TALENT MANAGEMENT, EMPLOYEE ENGAGEMENT, TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE PERFORMANCE OF ACADEMIC STAFF IN PUBLIC UNIVERSITIES IN UGANDA

BY
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A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT (HUMAN RESOURCE MANAGEMENT) DEPARTMENT OF MANAGEMENT SCIENCE SCHOOL OF BUSINESS AND ECONOMICS

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DECLARATION

Declaration by Candidate

This research thesis is my original work and has not been presented for any degree award at any other university. No part of the thesis should be reproduced without the prior permission of the author and/or Moi University.

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DEDICATION

I dedicate the thesis to my parents, Martin Odota and Rebecca Onega, who believed in my confidence and abilities in the academic journey and supported me financially to achieve my dream goal. Finally, I dedicate this piece of work to my wife, Ms. Ayiorwoth Conslate; children-Calvin, Angel, Annabell, and Naome; brothers-Deo, Christopher, and Williams; sisters-Ngamita Joyce (RIP) and Kunyinga Florence; and the entire family members of ODOTA FAMILY, whose inspiration, strength, courage, and support have enabled the achievement of my dream career goal.

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ABSTRACT

Employee performance remains an important concept in enhancing individual and organizational performance in contemporary organizations. However, in recent years, performance of academic staff in public universities has not improved to the expected standards as reports of poor performance in terms of ineffective teaching, low records of publications, and inability to attract and win grants continue to prevail in most public universities. Amidst the vice, there are many factors affecting employee performance, but no conclusive studies have examined the indirect effects of the factors associated with employee performance in public universities. Hence, study sought to examine the effect of talent management, employee engagement and transformational leadership on employee performance of academic staff in public universities in Uganda. The specific objectives were to examine the effect of: talent management on employee performance; employee engagement on employee performance; transformational leadership on employee performance; talent management on employee engagement; to assess the mediating effect of employee engagement on talent management and employee performance, to analyse the moderating effect of transformational leadership on talent management and employee engagement, to determine the moderating effect of transformational leadership on talent management and employee performance, to establish the moderating effect of transformational leadership on the indirect effect of talent management and employee performance through employee engagement. The study was anchored on AMO framework, human capital theory, social exchange theory, and transformational leadership theory. The study adopted positivism philosophy and explanatory design. The target population was 3,335 academic staff of public universities in Uganda with a sample of 536 academic staff selected using multistage sampling technique. Structured questionnaire was used to collect data from the respondents. Data was analysed using hierarchical regression model and Process Macro version 4.1 was used to test for the direct and indirect hypotheses. The study found that talent management ($\beta = .609$, $p < .001$), employee engagement ($\beta = .226$, $p < .001$), transformational leadership ($\beta = .286$, $p < .001$) were significant predictors of employee performance. Talent management ($\beta = .471$, $p < .001$) was a significant predictor of employee engagement. Employee engagement mediated the relationship between talent management and employee performance ($\beta = .101$, $p < .001$, CI = .059, .149). Transformational leadership moderated the relationship between talent management and employee engagement ($\beta = -.110$, $p < .05$, CI = -.186, -.035). Transformational leadership moderated the relationship between talent management and employee performance ($\beta = -.090$, $p < .05$, CI = -.152, -.027). Furthermore, transformational leadership moderated the indirect relationship between talent management and employee performance through employee engagement ($\beta = -.015$, CI = -.035, -.001). The study concluded that transformational leadership moderates the indirect relationship between talent management and employee performance through employee engagement. The study contributes to literature by highlighting the conditional indirect effect of transformational leadership on talent management and employee performance through employee engagement among academic staff in public universities in Uganda. The study recommends that leaders in public universities need to develop an integrated talent management and employee engagement strategies to identify, deploy, develop, retain, and engage academic staff to achieve extra ordinary levels of performance among academic staff in public universities in Uganda.

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ABBREVIATIONS/ACRONYMS

AMO	Ability, Motivation, and Opportunity
ANOVA	Analysis of Variance
D	Durbin Watson
EE	Employee Engagement
EP	Employee Performance
HCT	Human Capital Theory
IC	Individualized Consideration
II	Idealized Influence
IIA	Idealized Influence Attributes
IIB	Idealized Influence Behaviours
IM	Inspirational Motivation
IS	Intellectual Stimulation
IWP	Individual Work Performance
IWPQ	Individual Work Performance Questionnaire
MOFPED	Ministry of Finance Planning and Economic Development
MUBS	Makerere University Business School
MUST	Mbarara University of Science and Technology
NCHE	National Council for Higher Education
OCBO	Organizational Citizenship Behaviour-Organization
PhD	Philosophy of Doctorate
POS	Positive Organizational Scholarship
SEE	Standard Error of the estimate
SET	Social Exchange Theory
TL	Transformational Leadership
TLT	Transformational Leadership Theory
TM	Talent Management
UK	United Kingdom
USA	United State of America

OPERATIONAL DEFINITION OF TERMS

Absorption refers to a situation where an employee is fully involved and deeply engrossed in work, and time passes fast and the employees have difficulties detaching themselves from work (Wollard & Shuck, 2011).

Academic staff are university employees whose primary responsibilities are instruction, research, or public service (Clyne, Marginson, & Woock, 2001). They include employees who hold academic rank with titles such as professor, associate professor, assistant professor, instructor, lecturer, assistant lecturer, teaching assistant, or the equivalent of any of these academic ranks (Clyne *et al.,* 2001). The category includes employees with titles such as dean, director, associate dean, assistant dean, chair, or head of department as long as the principal activity is instruction or research (Clyne *et al.,* 2001).

Community Engagement describes the cooperation that exists between universities and the communities for a joint benefit in the exchange of knowledge and resources for coexistence (Smith, Larkin, Yibarbuk, & Guenther, 2017; Townsend & Manchester, 2012). The process involves inclusive participation that supports mutual respect of values, strategies, and actions for authentic partnership of people associated within a geographical proximity with special interests or similar situations to address issues affecting the well-being of the community (Smith, Larkin, Yibarbuk, & Guenther, 2017; Townsend & Manchester, 2012).

Dedication involves a sense of significance, enthusiasm, inspiration, pride, and challenge that employees experience at work (Wollard & Shuck, 2011).

Employee engagement is defined as the capacity and desire to make a positive contribution to the organization, as well as the enthusiasm that employee has in his/her current position (Saks, 2006).

Employee performance involves executing defined roles, assignments, or tasks within a specified timeframe with a required degree of competency, effectiveness, and efficiency that is measured against correctness, completeness, cost, and

speed to fulfill corporate goals (Afshan, Afzal, & Qureshi, 2012; Mensah, 2015).

Idealized influence describes the degree to which leaders are perceived as inspiring to the followers (Moss & Ritossa, 2007), which attracts admiration, respect, and trust from the followers to pursue the leadership goals.

Individualized consideration explains a scenario where leaders provide support, encouragement, and coaching to followers (Yukl, 2006). The leader attends to the follower's needs and delegates responsibilities to help the followers grow through personal challenges (Bass & Avolio, 2003).

Inspirational motivation is the degree to which the leader's vision is attractive and encouraging to the followers (Judge & Piccolo, 2004) to optimize the followers' vision (Antonakis *et al.*, 2003) and motivate them by providing meaning and challenge in the work they do regularly to achieve desired outcomes (Bass *et al.*, 2003).

Intellectual stimulation is the degree to which the leaders stimulate the followers' activities to become innovative and creative through solving organizational problems in a new way (Moss & Ritossa, 2007).

Publication refers to the dissemination of the research outcome to the key stakeholders in the research areas of interest to advance new knowledge within the scholarly community (Hunter, Laursen & Seymour, 2007).

Research refers to the process of finding a solution to a problem through thorough, systematic investigation and analysis undertaken to discover facts and relationships between two or more things or events (Best & Kahn, 2016).

Talent attraction refers to the process by which an organization recruits, tracks, and interviews job candidates; on boards and trains new employees to take on positions within the organization (Collings, 2015).

Talent deployment is the process of drawing on identified talent to occupy critical workforce gaps (Collings & Mellahi, 2009). This may include placement of

employees in short-term roles such as critical projects or taskforces or long-term positions (Vaiman, Scullion, & Collings, 2012).

Talent development involves motivating and engaging employees; aligning the employees with the organizational culture; and building the employees' knowledge, skills, and abilities to acquire the required competences to fulfill work assignments in the organization (Morley, Scullion, Collings, & Schuler, 2015).

Talent is the competencies within an individual that facilitate the individual to perform assigned tasks and represents a small percentage of employees in the organization (Berger & Berger, 2004). Talent includes the total sum of a person's abilities, including his or her intrinsic gifts, skills, knowledge, experience, intelligence, judgment, attitude, character, and drive that determine the employee's ability to learn and grow within the organization (Michaels *et al.,* 2001).

Talent management refers to the process of attracting, identifying, recruiting, developing, motivating, promoting, and retaining employees with the required skills and ability to meet current and future organizational requirements (Meyers & Van Woerkom, 2014).

Talent retention is the initiative of keeping talented employees and reducing turnover through fostering a positive work environment, showing appreciation to employees, and providing competitive pay and benefits and a healthy work-life balance (Iles, 2013).

Teaching is a formal learning process that involves the dissemination of knowledge by qualified teachers to learners through seminars, tutorials, project supervision, laboratory sessions, studio time, placements, supervised online learning, workshops, fieldwork, and site visits (Gunn, 2018).

Transformational leadership is the process of influencing major changes in the attitudes, beliefs, and values of followers to achieve an extraordinary level of performance (Hemsworth, Muterera, & Baregheh, 2013).

Universities are institutions of higher learning that provide facilities for teaching and research and are authorized to grant academic degrees at undergraduate and graduate levels and confer doctorates to graduate students (Heeks, Amalia, Kintu, & Shah, 2013).

Vigor refers to the high levels of energy and mental resilience employees experience at the workplace (Wollard & Shuck, 2011).

CHAPTER ONE

INTRODUCTION

1.1 Overview

The chapter presents the background of the study; statement of the problem; general and specific objectives of the study; research hypotheses; significance of the study; and scope of the study, which lay the foundation for the study.

1.2 Background of the Study

Employee performance is viewed as the most important facet of today's business world for ensuring sustainability and competiveness in contemporary organizations (Danish & Usman, 2010; Tabiu & Nura, 2013). Employee performance play a crucial role in the corporate setup and cannot be done without human capital (Kehoe & Wright, 2013). In academic institutions like universities employees form the most important asset for ensuring academic progress and accomplishment of university goals (Ahmed, Khalid, Ammar, & Shah, 2017). For nearly a decade, attention of researchers and practitioners in the field of organizational behavior, psychology, and human resource management have been drawn towards designing an appropriate work environment for employees to achieve organizational goals (Mone, Eisinger, Guggenheim, Price, & Stine, 2011).

Management believe that sustainable competitive advantage comes from internal qualities of employees (human capital) which are difficult to imitate compared to the firm's product-market positions (Ntonga, 2010). Organizations that attract, develop, and retain top talents remain competitive in the industry (Memon, Salleh, Baharom, & Harun, 2014). Human capital constitute a knowledge based resources that facilitate firm's operations for a sustainable competitive advantage (Inuwa, 2017; Ordóñez de

Pablos, 2004). This view embodies a configurational approach to human resource management, which argue that patterns of human resource activities are required to achieve performance objectives (Anitha, 2014; Delery & Doty, 1996; Mallick, Pradhan, Tewari, & Jena, 2014; Mone & London, 2009) that require performance management systems to change from being event-driven to people-centered in support of performance objectives to attain desired corporate outcomes (Mallick *et al.,* 2014; Mone & London, 2009).

Surprisingly, world over there has been a tendency to produce maximum output for less, creating economic problems that span through developed to developing countries to pave ways for efficiency as a mean to assess the performance of government institutions that has been poor for decades due to lack accountability, transparency, incentives, capacity building, technology and political goodwill, which has affected the way government agencies, ministries and departments operate to deliver on their mandates (Andrew, 2017; Tchapchet, Iwu, & Allen-lle, 2014). On a narrow span, performance of public institutions like universities in developing countries has been declining and continues to decline in countries like South Africa, Nigeria, Ghana, Egypt, Kenya and Tanzania as academic staff in these institutions continue to register poor performance resulting into poor graduates produced (Nabukeera, 2015), limiting the graduates' competitiveness in the national, regional and international labour market (Bank, 2018, 2021).

However, managing employees to meet performance expectations has always been a management puzzle in many organizations (Inuwa, 2017). Organizations from various sectors face dynamic challenges such as engagement of staff, efficiency and high-performance standards or expectations (El-Kot & Leat, 2008). Such challenges create

a need to manage human resources to achieve a competitive edge and business survival. The advances require effective human resource planning in areas of job engagement, job satisfaction and organizational efficiency (Fiorito, Bozeman, Young, & Meurs, 2007). Many organizations have recognized that job-related behaviours like engagement and satisfaction are the key strategic and valuable foundations for their competitive edge (Ologbo & Sofian, 2013). In an attempt to achieve competitiveness, organizations need high-energy, efficient and dedicated human capital in the workplace (Chen & Peng, 2021), as workers with favourable attitudes on the job facilitate achievement of organizational goals (Singh, Burgess, Heap, & Al Mehrzi, 2016). Hence, human resource skills, abilities and competencies are very critical in determining employee job engagement and outcomes.

Existing literature argue that talent management are inevitable for superior engagement and performance of employees in today's business environment to achieve competitive advantage (Dixit & Dean, 2018). Talent management was initially designed to attract, grow and retain employees with the requisite skills and desire to interact more with work to enhance performance at individual and organizational levels. Talent management components like recruitment, on-boarding, selection, mentoring, performance improvement, learning and development, career growth, replacement planning, leadership development, job preparation, reward and recognition (Schweyer, 2004) enhances employee's ability to achieve a strong sense of engagement and performance at work (Shahzad, Bashir, & Ramay, 2008). In addition, Lew (2009) note that in a university set up talented employees are able to discharge their critical role to boost the ranking of the universities in areas of credibility, image, reputation, quality teaching, community growth and academic research.

According to Amin, Ismail, Rasid, and Selemani (2014) the value of improving academic excellence of most educational institutions rely on talent management practices to actualize job performance, foster substantial institutional synergies (Wall & Marzall, 2006) and enhance dedication to work (Christensen, Lægreid, & Røvik, 2020) as quality, survival and success of institutions of higher learning cannot be achieved without highly talented, engaged, satisfied and motivated workers (Christensen *et al.,* 2020). It should be noted that much as researchers have addressed the concept of talent management in higher educational institutions (Chen & Peng, 2021; Hassan, Shah, Zaman, Ikramullah, & Shah, 2011; Lew, 2009), empirical research linking talent management to employee engagement in public universities is limited (Nazir & Islam, 2017). Conversely, other personnel-related matters linking employee engagement in higher education are not well examined (Wilkins, Butt, & Annabi, 2017). Prior study in higher institutions participated mainly on issues such as the morale of academics (Rosser, 2004), employee's job satisfaction (Smerek & Peterson, 2007) and employee's intention to leave (Heck, Johnsrud, & Rosser, 2000). It is important to recognize how talent management practices affect employees towards demonstrating high performance levels through employee engagement (Karatepe, 2013).

Social Exchange Theory provide the theoretical framework to understand the link between talent management and employee performance. Cropanzano and Mitchell (2005) stated that employees are pressed to pay their organization through a sound performance when they receive adequate organizational support. Employee engagement is among the reasons why the relationship between talent management practices and work-related behaviour is presumed to play vital role in the university's work environment (Karatepe, Karadas, Azar, & Naderiadib, 2013). This based on the

belief that talented employees with dynamic capabilities cannot perform unless engaged to reach high level of performance (Cappelli, 2008; Lawler III, 2008; Schiemann, 2009). Research suggests that engaged employees are likely to be productive, remain with the current employer and interact positively with customers (Chalofsky, 2010; Wright & McMahan, 2011). Although studies continue to show a direct link between employee engagement in the broad performance domains, the model relating talent management to employee engagement and employee performance are scarce in education sectors (Schiemann, 2014).

Furthermore, there is scanty empirical evidence on whether employee engagement mediates the relationship between talent management and employee performance. Ideally, the relationship between talent management and employee engagement is becoming inspiring to investigate, but available literature report that there is no research work that considers employee engagement as a mediator in the relationships between talent management and employee performance in public universities in Uganda. This study becomes one of the first research conducted in public universities in Uganda. Most studies on the variables were conducted in other sectors, other than the educational sector (Mangusho, Murei, & Nelima, 2015). Notwithstanding the above, a new form of study under which employee engagement and employee performance is essential to the public universities and the country. Therefore, the need to investigate talent management as a vital concept in achieving employee performance through employee engagement. This research seeks to address the knowledge gap by examining the relationship that exists between talent management and employee performance through employee engagement in public universities.

Similarly, the empirical findings on employee engagement and employee performance has shown contradicting results at individual and organizational levels (Huang *et al.*, 2016; Murphy, 2013). According to Murphy (2013) employees who were deemed to be low performers in their annual review scored highly than those employees who were viewed as high performers, indicating that highly engaged employees were low performers and that those employees who were low in engagement were high performers. The above, findings indicate a sharp contrast to years of research linking high employee engagement to increased employee performance (Murphy, 2013). Thus, a rigorous empirical research is needed to examine the degree of inconsistence in results. Furthermore, Nazem, Mozaiini, and Seifi (2014) observed that most of the empirical studies on employee engagement and employee performance were done in developed economies and a new study is needed in developing countries with varying institutions, demographics and cultural context in respect to other factors that influence employee engagement and employee performance.

Transformational leadership has been proposed as a robust predictor employee performance (Christian, Garza, & Slaughter, 2011; Macey & Schneider, 2008; Para-González, Jiménez-Jiménez, & Martínez-Lorente, 2018). Researchers indicate that organizations with highly diverse structures depend on its leaders to achieve desired goals (McCleskey, 2014). Scholars noted that these leaders are positively related to employee performance at individual and group performance, organizational effectiveness and employee customer orientation (Budur & Demir, 2022). However, past studies have empirically established the positive association between work performance and transformational leadership (Madhu & Krishnan, 2005). For instance, a study conducted USA showed that individuals who exhibited transformational leadership were more effective leaders with better work outcomes

(performance) in both public and private sectors for high- and low-level leaders (Khan, Rehmat, Butt, Farooqi, & Asim, 2020). Transformational leadership is considered as the best form of leadership that focus on employee's motivation and inspiration that determines how employees respond to work situations to enhance performance (Taylor-Sawyer, 2004). Although evidence shows that transformational leaders have influence over employee performance, the processes through which this occurs have received little attention in academia (Jacobs, 2012). Macey and Schneider (2008) note that various conditions at workplace can have direct and indirect effects on employee engagement and performance.

Surprisingly, the psychological mechanisms through which transformational leaders influence employee engagement and performance has received little attention (Bakker, Albrecht, & Leiter, 2011a, 2011b) as the concept of transformational leadership is at the third stage of theoretical development, where antecedents, outcomes, underlying mechanisms, and moderating conditions have been identified in literature with several reviews on meta-analyses (Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996; Wang, Oh, Courtright, & Colbert, 2011) have been published, with recent studies examining its mechanisms and moderating effects to outcome variables (Kovjanic, Schuh, & Jonas, 2013; Stenling & Tafvelin, 2014). However, scanty information exist on the conditional direct and indirect effects of transformational leadership relationships between talent management and employee performance in higher educational institutions (Antonakis, 2017; Antonakis, Avolio, & Sivasubramaniam, 2003).

Thus, the study examined the conditional indirect effect of transformational leadership on talent management and employee performance through employee

engagement in public universities in Uganda using integrated theoretical model based on the assumption that multilevel theoretical approach provide a novel ground in explaining a phenomenon (Arthur & Boyles, 2007; Bowen & Ostroff, 2004; Ostroff & Bowen, 2000; Wright & Nishii, 2007), but there is relatively little empirical work adopting a multi-level approach to understanding the employee performance relationships (Ostroff & Bowen, 2000; Snape & Redman, 2010). By adopting a multi-level theoretical approach, this study explicitly recognizes the integrated nature of organizations such that individual and organizational characteristics that influence individual and organizational performance (Kozlowski & Klein, 2000).

1.3 Statement of the Problem

Organizations are social systems created to fulfill the needs of individuals and societies (Nasir, Khan, & Nasir, 2017). The social system is composed of employees who are expected to perform their roles to achieve superordinate goals (Bledow, Frese, Anderson, Erez, & Farr, 2009; Gelens, Dries, Hofmans, & Pepermans, 2013). Certainly, universities play a fundamental role in the social system through creating the required human capital, generating and preserving knowledge, and offering technical advisory services to businesses and communities. The performance of these roles largely depend on highly competent, motivated, and engaged academic staff whose critical roles include teaching, research, publication, and community engagement for the accomplishment of the university's goals (Selesho & Naile, 2014).

However, in recent years, public universities in Uganda have been facing significant challenges with employees (Kagaari, Munene, & Ntayi, 2013) as performance of academic staff in public universities have not improved to the expected standards. For

instance, the National Council for Higher Education (2014) demands that a university lecturer must produce new knowledge through research output in the form of published books and articles in recognized academic journals as indicators of quality and productive academic staff (Ssentamu, 2018). The Universities and Other Tertiary Institutions Act 2001 (as amended in 2003 and 2006) singles out critical measures of academic staff output in terms of teaching, carrying out research, and community service engagement (Uganda, 2001, 2006). Furthermore, most public universities clearly spell out the key performance indicators of their academic staff in human resource manuals, e.g., Makerere University (2010), Mbarara University (2009), Kyambogo University (2015), and Gulu University (2016), among others, where academic staff are expected to lecture at least 10 hours and a maximum of 12 hours per week (Rwothumio, Okaka, Kambaza, & Kyomukama, 2021).

Kiriri and Gathuthi (2009) asserted that academic staff performance is measured by teaching loads, attendance and presentations at conferences, book publications, articles in journals, and career development. However, reports of poor academic staff performance in terms of ineffective teaching, low records of publications, and an inability to attract and win grants continue to prevail in most public universities in Uganda (Rwothumio *et al.,* 2021), making it difficult for public universities to produce the needed human resources for national development, which affects the graduates' competitiveness on the global job market, ignoring such situations may give rise to failing public universities in Uganda (Rwothumio *et al.,* 2021).

However, the current reform in the public service and government organizations under the new public management requires the public sector organizations to alter their organizational structure, systems, and processes to be responsive to public

demands (Rafia & Achmad Sudiro, 2020). This change necessitates that leaders of public sector organizations lead the process by improving employee and organizational performance.

According to a study by Karatepe (2013), Karatepe and Choubtarash (2014), and Salim Zahargier and Balasundaram (2011) note that there are many factors influencing employee performance such as individual factors (like knowledge, motivation, and skills), leadership factors, team factors (Rafia & Achmad Sudiro, 2020), but conclusive studies have not been conducted on these factors (Saks & Gruman, 2014). Talent management has been recommended as a model for managing talented employees and enhancing performance (Berger & Berger, 2004; Collings & Mellahi, 2009; Lacy, Arnott, & Lowitt, 2009; Lawler III, 2008; Macey *et al.*, 2009); talent management remains a novel concept with unclear definitions, limited empirical studies, and no measurement model that relate talent management to employee performance.

Anitha (2014) state that employee engagement is regarded as one of the key determinants fostering a high level of employee performance as shown in a number of studies (Macey, Schneider, Barbera, & Young, 2011; Mone & London, 2018). Previous research conducted by Alagaraja and Shuck (2015); Anitha (2014); (Bedarkar & Pandita, 2014) explained that employee engagement has a positive and significant influence on employee performance. Generally, employee engagement is defined as a level of commitment and employee involvement with the organization and its values (Anitha, 2014). When an employee is involved, he is aware of his responsibilities for business goals and motivates his colleagues for the success of the organizational. Employee engagement is a good tool that helps an organization to gain

a competitive advantage over others. Surprisingly, few empirical studies exist on whether employee engagement mediates the relationship between talent management practices and employee performance in an inclusive model (Bakker & Xanthopoulou, 2013), making it principally important to extend the body of knowledge with specific reference to academic staff of public universities in Uganda.

Previous research studies have also supported the influence of transformational leadership on performance. Bass and Riggio (2006) that transformational leadership creates conditions for high performance in organizations that face demands for renewal and change. Transformational leadership has a positive and significant effect on employee performance, according to the results of research by Atmojo (2015); Indrayanto, Burgess, and Dayaram (2014); Mahdinezhad, Yunus, Noor, and Kotamjani (2017); Pawirosumarto, Sarjana, and Gunawan (2017); Rita, Payangan, Rante, Tuhumena, and Erari (2018); Sundi (2013); Walumbwa and Hartnell (2011). But the results of Elgelal and Noermijati (2015) research and Prabowo, Noermijati, and Irawanto (2018) research state the opposite.

Furthermore, studies linking specific leader behaviors to employee performance and other constructs have been limited (Amabile, Schatzel, Moneta, & Kramer, 2004). Notably, earlier research studies on employee performance were conceptual in nature (Koopmans *et al.*, 2011; Pradhan & Jena, 2017). The few that focused on empirical research concentrated on the direct effects (Mensah, 2015), neglecting the indirect effects. Recent empirical studies on the interaction effects of talent management, employee engagement, and transformational leadership on employee performance are rare. Pradhan and Jena (2017) recommend that future researchers should develop a testable model and theory on employee performance with the associated moderators,

mediators, and other variables that have been ignored in the earlier framework to extend the scope and coverage of employee performance. Premised on the existing research gap and the existing phenomena, the study sought to fill the knowledge gaps in previous studies by examining the conditional indirect effect of transformational leadership on the relationship talent management and employee performance through employee engagement in public universities in Uganda.

1.4 Objectives of the Study

The study was guided by general and specific objectives as listed below.

1.4.1 General objective

The general objective of the study was to examine the effects of talent management, employee engagement, and transformational leadership on employee performance of academic staff in public universities in Uganda.

1.4.2 Specific objectives

The study was guided by the following specific objectives, which arose from the general objective as follows:

i. To determine the effect of talent management on employee performance of academic staff in public universities in Uganda.
ii. To examine the effect of employee engagement on employee performance of academic staff in public universities in Uganda.
iii. To analyse the effect of transformational leadership on employee performance of academic staff in public universities in Uganda.
iv. To establish the effect of talent management on employee engagement of academic staff in public universities in Uganda.

v. To assess the mediating effect of employee engagement on the relationship between talent management and employee performance of academic staff in public universities in Uganda.

vi. To analyse the moderating effect of transformational leadership on the relationship between talent management and employee engagement of academic staff in public universities in Uganda.

vii. To determine the moderating effect of transformational leadership on the relationship between talent management and employee performance of academic staff in public universities in Uganda.

viii. To establish the moderating effect of transformational leadership on the indirect effects of talent management and employee performance through employee engagement of academic staff in public universities in Uganda.

1.5 Research Hypotheses

The study developed eight testable null hypotheses that corresponds to the specific research objectives as stated below;

H_{01}: Talent management has no significant effect on employee performance of academic staff in public universities in Uganda.

H_{02}: Employee engagement has no significant effect on employee performance of academic staff in public universities in Uganda.

