methods in Psychology, Boston [etc.].

Zumrah, A. R., & Boyle, S. (2015). The effects of perceived organizational support and job satisfaction on transfer of training. *Personnel Review*, *44*(2), 236-254.

Zumrah, A. R., Boyle, S., & Fein, E. C. (2013). The consequences of transfer of training for service quality and job satisfaction: an empirical study in the Malaysian public sector. *International Journal of Training and Development*, *17*(4), 279-294.

ANNEXURE A: STUDY QUESTIONNAIRE

SECTION A: Demographic information

QUESTIONNAIRE: investigating an ageing workforce and skills transfer of the organisation

SECTION A – DEMOGRAPHICS

GENDER	
Male	
Female	

AGE GROUP	
20 – 30	
31 – 40	
41 – 50	
51 – 60	
61 +	

LANGUAGE: MAINLY SPEAK AT HOME	
English	
Afrikaans	
Sotho	
Tsonga	
Zulu	
Xhosa	
Other	

ETHNICITY	
African	
White	
Coloured	
Asian	

MARITAL STATUS	
Married	
Unmarried	

HIGHEST QUALIFICATION OBTAINED	
Not matriculated	
Matric	
Diploma	
Bachelor degree	
Honours Degree	
Master's degree	
PhD	
Other qualifications	

Please indicate level of your position in the organisation	
Executive Manager	
Line Manager	
Supervisor	
Process Controller	
Operator	
Artisan	
Support Staff	
Other	

SECTION B

No.	Question/Statement	Strongly Disagree	Disagree	Disagree Some-what	Agree Some-what	Agree	Strongly Agree
1	My organisation support culture of training and development	1	2	3	4	5	6
2	Experienced employees assist in skills transfer	1	2	3	4	5	6
3	Experienced employees are involved in mentoring and coaching programs	1	2	3	4	5	6
4	Older employees understand the Vision and Mission of the organisation	1	2	3	4	5	6
5	Older employees are recognised for sharing their knowledge and skills	1	2	3	4	5	6
6	Mature employees' skills and knowledge can be solicited and recorded to enable future training	1	2	3	4	5	6
7	The organisation is facing skills shortage due to the transition of ageing employees	1	2	3	4	5	6
8	It takes long for my organisation to fill the vacant with right people and right skills	1	2	3	4	5	6
9	My organisation requires highly skilled employees to meet its strategic goals	1	2	3	4	5	6
10	My organisation embarks on workforce planning exercise to address ageing workforce	1	2	3	4	5	6
11	There are enough mentors and coaches in your organisation to transfer skills	1	2	3	4	5	6
12	My organisation implement a clear and focused succession planning to enable older employees' s contribution	1	2	3	4	5	6
13	My organisation portrays a culture that acknowledges the strengths and benefits of mature workers	1	2	3	4	5	6

SECTION C

No.	Question/Statement	Strongly Disagree	Disagree	Disagree Some-what	Agree Some-what	Agree	Strongly Agree
14	Employees receive on- the -job training on monthly basis	1	2	3	4	5	6
15	Training helps to understand the job clearly, and equips employees with new skills	1	2	3	4	5	6
16	Training provides effectiveness in completion of tasks allocated.	1	2	3	4	5	6
17	Training and development programs meet the employees' needs	1	2	3	4	5	6
18	Knowledge sharing will enable the organisation to record and transfer skills.	1	2	3	4	5	6
19	My organisation support culture of skills transfer	1	2	3	4	5	6
20	Managers take effort to release employees for training and development initiatives	1	2	3	4	5	6
21	Training initiatives are aligned to the organization's goals	1	2	3	4	5	6

SECTION D

No.	Question/Statement	Strongly Disagree	Disagree	Disagree Some-what	Agree Some-what	Agree	Strongly Agree
22	Transferred skills will assist my organisation to perform when I retire	1	2	3	4	5	6
23	Skills transfer encourages a culture of learning in my organisation	1	2	3	4	5	6
24	Knowledge transfer will enhance the positive work contribution	1	2	3	4	5	6
25	I highly recommend the skills transfer initiative in the organisation	1	2	3	4	5	6
26	Knowledge sharing impose more opportunities to learn new skills	1	2	3	4	5	6
27	Skills transfer provides adequacy of resources and create a talent within the organisation	1	2	3	4	5	6
28	My employer is experiencing high shortage of critical and core skills	1	2	3	4	5	6

SECTION E

No.	Question/Statement	Strongly Disagree	Disagree	Disagree Some-what	Agree Some-what	Agree	Strongly Agree
29	Management encourage older employees to transfer their skills to young employees	1	2	3	4	5	6
30	My level of experience determines how critical my skills to the organisation are	1	2	3	4	5	6
31	Older employees are prepared to work extra years after retirement for the sake of skills transfer	1	2	3	4	5	6
32	Older employees' skills would offer better skills transfer to the protégée's	1	2	3	4	5	6
33	Older employees are retained for the purpose of skills transfer	1	2	3	4	5	6
34	I am prepared to work after my retirement for the sake of knowledge and skills transfer	1	2	3	4	5	6
35	I believe that my organisation is dependent on my skills and knowledge	1	2	3	4	5	6
36	My competencies, knowledge and skills can be solicited and stored as IP of the organisation	1	2	3	4	5	6
37	There are policies in place that support skills transfer initiatives in my organisation	1	2	3	4	5	6
38	There are training programs that are aligned to skills transfer in my organisation	1	2	3	4	5	6

Many thanks for taking part in this survey and making effort to assist in my study.

Please scan and email to qmtshali@randwater.co.za once completed.

Your efforts are truly appreciated.

Queen Mtshali