H_{03}: Transformational leadership has no significant effect on employee performance of academic staff in public universities in Uganda.

H_{04}: Talent management has no significant effect on employee engagement of academic staff in public universities in Uganda.

H_{05}: Employee engagement has no significant mediating effect on the relationship between talent management and employee performance of academic staff in public universities in Uganda.

H_{06}: Transformational leadership has no significant moderating effect on the relationship between talent management and employee engagement of academic staff in public universities in Uganda.

H_{07}: Transformational leadership has no significant moderating effect on the relationship between talent management and employee performance of academic staff in public universities in Uganda.

H_{08}: Transformational leadership has no significant moderating effect on the indirect relationship between talent management and employee performance through employee engagement of academic staff in public universities in Uganda.

1.6 Significance of the Study

This refers to the relevance of the study in terms of academic and practical contributions that arose from its findings. The significance of the study is presented to reflect knowledge creation as well as the value of the study outcomes to various relevant stakeholders, such as researchers in the academic community, management, policy makers, and regulators, as presented below:

The study's findings add to existing literature on the relationships between talent management, employee engagement, transformational leadership, and employee performance of academic staff in public universities in Uganda. The empirical findings provide useful information in explaining the behaviors of academic staff in public universities with regard to performance. This is beneficial in the formulation of

university policies by management, policy makers, and regulators to deal with performance issues in public universities in Uganda.

The study provides important information on talent management, employee engagement, and transformational leadership as enablers of academic staff performance. Public universities should take an interest in the study variables for the design of an appropriate work environment to improve academic staff performance in public universities in Uganda, which can be used by other universities to boost the performance of academic staff to enhance reputation, visibility, and prestige.

The findings of the study contribute to theory within the broad domain of human capital, positive psychology, positive organizational scholarship, leadership, and organizational behavior literature. The study models (hierarchical regression, moderation, mediation, and moderated mediation), theories (ability motivation and opportunity-AMO, human capital, social exchange, and transformational leadership), methodological approaches adopted (quantitative, explanatory, and positivistic), and study outcomes are expected to advance new knowledge in academia to scholars drawing on the recommendations and methodological constraints.

The study's findings are useful to policymakers at the national level (Government of Uganda), industry level (National Council for Higher Education) and firm level (University Council and Management) to develop effective engagement strategies and techniques with key stakeholders for the establishment of a favourable work environment. In so doing, emphasis should be placed on the role played by employee engagement and transformational leadership as the means of inducing employees' behaviors to perform their in-role and extra-role tasks for the achievement of universities' goals and objectives.

The study is likely to enrich the researcher's knowledge and skills in teaching, research, publication, management consulting, and career growth and development, which places the researcher within a theoretical and practical lens of human resource management, organizational behavior, and psychology to develop amenable solutions to practical management, behavioral, psychological, and performance-related problems occurring in natural settings.

The study will add value to future academicians as a guide in bridging the gaps the earlier researchers did not consider in regards to factors associated with academic staff performance in public universities in Uganda. The data generated from the study provides current insight on the interaction effects of talent management, employee engagement, transformational leadership, and academic staff performance on future studies. Since concepts like talent management, employee engagement, and employee performance are in an evolutionary stage, the study will encourage future research studies based on the current findings and recommendations for future research.

The study provides a policy framework paper within which the Government of Uganda (Ministry of Education and Sports), policy makers (National Council for Higher Education, University Councils) and regulators (National Council for Higher Education) in the formulation and implementation of research policy to evaluate academic staff performance in public universities in Uganda.

The study findings provide awareness of the strategic importance of employee performance in achieving competitive advantage and organizational goals. Management in the corporate world needs to take advantage of employees by aligning organizational processes and systems to attain a high level of performance. Apart from being crucial for corporate managers, the study is crucial for employees as it

provides employees with information to perform their assigned roles, for which they are rewarded with promotion, recognition, praise, and pay raises after attainment of performance targets that reflect the inimitable abilities of employees in the achievement of organizational performance.

1.7 Scope of the Study

The scope of the study provided the boundaries within which the investigation was conducted in terms of the content of the investigation, geographical areas of the investigation, and time coverage when the investigation was carried out. The study was conducted at public universities in Uganda. There are nine public universities in Uganda that are chartered, owned, run, and managed by the government of the Republic of Uganda under the Universities and Other Tertiary Institutions Act, 2001 (Uganda, 2006). The study covered Makerere University and Kyambogo University in the Central Region of Uganda; Mbarara University of Science and Technology and Kabale University located in Western Uganda; Gulu University, Lira University and Muni University in Northern Uganda; Busitema University and Soroti University in Eastern Uganda (NCHE, 2017).

The study focused on academic staff performance (teaching, research, publication, and community engagement) as a dependent variable; talent management (talent attraction, talent deployment, talent development, and talent attraction) as an independent variable; employee engagement (vigor, dedication, and absorption) as a mediating variable; and transformational leadership (inspirational motivation, idealized influence, individual consideration, and intellectual stimulation) as a moderating variable with the aim of establishing the interaction effects between the study variables.

The study used Ability, Motivation, Opportunity (AMO) Theory, Social Exchange Theory (SET), Human Capital Theory (HCT), and Transformational Leadership Theory (TLT), taking into account the views and perceptions of academic staff at public universities in Uganda, to provide an explanation for the academic staff performance at public universities in Uganda. The study was conducted for a period of eight months between July 2020 and February 2021. This period was adequate for the researcher to collect the required data for analysis in response to the research hypotheses to draw statistical inferences on the academic staff in public universities in Uganda.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a detailed examination of the existing literature on the concepts of employee performance, talent management, employee engagement, and transformational leadership written by other scholars with the goal of examining the contributions and contradicting views as well as possible weaknesses and gaps in the literature. Later, refinements were made in the existing literature to suit the current study, as most of the established literature is based on reviews of studies conducted in developed economies with little emphasis on developing countries. The review of the literature involved a systematic, explicit, and reproducible method of identifying, evaluating, and synthesizing the existing body of knowledge completed, produced, and recorded by researchers and practitioners deemed relevant for the study (Fink, 2019). The review entails the definition of key concepts; theoretical foundation; empirical findings; a summary of key findings and the relationship between the concepts; identification of gaps; and contributions drawn to close the theoretical and empirical gaps identified in literature (Mogwere, 2014).

2.2 The Concept of Employee Performance

Employee performance incorporates the outcomes of an action performed by an employee based on the employee's level of competence (skills, knowledge, and abilities) (Mensah, 2015), commonly known as KSAOs (Knowledge, Skills, Abilities, and Other attributes) (Clarke, 2018) in the Ability, Motivation, and Opportunity (AMO) Model (Li, Sun, Taris, Xing, & Peeters, 2020). In organizational settings, employee performance is the accumulated outcomes of an individual employee's skills, efforts, knowledge, and abilities expanded in the course of the execution of in-

role tasks in the organization, leading to improvement in organizational performance and goal attainment (Turner, 2019). Improvement in organizational performance indicates the amount of effort extended towards goal achievement while requiring more effort in terms of improved performance (Ellinger, Ellinger, & Keller, 2003).

The concept of performance is of great importance to individuals and organisations. The concept has attracted a considerable amount of research and practical interest among academicians and practitioners in recent years. In spite of the practical and research interest in the concept of performance over the years, there is universally no accepted definition of performance (Mensah, 2015). Sonnentag and Frese (2002) note that despite the importance attached to individual performance and the widespread use of job performance as an outcome measure in empirical research, relatively little effort has been spent on clarifying the concept of performance. In his scholarly work, Campbell (1990) described performance as *a virtual desert,* while Lebas and Euske (2002) stated that performance is one of the *suitcase words* in which everyone places their concepts that suit them, letting the context take care of the baggage and definition. This study describes performance as a *wandering concept* in the world of work without a clear boundary description, conceptualization, and measurement in theory and practice, prompting scholars and practitioners to find a solution for its operationalization and measurement for the concept to be placed into the context and perspective of practice and theory.

The emerging controversies have heightened the attempts to find meaning and define performance by various researchers, authors, and practitioners in order to place the concept into perspective. For instance, Viswesvaran and Ones (2000) indicated that job performance refers to how resourceful individuals take actions and contribute to

behaviors that are in line with an organization's objectives. According to Campbell, McHenry, and Wise (1990), performance refers to observable things people do that are relevant to the goals of the organization. In another similarly related development, Campbell (1990) defines performance as what the organization hires one to do and do well. Performance is believed to be associated with an individual's ability to realize one's work goals, fulfill expectations, as well as attain job targets and/or accomplish standards that are set by the organization (Robert & Jackson, 2000). Following the unresolved conceptual issues in the literature on the definition of performance, one can clearly note that performance refers to the outcome of an action resulting from the concerted efforts of an individual involved in an activity to produce valued results for the sustenance of the organizational objectives. Employee performance can also be viewed in terms of outcomes that reflect the amount of effort, energy, competence, and skills an individual has invested in his or her work.

Employee performance can be measured in terms of the behaviors that employees exhibit at work in order to achieve organizational goals (Armstrong, 2000).Employee performance is measured against set organizational performance standards, which require prior planning to set up a performance agreement-performance tool upon which the supervisors and employees set performance targets with the needed behaviors and support required on the job to meet the performance targets, which is later reviewed by the supervisor within an agreed timeframe. According to Nassazi (2013b), there are a number of measures that have been adopted to assess employee performance, such as productivity, efficiency, effectiveness, quality, and profitability measures. Efficiency is the ability to produce the desired outcomes by using minimal resources. While effectiveness is defined as employees' ability to meet set objectives or targets within a given time frame (Jatmika & Andarwati, 2018), Productivity is

expressed in terms of the ratio of output to input (Byrne, Stoner, Thompson, & Hochwarter, 2005). Quality is the characteristic of products or services that have the ability to satisfy stated or implied needs (Nassazi, 2013a).

According to Mensah (2015), a detailed understanding of the concept of employee performance requires an in-depth examination of the dimensions of employee performance, which include task performance, contextual performance, adaptive performance, and counterproductive performance. These are termed "generic dimensions of employee performance that cut across job families; however, every job might have its own operational measures. According to Akintayo (2008); Ojokuku (2013); Osaikhiuwu (2014); and Sanda (1991), the context of the academic environment requires university academicians to be dynamic learners and coordinators of knowledge. In doing so, they become responsible for knowledge generation through research and having the research published in scholarly journals, in addition to teaching (Nwamadi & Ogbonna, 2021). Added to these, Ramayah, Yeap, and Ignatius (2013) assert that academicians must be pertinent to society about service to the community, often referred to as community engagement. Measures to determine the performance of academic staff in universities include teaching; research and publication; innovation; and community service (Hussaini, Noma, & Rugga, 2020; Yusuf & Ogbudinkpa, 2017). Based on the above assertion, the key result areas of academic staff where they remain accountable to their supervisors include teaching, research, publication, and community engagement, as examined in the subsequent section.

2.2.1 Teaching

Teaching is the process of identifying, developing, recruiting, and retaining highly qualified teachers to support students' learning (Darling-Hammond, 2020; Gordon, 2020). A teacher is presumed to have performed his role based on the number of courses taught, hours taught in class, theses supervised, and the quality of the instructions provided to students (Ter Bogt & Scapens, 2012), with critical emphasis on teaching quality, student experiences, and perceptions (Arnold, 2008; Bedggood & Donovan, 2012; Lindsay, Breen, & Jenkins, 2002), which depend on course design, assessment, and feedback that link teaching and learning, scholarship, research, and professional practice (Martin, Ritzhaupt, Kumar, & Budhrani, 2019) to stimulate students' knowledge, skills, and abilities for future task assignments (Dawson *et al.*, 2019; Scott, 2020).

Teaching is delivered through structured learning approaches like seminars, tutorials, project supervision, laboratory sessions, studio time, placements, supervised online learning, workshops, fieldwork, and site visits (Giraleas, 2021), aimed at assessing contact hours, stimulation, and challenge, which encourages students' learning (Liu, Yin, & Guo, 2021) through usage of learning resources like libraries, laboratories, and design studios; the internet; work experience; opportunities for peer-to-peer interaction; and extra-curricular activities in preparation for the world of work (Mulang, 2021).

Universities are expected to develop intensive teaching methodologies to assess the contact hours students receive, including the size of the class where students receive learning instructions (Gunn, 2018; Gunn & Mintrom, 2017; Nzinga-Johnson, Baker, & Aupperlee, 2009) to reduce contact hours across universities, which might have no

impact on students' learning choices (Gunn, 2018), to create value for money, longitudinal educational outcomes, and return on investment, lowering grade inflation in higher institutions of learning (Gunn, 2018) by measuring the number of graduates and assessment of the attributes of the graduates in terms of knowledge, skills, work-readiness, and personal development during their stay at the universities (Gunn, 2018).

Teaching is essential in delivering quality learning materials to students to achieve academic excellence and teaching quality to enhance the nation's human capital for the stimulation of economic growth and development (Meak, 2021). Teachers are at the forefront of promoting professional, ethical, and moral standards in their community or society (Ehrich, Kimber, Millwater, & Cranston, 2011), which necessitate high professional standards by teachers and remain accountable to society for the morals and values they instill in students to produce professional and morally upright students (Wines, 2008). Teachers, lecturers, instructors, and demonstrators in every institution of learning are required to develop professional standards (Villegas-Reimers, 2003).

Professional practice requires teachers to have specific professional training, in-service training, and continuous professional development while maintaining high moral standards to ensure learning gains and positive student outcomes (Webb, Wong, & Hubball, 2013; Wynants & Dennis, 2018). However, currently, the education sector is being threatened by the decline in the number of high-performing academicians leaving their academic jobs in preference for other career options with attractive pay and favourable working conditions (Donitsa-Schmidt & Ramot, 2020), leaving academia in the hands of young, ill-equipped, and inexperienced

academicians with little knowledge about professional standards in academia. To abate the challenge requires the creation of a friendly work environment for the retention of academicians in educational institutions and the promotion of continuous and lifelong learning (Allen et al., 2021; Mulang, 2021) that meets the demands of a society premised on teaching quality, quality tools, and quality learning environments (Anangisye, 2010).

2.2.2 Research

Research is a systematic, careful enquiry or examination to discover new information on relationships and to expand and verify existing knowledge (Singh & Dubey, 2021). According to Best and Kahn (2016), research is the systematic activity directed towards discovery and the development of an organized body of knowledge. The elaborate definition of research is provided by Shuttleworth (2008), who defines research as the gathering of data, information, and facts for the advancement of knowledge. Creswell (2014b) provides another definition of research as a series of steps used to collect and analyze information to increase our understanding of a topic or issue that consists of three steps, including: posing a question; collecting data to answer a research question; and presenting an answer to the research question. Research is the tangible outcome of research activities performed by academic staff in high institutions of learning through communicating the research outcomes of academic investigation in response to research questions (Wadesango, 2014).

Research is carried out to produce new and better goods and services, to develop new and better offerings, and to distribute impactful knowledge to students and societies. Research plays a pivotal role in the evaluation and promotion of academic staff to high ranks in universities around the world (Wadesango, 2014). According to Healy

and Perry (2000), lecturers need to increase research productivity. This necessitates the development of metrics to measure research quality and the impact of an individual's scientific contribution at the institutional and national level to assess a country's economic growth.

Research plays a crucial role in the development and dissemination of knowledge. Researchers, as the promoters of academic scholarship, conduct research, publish, and convey their knowledge to students or apply what they have learned in real-life situations. Research informs teaching practices of academic staff as an informative activity of higher education that consists of the complex interplay of the core activities of higher education linked to learning and mutual relationships between the teachers and learners that form a social contract between the two parties.

The quantity of research produced by the department, institution, and country is assessed in terms of the percentage of publications in a journal, field, or broad area published within a specified period of time, usually a year, which is termed "research performance evaluated in terms of scientific advancements published in academic journals. The quantity of research published is influenced by random factors that affect the underlying changes over time and differences between departments, institutions, and countries. This requires a model of research production to compute and report the amount of the world output in a journal or subject category of the new article authored by a given institution.

The assessment results can be used as self-evaluations (Wouters & Costas, 2012) for national merit-based funding allocation exercises based on the quantity and quality of research outputs produced by a university or institution (Butler, 2008; Butler, 2008). To assess research quantity, the amount of research output is counted, while quality

assessment uses peer review or citation-based indicators to inform qualitative judgements. It is important to combine both, despite the controversy that revolves around the assessment approach applied (Costas & Bordons, 2007). In practice, most assessment approaches ignore quantitative approaches and place more focus on qualitative approaches (Franceschet & Costantini, 2011; Wilsdon *et al.*, 2015). Quantitative research assessment provides information on the research output of individual researchers from an institution or university to the country's research outputs that is often reported at the national level (Landau, 2013), but is rarely analyzed in terms of underlying capacity. There is a need for a more theoretical analysis of research production in the sense of the capacity to produce output on reported statistics.

Research production is equated to the number of publications produced of a given type or set of types, as assessed in terms of impact, efficiency, or quality components of publications produced (Abramo & D'Angelo, 2014). There have been previous efforts to statistically analyse research production in relation to its determinants. Extant research from individual scientists reveals that research output is related to incentives provided to individual researchers (Levin & Stephan, 1991), motivation (Taylor, Locke, Lee, & Gist, 1984), institutional environment (Dundar & Lewis, 1998), collaboration (Abramo, D'Angelo, & Di Costa, 2009), internet use (Barjak, 2006a, 2006b), academic rank (Abramo, D'Angelo, & Di Costa, 2011), and gender or other personal factors (Boettcher, Kniess, & Benjamin, 2019). These studies have taken the statistical assumption that there are both systematic and uncontrolled factors but have not specified a basic research production model.

Research output in terms of efficiency has also been investigated by comparing outputs to inputs (Abramo, Costa, & D'Angelo, 2015; Abramo, D'Angelo, & Pugini, 2008). Research production in the form of the probability of an author's submission to a select journal has also been tested against Lotka's law (Rowlands, 2005). From a distribution standpoint, the number of publications from a set of research groups may follow a lognormal distribution (Van Raan, 2006), suggesting a degree of statistical symmetry at the combined level, so that the presence of an underlying model is reasonable. Despite all these studies and one model for individual researchers (Koski, Sandström, & Sandström, 2016), there is no previous research endeavor that used publication counts to model the underlying production of a group, in the sense of its capacity to produce research outputs.

Governments assessing national research performance often commission reports that analyse, amongst other factors, the national share of the world's publications. A UK-commissioned report, for example, includes shares of the world's Scopus-indexed articles, citations, and highly cited papers in addition to the same values of a researcher's and unit research expenditure (Landau, 2013), as well as graphical expressions showing changes over time in the relationship between the volume of research articles produced in various journals with the corresponding journal impact factors (Landau, 2013). A U.S. National Science Foundation report includes, amongst many other statistics, 50 countries' shares of the world's publications (James & Singer, 2016) and a graph showing changes in national shares of publications (Scopus-indexed books, conference papers, and journal articles) over time (James & Singer, 2016). The OECD report includes, amongst other figures, national shares of publications (Lancho-Barrantes & Cant-Ortiz, 2019). This document also reports publications per million inhabitants. These reports assume that analyzing publication

share is meaningful as part of a set of indicators. Other national-level reports include total output indicators but no output share indicators, such as one for the European Commission (Grigorov & Dalmeier-Thiessen, 2015; White, 2019).

The shares of publications have also been analyzed at lower levels of aggregation. A report for the U.S. National Science Foundation analyzed changes over time in the share of articles produced by different sectors of the economy (David Campbell, Struck, Tippett, & Roberge, 2017; Campbell, Tippett, Côté, Roberge, & Archambault, 2016). The report compared absolute numbers of publications at national level within the national output of New Zealand's research performance report with similar countries rather than the rest of the world (John & Taylor, 2016). The underlying research production model for a group of researchers is based on their proportion of the world's research output. From the perspective of a small research group, a more natural model would be the total number of articles published by the group. Using proportion rather than volume is more appropriate since the number of outputs per researcher may change over time in line with changes in technology and publishing opportunities. For example, if a journal's coverage doubled (or a Scopus subject category doubled in size), then it would not be reasonable to expect a group output to double in response. Nevertheless, if a journal doubles in size, then unless it attracts new contributors for the expanded coverage, then the same contributors must fill its pages by contributing, on average, the same share as before the expansion.

Expansions are likely to be triggered by a backlog due to increased demand or an attempt to take an increased share of articles from other similar journals. Thus, it seems reasonable to theorize that the probability of publishing in a journal is more fundamental than the number of articles published in that journal, or at least a

reasonable alternative viewpoint. Thus, the share of the publications of the existing groups within subject categories seems likely to decline (Abramo *et al.,* 2008). This is likely to occur in the citation index with respect to a country like China.

The probability argument is therefore much weaker for subject areas unless they are pre-filtered for journal changes, except for periods in which their constituent journals are unchanged (Thelwall & Fairclough, 2017). At the system level, the amount of research published, or at least indexed, is expanding. In Scopus, for example, the number of journal articles has increased rapidly since 1943 (Thelwall & Fairclough, 2017). This is probably partly due to increases in the number of active researchers, especially in countries like China, India, and Brazil (Arora & Gambardella, 2005). Thus, most countries seem to increase their number of outputs, complicating the task of detecting significant underlying changes based on the volume of research (Thelwall & Fairclough, 2017).

2.2.3 Publication

Publications are intended to advance science and generate new information (scientific publications). Through the publication of research findings, researchers gain recognition and become identified with scientific results within the scholarly community (Hunter, Laursen, & Seymour, 2007). Publications make scientific information publicly available and allow the rest of the academic community to evaluate the quality of the research (Kaur, 2013). Publications form the basis for new research, and the application of such findings can affect not only the research community but also society (Bornmann, 2013).

Publications aim at disseminating information or knowledge to the social environment, resulting in the development of a new product or service for the benefit

of society or community (Marn-Gonzalez, Malmusi, Camprub, & Borrell, 2017). Researchers, therefore, have a responsibility to ensure that their publications are honest, clear, accurate, complete, and balanced, and should avoid misleading, selective, or ambiguous reporting (Wager & Kleinert, 2010).

There are various types of publications, which can either be scientific or non-scientific, among others. The types of publications include peer-reviewed scientific articles; non-refereed scientific articles; scientific books (monographs); publications intended for professional communities; publications intended for the general public; public artistic and design activities; theses; patents and invention disclosures; audiovisual material; ICT software; etc. **Table 2.1** shows the different types of publications with relevant comparisons with respect to the different publications in relation to purpose, writing style, references, and authors.

Table 2.1: Showing the types of publication

Contents	Scholarly Journals	Professional/Trade Publications	Popular/General Interest magazines
Purpose	To report original research or theories to advance knowledge.	To provide practical information for members of a profession, industry, or organization: news, trends, products, research summaries.	To provide information, news, opinions, entertainment to the public.
Writing Style	Uses specialized vocabulary Requires prior training or subject expertise	Uses specialized vocabulary. Requires prior training or subject expertise.	Uses vocabulary understood by the general public.
References	Documentation of sources, quotes, facts, and ideas is required. Must be cited in footnotes or a bibliography.	Documentation of sources not required, though there are sometimes brief bibliographies of further readings	Documentation of sources is not required and is rare
Authors	Scholars or researchers. Academic credentials, degrees, and/or affiliation are usually provided.	Journalists or members of the profession, industry, or organization.	Journalists

Source: Kaur (2013)

There are professional codes of conduct that guide the code of practice in each and every profession. Thus, good research publication practices need to be guided by the characteristics of good and responsible research publication etiquettes, which include originality, soundness and reliability, balance, honesty, transparency, and appropriate authorship and acknowledgement (Kaur, 2013). Publication makes the findings of researchers available in the academic literature for scholarly and practical consideration and application.

There are various sources for literature: *Primary literature includes* scientific research on original work initially published in scientific journals. These include patents and technical reports for minor research results and engineering and design work (including computer software). *Secondary literature provides* a synthesis of research articles on a topic to highlight advances and new lines of research from books for large projects, broad arguments, or compilations of articles. *Tertiary literature includes* encyclopedias and similar works. Most academic work is published in journal articles that could be printed in book or thesis form. There is open access publishing and open access self-archiving in the promotion of academic scholarship.

2.2.4 Community Engagement

The concept of community engagement has various interpretations by different scholars and organizations. Community engagement means many different things to different people (Smith *et al.,* 2017). There are various definitions across many disciplines, with a general lack of consensus in academic scholarship and grey literature about how community engagement is actually best defined (Ramachandra & Mansor, 2014). There are increasing studies that call for the need to examine how community engagement is conceptualized, defined, theorized, developed and applied

within the university environment based on the limited and scanty studies on community engagement and the community engagement framework in academic literature (Le Clus, 2012).

The current gap on community engagement is on evaluation and measurement of the impacts on the key stakeholders to achieve the university's broad social objectives (Bates & Gamble, 2011; Bourner & Millican, 2011; Littlepage, Gazley, & Bennett, 2012; Millican & Bourner, 2011; O'Connor, Lynch, & Owen, 2011). In order for academics to engage in a critical way with the emerging philosophies and practices of community engagement, they should undertake their activities with conceptual, theoretical, and ethical understandings of the reflections on the socio-political and ethical aspects of community engagement (Bender, 2008). Hall (2010) highlighted that the term "community" was challenging and could have multiple meanings depending on the context. According to Pienaar-Steyn (2012), there are few universally accepted standards for measuring the impact of community engagement in the literature.

Scholars have noted the lack of a clear and precise definition of community engagement (Nongxa, 2010; Pienaar-Steyn, 2012), with a few attempting to define community engagement in different ways (Beckmann, 2008; Hall, 2010; Muller, 2017). To many researchers, the term "community engagement" is linked to engaged scholarship or the scholarship of engagement (Boyer, 1996); civic engagement (Engage, 2010); academic citizenship (MacFarlane, 2007); community engagement (Kliewer, 2013; Storey & Taylor, 2011); and the engaged university (Watson, Hollister, Stroud, & Babcock, 2011). One reason for a lack of conceptual clarity relates to the breadth of activities that fall under the realm of community engagement.

Conversely, the possible reason for the lack of a consensual definition is that university-community engagement assumes many forms, is implemented within different models, and has multiple benefits for the community, the university, and its external collaborators.

The terms "community engagement" and "civic or public engagement," with the unifying feature being interaction and engagement with the world outside the academy (Sachs & Clark, 2017). Furthermore, definitions of community engagement scholarship embrace the realm of teaching and research and are expressed across a spectrum of disciplines at most contemporary research universities. According to Hart and Northmore (2011) and Northmore and Hart (2011), community engagement refers to activities conducted in the community by universities to expand their role as passive providers of knowledge to active respondents. Indiana State University defined community engagement as the development of collaborative partnerships between educational institutions, business, social services, and government that contribute to the university's mandate and directly benefit the community (Fleischer, 2013). The difference in the various interpretations of community engagement lies in the approach in which community engagement is viewed in terms of community-based research, service, empowerment, as well as teaching and learning (Bender, 2008).

The Carnegie Foundation for the Advancement of Teaching has always been regarded as one of the pioneers and leaders in this field for almost three decades (Hart & Northmore, 2011; Holland & Ramaley, 2008). The foundation describes community engagement as the "collaboration between institutions of higher learning and their larger communities for a mutually beneficial exchange of knowledge and resources in

the context of partnership and reciprocity. In other words, community engagement is a two-way process in which universities and communities form sustainable relationships that influence, shape, and promote success in both directions. The community can leverage the knowledge and expertise of universities to address the community's problems or needs, while universities, through engagement initiatives, can shape their research agendas and enhance student training (Bhagwan, 2017; Weerts & Sandmann, 2010).

The Association of Commonwealth Universities defined community engagement as both a core value and a thoughtful interaction with the non-university world in four spheres, namely: steering the aims, purposes, and priorities of the university; connecting teaching and learning to the wider world; continual dialogue between researchers and practitioners; and assuming wider responsibilities towards neighbours and citizens (Bhagwan, 2017; Gibbons *et al.*, 1994). Civic engagement has also been used synonymously with community engagement.

Lyons and McIlrath (2011) defined civic engagement as a "mutually beneficial knowledge-based collaboration between the higher education institutions, their staff and students, and the wider community, through community-campus partnerships and including the activities of service learning/community based learning, community engaged research, volunteering, community/economic regeneration, capacity building, and access/widening participation. Simmons (2010) described community engagement as everything from involvement in public issues, concerns, and debates to more activist praxis that dissolves the theory-practice divide and to participatory-action research, built on co-operative co-citizenship, co-activism, and co-understandings of co-operative projects rooted in local contexts.

Community engagement in research is a process of inclusive participation that supports mutual respect of values, strategies, and actions for authentic partnership of people affiliated with or self-identified by geographic proximity, special interest, or similar situations to address issues affecting the well-being of the community of focus (Smith *et al.*, 2017; Townsend & Manchester, 2012). Community engagement has been given much importance in recent years in higher institutions of learning due to the fact that community engagement offers enormous benefits for universities to engage with communities at national, regional, international, and societal levels in pursuit of their mandates (Mtawa, Fongwa, & Wangenge-Ouma, 2016; Watson *et al.*, 2011).

Community engagement relies heavily on partnership and mutual reciprocity between different stakeholders, such as communities, universities, non-government organizations (NGOs), field experts, and funding organizations (Ramachandra & Mansor, 2014). Community engagement requires partnerships involving individuals, community members, organizational representatives, and researchers in all aspects of community engagement. Partners contribute their expertise and share responsibilities and ownership to increase understanding and incorporate the knowledge gained through community engagement. Partnership approaches capitalize on community strengths and resources, facilitate collaborative, equitable participation of all partners, integrate knowledge and action for the mutual benefit of all partners, and disseminate program findings and knowledge gained to all parties (Dempsey, 2010).

The purpose of community engagement is the partnership of college and university knowledge and resources with those of the public and private sectors to enrich scholarship, research, and creative activities; enhance curriculum, teaching, and

learning; prepare educated, engaged citizens; strengthen democratic values and civic responsibility; address critical societal issues; and contribute to the public good. Boyer (1996) coined the term "scholarship of community engagement" to connect the rich resources of the university to our most pressing social, civic, and ethical problems. Boyer (1996) proposed four inter-related functions of scholarship, namely: discovery, integration, engagement, and teaching, with the suggested ethos and practice of community engagement that transcend all dimensions of academic life.

According to O'Meara, Rice, and Edgerten (2005), the notion of community engagement demands moving beyond the expert model that relies on constructive university community collaboration and calls for the faculty to move beyond outreach and asks scholars to go beyond service. Similarly, scholars claim that both academic and local knowledge can shift the topographies of community engagement from traditional knowledge creation and dissemination to scholarly engagement, the activities that reflect a knowledge-based approach to teaching, research, and service for the direct benefit of external audiences. The scholarship of engagement is when faculty study, write about, and disseminate scholarship about their activities pursued in communities (Kruss, Haupt, & Visser, 2016; Strier, 2011).

Community engagement supports participation in higher education using various mechanisms such as engagement through teaching and learning, curriculum design, policies, research, external relations, social and cultural engagement, partnerships with schools and educational providers, economic engagement, and organization and participation of students (Bernardo, Butcher, & Howard, 2012). Scholarship in recent years has advocated for community engagement approaches that involve family engagement approaches and engagement with sectors and services that sit outside the

education sector. In practice, this means that engaged universities create a more accessible, outward-reaching, and inclusive society where universities and communities work together to monitor partnerships, measure impacts, evaluate outcomes, and make improvements to their shared activities that support mutually beneficial collaborations between universities, industries, and communities (Brewer & Jones, 2014). This engagement provides for the exchange of tangible and intangible intellectual property, expertise, learning, and skills between academia, industry, and the community (Policy, 2011). The table below shows the various modes of community engagement that universities use to engage with key stakeholders in the community.

Table 2.2: Modes of Community Engagement

Inform	Consult	Involve	Collaborate	Empower
To provide the public with balanced and objective information to assist them in understanding the problems, the alternatives and the solutions.	To obtain public feedback on analysis, alternatives and/or decisions	To work, directly with the public to ensure that their concerns are consistently understood and considered.	To collaborate with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place the final decision-making in the hands of the public.

Source: Conrad, Cassar, Christie, and Fazey (2011); Krishnaswamy (2014)

The typology shows community engagement is a continuum of community involvement, from passive involvement to long-term collaborative participation with some form of shared leadership. For instance, Bender (2008), for instance, questions whether a university can engage in such high-quality community engagement given the various constraints and challenges each university faces. The literature reflects two primary challenges facing community engagement; namely, the lack of a consensual definition of community engagement (Perry, Farmer, Onder, Tanner, &

Burton, 2015; Starke, Shenouda, & Smith-Howell, 2017) and difficulties in capturing its multidimensional nature (Kolek, 2016; Stanton-Nichols, Hatcher, & Cecil, 2015). This reflects an array of terms related to community engagement and the university's engagement in community events.

More recently, Paphitis and Kelland (2015) urge the university to use the philosophical community to embrace an epistemic shift that will enable higher education to enhance philosophical knowledge generation and to use community engagement to advance their objectives in communities. Holland (2001) asserted that the engaged institution is committed to direct interaction with external constituencies and communities through the mutually beneficial exchange, exploration, and application of knowledge, expertise, and information. In a related perspective, Goddard (2009) describes the engaged civic university as one that provides opportunities for the society of which it forms; it engages as a whole with its surroundings, not piecemeal.

The literature reflects the benefits of engaged research and teaching, particularly community-based research and teaching, which are grounded in engagement scholarship to enrich students' educational experience, deepen the authenticity of faculty research, create sustainable research opportunities through partnerships, spur innovations in trans-disciplinary research, and strengthen institutional stewardship (Fitzgerald, Van Egeren, Bargerstock, & Zientek, 2017). This demonstrates that community engagement plays a pivotal role in creating linkages between universities, industry, the community, and the government (Ahmad, 2012). Besides, universities are developing a pro-social stance as a way of interacting with industry and the community to foster the mission of universities (Jaques, 2007).

Recently, there has been a change in the educational landscape in the pursuit of universities' missions in society. A major shift in the role of institutions of higher learning has placed regional engagement as one of their main missions alongside teaching and research in an attempt to construct a better future for society (Ramachandra, Mansor, Anvari, & Rahman, 2014). It is not surprising that community engagement offers enormous benefits for regional development. Through community engagement, institutions of higher learning are in a position to do specific research, encourage volunteer service, and offer student internships and social programs to communities.

On the other hand, external stakeholders can bring business to the institutions through incentives for research and opportunities for consultancy and programming. It is through these partnerships that institutions of higher learning are able to secure economic prosperity, socio-cultural wellbeing, and environmental sustainability. In essence, community engagement promotes mutual reciprocity between institutions of higher learning and the community. Productive partnerships between the two will help further community interests and the strategic ambitions of institutions of higher learning (Ramachandra *et al.*, 2014).

2.3 The Concept of Talent Management

Talent management is an important individual-and unit-level construct that has received a remarkable degree of practitioner and academic interest in the field of human resource management (Cascio & Aguinis, 2008; Collings & Mellahi, 2009; Cooke, Saini, & Wang, 2014). The concept was first coined in the academic literature in the 1990's and gained popularity at the beginning of the year 2000, following research on the talent wars conducted by the American consulting firm, McKinsey in

1997 (Aytaç, 2015). Since then, many large organizations in business and academic sectors have introduced talent management as a remedy for today's labor market competition (Collings, 2014, 2015).

Lewis and Heckman (2006) revealed that despite the popularity of talent management among academicians and practitioners, the concept lacks clarity on the definition, scope, and overall goals of why talent is managed. Ashton and Morton (2005) concluded that there is no universally accepted definition of talent management, which eventually led Cappelli and Keller (2014) to believe that talent management has escaped a standard definition. The difficulty in defining talent management lies in the different perspectives held among practitioners and researchers. For example, Gallardo-Gallardo, Dries, and González-Cruz (2013) and Ulrich and Smallwood (2012) note that the term can mean whatever a writer or business leader wants it to mean, as everyone has his or her own idea of what the term does and does not involve, mean, or imply. This is reflected in the academic literature by Gallardo-Gallardo *et al*. (2013) and the HR practitioner view by Tansley (2011), who observed that the definition of talent management is influenced by industry and occupational field using the concept depending on business strategy, the type of firm, the overall competitive environment, and other factors (D'AnnunzioGreen, Maxwell, Watson, Scott, & Revis, 2008; Iles, 2013; Tansley *et al.*, 2007).

The confusion surrounding the definition of talent management in academic literature has led to several attempts to have the concept defined. One of the more popular definitions was provided by Collings and Mellahi (2009). In an attempt to save academicians and practitioners from definitional dilution, Collings and Mellahi (2009) note that talent management starts with the identification of pivotal positions that are

unique to the competitive advantage position of a firm, followed by the development of high-potential and performing incumbents to fill these roles, and the development of a differentiated human resource architecture to manage the incumbents and to ensure their continued commitment and engagement to the organization. According to the above definition, talent management can be interpreted to mean the implementation of integrated strategies designed to increase workplace productivity by developing improved processes for attracting, developing, retaining, and utilizing people with the required skills and aptitude to meet current and future business needs (Lockwood, 2006).

Gelens *et al.* (2013) noted that despite the difficulty in defining talent management, there is no consensus on whether talent management is important to the success of every organization. Gelens *et al.* (2013) define talent management as the identification of key strategic positions and the use of differentiated human resource architecture to recruit, manage, and retain talented employees based on their performance. Another critical question of interest is whether talent management is the same as human resource management, an aspect of human resource management, or a new concept. This has led many academicians and practitioners to argue that talent management is not new but just a rebranding of human resource management (Cappelli, 2008; Iles, Chuai, & Preece, 2010; Lewis & Heckman, 2006; Swailes, Downs, & Orr, 2014).

The debate surrounding the meaning of talent management hinges on the extent to which it is seen as an inclusive or exclusive approach (Downs & Swailes, 2013). According to Michaels, Handfield-Jones, and Axelrod (2001), talent refers to a special aptitude possessed by a minority of individuals who can make the greatest difference

to organizational performance, either through their immediate contribution or in the longer term by demonstrating the highest levels of potential (Tansley, 2011). The underlying talent philosophies of those in charge influence the approach to talent management adopted (Meyers & Van Woerkom, 2014), but a common stance on this phenomenon is that an exclusive organizational approach to talent management involves the identification and management of a minority of high-performing individuals who are aligned to organizational goals (Collings, Scullion, & Vaiman, 2015).

According to Thunnissen, Boselie, and Fruytier (2013), talent management is basically a top-down approach derived from senior stakeholders' and key organizational decision makers' views and cascaded down to the management hierarchy. The design and implementation of talent management practices to enact these philosophies lies in the hands of human resource professionals (Kim, Williams, Rothwell, & Penaloza, 2014).

2.4 The Concept of Employee Engagement

The continuous efforts to define engagement as an existing concept are still somehow inconsistent (Shuck & Wollard, 2010). The concept of engagement was first introduced in the academic literature and workplace by Kahn (1990). The concept gained popularity with the emergence of Positive Organization Behavior, which saw increased interest in the various concepts and constructs such as happiness, hope, optimism, wisdom, altruism, empathy, modesty, forgiveness, and engagement that have the potential to contribute to individual growth and organizational success through maximizing the positive strength of people (Luthans, Youssef, & Avolio,

2007; D. Nelson & Cooper, 2007). This eventually led the concept to gain prominence in academia and the consulting industry (Bakker, Schaufeli, Leiter, & Taris, 2008).

Kahn (1990) conceptualized personal engagement as the employment and expression of employee preference in task behaviors. Therefore, engagement is a psychological state that enables employees to present themselves physically, cognitively, and emotionally during role performance (Kahn, 1990). Despite Kahn's clear and original definition, engagement has been understood from various academic and practical perspectives, mainly due to its recent popularity. These conceptualization efforts have made it difficult to effectively understand the entity of engagement (Saks, 2006). In addition, while there is little doubt that the concept of engagement has been spotlighted due to the Positive Organizational Behaviour (POB) movement, there is no clear explanation for why and how this concept can be included in POB rather than in positive psychology or Positive Organizational Scholarship (POS). As a result, it has been difficult for researchers and organizations to clearly understand the concept of engagement.

Macey and Schneider (2008) argue that the academic community has been slow to jump on the practitioner's engagement bandwagon, and empirical research that has appeared on the topic in refereed outlets reveals little consideration for rigorously testing the theory underlying the construct. Although empirical research on engagement has only begun to appear in the past 5 years, there have been a number of studies that have measured engagement, developed, and tested engagement models and theories, which has led to the development of studies on employee engagement.

According to Schaufeli and Bakker (2010), employee engagement is considered a positive work-related state of mind that consists of vigour, dedication, and absorption (Schaufeli & Barkker, 2003). Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence in the face of difficulties. Dedication is branded by a sense of significance, enthusiasm, inspiration, pride, and challenge. Finally, absorption is characterized by being totally and happily immersed in one's work, to the extent that it is difficult to detach oneself from the organization (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Employees who attach cognitively, emotionally, and physically to their jobs outperform their peers (Kahn, 1990; Devloo, Rico, Salanova, & Anseel, 2017). Engaged employees are enthusiastic, alert, elated, and excited in the workplace, and they are ready to go an extra mile at work. Because of the positive effects of workplace engagement on both individuals and organizations, organizations are cautious in assessing the motivational needs of engaged employees and are concerned about their intention to stay (Consiglio, Borgogni, Di Tecco, & Schaufeli, 2016; Wollard & Shuck, 2011).

Employee engagement incorporates the willingness of individuals to completely invest themselves in an organizational role. It is found that when employees are content with their jobs as well as organizations, they are motivated to contribute to the organization at their maximum level. They provide their complete efforts to attain the organizational goals, where such engagement helps in improving employee performance in the organization (Saks, 2006). Organizations are striving to improve their performance as enhanced efficiency and productivity are required by every organization to survive in the competitive market environment. Anitha (2014) argues that the management of present-day organizations is always confronted with stiff

competition in the market place. Hence, the need to create an environment that permeates employee engagement to gain a competitive advantage in the market place (Anitha, 2014).

According to Sharma, Baldev, and Anupama (2010), employee engagement is driven by employee satisfaction since employees are not ready to be engaged in their work unless they are satisfied with their jobs. Organizations providing training to their employees will always find themselves successful in engaging their employees at work compared to their counterparts who do not provide training to their employees, as such training helps improve job knowledge, skills, and attitudes, hence increasing employee levels of proficiency and competence on the job (Singh, Burgess, Heap, & Al Mehrzi, 2016). Management is required to set a benchmark upon which employees are expected to evaluate their performance, which forms the basis for employees' self-evaluation and motivates them to be more engaged towards their work and execute their tasks to the expected or exceptional standard of performance (Mackay, Allen, & Landis, 2017).

Employee engagement is an important aspect of human resource management functions. Studies on employee engagement are on the rise, and the concept became an issue of great concern in organizations during the 1990s and early 2000s (Kahn, 1990; Rothbard, 2001). This means improving employee engagement fosters employee retention (Burke, Koyuncu, Fiksenbaum, & Tekin, 2013; Wegner, 2011). Further, the results demonstrated that employee engagement is related to an individual’s attitudes, behaviors, and intentions for outcomes (Ram & Prabhakar, 2011; Saks, 2006). This finding sparks wide academic research with special attention

to the antecedents and consequences of employee engagement (Clifford, 2010; Saks, 2006).

2.5 The Concept of Transformational Leadership

Bass (1985) defined a transformational leader as an individual who possesses certain characteristics which are posited to motivate followers to move beyond their self-interest and commit themselves to organizational goals, thus performing beyond expectations. When Bass (1985) first developed the transformational leadership construct, he operationalized it to include the characteristics of charisma, intellectual stimulation, and individualized consideration. Generally, these versions have been shorter in length and have refined the construct of transformational leadership. More specifically, the term charisma was changed to idealized influence, which was distinguished between attributed idealized influence (IIA) and behavioral idealized influence (IIB). The fourth component of transformational leadership (that is, inspirational motivation) is believed to have been developed by Bass and Avolio (1990).

2.5.1 Idealized Influence

According to Bass (1985), a leader with high levels of idealized influence or charisma has the ability to make followers feel trust, admiration, loyalty, and respect toward their leader (Gomes, 2014). It consists of two components, namely, behaviors and attributes. Idealized influence attributes refer to the follower's perceptions of the characteristics attributed to a leader. Idealized influence attributes describe a leader who is an exemplary role model and is admired and respected by his or her followers (Bass & Avolio, 1995). Idealized influence behaviors refer to follower perceptions of

the leaders' observable behavior. Idealized influence behaviors describe a leader who can be trusted and has high moral and ethical standards (Bass & Avolio, 1995).

Generally, idealized influence is characterized by the leaders being visionary, confident, and setting high standards for emulation. Such leaders develop followers in order to gain a higher level of autonomy and control, instead of attempting to achieve a personal agenda. Freeborough (2012) originally called this component charisma, which offers a vision, instills pride, and gains respect and trust. Bass (1985) claims that charisma is the most important component of transformational leadership due to its focus on making followers enthusiastic about their roles. Charismatic leaders motivate followers through strong relationships that draw their followers in by establishing a standard or ideal model for them to emulate.

2.5.2 Intellectual Stimulation

According to Gomes (2014), a stimulating leader promotes their followers' innovation and creativity by questioning established assumptions, reframing existing problems, and approaching old problems in new ways. Intellectual stimulation occurs when a transformational leader causes followers to rethink existing issues in new ways or to redefine their perceptions based on new information (Bass, 1985).

According to Bass, Avolio, and Atwater (1996), a leader practicing intellectual stimulation encourages creativity and solves problems. Followers are pushed to view issues from a different angle and come up with original ideas (Yukl, 2010). As a result, there is an expectation of greater trust, respect, and esteem (Bass et al., 1996). Mangum (2013) adds that intellectual stimulation involves listening and helping individuals fulfill their goals while also increasing the personal relationship between the follower and the leader. Once intellectual stimulation is operating efficiently, it

will likely increase the productivity of that individual, which can correlate to higher levels of employee engagement.

2.5.3 Individualized Consideration

Individualized consideration refers to a leader who provides a supportive environment through which the leader demonstrates acceptance of individual differences, provides encouragement to followers, and provides standard patterns of work and autonomy to those with more experience (Bass, 1985; Gomes, 2014). Bass (1985) claims individualized consideration occurs when a leader orients development efforts towards followers on a one-to-one basis. The leader takes a special interest in evaluating the potential of followers, in their current and possible future positions within the organization. Then, the leader works to assign tasks or duties that will act as motivators to engage the follower while satisfying immediate organizational needs as well (Bass, 1985).

This component of transformational leadership focuses on treating followers differently, but equitably, on a one-to-one approach (Bass & Avolio, 1994). Ghasabeh, Soosay, and Reaiche (2015) note that individualized consideration focuses on determining the individual needs of employees and empowering them in order to build a climate of learning. Individualized consideration leaders will frequently provide followers with coaching, mentoring, and growth opportunities so that they can individually develop to realize their full potential (Avolio, Bass, & Jung, 1999).

2.5.4 Inspirational Motivation

Inspirational motivation involves the ability of a leader to inspire or elevate the emotions of followers (Bass, 1985). This is done by inspiring and motivating followers through symbols, images, emotional appeals, and effective communication

in anticipation of high expectations (Bass, 1990). The key word in this component is inspire, which focuses on the stimulation or influence leaders have on their human assets, thereby setting a higher level of desired expectation to accomplish objectives (Avolio, Waldman, & Yammarino, 1991).

Judge and Piccolo (2004) note that transformational leaders who exhibit inspirational motivation articulate an appealing vision that inspires their followers. Such leaders are often found to challenge their employees by setting high standards, communicating future goals, and providing the opportunity to participate in meaningful tasks (Judge & Piccolo, 2004). This type of leader builds relationships and creates bonds with followers for the purpose of sharing personal values to set a common ground to achieve high levels of accomplishment (Washington, 2007) through spirit, enthusiasm, and optimism in their followers (Gomes, 2014).

2.6 Theoretical Review

Theories are sets of general principles or ideas meant to explain how something works, and they are independent of what they intend to explain (Townsend, McDermott, Cafferkey, & Dundon, 2019). In that way, a theory provides an explanation for what causes something to occur as well as informs us of the likely consequences of a phenomenon in society, processes, relations, behaviors, and perceptions (Townsend *et al.,* 2019). In a practical sense, theories augment understanding and inform decision-making. To researchers, theories shape the framing of data and often form a crucial part of a well-designed research project. According to Hambrick (2007), a theory is essential for a field to flourish and advance. Based on the renowned facts, this study was guided by Ability, Motivation, and Opportunity (AMO) Framework, Human Capital Theory, Social Exchange

Theory, and Transformational Leadership Theory to provide an explanation for the academic staff performance in public universities in Uganda.

2.6.1 AMO Framework - AMO

The AMO framework was initially proposed by Bailey (1993), who suggested that ensuring the employee's discretionary effort needed three components: employees had to have the necessary skills, they needed appropriate motivation and employers had to offer them the opportunity to participate in the activities of the organization (Appelbaum *et al.,* 2000). According to AMO theory job performance is determined by Abilities, Motivation and Opportunities. That is, the employee's ability, desire and opportunity to make a contribution. The AMO framework is one of the dominant theoretical model of explaining the human resource management interventions-performance linkage in recent years (Paauwe & Boselie, 2005).

AMO framework postulate that employee performance (P) is a function of the employee's ability (A), motivation (M) and opportunity (O) to perform a task (Boxall, Purcell, & Wright, 2008) as expressed in the mathematical equation below:

$P = f(A, M, O)$

The equation demonstrates the mode of interactions between the variables whose relationship has not been validated in empirical literature, but are believed have effects on employee performance (Boxall *et al.,* 2008). In relation to talent management, the study premise that employee's ability is predetermined as academic staff recruited by the university are regarded as high potential or high performing academic staff from a recognized talent pool with relatively high level of ability to perform academic tasks. Likewise, it is presumed that pivotal talent positions is

predetermined that the incumbents ought to have the opportunity to contribute to individual performance through their deployment in the pivotal talent roles. Thus, motivation define the set of energetic forces that originates both within the individual (engagement) as well as beyond the individual capability to induce work-related behaviours for the determination of the form, direction, intensity and duration inducement (Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009) emerges as a mediating variable in the research model (Collings & Mellahi, 2009).

The AMO model is premised on the idea that organizational interests are best served by an human resource system that pays attention to employees' interests, such as skill requirements, motivations and the quality of their job (Boselie, Dietz, & Boon, 2005). Since talent management system is premised on identifying high potential and high performing employees, deploying them in pivotal positions and supporting them with a differentiated human resource architecture, the AMO model suggest that higher levels of individual performance should be evident. In this perspective it is believed that employee engagement meditate the relationship between human resource management practices like talent management and employee performance (Becker, Huselid, Pickus, & Spratt, 1997; Huselid, 1995). Based on the theoretical stance, the study proposed employee engagement as a meditating variable in the relationship between talent management and employee performance (Locke & Latham, 1990), which later facilitated its use in final model of indirect conditional effect contingent transformational leadership.

2.6.2 Human Capital Theory - HCT

Talent management can be explained by human capital theory, whose origin can be traced to the macroeconomic development theory (McCracken, McIvor, Treacy, &

Wall, 2017), which argues that the stock of competencies, knowledge, experience, social and personal attributes, including creativity and innovation, constitutes a reservoir of knowledge, skills, and experience accustomed to individual learning, entrenched in an individual's ability to work and produce economic value. In the 1950s, the main factors of production comprised land, labor, physical capital, and management (Becker & Billings, 1993; Mincer, 1962). By the 1960s, however, economists had difficulty explaining the growth of the United States economy based on the aforementioned factors of production (Schultz, 1961).

Human capital attributes (knowledge and skills) account for a significant proportion of economic growth not explained by increases in capital, labor, and productive land due to improvements in the educational levels of the workforce (Schultz, 1961). Becker (1964) proposes that schooling, training courses, medical care, and lectures on personal improvements be regarded as capital since these improvements can lead to raised earnings, as opposed to the assumption that the growth of physical capital is paramount to economic success (Schultz, 1961). Schultz (1961) describes human capital as the knowledge and skills people acquire through education and training that constitute human capital with a deliberate attempt to yield economic returns. The idea is that investment in people should produce returns. Davenport (1999) defines human capital as organizational intangible assets that people bring to their jobs. Human capital constitutes the currency of work, the specie that workers trade for financial and other rewards. It consists of knowledge (command of a body of facts); skills (facilities developed through practice for carrying out a task); talent (innate ability for performing a task); and behavior (observable ways of acting that contribute to task completion).

Thus, education and training are viewed as the most important investments in human capital as education and training provide benefits to the economy, including: cultivation and discovery of talent; increased capability of people to adjust to job opportunities; preparation of teachers; and provision of manpower for sustained economic growth (Schultz, 1963). Mincer (1962) views human capital theory as education and schooling to prepare future workers with skills that will enhance employee productivity through investment in formal and informal education and training that guarantee marketable skills and abilities relevant for job performance.

The basic premise behind human capital theory is that people's learning capacities are of comparable value with other resources involved in the production of goods and services (Lucas, 1990). The theory is concerned with how people contribute their knowledge, skills, and abilities to enhance organizational capability and the significance of the individual's competences in the production of goods and services. Human capital theory suggests that individuals who invest in education and training increase their skill level, become more productive, and justify higher earnings because of human capital investment. Becker and Billings (1993) postulate that schooling raises earnings and a worker's productivity through providing useful knowledge and skills that raise the employee's future income through raised lifetime earnings and enhance the employee's capacity to analyze work and lifetime problems. Moreover, Becker's (1964) ideas play an important role in contemporary employee development and learning literature, as human capital theory fuels the idea that employees' knowledge and skills can be developed through investment in education and training implemented through individual learning (Grant, 1996; Hatch & Dyer, 2004).

Becker (1964)'s most important contribution to employee development theory relates to training. Becker (1964) argues that, overall, investments in education and training will improve productivity; however, it is the type of training that determines who will pay for the training, i.e., the employee or the firm. Earlier work by Pigou (1912) came to the conclusion that firms would not have sufficient incentives to invest in their workers' skills because trained workers could quit to work for other employers who could use these skills. This assumption was challenged by Becker (1964) on the belief that organisations would be more willing to share the costs of firm-specific training as it is valuable to the incumbent firm only. This is due to the observation that employees and potential employers would not benefit from the same level of productivity if they changed jobs.

Firms are less willing to pay for general skills primarily because, in a competitive labor market, where workers receive their marginal product, firms could never recoup their investments in general skills, so they will never pay for general training (Becker, 1964). Moreover, as the skills are classed as generic in nature, an employee could easily switch to another employer, as their skills are not firm-specific. Thus, the firm would lose its initial investment. Instead, Becker (1964) argued that employees themselves would have the right incentives to improve their general skills because, in competitive markets. The sole beneficiaries of the improvements in employee productivity are the employers (Acemoglu & Pischke, 1999). Moreover, employees undertake such investments by accepting a lower wage than their productivity during the period of training (Becker, 1964). Blaug (1976) argues that individuals and organizations are to bear the direct and indirect costs of investment in education and training for future economic returns to create a link between investments in education and an individual's lifetime earnings where increasing returns to organizations emerge

due to investments in human capital through specialization. The logic behind employees paying a certain proportion of the training cost relates to the idea that employees will view paying for general training as an investment that will create high future wages regardless of the firm they are working with.

Despite the significant contribution of Becker's (1964) work to contemporary academic thinking on the management of people, his work has been subjected to a number of practical and theoretical criticisms over the years. Oliveira and Da Costa (2014) observed that Becker's (1964) initial research on education and earnings ignores the role of worker experience. De Oliveira and da Costa (2014) highlight that Becker (1964) declined to measure experience, despite its importance for employers, who rank it both highly in selection and employment. Second, as highlighted by Morgan and Winship (2015), the concept of ability in Becker's (1964) research is a contentious issue. Although Becker (1964) adjusted for intelligence quotient and individuals' performance in high school (that is, high school rank) in his analysis, many theorists still contend that the purported causal effect of education on earnings may instead reflect "ability" rather than any productivity-enhancing skills gained through educational institutions.

Oliveira and Holland (2007) and de Oliveira and da Costa (2014) argue that Becker (1964) disregards any education or training that is neither formally structured nor requires financial investment. In other words, Becker places too much emphasis on investments in formal training (i.e., general and specific) and neglects the role of informal training/informal learning. Informal learning is essentially learning by doing, or learning from experience. For example, employees can learn a lot by just casually experimenting on the job.

Barron, Martin, and Roberts (2007) have highlighted that informal learning is especially prevalent at the beginning of a worker's employment. Acemoglu and Pischke (1999) emphasize that while Becker (1964) subdivides skills into general and specific, many skills tend to be industry-specific. For example, knowing how to use a printing machine is of limited use outside the printing industry. Nevertheless, under Becker's (1964) framework, these skills are general because, typically, there are many firms in the same industry using similar technologies. Estevez-Abe, Iversen, and Soskice (2001) build on Becker's (1964) framework and make a distinction between general, industry-specific, and firm-specific skills. The authors argue that industry-specific training can be defined as training that boosts the productivity of all other firms in the industry but not outside the industry. Examples include skills acquired through apprenticeships and at vocational schools.

Finally, the human capital theory largely ignores the role of non-cognitive abilities. In recent years, there has been a growing focus on non-cognitive skills and abilities (Heckman & Rubinstein, 2001; West *et al.*, 2016). In contrast to cognitive skills, non-cognitive skills are not directly related to the process of acquiring knowledge through the senses, experience, or reasoning. Instead, non-cognitive skills consist of the behaviors, mindsets, attitudes, learning strategies, and social skills that can have a profound effect on the way human beings learn. For example, an employee may be cognitively strong, but if they do not have the resolve to attend training sessions within the organization, they will never reach their full potential. In this sense, factors such as self-efficacy, grit, motivation, self-control, resilience, optimism, hope, and the ability to work with others become important to the success of employees in organizations (Heckman & Rubinstein, 2001; Luthans, Avey, Avolio, Norman, & Combs, 2006; Norman, Avolio, & Luthans, 2010; West *et al.*, 2016). Furthermore, the

measurement of non-cognitive abilities is also becoming a key issue within organizations (Avey, Luthans, & Youssef, 2010).

The theoretical standpoint of human capital theory has been the subject of debate. For example, Spence (2002) offers a theoretical response to human capital theory and the findings of Becker's research in the form of signaling theory. While Becker (1964) argues that investment in education and training will improve productivity and earnings, Autor (2001) and Spence (2002) take a different view and argue that because of the unobserved ability of workers (information asymmetry), education merely serves as a signal to employers regarding the quality of workers, that is, an MBA or a degree from a prestigious university or college. According to Connelly, Certo, Ireland, and Reutzel (2011), Spence (2002)'s model stands in contrast to human capital theory because he de-emphasizes the role of education in increasing worker productivity and focuses instead on education as a means to communicate otherwise unobservable characteristics of the job candidate (Weiss, 1995).

According to Hämäläinen and Uusitalo (2008), the controversy is difficult to resolve because, in most cases, both theories have identical predictions. For instance, both predict that earnings rise with education. However, the policy conclusions are very different. According to the human capital theory, increases in educational levels have important effects on productivity and economic growth. Conversely, signaling theory posits that education has no effect on productivity and, even though investments in education may be profitable for the individuals pursuing education, they are, in general, not beneficial for society as a whole (Hämäläinen & Uusitalo, 2008). With this, signaling theory is offered as a theoretical response to the findings of Becker. Moreover, there have been a number of articles that find support for signaling theory.

In their study on Finnish polytechnic school reform, Hämäläinen and Uusitalo (2008) find support for Signaling Theory.

Finally, some researchers take an alternative perspective on the outcomes of Human Capital Theory. For example, Schultz (1961) and Nelson and Phelps (1966) view human capital as the capacity to adapt to changing environments. Both Schultz (1961) and Nelson and Phelps (1966) argue that human capital is especially useful in dealing with "disequilibrium" situations, or more generally, with situations in which there is a changing environment and workers have to adapt to this. For example, Schultz and Schultz (1961) and Nelson and Phelps (1966) propose human capital as a crucial factor in facilitating the adoption of new and more productive technologies. Furthermore, in an era of sustainability, firms are increasingly turning to their employees as a source of innovation and are challenging them to find new ideas and routines to operate more sustainably. Hence, a firm's human capital can be pivotal in a firm's adaptation to uncertain or changing environments. For example, in Dynamic Capability Theory, Schultz's (1961) and Nelson and Phelps' (1966) ideas on human capital have a major role to play in contemporary human capital theory, both at the individual and unit level. It is also important to note that individual-level change initiatives such as employee empowerment and flexibility play a key role in overall organizational performance.

Human capital consists of stock of competencies, knowledge, experience, social and personal attributes including creativity and innovation, embodied in the ability to perform work to produce economic value to the organization. Dess & Picken (1999) state that human capital consists of the individual's capabilities, knowledge, skills, and experience of the employees and their managers that are relevant to the nature of

tasks required to effectively execute the task at hand to produce the required outcomes by using the reservoir of knowledge, skills, and experience of the individual employees. The theory is concerned with how people contribute their knowledge, skills, and abilities to enhance individual and organizational performance.

2.6.3 Social Exchange Theory - SET

Social exchange theory is a sociological and psychological theory that studies social behavior in a social interaction between two parties (Homans, 1958). Social exchange theory (SET), developed by Homans (1958) and modified by Blau (1964), as cited in Boselie (2010); Demortier, Delobbe, and El Akremi (2014); Kroon and Freese (2013), focuses on the relationships between the organization and its employees as an exchange of mutual investment, which provides a framework to comprehend human behavior in social interactions (Nammir, Marane, & Ali, 2012). Eisenberger, Huntington, Hutchison, and Sowa (1986), cited in (Choi, Lotz, & Kim, 2014; Knies & Leisink, 2014), broadened the theory by explaining how organizational practices and policies can influence employee's perceptions, which increases employee's desire to reciprocate organizational outcomes with appropriate behavioral responses.

Jose (2012) explain that the basic assumption underlying Social Exchange Theory is that when employees view organizational practices as satisfying, engagement will develop in response to the organizational practice. Social Exchange Theory (SET) suggests that management practices and exchanges in social interactions contribute to positive exchange relationships amongst employees and the employer that creates a bond between the employer and employees; reciprocated with favorable attitudes and behaviors, translating into performance (Marescaux, De Winne, & Sels, 2013). The theory points out that subjective perceptions of the costs and benefits of maintaining

these relationships could affect employee performance as employees reciprocate positive organizational behaviors like employee engagement, where engagement is exchanged for material and non-material resources (Choi *et al.*, 2014). According to social exchange theory, employees will engage in an activity based on the belief that their behaviors will be reciprocated with rewards. The employer is expected to reward employees for efforts expended, and in turn, employees display greater discretionary effort, and show positive work-related attitudes (Gould-Williams, 2007).

Social exchange theory posits that the employer and employees partake in a social exchange relationship due to the anticipation of mutual intangible social benefits such as respect, trust, and recognition (Liao, Lu, Huang, & Chiang, 2012), with the aim of maximizing rewards or benefits and minimizing costs (Nunkoo & Ramkissoon, 2011). Therefore, employees will invest in what they believe will benefit them and will cease behavior if they believe otherwise (Shiau & Luo, 2012), on the assumption that employees engage in reciprocal relations with the expectation that the relationship will be beneficial to both the employees and the organization (Nammir *et al.*, 2012). In the event that the risks seem to outweigh the benefits, parties may withdraw from the relationships (Nammir *et al.*, 2012). The parties will always engage in an exchange relationship because they believe they will realize valuable outcomes (Yi & Gong, 2009). Employees engaging in the social exchange relationships need to trust each other, acknowledge, and honor the obligations imposed on the parties (Schroeder, 2010). Blau (1964) notes that social exchange is a subjective relationship between employees and employers characterized by unspecified obligations and trust between the parties. The relationships are characterized by mutual trust and social benefits; the employer is likely to bestow rewards that employees will appreciate, while employees advance behaviors that support the organization's effectiveness

(Lavelle, Rupp, & Brockner, 2007). Social exchange relationships contribute to the effective functioning of the organization to the extent that employees will exert extra effort in their jobs in anticipation of rewards (Zhang & Liu, 2021).

Based on the social exchange perspective, when employees perceive fairness in the expected rewards, they exhibit high levels of engagement on the job and perform their tasks with vigor and dedication, resulting in high performance, which promote the organizational efficiency and effectiveness (Tekleab & Chiaburu, 2011). Employees will, in fact apply flexibility in task if they believe their efforts will be fairly rewarded, which will eventually translate into engagement and performance. Thus, management practices like talent management are expected to send positive messages to employees, increasing their willingness to perform better on their job (Boselie, 2010). These positive messages are also known as the signaling effect (Björkman, Ehrnrooth, Mäkelä, Smale, & Sumelius, 2013), which suggests that talent management practices send signals to employees, which in turn align employee efforts toward the organization's goals. Grounded on social exchange theory, it is reasonable to state that talent management practices lead to employee engagement and performance.

2.6.4 Transformational Leadership Theory - TLT

Transformational leadership theory encourages leaders and followers to set aside personal interests for the benefit of the whole group. Under this theory, the leader pays attention to the needs of his or her followers by engaging and inspiring them to achieve extraordinary goals in the organization. The theory is driven by the desire to make positive changes and take care of followers' interests. The theory nurtures followers' morale and improves performance by connecting to the followers' sense of

identity for a collective action in the organization as a role model that understands the strengths and weaknesses of the followers and challenges the followers to take charge of their work.

The theory finds support in Diaz-Saenz (2011) and Amanchukwu, Stanley, and Ololube (2015), who state that transformational leaders have high ethical and moral standards that positively influence followers and organizational performance. Scholars have commented on transformational leadership theory due to certain inherent weaknesses in its framing. Yukl (1999) argues that the vagueness of the Transformational Leadership Theory lies in the influence and processes. The theory fails to capture the interacting variables between transformational leadership and positive work outcomes, and the theory does not provide the basis for differentiating among the behaviors. Ideally, there is no precise examination of what a leader will say or do to influence the cognitive process or behaviour of their followers. To enlarge on the critic of Yukl (1999), transformational leadership theory fails to capture situational variables such as moderators between transformational leadership and followership, constancy of the environment, and entrepreneurial cultures. Similarly, the theory does not capture the religious beliefs of both leaders and followers. The personality of the members is not as well captured in the theory, which can make followers prefer other leadership styles. In an organizational setting, there could be some followers who might have a sense of direction and would wish to have a sense of inspiration from the leader to advance their careers and participate in the decision-making processes of the organization for a desired organizational outcome. Such followers are inclined to open and collaborative leadership styles.

Transformational leadership theory, also known as relationship theory, lays emphasis on the connections molded between leaders and followers. In this theory, leadership is the process by which a person engages with others and is able to "create a connection" that results in increased motivation and morality in both followers and leaders. Relationship theory is often linked to charismatic leadership theory, whereby leaders are believed to have certain qualities like confidence, extroversion, and charisma and other values that are seen as options for engaging with followers for the attainment of individual and organizational goals (Lamb, 2013). Relational or transformational leaders motivate and inspire followers through helping followers to see the importance of the task that lies ahead of them. The leaders focused on the performance of followers while laying emphasis on followers for the fulfillment of their potential goals. Leaders of this flair are presumed to be of high ethical and moral standards within the organization (Amanchukwu *et al.,* 2015).

Literature on business is saturated with content depicting theories, styles, trends, and characteristics that define and describe the topic of leadership. Burns (1978) noted that leadership is one of the most studied and least understood phenomena in business. Over the past few decades, several advancements in research have been made to develop leadership outcomes and performance (Rowold, 2014). In that time, two of the most researched leadership theories have been transactional and transformational, formalized in the 1970s and 80s (Rodrigues & Ferreira, 2015; Rowold, 2014), but both have much deeper roots of origin and vary in point of view or approach (Ghasabeh *et al*., 2015). The two theories of leadership are more widely used in higher education institutions today than any other leadership style (Wilson, 2015). Bass (1985) studied the traits and qualities of transactional and transformational

leaders and concluded that they have contrasting points of view or characteristics that lead to different means of achieving organizational goals.

A transformational leadership style focuses on the inspiration, motivation, and development of followers, which has been proven to increase employee engagement in times of rapid change (Bommer, Rich, & Rubin, 2005). Through the inspirational motivation component, transformational leaders are able to help employees successfully reframe their current situation and embrace change (Campbell, Syed, & Morris, 2010). While going through rapid change, transformational leaders take responsibility for change while motivating employees toward self-actualization (Bommer *et al.,* 2005). Transformational leadership has a positive impact on employee engagement, which transcends the followers to a high level of performance, which is a focal point in this study.

Transformational leadership is one of many styles of leadership found in modern scholarly writing. However, it should be noted that it is one of the few leadership styles that focuses on the leader's ability to inspire the followers to reach new heights (Bass, 1990). Yukl (2010) defines transformational leadership in terms of traits, behaviors, influence, interaction patterns, role relationships, and occupation of an administrative position. The origins of the transformational leadership concept were originally postulated by Downton (1973), who first used the term while describing the use of charismatic power used by leaders to inspire others. According to Rickie (2009), transformational leadership theory originates from the divine purpose of Jesus Christ that is meant to transform and make those whom he has transformed to change the world by becoming fishers of men to God's kingdom through living an exemplary lifestyle in a righteous way. Jesus' life on earth was to transform the world from sin

and hatred to God's love. The disciples dedicated their lives to the fellowship of Jesus Christ as the sacrificial Lamb of God to humanity. Throughout his leadership, Jesus built his relational capital with his followers. The theory can be grouped under theory Y, where leaders are expected to envisage support for their followers with the tools they need to excel and do their best for their followers.

Nonetheless, whichever school of thought traces the origin of transformational leadership theory, the theory gained popularity in the field following the work of Burns (1978). Burns (1978) notes that transformational leadership is a process where leaders and their followers assist one another towards advancing to a higher level of performance. Burns (1978) also asserts that the function of leadership is to engage followers, not merely to activate them. Burns (1978) uses the transformational leadership concept to describe political leaders, such as former President Franklin Roosevelt, based on the transformational programs they introduced. Burns (1978) approach was to label transformational leaders as those who lead by example while working towards a vision that benefits the entire team or organization. Transformational leadership was further advanced and developed by Bass (1985), who brought back the concept of charisma used by Downton (1973), along with the factors of individualized consideration and intellectual stimulation, to describe how leaders elevate the goals of subordinates' confidence in their ability to go beyond expectations.

Bass (1985) went further to show how the followers of a transformational leader work harder than expected and display traits such as trust, admiration, respect, and loyalty for their leader. Such behavior was likely a result of the leaders' drive to model integrity and fairness while advocating for followers to obtain a high level of

performance. Through many studies, researchers have observed transformational leaders giving their followers a sense of confidence by offering advice, recognition, and support while encouraging self-development (Bass, 1985). Researchers also observed how transformational leaders inspire motivation and awareness among their employees by developing a high level of trust through being accessible and offering a listening ear to issues.

Over the years, research on transformational theory has continued to refine and update data, information, and knowledge on the theory in relation to the conical latent variables. For example, Ho (2016) shows how recent studies are beginning to focus on relationships between the transformational leadership style and employee job satisfaction, employee engagement, and self-esteem. Conducting studies that correlate employee traits with characteristics of leadership styles has proven that many individuals fall under one specific component of transformational leadership. Bass (1985) identified four components or elements of a transformational leader, which underscore the transformational leadership style. Those elements are: intellectual stimulation, inspirational motivation, individualized consideration, and idealized influence. The first of the four elements talked about in transformational leadership is intellectual stimulation. Intellectual stimulation occurs when a transformational leader causes the follower to rethink the existing concerns in a new way or to redefine their perceptions based on new information by challenging the existing beliefs and assumptions held among employees in organizations (Bass, 1985).

2.7 Empirical Literature Review

2.7.1 The relationship between Talent Management and Employee Performance

Gichuhi, Gakure, and Waititu (2014), examined the role of talent management on competitiveness of public universities in Kenya. Survey research design was employed. Stratified sampling was adopted to obtain a representative sample of the study which was made up of both the teaching and non-teaching staff of the Public Universities in Kenya. A questionnaire that employed Likert scale was used to collect data. Factor analysis revealed that all the 16 items used had a loading value above 0.4 as recommended hence they were all included in the analysis. Data analysis revealed a positive relationship $R = 0.498$ (p-value < 0.05) indicating a significant linear relationship between talent management and competitiveness. However, the study did not consider employee performance as a criterion variable. The focus of this study is on employee performance. Ideally, competitiveness within a firm is created when employees execute their task effectively. This achieved when employees' talents are well aligned to the competitive priority of a firm leading to organizational expansion and growth.

Nzewi, Chiekezie, and Ogbeta (2015) assessed the relationship between talent management and employee performance in selected commercial banks in Asaba, Delta State. Pearson product moment correlation coefficient and regression technique were employed in analyzing the data. The findings revealed a positive relationship between talent management and employee performance. The study concluded that talent management was significantly related to employee performance. The study examined talent management and employee performance in the bank sector, implying that other sectors like education sectors are not equally represented. Hence, scarcity of literature, which call for more research on talent management and employee

performance in education sectors more especially in public universities to explain the dearth of knowledge in the sector.

Wurim (2012) conducted a research on talent management and organizational productivity in a public sector enterprise in which a survey method was used to collect data and Krusked-Wallie test statistics were used to analyze the data. The result indicated that the implementation of talent management policies, processes, and programs significantly affected employees' productivity. The focus of the study was on the direct effect and the primary focus was on productivity, which relates to the conceptual issues in employee performance that have been identified in literature.

Wuim-Pam (2014) evaluated the impact of talent management on employee productivity in the Nigerian public sector. A hypothesis in line with the objective was drawn and tested based on data generated through a questionnaire. The survey investigation method was used in collecting data for the study from a sample of 349 top, middle and lower level management staff of five public sector organizations in Nigeria. The Kruskal- Wallis test statistic was used to analyze the data. The findings indicated that the implementation of proper talent management processes significantly impact employee productivity. The study concluded that talent management practices in Nigeria public organizations, significantly impact on employee productivity. Thus, drawing a recommendation that talent managers should be trained and equipped with skills and knowledge of scientific methods investigating, managing, forecasting talents within the organization with aim of improving performance at individual and organizational levels.

Dries (2013) investigated the psychology of talent management: A review and research agenda in Belgium. The study was conducted using five comparative reviews of literature existing on talent management (such as human resource management, industrial organization, educational psychology, vocational psychology, and positive and social psychology) to identify a gap in research. The study found that a good number of discrepancies existed in talent management conceptualization (i.e. talent as capital; talent as individual difference; talent as giftedness; talent as identity; talent as strength; and talent as the perception), which lays a foundation for this study in terms of theory building, methodological advances, and new empirical work.

2.7.2 The relationship between Employee Engagement and Employee Performance

Research on employee engagement have focused exclusively on measuring performance on specific, discrete job-related responsibilities within the domain of individual performance. For example, one of the most cited research studies on engagement by Harter, Schmidt, Asplund, Killham, and Agrawal (2010) report that employee engagement had a positive relationship with customer satisfaction, turnover, safety, productivity, and profitability. In a meta-analytic study of Christian *et al.* (2011) argue that employee engagement shared a statistical significant relationship with task performance and contextual performance. Grounded on this work, it is plausible to state that engaged employees perform better than disengaged counterpart.

Researchers have also provided evidence of the relationship between employee engagement and measures of individual performance (Shuck *et al.,* 2013). In addition to investigating the relationships between engagement and performance outcomes, we

anticipate that engaged employees will report higher levels of satisfaction and identify closely with their work roles. By advancing this relationship in academic literature, such studies show expression for redundancy in engagement measurement rather than a demonstration of the space within which employee engagement develops and thrives with its attendant conditions at organizational level in relation to work outcomes.

Previous empirical research indicates a positive relationship between work engagement and employee performance (Bakker, Tims, & Derks, 2012; Halbesleben & Wheeler, 2008; Rich et al., 2010) that might give rise to organizational citizenship behaviors due to work engagement (Alfes *et al.,* 2013; Babcock-Roberson & Strickland, 2010; Rich *et al.,* 2010). The Human Resource Development literature continues develop seminal work that support the link between employee engagement and individual performance. Employee engagement presents the psychological state of the mind which the employees display physically, cognitively, and affectively while at work (Rich *et al.,* 2010). When employees are engaged, they devote their resources (cognitive, emotional, and physical) in work roles to pursuit of organizational goals (Rich *et al.,* 2010). Thus, engaged employees commit their time to work, pay more attention and focus on responsibilities assigned to them, become emotionally attached to work to contribute to organizational mission (Rich *et al.,* 2010). It should be noted that engaged employees respond positively to customer requests, treat customers with courtesy and exhibit high levels of job performance, shown by extra ordinary results (Anitha, 2014). Hence, employee engagement is one of the major determinants of employee performance. According to Markos and Sridevi (2010), satisfied employees are more engaged in enhancing performance and contribute to organizational goal attainment. The review of previous studies confirms

that there is a direct relationship between employee engagement and employee performance, which provides the ground to propose a mediation on the belief that the results will be supported.

2.7.3 The relationship between Transformational Leadership and Employee Performance

Transformational leadership has strong positive effects on employee outcomes (Top, Abdullah, & Faraj, 2020). Past studies have empirically established the positive association between work performance and transformational leadership (Barling, Weber, & Kelloway, 1996). According to previous research, transformational leadership is significantly related to followers' behaviors and performance. Scholars noted that the leaders relate positively with employees in the organization, which translate into performance at individual, group, and organizational levels (Budur & Demir, 2022). The leaders promote confidence in the workplace and share authority with followers to influence performance (Madhu & Krishnan, 2005).

Transformational leadership provides the means through which leaders exchange organizational goals for rewards with their subordinates. This leadership approach focuses on the subordinates' reinforcement and their needs through empowering and increasing employees' motivational levels and morals (Ghafoor, Qureshi, Khan, & Hijazi, 2011). Transformational leaders assumes that changing employees' perceptions of work will transform their values, inspiring them to exceed expectations in their job and responsibilities (Tims, Bakker, & Xanthopoulou, 2011) and allowing employees to become fully aware of their potentials while performing tasks (Zhu, Avolio, & Walumbwa, 2009). Leaders who have a transformational leadership style

would provide individualized development and articulate a convincing mutual vision while accomplishing unexpected results (Wang, Oh, Courtright, & Colbert, 2011).

The past two decades of research on transformational leadership and work outcomes have shown a substantial evidence that transformational leadership has a great influence on a variety of followers' outcomes and job performance (Bass & Avolio, 1997; Garca-Morales, Jiménez-Barrionuevo, & Gutiérrez-Gutiérrez, 2012; Herman & Chiu, 2014; Zhu *et al.*, 2009). According to transformational leadership theory, a leaders' positive behaviors of accelerating employees' levels of innovative thinking will improve individual and organizational performance (Birasnav, 2014), and inspires employees to work hard, encourage high level of achievement, leading to higher level of individual performance (Wang *et al.*, 2011).

Strom, Sears, and Kelly (2014) claimed that transformational leadership has been negatively associated with employees' intentions to quit and work stress, as Ghafoor et al. (2011) has also shown a negative relationship with employees' absenteeism and turnover through increasing job satisfaction. Majority of transformational leadership studies have emphasized the associations of transformational leadership as an effective leadership paradigm associated with job performance and positive job behaviors (Shuck, Twyford, Reio, & Shuck, 2014) and supported organizational effectiveness (Zhang, Wang, & Pearce, 2014). Consequently, academicians propose that transformational leadership with several specific characteristic such as individualized consideration, subordinates inspiration and stimulation encourage employees to make more contributions at work for improvement in performance (Tse, Huang, & Lam, 2013).

Transformational leaders set high performance standard, encourage and support their followers to reach high standard expectations (Bass, 1985; Zhu *et al.,* 2009), which ultimately correlates with follower's job performance (Zhang, Wang, & Pearce, 2014). Likewise, Transformational leaders modify the structural features of followers' jobs by highlighting meaningful vision and assisting employees to go beyond their personal benefits to get performance improvement (Grant, 2012). From the time of the inception of the transformational leadership theory, one of the promising studies of transformational leadership was its hypothesized relationship with employee performance (Bass, 1985). For nearly three decades, meta-analytical research have supported the hypothesis that transformational leaders exhibit high levels of performance among the followers (DeGroot, Kiker, & Cross, 2000; Judge & Piccolo, 2004).

Judge and Piccolo (2004) reported that transformational leadership is positively correlated with group and organizational performance. Likewise, Piccolo and Colquitt (2006) concluded that transformational leadership enhances followers' task performance and organizational citizenship behavior. Koech and Namusonge (2012) investigated the main effects of leadership styles on employee performance at state-owned corporations in Kenya. The study outcomes revealed that correlations between the transformational-leadership factors and employee performance ratings were high, while relationship transactional-leadership behaviors and employee performance were relatively low. Implying that transformational leadership is a better predictors of employee performance, which provide support for the hypothesis alternative hypothesis.

2.7.4 The relationship between Talent Management and Employee Engagement

Talent management is what an organization does to recruit, retain, develop, reward, and encourage employees to become competent employees. Employee engagement explores an employee's willingness to invest time, skills, ideas, creativity, energy, and knowledge into the organization. It is common knowledge that engaged employees are motivated to contribute to the success of the organization at all times. The words talent and management can only be effective if employees are engaged. An organization that fails to properly engage its employees cannot discover its employee's talent and manage the talent effectively. Most organizations are interested in the organizational growth to achieve desired goal, there is a need to integrate talent management and employee engagement (Kadiri & Jimoh, 2021). Different studies and research have been carried out on talent management and employee engagement.

Employee engagement measures how effectively employees are committed to the organizational activities. In various organizations, employees' engagement starts with talent management (Yuniati, Soetjipto, Wardoyo, Sudarmiatin, & Nikmah, 2021). Talent management is considered as the most efficient and effective variable that can be captured, adopted, developed, and utilized based on employee engagement to achieve organizational performance. Schaufeli, Salanova, González-Romá, and Bakker (2002) define employee engagement as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Talent management is basically related to employee engagement (Őnday, 2016).

Talent and management can only be effective if employees are engaged. Talent management and employee engagement have a high degree of relationship based on the previous studies' findings and also Gubman (2004) argument that engagement is

different from satisfaction because it means something that is external to the employee and primary to the organization, but that it will ultimately lead to internal satisfaction for the employee once it yields the desired result. The position of the ombudsman is that when an employee is engaged and successfully carries out his or her task that can only lead to satisfaction, which all depends on where the employee or the organization places the employee and the nature of the task at hand (Yuniati *et al.,* 2021). Previous studies conducted in this field focused on talent management and employee turnover, retention or performance (Kadiri & Jimoh, 2021), a few of such studies tested the effect of talent management on employee engagement in universities settings.

2.7.5 Mediating Role of Employee Engagement

Employee engagement is defined as the concurrent employment and expression of a person's preferred self in task behaviors that support the connection to work as well as other personal presence and active performance (Kahn, 1990). Saks (2006a) pointed out that every member of the organization has two main roles, namely, their work role and their role as an organizational member. Saks (2006b) was the first to introduce and empirically investigated employee engagement using two different facets: job and organization engagement. Thus, employee engagement is not limited to an individual's psychological presence and cognitive interpretation of in-role activities but also covers the employee's affective and psychological attachment to the job and organization (Biswas & Bhatnagar, 2013; Kahn, 1990; Saks, 2006).

Cheah and Tay (2011) showed employee engagement is related to organizational outcomes such as employees' productivity, creativity, and innovativeness. Suharti and Suliyanto (2012) argued that the great attention paid to employee engagement is due

to its effects on organizational outcomes such as performance. Karatepe (2013) notes that employee engagement appears to have a direct effect on employee performance. Researchers have established employee engagement as a framework of organizational commitment, where employee engagement has a direct link with organizational commitment (Albrecht, Bakker, Gruman, Macey, & Saks, 2015). Employee engagement is considered as an outcome of job satisfaction (Schaufeli & Bakker, 2004).

Drawing on principles of social exchange theory, employees with high levels of engagement are considered reliable and trustworthy in the course of their occupation in the organizations and offer their supervisors favorable attitudes in the form of performance (Saks & Gruman, 2014). When employees are engaged, they employ and express themselves physically, cognitively, and emotionally during role performance (Kahn, 1990). Subsequently, when the employer introduces talent management practices, employees will definitely develop interest in their work, which will translate into positive work attitudes and outcomes (Bakker, Demerouti, & Verbeke, 2004). However, there is a lack of empirical research on talent management in the public sector (Clarke, Scurry, & Smith, 2017), and little is known about how talent management affects individual and organizational outcomes (Gallardo-Gallardo, Thunnissen, & Scullion, 2020).

Scholars have advanced that further studies should examine and explore the mechanisms of how talent management practices relate to individual outcomes (Mensah, Bawole, & Wedchayanon, 2016), and one of these key mechanisms is a test for mediation, where employee engagement is proposed as a mediator in the relationship between talent management and employee performance (Thunnissen,

2016). Rucker, Preacher, Tormala, and Petty (2011); Zhao, Lynch, and Chen (2010); and Hayes (2009) argued that when testing for mediation, the direct relationship between the independent and dependent variables must not be a necessary condition, as mediation can be statistically significant in the absence of direct relationships. Previous studies have reported that talent management has a significant influence on employee performance (Bibi, 2019; Wadhwa & Tripathi, 2018). Similarly, talent management has a significant effect on employee engagement (Shailashree & Shenoy, 2016).

Subsequently, employee engagement has a substantial influence on employee performance (Ganyang, 2019; Rana, Ardichvili, & Tkachenko, 2014). Hence, it is believed that employee engagement will strengthen the relationship between talent management and employee performance. In light of the above studies, employee engagement is expected to mediate the link between talent management and employee performance based on both empirical and theoretical foundations (Rana *et al.*, 2014). Empirically, there are several studies in support of employee engagement as a mediator for instance, Sltten and Mehmetoglu (2011) studied 279 frontline employees and found that employee engagement mediated the relationship between autonomy, strategic attention and role benefit, and innovative behavior. While Agarwal, Datta, Blake-Beard, and Bhargava (2012) establish that employee engagement fully mediated the relationship between leader-member exchange and innovative behavior, but partially mediated the link between leader-member exchange relationships and the intention to quit and that the relationship between leader-member exchange and job performance was fully mediated by work engagement. Ideally, engaged employees are likely to invest energy in their work, and go beyond their job description to meet performance expectations (Rich *et al.*, 2010).

2.7.6 Moderating Role of Transformational Leadership

Transformational leaders inspire, empower, and stimulate followers to exceed normal levels of performance (Bass, 1985; Bass & Riggio, 2006; Wang & Rode, 2010; Yukl, 1999). According to Nyachanchu, Bonuke, and Chepkwony (2017), a transformational leader raises followers' level of consciousness on the importance and value of designated outcomes and ways of achieving them. A transformational leader has the zeal and courage to move the followers beyond self-imagination due to charisma, inspiration, intellectual stimulation, or individualized consideration. The followers are motivated to transcend their own immediate self-interest for the sake of their firm's mission and vision through emotional, intellectual, and moral engagement (Nyachanchu *et al.,* 2017). The followers end up performing beyond expectations (Obiwuru, Okwu, Akpa, & Nwankwere, 2011).

Transformational leadership plays a fundamental role in determining employee performance (Dvir, Eden, Avolio, & Shamir, 2002) and is regarded as an important context for examining the effect of employee engagement on job performance, motivating followers toward high performance (Bass, 1985). Thus, by exhibiting high job performance depends on occupationally engaged individuals who have the desire to accumulate more skills for the achievement of goals that lie ahead of time and imminent in a transformational leaders. Under this prominent condition, employees are likely to perform well due to leadership maneuvers to equip followers with the required skills for current and future task assignments. Additionally, employees with high levels of occupational engagement are likely to surpass performance targets (Podsakoff, Ahearne, & MacKenzie, 1997) when they are treated with respect and perceive that they are valued in the organization (Kim & Mauborgne, 1998).

Extant research suggests a positive relationship between transformational leadership and employee engagement (Macey & Schneider, 2008). Transformational leaders inspire and intellectually stimulate their followers through the use of ideals and show individualized consideration by paying attention to the follower's needs (Bass, 1990). Based on self-efficacy, frontline workers may feel obliged to repay these behaviors with higher levels of engagement. A study conducted in a diary firm by Tims *et al.* (2011) and Breevaart *et al.* (2014) found a positive relationship between daily fluctuations in transformational leadership and employees' daily work engagement.

Similarly, Yasin Ghadi, Fernando, and Caputi (2013) and Kopperud, Martinsen, and Humborstad (2014) confirmed that transformational leadership positively influences the level of employees' work engagement. Ideally, transformational leadership sets greater expectations, emphasizes higher order followers' needs that results into increased motivation paving way for employee engagement that create a facilitative condition for employee to perform their routine tasks with high morale (Bass, Avolio, Jung, & Berson, 2003). It is believed that high level of transformational leadership behaviours enables employees to exhibit high level of engagement for higher performance. In this regard, we expect high levels of employee engagement originate from high transformational leadership styles that strengthen the relationship between engagement and job performance.

The existing literature reveals that transformational leadership has been used as a moderator variable to predict a number of outcome studies (Goswami, O'Brien, Dawson, & Hardiman, 2018; Jacobsen & Staniok, 2018; Jeong, Hsiao, Song, Kim, & Bae, 2016; Nyachanchu *et al.,* 2017; Sungu, Weng, & Xu, 2019), but little studies have been conducted on the mechanisms through which transformational leadership

interact with talent management, employee engagement, and employee performance in higher educational institutions. Following the empirical studies on the moderating effect of transformational leadership (Goswami *et al.*, 2018; Jacobsen & Staniok, 2018; Jeong *et al.*, 2016; Nyachanchu *et al.*, 2017; Sungu *et al.*, 2019), the present study intends to introduce transformational leadership as a moderator in the relationship between talent management, employee engagement, and employee performance.

2.8 Summary of Literature and Gaps

Table 2.3: Showing summary of literature and gaps

Author	Topic	Methodology	Findings	Knowledge gaps	Contribution of the current study
Blass and Ferris (2007)	Talent management and business performance	Research was conducted using 20 case studies involving mix of (private, public and voluntary) organizations of different sizes and sectors and survey questions were administered to representatives of senior managers and middle managers.	The finding reveals that organizations managed talent through rotational system involving various career stages of employees to avoid the danger of setting high expectations for early developers or disregarding later developers.	The general findings reveal gaps in literatures in relation to theoretical and methodological limitations.	This study introduced a theoretical model to explain talent management in respect to employee engagement, transformational leadership and employee performance using mediation, moderation and moderated mediation.
Collings and Mellahi (2009)	Strategic talent management: A review and research agenda.	This study was conducted using an empirical review of previous studies	The authors concluded the study by developing a clear and concise definition of strategic talent management and future research agenda.	The study proposed a theoretical model to talent management.	This study built on the theoretical model to explain talent management in respect to employee engagement, transformational leadership and employee performance empirically.
Dries (2013)	The psychology of talent management: A review and research agenda	Literature Review	With the review, we hope to join a growing group of talent management scholars pushing to make the transition from a growing into a mature field of study, characterized by widely accepted theoretical frameworks and research designs, and supported by the scholarly community.	The study calls for theory building, methodological advances, and new empirical work.	This study advance theory of human capital theory to explain talent management in public universities using advanced methodology of mediation, moderation and moderated mediation to generate new empirical findings.
Pradhan and Jena (2017)	Employee Performance at Workplace: Conceptual Model and Empirical Validation	On the basis of literature and feedback from academicians and industry professionals, a conceptual framework along with 42-item instrument on employee performance was proposed for empirical validation.	Exploratory factor analysis revealed three distinct factors of employee performance that constitute the new scale: task performance, adaptive performance, and contextual performance (TAC). Reliability study on the sample reported significant internal consistency on the total scale (a	They conceptualize employee performance into three factors: task performance, adaptive performance, and contextual performance (TAC). Ignoring Counterproductive	The current study introduced employee engagement as a mediator, transformational leadership as a moderator and talent management as independent variable in the study model to examine the measures of employee performance in academic work

			= 0.80) along with the three subscales (a ranging from 0.80 to 0.91).	performance. Further still, they proposed sound and testable theory on the construct of employee performance, its moderators, mediators, and other associated variables to extend the scope and coverage of employee performance.	environment in relation to teaching, research, publication and community engagement.
Markos and Sridevi (2010)	Employee Engagement: The Key to Improving Performance	Literature Review	Employee engagement is stronger predictor of positive organizational performance clearly showing the two-way relationship between employer and employee compared to the three earlier constructs: job satisfaction, employee commitment and organizational citizenship behaviour.	The literature review indicates that all factors under study are explored in different previous studies, but their combined impact is not studied yet.	The current used mediation, moderations and moderated mediation to explain the combine effects of talent management, employee engagement, transformational leadership on employee performance.
Bakker, Albrecht & Leiter, (2011a)	Key questions regarding work engagement	The authors formulated 10 key questions and shape a research agenda for engagement. Beside the 10 questions, the study developed conceptual development and measurement of enduring work engagement.	They argue that the social context is crucial and may set the stage for a climate for engagement with an important role for management. Engaged employees conserve their own engagement through a process of job crafting.	Proposed organizational interventions to increase work engagement	Based on the study results appropriate managerial and practical implication was drawn to improve employee engagement in organizations.
Bakker, Albrecht & Leiter, (2011b)	Work Engagement: Further reflections on the state of play.	Literature review	The key themes advanced in this response are the following: theory and measurement of work engagement; state work engagement and task engagement; climate for engagement versus collective engagement; the dark side of work engagement; where job crafting may go wrong; and moderators of the engagement–performance relationship.	There is need to gain a better understanding of the moderators that influence the way that engagement is related to performance	This study introduced transformational leadership to moderate the relationships between talent management, employee engagement and employee performance.

Koopmans *et al.* (2011)	Conceptual Frameworks of Individual Work Performance: A Systematic Review	A systematic review was conducted in medical, psychological, and management databases. Studies were selected independently by two researchers and included when they presented a conceptual framework of individual work performance.	A total of 17 generic frameworks (applying across occupations) and 18 job-specific frameworks (applying to specific occupations) were identified. Dimensions frequently used to describe individual work performance were task performance, contextual performance, counterproductive work behavior, and adaptive performance.	Based on the literature, a heuristic conceptual framework of individual work performance was proposed. This framework can serve as a theoretical basis for future research and practice.	The study used the conceptual framework to conduct empirical study on employee performance.
Macey and Scheinder, (2008)	The Meaning of Employee Engagement	Conversations with clients	We show that the term is used at different times to refer to psychological states, traits, and behaviors as well as their antecedents and outcomes.	Drawing on diverse relevant literatures, the study offers a series of propositions about (a) psychological state engagement; (b) behavioral engagement; and (c) trait engagement. The study recommends the measurement of the 3 facets of engagement and potential antecedents, especially measurement via employee surveys.	The study used the instrument developed by Schaufeli et al. (2002) in the survey study to test the antecedents since the instrument is widely used in the various engagement studies.
Liden and Antonakis, (2009)	Considering context in psychological leadership research	Literature Review	The study acknowledged that leaders, especially those at high levels of the organization, such as CEOs and top management team (TMT) members, might play a key role in determining the culture of the organization.	Operationalizing constructs, such as the five levels of being, will certainly not be an easy task, especially studies with quantitative designs. Provide suggestions for future research on the context of leadership.	Transformational leadership was introduced as a moderator in the study to extend leadership research in empirical research.

Koech, & Cheboi, (2018).	An Empirical Analysis of Employee Engagement on Employee Performance in Technical Institutions in Kenya.	The study used regression model to test the effect of employee engagement on employee performance.	The study findings revealed that there is a positive and significant relationship between employee engagement and employee performance (β=.338; t=6.366; p<.05).	Longitudinal time span research is recommended to provide more insights on these variables.	The study used cross sectional research design to deal with interaction effect, which was not an issue of focus in the study.

2.9 Conceptual Framework

The summary of the literature reviewed indicates that there are methodological, contextual, conceptual, and theoretical gaps in the previous studies. Previous studies focused on the direct effects; little effort was devoted to studying mediation, moderation, and moderated mediation among the variables under study. The study introduced mediation, moderation, and moderated mediation to close the methodological, contextual, conceptual, and theoretical gaps identified in the literature.

The study examined the interaction effects of talent management-independent variable, employee engagement-mediating variable, transformational leadership-moderating variable, and employee performance-dependent variable as shown in ***Figure 1*** of the conceptual framework made up of four components. The first component examined the direct effects as a precursor to further analysis. The direct effect had four hypotheses as presented below:

i. Talent management has no significant effect on employee performance among academic staff of public universities in Uganda.

ii. Employee engagement has no significant effect on employee performance among academic staff of public universities in Uganda.

iii. Transformational leadership has no significant effect on employee performance among academic staff of public universities in Uganda.

iv. Talent management has no significant effect on employee engagement among academic staff of public universities in Uganda.

The second part examined the meditation effect with one hypothesis as:

i. Employee engagement has no significant mediating effect on the relationship between talent management and employee performance among academic staff of public universities in Uganda.

The third component examined moderation effects with two hypotheses:

i. Transformational leadership has no significant moderating effect on the relationship between talent management and employee performance among academic staff of public universities in Uganda.
ii. Transformational leadership has no significant moderating effect on the relationship between talent management and employee performance among academic staff of public universities in Uganda.

The fourth part determined the moderated mediation effect with one hypothesis as stated below:

1. Transformational leadership has no significant moderating effect on the indirect relationship between talent management and employee performance through employee engagement among academic staff of public universities in Uganda.

Control Variables

The study controlled for gender, age, education, and tenure of the respondents as previous studies have discovered that these cofounding variables have links with employee performance (Howladar, Rahman, & Uddin, 2018; Zhang & Bartol, 2010). According to Carlson and Wu (2012), statistical controls help to mathematically remove variance associated with non-focal variables. Similarly, in a meta-analytic

study, control variables account for methodological and statistical artifacts using a post hoc test.

Control variables are considered as a way of correcting and improving on the errors that might have occurred during the data collection process (Bernerth & Aguinis, 2016). Instead of holding other relevant factors constant across samples or test environments in a quasi-experimental design. The study used control variables believed to be associated with predictor, mediator, moderator, and criterion variables. The study incorporated gender, age, education, and tenure as control variables in successive analysis by entering the control variables in the first step of hierarchical regression models to determine their contribution in the study models (Atinc, Simmering, & Kroll, 2012; Carlson & Wu, 2012).

2.8.1 Conceptual Framework

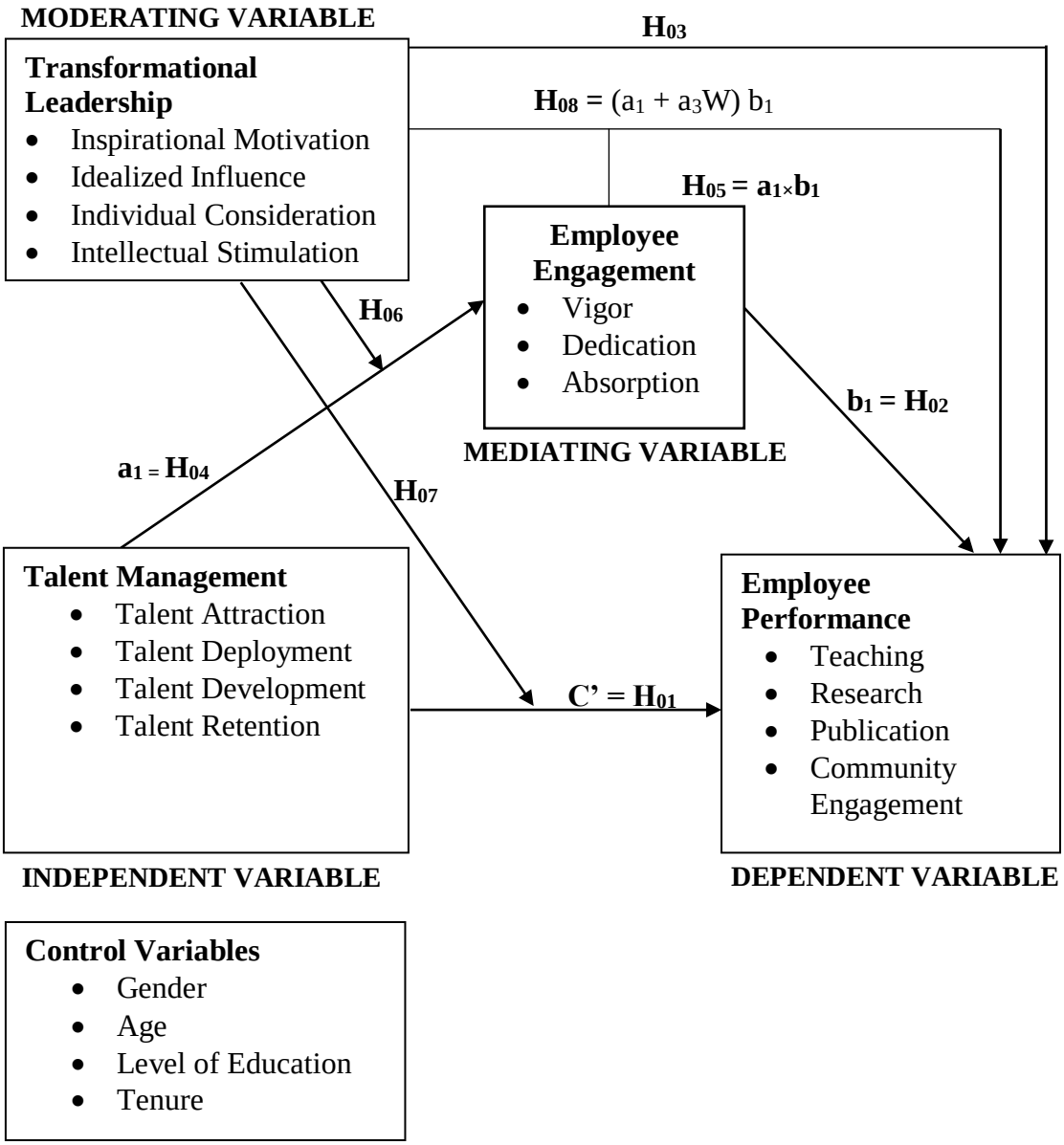

Figure 2.1: Conceptual Framework
SOURCE: Adopted from Hayes (2013) and Hayes (2018) Model 8.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focus on the chosen research methodology that were used to investigate the research problem. The section provides an overview of the research philosophy, research design, study area, target population, sampling design, data collection, operationalization of the study variables, reliability and validity of research instruments, data analysis, data diagnostic tests and ethical considerations.

3.2 Research Philosophy

Research philosophy describes the essential collection of beliefs shared by scientists, a set of agreements about how problems are to be understood, how we view the world, when conducting a research study (Creswell, 2003). Guba and Lincoln (2005) define philosophy as "a basic set of beliefs or assumptions that guide our inquiries for specific research." In view of this, Myers and Avison (2002) state that in defining valid research, the most recommended method is to follow the research philosophy. There are four research philosophies that are used in research: - positivism, interpretivism, advocacy, and pragmatism (Willcocks & Mingers, 2004). Selecting a specific philosophy guides a researcher not to dwell on his/her own philosophical know-how and gets a better stance chosen in relation to other alternatives.

The study adopted a positivism research philosophy, which assumes that the world is objective (Thornhill, Saunders, & Lewis, 2009). Positivism is also called scientific methodology, empirical science, post-positivism, and quantitative research (Collings & Mellahi, 2009). Positivism in social science adopts the philosophical stance of natural scientists who normally select scientific methods to produce knowledge

(Collings & Mellahi, 2009). It relies heavily on Popper's (1959) falsifications that emphasizes objective data collection to test the research hypotheses (Hines, 1988; Moser, Gadenne, & Schröder, 1988). It also proposes that researchers should act against their personal feelings and attachments in order to develop unbiased theories.

Positivists commit to an objectivist epistemology, which assumes that there is a neutral point at which an observer can stand back and observe the external world objectively (Johnson & Duberley, 2000). In the research process, knowledge of the external social and natural world can be transferred from a passive knower (the subject) to an independent researcher (Collins, 2018). It is basically presumed that the researcher maintains minimal interaction with the research respondents when carrying out the research study (Wilson, 2014).

Positivists accept a realistic ontological position, which entails that there is an objective world out there beyond our senses, and that the job of the researcher is to pursue truth, or to fit our theories closer and closer to the objective reality that we presume to exist (Mitroff & Pondy, 1978). Positivist research entails the evaluation of an underlying commitment to a correspondence of truth. The aim is to ensure a distance between the researcher and the researched (respondents), so that the research process and findings can be value-free (Johnson, Onwuegbuzie, & Turner, 2007). The Positivism research paradigm has been influential in business and management research and has become the guiding principle of most quantitative research. Johnson et al. (2007) note that the key steps in quantitative research include selecting a sample (often large) to participate in a survey or an experiment; using valid and reliable measurements for each variable; testing hypotheses; and generalizing findings to a wider population. In so doing, positivist researchers would be able to produce

rational, reliable, theoretically derived, and generalizable knowledge (Crowther & Lancaster, 2012).

3.3 Research Design

Kothari (2004) and Nkatini (2005) stated that research design is a detailed plan of how research is conducted, comprising of how data is collected, the research instruments used, how the research instrument is used, and the means of analyzing raw data collected in a research project. There are various research designs that a researcher can use depending on the nature of the study. The research design used in the study was explanatory research design since the study is quantitative in nature (Collings & Mellahi, 2009). Quantitative research is concerned with scientific methods for gathering new data from a large population in accordance with the problem under investigation; analyzing the data to provide objective meaning based on the actions and opinions of the respondents; and extrapolating the findings to the population (Collings & Mellahi, 2009).

The prime objective of explanatory research design is to identify issues and key variables in a given research problem to provide an explanation of how and why a phenomenon exists (Baskerville & Pries-Heje, 2010). Cohen, Manion, and Morrison (2013) posit that explanatory research design helps researchers to find out the reasons behind the occurrence of a particular phenomenon. Explanatory research design is a research technique use to explore why something occurs when limited information is available. It is used to increase the understanding of a given phenomenon, ascertain how or why a particular phenomenon is occurring, and predict future occurrences in form of casual relationships through obtaining fresh data into the situation in order to build, elaborate, extend, or test a theory.

3.4 Study Area

The study was conducted in the nine public universities in Uganda with emphasis on academic staff performance. Public universities are distributed in the four regions of Uganda, with each region having at least two public universities chartered and run by the Government of Uganda (NCHE, 2017). Public universities are at the apex of knowledge creation and dissemination, spearheading creativity and innovation that change the lives of people in society and the community. The public universities studied included: Makerere University and Kyambogo University in the Central Region of Uganda; Mbarara University of Science and Technology (MUST) and Kabale University in the Western part of Uganda; Gulu University, Muni University, and Lira University in Northern Uganda; Busitema University and Soroti University in Eastern Uganda.

The government of Uganda embarked on the establishment of public universities in the four regions (northern, eastern, central, and western) of Uganda to upscale the Human Development Index to match the country's development needs (Magara, 2009). These public universities are mandated to provide professional training in the fields of medicine, engineering, law, architecture, business, economics, statistics, IT, etc., and operate a research center that is responsible for carrying out research in a broad range of disciplines. In that regard, public universities are expected to play a role in national and regional development, developing international contacts and social interactions that foster intellectual and social development of society for the support of the country’s economic growth and development (Bigabwenkya, 2013).

Extant research studies have confirmed that the nature of training provided by public universities prepares the higher cadre of human resources that are required for

national development. For public universities to achieve the country's aspiration, they need highly competent academic staff performing their duties of teaching, research, publication and community engagement to win public trust and confidence (Ssozi, 2013). Academic staff spearhead knowledge creation and dissemination, which provides the rationale to study academic staff performance to improve their capacity to disseminate and create new knowledge. However, the performance of academic staff in public universities has been questionable as evidenced by poor research and publication output, poor work ethics, and poor graduate quality (Kasule, Wesselink, & Mulder, 2016; Ssozi, 2013) that affects the public universities' ability to achieve their strategic objectives (Kasule *et al.,* 2016), which provoked the choice of the study area to enhance academic staff capacity to deliver quality university education to students and communities.

3.5 Target Population

The target population for the study was full-time academic staff of public universities in Uganda, from the rank of professor to teaching assistant, the highest and the lowest ranks respectively in university service. The choice of the academic staff to constitute the target population is based on the belief that academic staff are the backbone of any university around the world for the generation of knowledge under the freewill of academic freedom. Additionally, academic staff are better placed to rate their own behaviour on the duties they perform in response to performance triggers. This resonates with Kang'ahi, Indoshi, Okwach, and Osodo (2012) and Rutherford (1988), who stated that employees are in better position to provide an account of his/her work experience. According to the Ministry of Finance, Planning and Economic Development (2018), the number of academic staff in public universities in Uganda was 3,335 at the time of conducting the study. The population of 3,335 academic staff

in the nine public universities was sufficient to generate the required sample in support of the research hypotheses to draw statistical inferences about the population with the required degree of accuracy.

The breakdown is provided in **Table 3.1** as per the respective public university with the location and year of establishment as below:

Table 3.1: Showing number of Academic Staff of Public Universities in Uganda

Name of the University	Year of Establishment	No. of Academic Staff
Makerere University	1922	1,984
MUST	1989	225
Kyambogo University	2002	453
Gulu University	2002	213
Busitema University	2007	168
Muni University	2013	40
Kabale University	2015	199
Soroti University	2015	37
Lira University	2015	51
Total		**3,335**

Source: MOFPED, 2018

3.6 Sampling Design

3.6.1 Sample size

A sample is a group of people, objects, or items selected from a larger population for measurement. Sampling is a method or technique that allows a researcher to select or a sample or a subset of the population to make statistical inferences based on the results from the subset of the population to estimate the population characteristics. When selecting a sample from a population, a researcher must ensure that the sample is representative of the entire population in order to generalize the study findings to the entire population. The sampling process starts with a sampling frame of all

eligible individuals, from which the sample is selected. The selection of a suitable sample size has always been a big challenge to researchers, but a sample size needs to be carefully selected as statistical analysis are strongly affected by the sample size selected by the researcher (Collings & Mellahi, 2009).

According to Collis and Hussey (2013), sample size grounded on statistical analysis methods like structural equation modeling and applying confirmatory factor analysis, casual modeling with latent variables, structural path analysis, and multiple regression analysis must be carefully selected to represent the entire population to draw statistical inferences about the population with the required degree of accuracy or level of precision. When determining a representative sample size from a population, there are different strategies are used based on the research needs at a particular point in time (Sarmah, Hazarika, & Choudhury, 2013). There are various formulae used to determine the required sample size for a research study under different situations. The study used Yamane formula of 1967 (Israel, 1992) to determine the sample size since the population is finite (Adam, 2020). Yamane (1967) developed a formula for calculating sample size, which is alternative to Cochran's formula since the formulae of the two authors are in agreement and consistent with other sample size determination techniques (Sarmah *et al.*, 2013). According to Yamane (1967), for a 95% confidence level and p = 0.5, the size of the sample is expressed as:

$$n = \frac{N}{1 + N\,(e)^2}$$

Where: n = the Sample Size, **N** = the Population Size, **e** = the level of precision. Applying the formula in the study where N = 3,335 Academic Staff in Public

Universities with **± 5%** precision. Taking into consideration 95% confidence level and p = 0.5, we get the sample size for the study as:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{3335}{1 + 3335(0.05)^2}$$

n = 357

According to Comrey and Lee (1992), a sample of 50–100 is regarded as very poor; 100–200 poor; 300–400 good; 400–500 very good; and consequently, a sample of over 1000 is considered to be excellent. Based on the above considerations, and supported by Salkind (2010), the sample size for the study was increased by 50% and computed as:

n = 357 * 0.5 + 357

n = 178.5 + 357

n = 535.5

n = 536

The sample size of 536 academic staff was considered accurate and reasonable to perform the statistical analysis stated in the research hypotheses. This was chosen to allow performance of statistical analysis such as mediation, moderation, and moderated mediation effects (Borau, El Akremi, Elgaaied-Gambier, Hamdi-Kidar, & Ranchoux, 2015) that requires high statistical power to minimize Type II errors, since the study took into account quantitative techniques to derive statistical inferences about the study population with a high degree of precision (Delice, 2010). The sample size distribution for the respective universities is provided in **Table 3.2** below.

Table 3.2: Distribution of Sample Size

Name of the University	No. Academic Staff[1]	Sample Size[2]
Makerere University	1,984	319
MUST	241	39
Kyambogo University	402	65
Gulu University	213	34
Busitema University	168	27
Muni University	40	6
Kabale University	199	32
Soroti University	37	6
Lira University	51	8
Total	**3,335**	**536**

Source: [1]MOFPED, 2018, [2]Computed by Researcher[2], 2019

3.6.2 Sampling Method

The study used multistage sampling method to divide the population into groups to ease data collection, management, and interpretation. The researcher selected four regions of Uganda (*i.e.* northern, eastern, central and western) where the public universities are located, from the regions the researcher went to select the specific towns (*e.g.* Arua, Gulu, Lira, Soroti, Busia, Kampala, Mbarara and Kabale) where public universities are located. From the chosen towns, the researcher went further to select the public universities (*i.e.* Muni University, Gulu University, Lira University, Soroti University, Busitema Universty, Kyambogo University, Makerere University, Mbarara University of Science and Technology and Kabale University). Thereafter, each public university was grouped into colleges/schools/faculties and later departments for purposes of locating the respondents (academic staff) to constitute the sample without restrictions.

Simple random sampling technique was used to select the academic staff at the department level. This method was chosen because it is the most beneficial and supportive technique in quantitative studies (Collings & Mellahi, 2009) and ensures

that all academic staff from different departments were equally represented in the study to minimize bias and sampling error. The selection of academic staff from each department was based on a departmental staff list obtained from the administrator, where staff were assigned a random number and picked using lottery method without replacement. The number of respondents from the different sampling units was computed based on the total number of the departments within a school/faculty divided by the sample size as shown in **Table 3.3.**

Table 3.3: Showing the number of respondents per department

	Makerere	MUST	Kyambogo	Gulu	Busitema	Muni	Kabale	Soroti	Lira
College	9	-	-	-	-	-	-	-	-
School/Faculty	27	8	8	6	8	5	6	2	2
Department	189	38	28	44	15	8	12	10	5
Sample Size	319	39	65	34	27	6	32	6	8
Respondent	2	1	2	1	2	1	3	1	2

Source: **Survey Data (2021)**

3.7 Data Collection

3.7.1 Data type, sources and collection

This study used primary data that was collected from academic staff in the nine (9) public universities in Uganda using a structured questionnaire administered with the aid of four-trained research assistants using a drop and pick technique approach for the distribution and collection of the survey questionnaire. Telephone calls and emails were used to make follow up on the respondents for faster data collection, which increased response rates. The questionnaire was designed in a precise manner to produce responses in accordance with the research objectives and hypotheses (Thornhill *et al.,* 2009), where the respondents answered the same set of questions in a predetermined manner (De Vaus, 2002). Saunders (2011) posits that the questionnaire is one of the most widely used data collection techniques in survey

studies since it provides an efficient way of collecting responses from a large sample prior to quantitative analysis in a positivistic research paradigm (Saunders & Lewis, 2012).

The questionnaire used in the study was divided into five sections (A, B, C, D, and E). Section A collected information on the respondent's characteristics that were deemed relevant for the study. Section B was designed to collect information on an independent variable—talent management. Section C gathered information on the mediating variable—employee engagement, while Section D provided information on the moderating variable—transformational leadership, and Section E was designed to tap information related to the dependent variable—employee performance. The segmentation of the questionnaire was intended to avoid respondents from mixing information relating to a particular section or variable, which otherwise would affect the study outcomes.

3.7.2 Data collection procedure

The researcher secured an introductory letter from the School of Business and Economics, Moi University, introducing the researcher and the intention of the research study to the Management of Public Universities in Uganda (*Refer to Appendix II*). This letter was presented together with a written request by the researcher (a sample request letter is provided in *Appendix V*) to the University Secretary (University Accounting Officer) in the respective public university to acquire permission to conduct the research study. A sample of the introductory letter is provided in *Appendix V.* Subsequently, after submission of the letters addressed to the respective university secretary of Public University in Uganda, permission was granted for the commencement of the study. Sample permission letters are provided in

Appendix III-VI. Data collection commenced after the acquisition of permission from the University Secretaries with the help of four research assistants, placed in each region to collect data among the academic staff in the nine public universities in Uganda. The public universities were divided into colleges, schools, and later departments for purposes of locating the respondents for data collection. Simple random sampling technique was used to select the respondents who participated in the study at the departmental level.

The respondents were given a consent form (*Appendix VII*), which describes the nature of the research study they are involved in and requires respondents' willful consent prior to participation. After respondents' assent to the form, they were issued with the survey questionnaire and agreed on the timeframe within which the duly filled questionnaire would be collected by research team. The researcher or research assistants were required to obtain the telephone contacts and email addresses of the respondents and this contact information was used to send reminders to the respondents who were not in a position to fill in and return the questionnaire instantly. This measure allowed the researcher and research assistants to keep track of the questionnaire issued, ease collection, and ultimately increase the response rate (Taylor, Sinha, & Ghoshal, 2006) to 468 respondents, as opposed to the actual expected response of 536 respondents.

3.7.3 Control for common methods bias

Common Method Bias (CMB) occurs when the estimates of the relationships between two or more constructs (i.e., independent, dependent, mediating, and moderating constructs) are measured with the same method, causing an artificial inflation in the relationships due to the methods used (Podsakoff & Organ, 1986). A primary cause of

CMB in research is the response tendencies that raters can apply uniformly across measures that may arise due to social desirability, dispositional states, or inclinations on the part of the respondent to acquiesce or respond in a lenient, moderate, or extreme approach (Podsakoff, MacKenzie, & Podsakoff, 2012; Spector, 2006).

CMB can occur in research study due to similarities in the structure or wording of survey items that generate similar responses by respondents, the proximity of items in an instrument, and similarity in the timing, medium, or location in which measurement data is collected (Edwards, 2008). Despite the fact that CMB is a well-known problem in survey studies, the concept remains a source of concern (Antonakis, 2017; Podsakoff *et al.,* 2012; Spector, Rosen, Richardson, Williams, & Johnson, 2019) in several disciplines: public management (Jakobsen & Jensen, 2015); marketing (Podsakoff *et al.,* 2012; Spector, Rosen, Richardson, & Wright, 2012).

CMB problem emerges when data on independent variables and dependent variables are collected simultaneously in a similar format. This can emerge in cross-sectional surveys, while Spector (2006) notes that CMB is often linked to self-report, it is not exclusively a self-report phenomenon and researchers overlook the problem when it comes to other reports (*e.g.,* peer ratings) or supervisor reports, even though the method involves data measurement of the instrumental variables and dependent variables at the same time by supervisors or peers. Spector (2006) observes that some researchers assume that cohorts that report on others and do not use self-report are immune to what is a natural human response. It should be noted that potential bias is still exist in research be it self-report or a peer or supervisor report, which impacts on the quality of quantitative survey.

Thus, measures must be adopted to manage the effect of CMB to improve on the data quality in research studies (Fuller *et al.,* 2016). However, there are two approaches for mitigating the effect of CMB in research studies: - procedural and statistical remedies (Podsakoff *et al.,* 2012). Viswanathan and Kayande (2012) state that the best remedy depends on the research question; method used in data collection and the feasibility of the proposed solutions. The study applied procedural remedies with a number of strategies to reduce the CMB, including research purpose and instructions given to respondents; balancing positive and negative items; random ordering of questions; avoiding double-barreled questions; improvement in item scale clarity; removal of common scale properties; and ensuring the dependent and independent variables in the survey were clearly differentiated (Jordan & Troth, 2020).

3.8 Operational Measures of the Study Variables

According to Garson (2012), measurement level requirements vary by statistical procedure, but most procedures require an interval or ratio level measurement. In social science research, most studies use dichotomies and ordinal data like Likert scale data, in even procedures that technically require interval-level (Garson, 2012). This study used ordinal and dichotomous scales to measure the variables since the study contained attitudinal responses that were linked to a seven-point Likert scale to measure the perceptions of academic staff with respect to factors affecting academic staff performance in public universities in Uganda.

According to Buttle (1996), a survey study questionnaire containing Likert-type scales with either five or seven response categories is commonly used to measure observations and attitudes. Researchers in favour of a 5-point Likert-type scale state that it can be used to increase the response rate and quality of responses with a special

focus on reducing respondent frustration levels (Collings & Mellahi, 2009). Literature suggests that a five-point scale is readily comprehensible to respondents and enables them to respond in a better way, and few researchers prefer to use statistical analysis with a seven-type Likert scale (Cox & Isham, 1980). However, Thomas and Lewis (1993) posits that seven-point scales depict better correlations in studies dealing with t-test statistics.

According to Hair, Black, Babin, and Anderson (2013), if the focus of the research is on individual behavior, then a five-to seven-point Likert scale can be selected to measure the items. In light of the above debates, there is support for the use of the seven-point Likert scale, but the popularity of the five-point Likert scale seems to be less justified (Johns, 2010). Based on the lines of thoughts, the study used a seven-point Likert scale since the focus was on measuring individual behaviors and the application of t-test statistics to approve or disapprove the research hypotheses.

3.8.1 Operationalization of Dependent Variable

The dependent variable for this study is employee performance, which was operationalized in form of teaching, research, publication and community engagement. The study adopted Individual Work Performance Questionnaire (IWPQ) Version 0.1 to suit employee performance in an academic work environment as opposed to the original Individual Work Performance Questionnaire that consisted of task performance, contextual performance, adaptive performance, and counterproductive performance (Koopmans *et al.*, 2013).

The current study applied modification to the dimensions of Individual Work Performance to include teaching, research, publication and community engagement replacing the traditional dimensions of employee performance within the Individual

Work Performance Questionnaire to suit the work environment of academic staff in public universities in Uganda. The operationalization of the scale is based on existing literature by Koopmans *et al.* (2013) and expert from different field of study who found the instrument reliable and valid for use within any study.

The revised dimensions of employee performance with sample items consisted of teaching with 9 items (for instance; "I attend to my lectures according to the assigned timetable"); research consisted of 9 items (for instance; "My University has a research policy that guides academic staff in doing research"); publication with 9 items (for instance; "I regularly publish in International peer reviewed journals"); and community engagement consisted with 13 items (for instance; "I have social and networking skills to involve community in research activities"). These items were measured on seven-Likert type scale ranging from 1-"Strongly Disagree" to 7-"Strongly Agree".

3.8.2 Operationalization of Independent Variable

The independent variable in this study, which is talent management, was operationalized in terms of talent attraction (7 *items*), deployment (7 *items*), development (8 *items*), and retention (9 *items*) as adapted from previous studies (Annakis, Dass, & Isa, 2014; Farooq, Othman, Nordin, & Ibrahim, 2017; Kamal & Lukman, 2017b). The items were operationalized and assessed on a seven-point Likert scale; (1) strongly disagree and (7) strongly agree with 31 *items* (Farooq *et al.*, 2017).

3.8.3 Operationalization of Mediating Variable

A mediating variable explains the process through which two variables, that is, an independent variable and a dependent variable, are related. It implies that the effect of

the independent variable (X) on the dependent variable (Y) can best be explained by using a third variable called mediator (M), which causes the independent variable (X) and the mediator to interact to cause a change in the dependent variable (Y). For instance, instead of X causing Y directly, X causes M, and M in turn causes Y.

The mediating variable in this study is employee engagement. Employee engagement was assessed using the Utrecht Work Engagement Scale (UWES) with 17 items developed by Schaufeli and Bakker (2003) containing three subscales: vigor (6 items; sample item: "At my job, I feel strong and vigorous"), dedication (5 items; sample item: "I am enthusiastic about my job"), and absorption (6 items; sample item: "I get carried away when I am working"). The UWES has been validated in several countries, including China (Yi-wen & Yi-qun, 2005), Finland (Hakanen, 2002), Greece (Xanthopoulou, Bakker, Demerouti, & Kantas, 2007), South Africa (Storm & Rothmann, 2003), Spain (Schaufeli et al., 2002), and the Netherlands (Schaufeli & Bakker, 2003; Schaufeli *et al.*, 2002).

The confirmatory factor analyses applied to these studies confirmed that the fit of the hypothesized three-factor structure to the data was superior to that of any other alternative factor structures (Bakker & Demerouti, 2008). In addition, the internal consistencies of the three subscales proved to be sufficient in each study (Prochazka, Gilova, & Vaculik, 2017). All items were scored on a seven-point rating scale ranging from 1 (never) to 7 (always). The overall employee engagement score was assessed following the recommendation of Schaufeli, Bakker, and Salanova (2006).

3.8.4 Operationalization of Moderating Variable

A moderating variable is one that affects the strength of the relationship between the predictor and the criterion variable. A moderator (W) specifies the conditions under

which the relationship between an independent variable (X) and the dependent variable (Y) must occur in a scientific inquiry. The introduction of a moderator variable (W) in a research model changes the direction or magnitude of the relationship between the two variables (*i.e.*, the independent variable (X) and the dependent variable (Y) in a research model. Thus, a moderating variable plays a fundamental role in enhancing the effect of the predictor variable on the outcome variable, decreasing the effect of the predictor on the outcome, or reversing the effect of the predictor on the outcome. A moderator variable strengthens, diminishes, disproves or alters the relationship between two or more variables (Agabalinda & Isoh, 2020).

The moderating variable, was transformational leadership, operationalized in term of Multifactor Leadership Questionnaire, specifically the Form5X-Short Form with twenty (20) items. This version is the standard instrument widely used to collect information on three types of leadership styles where the followers rate their leaders on a given items (Hemsworth *et al.,* 2013). The scale has been validated in several studies and adopted for use in the current study. The recent application was in the Turkish context by Ahin, Gürbüz, and Sen (2017).

The instrument was operationalized on four subscales of transformational leadership - idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation (Bass & Avolio, 1997). The subscales were converted into higher-order factors, consistent with recent empirical tests (Masood & Afsar, 2017) and theoretical developments of transformational leadership (Armstrong & Muenjohn, 2008). Respondents were asked to rank the frequency with which their leaders display

transformational leadership behaviors on a 7-point Likert scale, ranging from 1 (Almost Never) to 7 (Always).

3.8.5 Operationalization of Control Variables

The control variables of the study included gender, age, educational level, and tenure. Previous studies have reported that these variables are correlated with employee performance (Aquino, Galperin, & Bennett, 2004; Howladar *et al.*, 2018; Zhang & Bartol, 2010). The study operationalized the control variables suspected to have a relationship with the dependent variable (employee performance) to account for methodological and statistical errors that might occur during data collection and analysis by entering the controls in the first step of a hierarchical regression model during data analysis (Atinc *et al.*, 2012; Carlson & Wu, 2012).

The control variables used in the study were: *Gender* was operationalized with a single question and two answer alternatives (1 male and 2 female). *Age* was operationalized in term of calendar year while *education level* on the basis of academic qualifications attained by academic staff because of formalized training in an educational institution, for example, bachelors, masters, and PhD degrees. *Tenure* was measured by the number of years the academic staff attained while working for the university.

Table 3.4: Summary of the operational measures of the Study Variables

Study Variable	Variable Type	Operational Indicators	Level of Measurement	Source	Sample Items
Employee Performance	***Dependent***		The study adapted Individual Work Performance Questionnaire (IWPQ) Version 0.1 to measure Employee Performance in an academic work environment.		I attend to my lectures according the assigned timetable.
		Teaching	Initially, Individual Work Performance Questionnaire consisted of four dimensions of Task Performance, Contextual Performance, Adaptive Performance, and Counter Productive Performance with 44 items.(Koopmans *et al*., 2013)	Koopmans *et al*, (2013) Akintayo (2008); Ojokuku (2013); Osaikhiuwu (2014); Sanda (1991) (Nwamadi & Ogbonna, 2021) Oslow (2007) Yusuf and Ogbudinkpa (2017)	
		Research	The current study applied modification to the dimensions of Individual Work Performance to include Teaching, Research, Publication and Community Engagement with 40 items.		My University has a research policy that guides academic staff in doing research.
		Publication	The revised dimensions of Employee Performance are composed of Teaching with 9 items, Research 9 items, Publication 9 items and Community Engagement with 13 items.		I regularly publish in International peer reviewed journals.
		Community Engagement	The items were measured on seven Likert scale ranging from (1) Strongly Disagree and (7) Strongly Agree		I have social and networking skills to involve community in research activities.
Talent Management	***Independent***	Talent Attraction	Talent management was operationalized on the sub constructs of talent attraction (7 *Items*), talent deployment (7 *Items*), talent development (8 *Items*), and talent retention (9 *Items*).	Annakis, Dass, and Isa (2014);	My University rewards top-performing academic staff.
		Talent Deployment	The survey items were adapted from previous studies with 31 items.	Farooq, Othman, Nordin, and Ibrahim (2016,	My University builds up talent pool at every level of the University.

		Talent development Talent Retention	The items were measured on a seven point Likert scale; (1) Strongly Disagree and (7) Strongly Agree.	2017); Kamal and Lukman (2017a, 2017b)	My University deploys academic staff with creative thinking in key positions. My University identifies career development needs for academic staff.
Employee Engagement	***Mediator***	Vigor	Employee Engagement. Employee Engagement was measured using Utrecht Work Engagement Scale (UWES) with 17 items.	Schaufeli and Bakker (2003); Yi-wen & Yi-qun, 2005); Hakanen, 2002);	I put in a lot of energy in my work.
		Dedication	The Utrecht Work Engagement Scale (UWES) contains three subscales: Vigor (6 items), Dedication (5 items), and Absorption (6 items).	Xanthopoulou, Bakker, Demerouti, & Kantas, 2007);	I am enthusiastic about my job
		Absorption	The items on the Utrecht Work Engagement Scale were scored on a seven-point rating scale ranging from 1 (never) to 7 (always).	Storm & Rothmann, 2003); Schaufeli, Bakker, and Salanova 2006).	I am always taken up in my work.
Transformational Leadership	***Moderator***	Idealized influence	Transformational leadership was measured using a Multifactor Leadership Questionnaire (MLQ) - Form5X-Short Form consisting of 20 Items. The scale has been adapted and validated in several studies a more recent application was in the Turkish context.	Hemsworth *et al. (*2013)	My supervisor spends time coaching employees
		Inspirational Motivation	This version is widely used and it is the standard instrument used to collect information on three sets of leadership styles for which followers rate their leaders.	Şahin, Gürbüz, and Şeşen (2017)	My supervisor displays a sense of power and confidence

		Individualized Consideration	Transformational Leadership was measured on the four subscales of idealized influence, individualized consideration, inspirational motivation and intellectual stimulation.	(Bass & Avolio, 1997)	My supervisor communicates a clear and positive vision of the future
		Intellectual Stimulation	The subscales were converted into higher-order factor, which is consistent with recent empirical test and theoretical developments of transformational leadership.	(Masood & Afsar, 2017)	My supervisor encourages open-mindedness and innovative ideas among team members
			Respondents were asked to rank how frequently their supervisors display the leadership behaviours on a 7-point Likert scale ranging from 1 (Almost Never) to 7 (Always).	(Armstrong & Muenjohn, 2008)	
Control Variables	***Covariates***	Gender	Previous studies reported that gender, age, educational level and tenure are correlated with employee performance. Gender was measured with a categorical scale.	Aquino, Galperin, & Bennett (2004)	Male or Female
		Age	Age was measured based on calendar year.	Howladar *et al.* (2018)	Calendar Year
		Education level	Education Level was measured on the basis academic qualifications attained by academic staff because of formalized training in an educational institution for example, Bachelor degree, Master degree, and PhD.	Zhang & Bartol, (2010) Atinc *et al.*, (2012)	Academic Qualifications Attained e.g. Bachelor Degree, Master Degree, and PhD
		Tenure	Tenure was measured on the number of years the academic staff attained while working for the University.	Carlson & Wu, (2012)	Number of Years of Service in The University

3.9 Reliability and Validity Tests

The study used reliability and validity to assess the research instruments and derive consistent and meaningful inferences. The assessment of instrument measurement properties is useful to subsidize the selection of valid and reliable tools to ensure the quality of research results (Souza, Alexandre, & Guirardello, 2017). The study provides evidence of how the measurement properties of the constructs were assessed, which is very helpful to the researcher in the choice of the most suitable research tool to deploy in a research study (Souza *et al.*, 2017). Reliability and validity are considered the main measurement properties of research instruments.

Literature informs researchers that there is a need for a profound assessment of the measurement properties of questionnaires (Salmond, 2008). The researcher has to be careful when choosing an adequate and accurate tool to ensure the quality of the research results. It is necessary to know the instruments in details in terms of the items, domains, assessment forms, and, measurement properties before using instrument in a survey study. The quality of information provided by the instruments depends on their psychometric properties (Roach, 2006). Prior to suitability, the research instruments must offer accurate, valid, and interpretable data for the population under investigation (Alexandre, Gallasch, Lima, & Rodrigues, 2013). The measures are expected to provide scientifically robust results (Cano & Hobart, 2011). The performance of the results of these measures comes from the reliability and validity of instruments (Salmond, 2008). Despite disagreements in some points, researchers are unanimous in considering the reliability and validity as the main instruments' measurement properties that must be considered in every research studies (Cook & Beckman, 2006; Pittman & Bakas, 2010).

3.9.1 Reliability Tests

According to Heale and Twycross (2015), reliability relates to the consistency of a measure, which expresses the extent to which a questionnaire, test, observation, or any measurement procedure produces the same results repeatedly in time and space. This implies that the research instrument must produce stable and consistent results over time or across respondents. Similarly, the degree to which individual responses on a survey remain the same over time is a demonstration of reliability. Reliability refers mainly to stability, internal consistency, and equivalence of a measure (de Andrade Martins, 2006). It is important to note that reliability is not a fixed property of a questionnaire.

Reliability relies on the data collected on a research instrument to approximate the population parameters where the study is conducted in regards to circumstances and context, which might imply that a research instrument reliable in one circumstance, can be unreliable under different conditions (Keszei, Novak, & Streiner, 2010). It is important to note that reliability is about test scores and not respondents. One should never say that someone is reliable. Reliability assessment is affected by numerous factors such as raters, sample characteristics, type of instrument, administration method, and statistical method used (Roach, 2006). Therefore, the results of research using measurement instruments can only be interpreted when the assessment conditions and the statistical approach are clearly presented (Kottner *et al.,* 2011).

Reliability refers to the stability, consistency, or accuracy of the research instrument (Polit & Beck, 2011). The choice of the statistical tests used to assess reliability may vary depending on the measurement applied (Keszei *et al.,* 2010). Researchers use three types of reliability to assess the reliability of a research instrument: stability,

internal consistency, and equivalence. The study used internal consistency to assess the reliability of the research instrument. Internal consistency shows the subcomponent of a research instrument measures the same characteristics (Streiner, 2003). This is an important measurement property of a research instrument that assesses a single construct using a variety of items (Terwee *et al.*, 2007). Approximations with low internal consistency indicate that the items measure different constructs or else the answers to the questions of the research instruments are inconsistent (Streiner & Kottner, 2014).

Most researchers use internal consistency to assess the reliability of research instruments through Cronbach's alpha (Keszei *et al.*, 2010; Souza *et al.*, 2017; Streiner & Kottner, 2014). Since the 1950s (Cronbach, 1951), internal consistency has been the most commonly used measure to assess the reliability of research instruments (Beeckman *et al.*, 2010; Bonett & Wright, 2015). Cronbach's alpha coefficient demonstrates the covariance level between the items of a scale. Thus, the lower the sum of item variance, the more consistent the instrument (Pasquali, 2013).

Much as Cronbach's alpha coefficient is widely used in the assessment of the internal consistency of research instruments, there is no consensus on its interpretation. Although some studies establish that values higher than 0.7 are ideal (Nunnally & Bernstein, 1994; Terwee *et al.*, 2007), some research considers values under 0.70 (but close to 0.60) as satisfactory (Balbinotti & Barbosa, 2008; Streiner, 2003). It is important to understand that the values of Cronbach's alpha coefficient are highly influenced by the number of items in the measurement instrument (Cortina, 1993). A small number of items per domain in an instrument may reduce alpha values, affecting the internal consistency (Sijtsma, 2009).

The study accepted a Cronbach alpha coefficient lower than 0.7 following the recommendation of Hair, Ringle, and Sarstedt (2013), who argued that a Cronbach alpha of 0.60 is considered to have average reliability, satisfactory (Balbinotti & Barbosa, 2008), and reliable (Streiner, 2003) in the assessment of an instrument (Streiner & Kottner, 2014). This argument is further supported by Garson (2012). Hence, it can be deduced that all the study variables were within the acceptable level of internal consistency, which were relied upon to draw statistical inferences (Amin, 2005; Nunnally, 1994; Streiner & Kottner, 2014).

3.9.2 Validity Tests

According to Ghauri and Grnhaug (2005), the validity of research instruments explains how well the collected data covers the actual area of investigation. Validity refers to the accuracy and meaningfulness of inferences based on the research findings (Field, 2005). Validity test was conducted to assess the accuracy of the research instrument for replicability. The study used content/face, content, criterion, and construct validity tests to assess the instruments for accurate and consistent (Taherdoost, 2016a).

3.9.2.1 Content Validity

This refers to the degree to which an item on a test is a representative of the domain in which the test seeks to measure. For a researcher to produce valid results from a test, the content of the test must cover all the desired parts of the subject it purports to measure. According to Mugenda (1999), the procedure for assessing the content validity of a measure is to use a professional or expert in a specific field, who assists in discovering question content, correcting wording and sequencing issues prior to the actual study, and exploring ways to improve the overall quality of the study.

The researcher sought the opinions of experts in the fields of human resource management, behavioral science, and psychology to establish the validity of the research instruments. This facilitated the necessary revisions and modifications of the research instruments to enhance the quality and relevance of the instruments to meet the assessment purpose.

3.9.2.2 Face Validity

This is the type of validity, also referred to as logical validity, which appears to test or measure what the instrument purports to measure based on face value. Face validity is the most informal and subjective way to measure the validity of the research instrument through asking multiple people to rate the validity of the test instrument using a Likert scale. A research instrument is believed to bear face validity if it has clear and comprehensible items that measure the concept under investigation (Pittman & Bakas, 2010). To ensure face validity of research instruments, the supervisors and practitioners in behavioural science and human resource management assessed the relevancy and adequacy of the items in the research questionnaire.

3.9.2.3 Criterion Validity

Criterion validity establishes whether the variable can be measured with accuracy through comparison with an existing set standard or whether the instrument can be substituted with a set standard. Criterion validity is used to test for correlation between the variables. The relationships between the constructs were quantified using a correlation coefficient that ranges between -1 and +1 and values were closer to +1. The assessment of criterion validity were related to external yardsticks that are compared with the construct (Fayers & Machin, 2013).

3.9.2.4 Construct Validity

Construct validity measures the extent to which a measurement scale measures what it purports to measure (Souza *et al.*, 2017). This was determined using factor analysis, where items with a coefficient greater than 0.5 were retained to constitute the factor structure of the study variables. The items with a coefficient below 0.5 were dropped from the factor structure of the study variables that the researcher relied on to make predictions based on the stated research hypotheses, and the predictions were tested to support the instrument validity (Hair, Black, Babin, Anderson, & Tatham, 2009).

3.9.2.5 Convergent and Discriminant Validities

Hair *et al.* (2009) indicate that convergence validity indicates the degree to which a specific construct has a high proportion of variance in common with others. Discriminant validity explains the degree to which the construct differs from the others. There are several methods for estimating convergent validity, and factor loading is one of the most commonly used methods in this study. High factor loads indicate that the factors converge at one common point to explain the latent variable.

Literature plugs that factor loads must be at least 0.5 or higher. In the case where one of the items in the measurement scale present values is below 0.5, the item is deleted from the factor structure (Hair *et al.*, 2009). Another measure that was adopted was the assessment of the average variance extracted (AVE), which verifies the proportion of variance of the items that is explained by the construct to which they belong. Just as in the evaluation of factor loads, when the AVE values are equal to 0.5 or over, the model converges to a positive result (Fornell & Larcker, 1981; Hair, Hult, Ringle, & Sarstedt, 2021). The researcher performed the analysis of cross loads in the assessment of discriminant validity.

The items of the assessed tool presented factor loads higher in the constructs that were previously designed than in the others (Chin, 1998). The square roots of AVE must be higher than the correlation between the constructs in order to have discriminant validity (Fornell & Larcker, 1981; Hair, *et al.*, 2021; Leguina, 2015). After the assessment of the convergent and discriminant validity, the study developed a theoretical model following the relationships between the constructs as per the conceptual framework. **Table 3.5** summarizes the validity and reliability components used to assess the research instruments.

Table 3.5: Validity and Reliability used in the study

Validity/Reliability	Definition	Method used
Face Validity	The extent that measurement instrument items linguistically and analytically looks like what is supposed to be measure.	Expert Assessment of items
Content Validity	The extent that measurement instrument items are relevant and representative of the target constructs.	Literature Review; Expert Panels of Validators
Discriminant Validity	The extent that measures of different constructs diverge or minimally correlate with one another.	Principal Component Analysis
Convergent Validity	The extent that different measures of the same construct converge or strongly correlate with one another.	Principal Component Analysis
Criterion Predictive Validity	The extent that a measure predicts another measure.	Regression Analysis
Concurrent Validity	The extent that a measure simultaneously relates to another measure that it is supposed to relate	Correlation Analysis
Postdictive Validity	The extent that a measure is related to the scores on another, already established in past.	Correlation Analysis
Reliability Internal consistency	The extent to which a measurement of a phenomenon provides stable and consist result	Cronbach's Alpha

Source: Netemeyer, Bearden, and Sharma (2003); Rhodes–Kropf, Robinson, and Viswanathan (2005); Straub, Boudreau, and Gefen (2004), Engellant, Holland, and Piper (2016).

3.9.3 Pilot Study

A pilot study was conducted to test the reliability and validity of the research instrument following the recommendation of Taherdoost (2016b). Private universities were used as the testing ground for the final study since they have similar characteristics with public universities in terms of operations and are regulated by the same body, *i.e.,* the National Council for Higher Education. Additionally, private universities have the required number of academic staff for the pilot study. Ninety-five (95) academic staff members from eight (8) private universities were chosen based on their convenience and willingness to participate in the survey.

The researcher sought the opinions of the supervisors and five experts in the fields of human resource management and organizational psychology at Makerere University Business School to validate the research instrument that facilitated modifications of the research instrument to achieve content validity. The pilot results showed that the instrument were reliable as the Cronbach's alpha coefficients were greater than the 0.70 threshold recommended by Amin (2005). Exploratory factor analysis was performed to assess the factor structure of the study variables to achieve construct validity. The results of the pilot informed the deployment of the research instrument in the field for the main study.

3.10 Data Analysis

3.10.1 Data Processing

Data processing is an essential aspect of streamlining facts and writing research reports in a survey study with the aim of eliminating horrible errors from appearing in research outcomes (Davis, Mohler, & Smith, 2011). Data processing involves manual and automated processes of transforming raw data into usable and desired forms in a

predefined sequence to make the data serviceable for analysis (Smith, 1995). Thus, many checks and safeguards were taken to eliminate any form of error emerging from the survey study. The checks and safeguards that were taken during data processing included data collection, data editing, data sorting, data coding, data entry, data cleaning, data storing, data processing, and data analysis. Data processing involves the following steps:

3.10.1.1 Data Collection

Data collection is the process of gathering and measuring data against established research instruments on targeted variables (employee performance, talent management, employee engagement, and transformational leadership) in an established system (public universities) in a programmed manner to provide answers to research objectives and hypotheses for the assessment of the research outcomes. This was a preliminary and essential phase that preceded the rest of the data processing and analysis. Thus, the researcher developed the necessary steps and procedures for ensuring that the data collected from the academic staff in public universities was trustworthy and built on credible information for the generation of high-quality and dependable research findings.

3.10.1.2 Data Preparation

Data preparation is the process of editing, coding, and consolidating data into one file or data table, primarily for use in analysis. Editing is a quality-control process that was applied to paper-and-pencil surveys. The purpose was to ensure the information on a questionnaire was ready for analysis (Sonquist & Dunkelberg, 1977) using computer-aided packages like SPSS. Once the data sheet is complete, attempts were made to ensure that data was error-free and readable for reporting purposes. Editing

was carried during and after data collection process, and much of it occurred simultaneously with data coding. Data coding provided the means through which responses were kept within limited alternatives by assigning alphabetical and numerical symbols to each item in a mutually exclusive manner, i.e., defined within one concept or term to simplify data entry and analysis. During preparation, raw data was checked for any errors. The purpose of this step was to eliminate redundant, incomplete, or incorrect data, which might affect the quality of the data for further manipulations.

3.10.1.3 Data Entry

Data entry organizes data as a matrix or spreadsheet, with observations in rows and variables in columns, which has been entered in a computer file and stored on a disk, tape, CD, or other media. Matrix data in a survey study consists of coded responses to each question that occupy a designated column in the rows for each respondent. There are several options for data entry. One can enter data from the survey questionnaire into a computer file using data entry software programmed to detect any kind of erroneous data entry. This is called computer-assisted data entry (CADE) or SPSS, with enhanced capacity to detect erroneous data entries during the analysis stage.

3.10.1.4 Data Cleaning

Data cleaning is the process of detecting and resolving errors in coding and in transmitting the data into the computer or computer-aided software packages. After data entry into the computer software, the researcher devoted a great deal of time and resources to ensure that the data was free from any form of error of omission or commission. The process involves the identification of response-related errors. Researchers who have invested a great deal of time and energy in collecting data do

not want the research work to be undermined by avoidable mistakes made at the stage of data processing, since data processing errors are avoidable compared to sampling errors and measurement errors, which are irreversible. The only way to avoid data processing errors was to employ some degree of care during data entry and all possible techniques were used to check for mistakes in the dataset.

3.10.1.5 Data Processing

This stage involved processing raw data entered into the computer to generate credible information used for interpretation and drawing inferences. Most data-processing errors are avoided with computer-assisted software. To eliminate errors in the questionnaire, data entries were verified and checked for illegitimate codes and inconsistencies. Data processing was done with the aid of machine learning algorithms, which depended on the information required by the research study in line with research objectives.

3.10.1.6 Data output and storage

The data output was displayed in usable form to non-data scientists. The outputs stemming from data analysis were presented in the form of frequency tables, scatter plots, graphs, histograms, box plots, three-dimensional effects, images, and plain text, where research users can discern meaning from the data for decision-making. The final stage of data processing is storage. After data processing, the processed data was stored for future use. While some information may be used instantaneously, much of it may serve future needs. It is critical that the data be properly stored for quick and easy access by the researcher and other interested parties for any future manipulations that may be required as and when the need arises. For instance, the American Psychological Association (APA) provides that the minimum and maximum duration

within which a researcher can store research data should be between 3-5 years, after which the researcher is at liberty to dispose of the research data in accordance with ethical practices and the Data Protection Act to safeguard against confidentiality and privacy of respondents.

3.10.2 Data analysis and interpretation

The quantitative data analysis was assessed in terms of numerical values that were gathered, organized, numbered, coded, and entered into SPSS software to generate descriptive statistics like standard deviation, minimum, maximum, skewness, and kurtosis (Kombo & Tromp, 2006). The study used descriptive and inferential statistics to analyze the data. The descriptive statistics demonstrate the face validity of the predictors of employee performance. Inferential statistics such as Pearson product-moment correlation and simple linear regression analysis were used to test the research hypotheses and discern meaning from the derived hypotheses results. The correlation coefficient enables the researcher to establish the degree of associations among the study variables.

Data analysis was done with the help of Statistical Packages for Social Sciences (SPSS) version 23 to generate descriptive and inferential statistics according to the research objectives and hypotheses. Descriptive statistics were used to summarize, describe, and explain the sample characteristics in terms of frequency tables, mean, and standard deviation (Singh, 2007), whereas inferential statistics used computed statistics from the sample characteristics to draw statistical inferences about the population parameters using the sample data drawn from the population (Singh & Masuku, 2014). The reliability of the research instrument was computed using the Cronbach alpha coefficient to assess the internal consistency of the research

instruments. Exploratory Factor Analysis was used to test for construct validity. According to DeVellis (2003) and Thompson (2004), reliability and construct validity should be considered when applying the measurement model in different study contexts with different sample sizes, despite the fact that the research instruments were previously used and validated in several contexts.

A sampling adequacy test was carried out. Pearson correlation was used to determine the strength and direction of the linear relationships/associations between the variables. A correlation matrix was used to test if the variables were highly correlated with each other. A Hierarchical Regression Model was used to examine the magnitude of the variance explained by the independent variables (talent management, employee engagement, and transformational leadership) on the dependent variable (employee performance) based on the increasing pattern of the R^2 magnitude of change by adding additional predictor variables.

According to Leech, Barrett, and Morgan (2014), a hierarchical regression model is a useful tool in testing if a new variable adds anything to the prediction equation. The mode of entry is normally dictated by logical or theoretical considerations (Ho, 2013). For example, based on theoretical reasons, a researcher may decide that two specific independent variables are stronger predictors of the dependent variable (Ho, 2006). In this study, the researcher entered control variables, talent management, employee engagement, and transformational leadership to assess the value they add to the hierarchical regression model.

The study used Process to compute moderated mediation in the form of a conditional process model (Hayes, 2017). The Process Model generated direct and indirect effects for the moderated mediation model (Hayes, 2013a). Generally, Process offers various

methods for probing two- or three-way interactions and can construct percentile bootstrap, bias-corrected bootstrap, and Monte Carlo confidence intervals for indirect effects (Hayes, 2018).

3.10.3 Model Specification

Model specification refers to the act of not omitting significant causal variables or including correlated but causally extraneous ones and also correctly indicating the direction of arrows connecting the variables in the model (Garson, 2012). A misspecification error is likely to change the magnitude of the parameter estimates and sometimes the direction of the relationships. There is no statistical test for misspecification. A good literature review is important in identifying variables that need to be specified (Garson, 2012). This was dealt with by reviewing literature and theories and identifying variables that are correlated with the dependent variable. As a rule of thumb, the overall effect (for instance, R^2-coefficient of determination) using multiple regression was used to detect if important variables were omitted from the model.

According to Garson (2012), a researcher's task is lessened by drawing comparisons between different models to assess which model has a better fit for the data as opposed to justification of one model and evaluating the relative importance of the independent variables. The study used three models to test for the eight research hypotheses in relation to the four study variables, namely; talent management (TM), employee engagement (EE), transformational leadership (TL), and employee performance (EP) in relation to the direct and indirect effects for which analytical models were derived to produce statistical results that were used to draw statistical inferences.

3.10.3.1 Model specification for the control variables

The study took into account the effect of gender, age, education, and tenure as control variables on employee performance among academic staff of public universities in Uganda. This is based on previous literature that suggests that these control variables are related to employee performance (Aquino *et al.*, 2004; Howladar *et al.*, 2018; Zhang & Bartol, 2010) and also to account for methodological and statistical errors that might occur during data collection. The control variables were entered in the first step of the hierarchical regression model during data analysis (Atinc *et al.*, 2012; Carlson & Wu, 2012). To test for the effect of the control variables on employee performance (Y), the analytical model below was applied as expressed in **Equation 3.1** below:

$$\mathbf{Y} = \beta_0 + \beta_1 GE + \beta_2 AGE + \beta_3 EDUC + \beta_4 TEN + \mathcal{E} \text{-------} \textit{Equation 3.1}$$

Where;

Y	=	Employee performance
β_0	=	Constant
GE	=	Gender
AGE	=	Age
EDUC	=	Education
TEN	=	Tenure
$\beta_1, \beta_2, \beta_3, \& \beta_4$	=	The coefficients of the parameter estimate
Ɛ	=	Error Term

3.10.3.2 Model specification for the direct effects

The analytical model for the direct effects was developed using talent management, employee engagement, and transformational leadership to evaluate their effects on employee performance. A Hierarchical Regression Model (HRM) was used to test for

the direct effects on employee performance. The analytical models were expressed in the form of equations to translate Path **C'** and Path $\mathbf{b_1}$ of the conceptual framework into mathematical models that can be used to estimate the direct effects on the established model. The first equation of the direct effect tested for the effect of talent management on employee performance in response to $\mathbf{H_{01}}$ as expressed in **Equation 3.2** below:

$$\mathbf{Y} = \beta_0 + C + \beta_1 X + \mathcal{E} \text{ ---------- } \textit{Equation 3.2}$$

Where;

Y	=	Employee performance
β_0	=	Constant
C	=	Control variables (gender, age, education and tenure)
X	=	Talent management
β_1	=	The coefficient of the parameter estimate
$\mathcal{E}$	=	Error term

The second equation of the direct effect tested the effect of employee engagement on employee performance in response to $\mathbf{H_{02}}$ as shown in **Equation 3.3.**

$$\mathbf{Y} = \beta_0 + C + \beta_1 X + \beta_2 M + \mathcal{E} \text{ ---------- } \textit{Equation 3.3}$$

Where;

Y	=	Employee performance
β_0	=	Constant
C	=	Control variables (gender, age, education and tenure)
β_1 & β_2	=	The coefficients of the parameter estimate
X	=	Talent management
M	=	Employee engagement
$\mathcal{E}$	=	Error term

The third equation of the direct effect tested the effect of transformational leadership on employee performance in response to $\mathbf{H_{03}}$ as illustrated in **Equation 3.4.**

$$\mathbf{Y} = \beta_0 + C + \beta_1 X + \beta_2 M + \beta_3 W + \mathcal{E} \text{ ---------- } \textit{Equation 3.4}$$

Where;

Y	=	Employee performance
β_0	=	Constant
C	=	Control variables (gender, age, education and tenure)
β_1, β_2 & β_3	=	The coefficients of the parameter estimate
X	=	Talent management
M	=	Employee engagement
W	=	Transformational leadership
Ɛ	=	Error term

Consequently, another analytical model for the direct effects representing Path $\mathbf{a_1}$ of the conceptual framework was derived using two analytical models to test for the effects of control variables, transformational leadership, and talent management on employee engagement. The first model of $\mathbf{a_1}$ tested the effect of the control variables and transformational leadership on employee engagement as expressed in **Equation 3.5**;

$$\mathbf{M} = \beta_0 + C + \beta_1 W + \mathcal{E} \text{ ---------- } \textit{Equation 3.5}$$

Where;

M	=	Employee engagement
β_0	=	Constant
C	=	Control variables (gender, age, education and tenure)

β_1	=	The coefficients of the parameter estimate
W	=	Transformational leadership
Ɛ	=	Error term

The second model of $\mathbf{a_1}$ was tested for the effect of talent management on employee engagement while holding constant the effects of the control variables and transformational leadership in response to $\mathbf{H_{04}}$ as expressed in **Equation 3.6** below:

$$\mathbf{M} = \beta_0 + C + \beta_1 W + \beta_2 X + \mathcal{E} \text{ ----------} \textit{Equation 3.6}$$

Where;

M	=	Employee engagement
β_0	=	Constant
C	=	Control variables (gender, age, education and tenure)
β_1 & β_2	=	The coefficients of the parameter estimate
W	=	Transformational leadership
X	=	Talent management
Ɛ	=	Error term

3.10.3.3 Model specification for the mediation

Model 2: Hayes (2013a) Model 4 was used to test for mediation while following MacKinnon, Cheong, and Pirlott (2012); MacKinnon, Coxe, and Baraldi (2012); MacKinnon and Fairchild (2009); and MacKinnon, Fairchild, and Fritz (2007) procedures of mediation involving the following sequential steps: In the first step, an independent variable (X) must affect the mediator (M). In this case, talent management must affect employee performance as expressed in **Equation 3.7** below.

$$\mathbf{M} = a_0 + C + a_1X + \mathcal{E} \text{ ---------- } \textit{Equation 3.7}$$

Where;

M	=	Employee engagement
$\mathbf{a_0}$	=	Constant
C	=	Control variables (gender, age, education and tenure)
a_1	=	The coefficient of the parameter estimate
X	=	Talent management
Ɛ	=	Error Term

In the second step, the mediator variable (M) must have an effect on the dependent variable (Y). In the second scenario, employee engagement must affect employee performance as expressed in **Equation 3.8** below;

$$Y = b_0 + C + b_1M + \mathcal{E} \text{ ---------- } \textit{Equation 3.8}$$

Where;

Y	=	Employee performance
$\mathbf{b_0}$	=	Constant
C	=	Control variables (gender, age, education and tenure)
$\mathbf{b_1}$	=	The coefficient of the parameter estimate
M	=	Employee engagement
Ɛ	=	Error term

The third step tested for the effect of the independent variable (X) on the dependent variable (Y) while controlling for the effect of the mediator (M). This step is not a necessary condition for mediation to take place. The model equation is expressed in **Equation 3.9** below.

$$Y = C_0 + C + b_1M + C'X + \mathcal{E} \text{ ---------- Equation 3.9}$$

Where;

Y	=	Employee performance
$\mathbf{C_0}$	=	Constant
C	=	Control variables (gender, age, education and tenure)
$\mathbf{b_1}$	=	The coefficient of the parameter estimate
M	=	Employee engagement
C′	=	Direct effect coefficient
X	=	Talent management
Ɛ	=	Error term

The mediation results were computed using the multiplicative rule where the coefficients of $\mathbf{a_1}$ and $\mathbf{b_1}$ were multiplied as $\mathbf{a_1 \times b_1}$ and the product provided the mediation results. Alternatively, mediation can also be calculated by subtracting direct effects **(*C′*)** from the total effects **(*C*)** expressed as ***C - C′*.** The two methods of computing mediation yield the same result and were applied to estimate $\mathbf{H_{05}}$. The total effects in the research model were computed by adding mediation effect $\mathbf{(a_1 \times b_1)}$ to direct effect **(C'),** denoted as $\boldsymbol{a_1 \times b_1 + C'}$**.** The statistical diagram that was used to compute the mediation effect is shown in **Figure 3.1**.

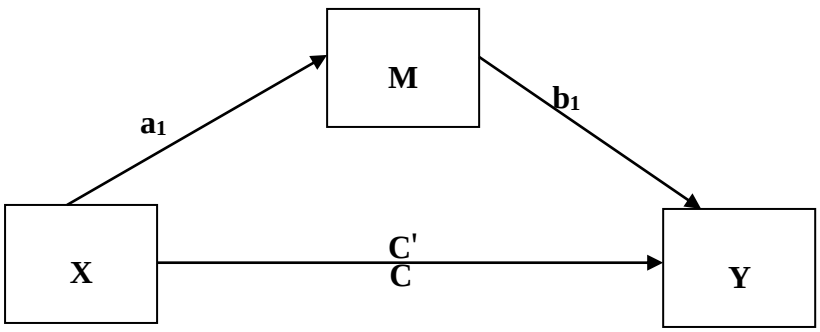

Figure 3.1: Statistical diagram for mediation

3.10.3.4 Model specification for the moderation and moderated mediation

Hayes (2018) Model 8 was used to test the moderators **(H_{06} & H_{07})** and moderated mediation **(H_{08}).** The statistical diagram for moderations and moderated mediation is shown in **Figure 3.2**.

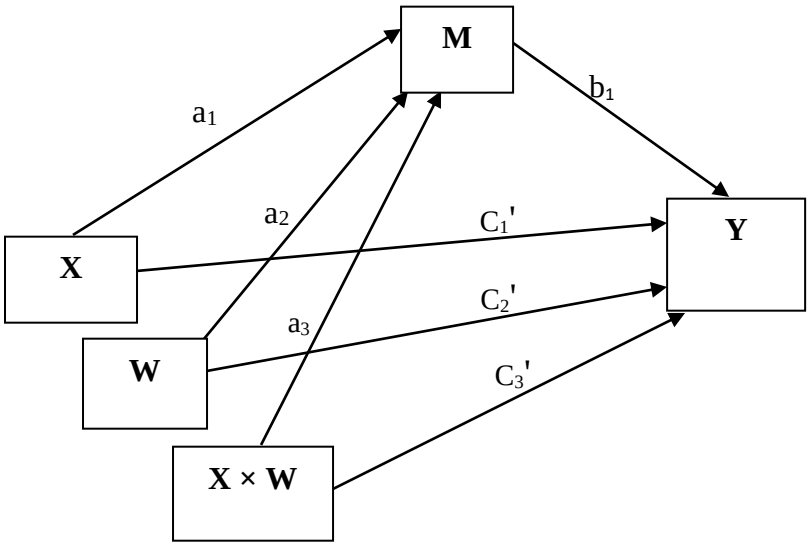

Figure 3.2: Statistical diagram for moderation and moderated mediation

The statistical model for moderation in response to $\mathbf{H_{06}}$ took the form of:

$$\mathbf{M} = a_0 + C + a_1X + a_2W + a_3X.W + \mathcal{E} \text{ ---------- Equation 3.10}$$

Where;

M	=	Employee engagement
$\mathbf{a_0}$	=	Constant
C	=	Control variables (gender, age, education and tenure)
$\mathbf{a_1, a_2 \& a_3}$	=	The coefficients of the parameter estimate
X	=	Talent management (TM)
W	=	Transformational leadership (TL)
X.W	=	TM * TL
Ɛ	=	Error term

The statistical model for moderation in response to $\mathbf{H_{07}}$ took the form of:

$$\boldsymbol{Y = C_0' + C + C_1'X + C_2'W + C_3'X.W + \mathcal{E}}\text{----------}\boldsymbol{Equation\ 3.11}$$

Where;

Y	=	Employee performance
$\mathbf{C_0'}$	=	Constant
C	=	Control variables (gender, age, education and tenure)
$\boldsymbol{C_1'}$**,** $\boldsymbol{C_2'}$ **&** $\boldsymbol{C_3'}$	=	The coefficients of the parameter estimate
X	=	Talent management (TM)
W	=	Transformational leadership (TL)
$\boldsymbol{X.W}$	=	TM * TL
Ɛ	=	Error term

The statistical model for moderated mediation in response to $\mathbf{H_{08}}$ took the form of:

$$\mathbf{Y} = \boldsymbol{a_0 + C + a_1b_1 + a_3b_1W = (a_1 + a_3W)\ b_1}\text{ ---------- }\boldsymbol{Equation\ 3.12}$$

Where;

Y	=	Employee performance
$\mathbf{a_0}$	=	Constant
C	=	Control variables
$\mathbf{a_1}$**,** $\mathbf{a_3}$ **&** $\mathbf{b_1}$	=	The coefficients of the parameter estimate
W	=	Transformational leadership
Ɛ	=	Error term

3.10.4 Statistical Tools for Hypotheses Testing

The study used beta coefficient (β-value), p-value, r-square change (ΔR^2) and t-value to test for the direct hypotheses ($\mathbf{H_{01}}$, $\mathbf{H_{02}}$, $\mathbf{H_{03}}$, & $\mathbf{H_{04}}$). The decision to reject or fail to reject the $\mathbf{H_{01}}$, $\mathbf{H_{02}}$, $\mathbf{H_{03}}$, & $\mathbf{H_{04}}$ were based on p-value ($p \leq .05$) and critical t-value ($t \geq 1.96$). Whereas indirect hypotheses used β, p-value, F-value, r-square (R^2), r-

square change (ΔR^2), t-value, Confidence Intervals (Lower Limit Confidence Intervals-LLCI & Upper Limit Confidence Interval-ULCI). The decision to reject or fail to reject the mediation hypothesis (**H_{05}**) and moderations hypotheses (**H_{06}** & **H_{07}**) were based on confidence intervals (LLCI & ULCI) being none zeros, p-value ($p \leq .05$) and critical t-value ($t \geq 1.96$). The decision to reject or fail to reject the moderated mediation hypothesis (**H_{08}**) was based on confidence interval (LLCI & ULCI) being none zeros. The summary of the statistical tools used to test the hypotheses is presented in **Table 3.6** below.

Table 3.6: Statistical tools for hypotheses testing

Research Hypotheses		Test Statistics	Decision Point	Decision
H_{01}:	Talent Management has no significant direct effect on Employee Performance among Academic Staff of Public Universities in Uganda.	β, p-value, F-value, ΔR^2 and t-value	$t \geq 1.96$ & $p \leq .05$	Reject H_{01}
H_{02}:	Employee Engagement has no significant direct effect on Employee Performance among Academic Staff of Public Universities in Uganda.	β, p-value, F-value, ΔR^2 and t-value	$t \geq 1.96$ & $p \leq .05$	Reject H_{02}
H_{03}:	Transformational Leadership has no significant direct effect on Employee Performance among Academic Staff of Public Universities in Uganda.	β, p-value, F-value, ΔR^2 and t-value	$t \geq 1.96$ & $p \leq .05$	Reject H_{03}
H_{04}:	Talent Management has no significant direct effect on Employee Engagement among Academic Staff of Public Universities in Uganda.	β, p-value, F-value, ΔR^2 and t-value	$t \geq 1.96$ & $p \leq .05$	Reject H_{04}
H_{05}:	Employee Engagement has no significant mediating effect on the relationship between Talent Management and Employee Performance among Academic Staff of Public Universities in Uganda.	β, p-value, t-value, R^2 LLCI & ULCI	LLCI & ULCI are none zeros, $t \geq 1.96$ & $p \leq .05$	Reject H_{05}
H_{06}:	Transformational Leadership has no significant moderating effect on the relationship between Talent Management and Employee Engagement among Academic Staff of Public Universities in Uganda.	β, p-value, F-value, ΔR^2 , t-value, LLCI & ULCI	LLCI & ULCI are none zeros, $t \geq 1.96$ & $p \leq .05$	Reject H_{06}
H_{07}:	Transformational Leadership has no significant moderating effect on the relationship between Talent Management and Employee Performance among Academic Staff of Public Universities in Uganda.	β, p-value, F-value, ΔR^2 , t-value, LLCI & ULCI	LLCI & ULCI are none zeros, $t \geq 1.96$ & $p \leq .05$	Reject H_{07}
H_{08}:	Transformational Leadership has no significant moderating effect on the indirect relationship between Talent Management and Employee Performance through Employee Engagement among Academic Staff of Public Universities in Uganda.	β, LLCI & ULCI	LLCI & ULCI are none zeros	Reject H_{08}

3.11 Data Diagnostic Tests

Diagnostic test were conducted to ensure that data confirm to parametric assumptions of regression analysis. Non-compliance with the tests imply that the parameters of the estimates are no longer an unbiased estimate of the population, hence inconsistent and inefficient, and thus cannot be used to make predictions (Garson, 2012). Hair, Sarstedt, Hopkins, and Kuppelwieser (2014) suggest that the parametric assumptions of multiple regression model should be tested twice for both individual variable and multivariate variables. According to Garson (2012), the assumptions of multiple regressions include sample size, linearity, normality, multicollinearity, data independence, and homoscedasticity.

3.11.1 Sample size

Sample size plays a vital role in minimizing sampling error, which has a consequential effect on data normality to generalize the study findings to a common population on repeated trials in a similar test scenario since a small sample has little scientific value. Stevens (2012) asserts that for any social science research, 15 respondents per case are needed to form a reliable equation, while Tabachnick and Fidell (2013) provide a simple formula for calculating the required sample size, considering the number of independent variables in the study (*i.e.* $N > 50+8m$; where m is the number of independent variables). For instance, in this study the number of independent variables were three and the required cases were 74. While for stepwise regression, the ratio is 40 cases for every independent variable. Generally, the multiple regression model requires that the ratio of valid cases to independent variables be 5 to 1. Thus, the ratio of valid cases (536 to 3 independent variables is 179:1, which is greater than the minimum required ratio for multiple regression analysis. However, the study settled for a ratio of 156:1 since the actual usable

responses generated from the field after data screening was 468 responses. The ratio of 156:1 is greater than the minimum ratio of 5:1 needed in a multiple regression model.

3.11.2 Linearity

Testing for nonlinearity is of prime importance since correlation, regression, and other members of general linear models assume linearity (Garson, 2012). The linearity assumption was tested using correlation coefficients and Q-Q plots since they are the most commonly used methods to determine the existence of linearity in a research model (Field, Miles, & Field, 2012). A plot of standardized residuals was plotted against standardized estimates to display the patterns of linear relationships between the study variables in the research model (Garson, 2012). The rule of thumb is that nonlinear relationships between the variables in a research model is shown when the standard deviation of the residuals exceeds the standard deviation of the dependent (Garson, 2012).

3.11.3 Normality

The assumption of normality states that the errors of estimation in the outcome variable are normally distributed if the predictors are normally distributed. There are two main methods of assessing normality: graphic and numerical tests (Bland, 2015). Statistical tests have the advantage of making objective judgment, but are insensitive to low sample size since the test relies on large sample size to make predictions (Bland, 2015; Machin, Campbell, & Walters, 2007). The graphical method can be used in situations where numerical tests cannot be relied on to make sound judgment (Machin *et al.*, 2007). Although normality tests can be assessed using graphical

methods, a great deal of experience is needed to avoid wrong interpretations (Lund & Lund, 2010).

Normality test is assumed in most statistical procedures (Garson, 2012), yet least respected procedures in linear regression analysis since it is hardly met in most statistical procedures due measurement scale adopted (Hayes, 2013a). The normality test is usually violated in Ordinary Least Square when analyzing outcome variable with discrete or bounded at the lower or upper end of the measurement scale. However, non-normally distributed data influence sampling variance in some circumstances in a way that reduces statistical power when testing hypotheses.

Simulation research suggests that severe violations of the normality assumption substantially affect the validity of statistical inferences in regression analysis unless the sample size is small (Duncan & Layard, 1973; Edgell & Noon, 1984; Havlicek & Peterson, 1977; Hayes, 2013a). The normality test was checked using histogram and a Q-Q-Plot (Field, 2013). The data was subjected to further analysis to test goodness of fit using the Kolmogorov-Smirnov test and Shapiro-Wilk (Field *et al.*, 2012). The results of greater than.05 indicate that the data was normally distributed. The non-normally distributed data were transformed using log-transformation to fix the problem.

3.11.4 Multicollinearity and Singularity

Multicollinearity occurs when there is high level of intercorrelation among the independent variables (for instance, r = 0.9 and above) in a way that the effects of the independent variables cannot be disjointed from each other (Garson, 2012). While singularity exists when one independent variable is actually a combination of other independent variables, i.e. when subscale scores and total score of a scale are included

in the constructs, it is a common practice that a regression analysis model assumes little or no multicollinearity. The existence of multicollinearity in a regression model denotes that the parameter estimates are unbiased but assessments of the relative strength of the predictive power of the independent variables and their joint effect on the dependent variable are unreliable i.e. the beta weights and R-squares cannot be interpreted reliably even though the predicted values are still the best estimate using the given independent variables (Garson, 2012).

The rule of the thumb is that r > .80 signals multicollinearity (Garson, 2012). Similarly, high multicollinearity is noticed when high R-squared and significant F-tests of the model occur in combination with non-significant t-test coefficients (Garson, 2012). The occurrence multicollinearity in a regression model creates infinite standard errors and indeterminate coefficients creating a chance of **Type II** errors, where a researcher deduce that there is no relationship when in essence a relationship exists-failure to reject the null hypothesis that the coefficients are not different from zero.

Multicollinearity was tested using the degree of tolerance (TOL) and Variance Inflation Factor (VIF). Tolerance was defined by 1-R-squared, where R-squared is the multiple R of a given independent variable regressed on all the independent variables (Hair, Sarstedt, Pieper, & Ringle, 2012). If the tolerance value is less than the cutoff value of .20, the independent variable should be dropped from the analysis due to multicollinearity (Garson, 2012). This is better than just using simple r > .80 since tolerance looks at the independent variable in relation to all other independent variables and thus takes into account the interaction effects of simple correlations (Garson, 2012).

The Variance Inflation Factor (VIF) was used in lieu of tolerance since VIF is the reciprocal of tolerance, that is, VIF = 1/T (Garson, 2012). The rule of thumb is when VIF > 4.0, there is multicollinearity in the regression model. Some authors use the more lenient cut-off of VIF = 5 to show the presence of multicollinearity in a model (Garson, 2012). Once multicollinearity is found in the model, the most obvious approach of dealing with multicollinearity in the model is to center the data by deducting the mean of the variable from each score to solve the issue of multicollinearity (Hopkins & Ferguson, 2014). However, the simplest way to address the multicollinearity is to remove independent variables with high VIF values from the model.

3.11.5 Data independence

The assumption presumes that errors in estimation are statistically independent. Linear regression analysis assume that residuals are independent. Data independence occurs when residuals are independent of one another, as when the value of the residuals is $\mathbf{y(x+1),}$ indicating that the residual is not independent of the value of $\mathbf{y(x)}$ (Garson, 2012). In a rational sense, two things are taken to be independent when information related to one gives no information about the other. When the errors in estimation are independent, it means that for all (say $\boldsymbol{i}$ and $\boldsymbol{k}$) pairs of observations, there is no information contained in the error in estimation for case $\boldsymbol{i}$ that could be used to estimate the error in estimation for case $\boldsymbol{k}$.

Many processes can result into a violation of data independence. For instance, subsets of cases may share something that is related to Y, and a failure to account for that thing in the model can result in estimation errors that are non-independent. Thus, it is

assumed that data in such a model has violated the assumption of regression and cannot be effective in developing a predictive model in determining the research outcomes.

The data used in this model was subjected to the Durbin-Watson statistic to test the null hypothesis that the residuals are independent (Garson, 2012). The Durbin-Watson test for data independence between direct neighbors provides information on first-order effects. The results of Durbin-Watson statistics (d) are presumed to be between 0 and 4, where values around 2 indicate data independence. The rule of the thumb is that values of **1.5 < d < 2.5** show that there is independence in the data (Garson, 2012). The result of Durbin-Watson statistics for the study revealed that the residuals were independent as the test statistics for **d** was 1.77, which is within the range of **1.5 < d < 2.5.**

3.11.6 Homoscedasticity/Heteroscedasticity

The assumption of homoscedasticity states that the errors in estimation of the outcome variable are equally distributed conditioned on the predictor variables, implying that the relationship under investigation is the same for the entire range of dependent variables (Garson, 2012). Lack of homoscedasticity is shown by higher errors or residuals for some proportion of the range compared to others, meaning that the errors in estimation are said to be heteroscedastic (Garson, 2012). Heteroscedasticity can not only affect the validity of inference, but it can also reduce the statistical power of hypothesis tests and influence the accuracy of confidence intervals for regression coefficients depending on the form of the heteroscedasticity.

In simulation research, mild violations of the homoscedasticity assumption are not an issue of concern, but the assumption is still worth taking into consideration for robust

statistical tests. When the homoscedasticity assumption is met, the residuals form a pattern-less cloud of dots (Garson, 2012). The study tested for homoscedasticity using a scatter plot and Levene's test (Pallant, 2013). When the Levene's statistics are significant at the level of 0.05 or better, the researcher rejects the null hypothesis that the groups have equal variances (Garson, 2012).

3.11.7 Data transformation

Data transformation serves numerous functions in quantitative analysis, especially in social research when manipulating data to improve the normality of a distribution and equalize variance to meet assumptions and improve effect sizes, which constitute an important phase of data cleaning and preparing for statistical analyses. Data transformation safeguard against violation of parametric assumptions (Hair *et al.*, 2012; Hair, Sarstedt, Ringle, & Mena, 2012) to reduce positively and negatively skewed data through reversing the negatively skewed variables to ensure that the data values are neither negative nor zero values since there are no log values for zero or negative numbers (Field, 2009).

There are several forms of data transformations that apply mathematical functions, including adding the constants, square root, converting to logarithmic (for instance, base 10 or natural log) scales, inverting and reflecting, and applying trigonometric transformations such as sine wave transformations. These approaches reduce the data groups and convert the multiple variables or questions into latent variables through specification of the numerical or logical data transformation. The numeric or string data values were computed using the mean function to create a composite variable needed for statistical analysis.

3.12 Ethical Considerations

Research involves collecting data from people and about people (Punch, 2013), which demands the researcher operate within the established moral principles while conducting research, specifically when collecting data from the field of inquiry among the designated respondents (Creswell & Creswell, 2017). According to Mingers and White (2010), ethical behaviour is important in research. Like in any other form of human activity, failure to adhere to research ethics results in legal issues against the researcher. Researchers must anticipate the ethical issues that may arise during research studies and develop mechanisms for dealing with them during the research process as and when they arise (Hesse-Biber & Leavy, 2011; Punch, 2013; Sieber & Tolich, 2012). The ethical issues that the researcher dealt with the research process included the followings:

3.12.1 Informed consent

According to Hesse-Biber (2016), informed consent involves implementing a range of procedures when dealing with human subjects in research studies. Informed consent is a deliberate agreement and arrangement to participate in a scientific inquiry (Shahnazarian, Hagemann, Aburto, & Rose, 2013), without duress (Stevens, 2013), while making a cautious attempt to be aware of the details of what they are agreeing undertake (Davies, 2013). Informed consent emphasizes that the subjects of the research must have adequate knowledge about research studies (Faden & Beauchamp, 1986; Israel & Hay, 2006). For this study, informed consent involved providing information detailing the purpose of the study, benefits, risks, methods, and changes to the study (*refer to Appendix VII*).

This information was given in a neutral way such that the respondents make informed decision on whether to participate or not in the research study (Sieber & Tolich, 2012). There are eight fundamental informed consent principles, which were brought to the attention of respondents when conducting the study: the purpose of the research, expected duration and procedures; their right to decline to participate and withdraw from the research once participation has begun; the foreseeable consequences of declining or withdrawing; reasonably foreseeable factors that may be expected to influence the respondent's willingness to participate (*e.g.* potential risks, discomfort or adverse effects; any prospective research benefits; limits of confidentiality; incentives for participation; and lastly, the person to contact for questions about the research and research respondents' rights – *as provided in Appendix VII*). This indicates that the respondents were competent enough to understand the information in the questionnaire.

The consent form given to respondents was both informed and spontaneous, without any form of intimidation or unwarranted effect. When conducting research about people, the basic principle states that respondents must be informed about their participation and allowed to fill in the informed consent forms showing their willingness to take part in the study, well aware that they are free to withdraw from the study as and when they so wish without any form of coercion or detriment. The researcher made an effort to guarantee the choices about the respondent's participation in the research were made without coercion (Stevens, 2013).

However, informed consent forms usually have deficiencies in explaining the aim of the study and the risk of research to respondents. According to the European Education (2013), anthropologists note that most respondents are not aware of what

they consented to at the end of the research. Researchers created an environment that allowed for the free flow of information with the research respondents by asking questions about their concerns, interests, and guaranteed information safety (Faden & Beauchamp, 1986).

3.12.2 Voluntary participation

The participation of respondents in the research was purely voluntary, respondents were free to participate in the research study (Hogan 2008). The right of the respondents to participate in a survey is guaranteed by international, national, and scientific community codes of conduct. There are several things that determine respondents' participation in the research process, i.e., their ability to resist pressure, such as financial inducements, peer pressure from colleagues, and individual willingness or eagerness to learn new things. Respondents were triggered by self-motivation to participate in the survey. A detailed description is contained in *Appendix VII*.

3.12.3 Anonymity and privacy

Anonymity is a situation where the researcher cannot be able to link the information given by the respondent when filling out a research questionnaire (Creswell & Creswell, 2017). Anonymity was accomplished through conducting the survey incognito and research respondents were told not to sign or put anything that identifies themselves on the questionnaires, like names, initials, emails, telephone numbers, etc., to ensure protection of the respondent's privacy. Typically, researchers promise anonymity to respondents in cover letters or through word of mouth.

The ethical matters become pertinent when respondents are assured of their privacy (Creswell, 2014a), while the investigator is aware that this will not be the case (De

Vos, Delport, Fouché, & Strydom, 2011). Numerous kinds of research, such as observations or surveys, ought to be conducted under the belief that the researcher may divulge findings without identifying the respondents. The respondents were informed in advance (Driscoll & Brizee, 2012) that neither their names nor demographic information should be disclosed (Sales & Folkman, 2000). Detailed descriptions can be found in *Appendices VII* and *VIII*.

3.12.4 Confidentiality

Shumbayawonda (2011) state that researchers are under the obligation to protect the anonymity of the respondents and the secrecy of their disclosures unless they consent to the release of personal information. Information obtained about the respondent during the investigation was kept confidential (Gast & Spriggs, 2010), no individual identities were revealed (Thakhathi, Shepherd, & Nosizo, 2018). The information collected from the respondents were handled with the utmost confidentiality without revealing or divulging the information obtained from the respondents (McMillan & Schumacher, 2010). The researcher ensured that information relating to the respondents were not related to their identities. The respondent's information included in the final research report were refined without infringement to privacy (Giordano, O'Reilly, Taylor, & Dogra, 2007).

3.12.5 Reward and benefits

Respondents were informed that there were no benefit or reward associated to participation in the survey (Bonevski *et al.*, 2014). In that event there are benefit or reward associated to a study, the benefits given to the respondents should be realistic and provided in appreciation of the work done rather than as a motivator to participate in the research study. Benefits or rewards provided to respondents as a motivator to

participate in a research study may lead to the provision of false information to entice the researcher in anticipation for more rewards and benefits. Consequently, the risk of respondent's participation in a study should be minimal compared to ethically acceptable benefits (Bonevski *et al.,* 2014).

3.12.6 Reduction of harm

Researchers are required to comply with an ethical code of conduct when conducting social science research without hurting the research respondents, once they have accepted to take part in the survey (Prinsloo & Slade, 2013). In this study, the instances of harm to the subjects revolve around concealing sensitive information that can embarrass or jeopardize subjects directly or indirectly in relation to their friendships, homes, jobs, offices, or general way of life, etc. therefore, the researcher had the duty to safeguard the respondents against revealing sensitive information to protect respondents' psychological state of the mind. The respondents were requested not to disclose personal information related to work situations, supervision, leadership, etc. Disclosing such information usually makes the respondents feel threatened or uncomfortable (Kumar & Dash, 2011).

The researcher assured the respondents that they were secure and protected from unjustifiable interference, anguish, disgrace, physical anxiety, personal humiliation, emotional harm, and any other form of harm that might arise as a result of their participation in the research study (Stevens, 2013). In the event that the research study contains any harm, the nature and magnitude of potential harm resulting from the respondent's participation in the survey need to be clearly stated in the research protocol. Regardless of the potential harm, modalities of protection against potential harm must be made known to respondents, including provision for the highest level of

care to respondents who experience any harm; compensation for injury related to the research; and referral to psychosocial and legal support (Fynn, 2016).

3.12.7 Avoiding bias

The ethical code provides that researchers should desist from any form of biasness when conducting research. Ideally, when bias are not controlled for would affect the research outcome. Quite often, people confuse bias and subjectivity in research. Subjectivity is derived from the researcher's competence, training, and educational background in research as well as philosophical perspective. Equally, bias is a deliberate effort by the researcher to either highlight something disproportionately to its true reality or hide what the researcher has found in the study. According to Kumar (2018), where a researcher is unable to control his or her bias, it's better to stay away from the study. A researcher should be in position to avoid bias and report the research findings in an objective manner with regard to completeness and honesty, without distortion or fabrication of any information related to the research process and outcomes.

3.12.8 Falsification and fabrication of data

Fabrication of data occurs when a researcher creates data or results and records or reports the research findings in the research report, while falsification happens when a researcher manipulates material, process, equipment, or omits data such that the research is not represented accurately (Flynn & Goldsmith, 2013). These two concepts translate into research misconduct and must be avoided at all times in the research process. Honest reporting of data was applied to comply with the research ethical code of conduct. The researcher used truthful and accurate data generated from the study settings (public universities) without alteration or imagination in the dataset

for a favourable research outcome. Similarly, in the event that the research outcomes are not favourable, it is good practice to report the findings as it follows the positivistic research approach. It becomes unethical to distort the data to echo one's anticipations that does not reflect the views of the respondents.

3.12.9 Faulty data gathering methods

The reporting of findings from respondents who are not respondents in the research study is unethical and renders the entire research a waste of time and resources. If it is found that the source of the data does not meet the needs of the research study, it may lead to invalidation of the research outcomes. Conversely, using faulty research instruments to collect data is unethical and it is like indulging in examination malpractice. It was the researcher's responsibility to ensure that data collection tools or instruments (research questionnaires) met reasonable standards and that their validity and reliability were unquestionable in order for the researchers and future researchers to reach the same or similar conclusions.

The researcher should prevent erroneous and fortuitous recording of data on the account of falsifying data collected. Once the researcher records data wrongly and it has been discovered, the entire research is considered a flop and the credibility of the researcher is doubtful, as well as the institution where the researcher hails from, which eventually affects recognition of the individual conducting the research. The researcher recorded the data correctly, using the right technique from the field of inquiry to quench any doubt about the authenticity of the data.

3.12.10 Responsible publication

Research usually culminates in publication as the final stage of the research process to disseminate the research outcomes to key stakeholders (Wager & Kleinert, 2010).

Thus, the researcher has a responsibility to ensure that the publication is clear, accurate, complete, honest, and balanced (Wager & Kleinert, 2011). Most importantly, the research outcome should be objective and devoid of fabrication, falsification, or inappropriate data manipulation; ambiguous, misleading, and selective reporting (Wager & Kleinert, 2013). Accordingly, Resnik and Shamoo (2017) note that academic research is done to promote rigor and scholarship beyond one's career. Academicians are required to avoid wasteful and duplicative publication by following guidelines that govern publication in adjudicated professional academic journals (Borenstein & Shamoo, 2015).

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter provides a detailed analysis of the study findings based on the research objectives. The chapter presents data analysis, findings and discussion of the research findings in accordance with research objectives.

4.2 Data Analysis

4.2.1 Response rate

The responses were obtained from academic staff in public universities in Uganda. Five hundred thirty-six (536) questionnaires were distributed to academic staff in all public universities in Uganda (i.e., Makerere University, Mbarara University of Science and Technology (MUST), Kyambogo University, Busitema University, Gulu University, Muni University, Lira University, Kabale University, and Soroti University).

The distribution of the questionnaire in the respective public universities was done proportionately based on the population size, from which a sample of 536 was derived. From the sample size of 536 academic staff, 484 responses were received. After data screening, the responses were reduced to 468 valid responses, representing a response rate of 87.31% that was subjected to further statistical analysis. According to Beullens *et al.* (2018), a response rate of 60% in social science research is considered appropriate to draw statistical inferences about a population parameter. Therefore, a response rate of 87.31% is sufficient to conduct further statistical analysis, which can be relied on to draw valid conclusions. The summary of the responses is shown in **Table 4.1**.

Table 4.1: Showing response rate of academic staff in public universities

Public Universities	Expected Response	Actual Response	Valid Percent
Makerere University	319	277	59.2
MUST	39	35	7.5
Kyambogo University	65	63	13.5
Gulu University	34	29	6.2
Busitema University	27	19	4.1
Muni University	06	5	1.1
Kabale University	32	29	6.2
Soroti University	06	5	1.1
Lira University	08	6	1.3
Total	**536**	**468**	**100**

Source: **Survey Data (2021)**

4.2.2 Data cleaning and screening

Data cleaning and screening were done to determine the distribution of data in conformity with the parametric tests (Field, 2005). The parametric tests were conducted on linearity, normality, multicollinearity, and homoscedasticity to determine the use or application of inferential statistical tests like correlation and regression analysis to draw conclusions on the research hypotheses.

4.2.3 Analysis of missing values

The quality of data collected is very important in the preparation of the data for further analysis. It is paramount to screen the data to assess the presence of any missing values using the frequency count, which if present would affect the quality of data collected for further analysis since statistical analysis does not assume missing values. Missing values frequently occur in social research and affect the quality of statistical analysis (Hayes, 2012). The occurrence of missing values in a dataset might be due to the respondent's refusal to respond to certain questions. A significant portion of the data missing can be erroneous and contribute to wrong and misleading conclusions that affect research outcomes (Gustavo *et al.,* 2002). Therefore, it is vital to conduct data cleaning to identify, correct, and detect inaccurate or incomplete

records in the dataset. A check and balance were maintained during delivery and collection of the research instrument to ensure that each section of the research instrument was duly filled. Sections that were half filled were returned to the respondents to complete the questionnaire. Hair, Black, *et al.* (2013) intimated that the missing value should be less than 5% per case, which can be imputed by mean values.

Data cleaning and screening was done using descriptive statistics to validate data entered into the SPSS software against raw data collected from field to reflect the views of the respondents in accordance with the positivistic research philosophy. Data screening was conducted to identify missing values and outliers whose presence in the dataset has the potential to distort research outcomes. The preliminary analysis revealed that there were 8 missing values in the dataset.

The researcher received four hundred eighty four (484) responses, eight responses were removed due to missing values as the questionnaires were half filled and cannot be entered into the software for further analysis. Thus, four hundred seventy six (476) responses were captured into the SPSS software for further manipulation. However, after data screening, the responses were reduced to four hundred sixty-eight (468) valid responses that were subjected to further statistical analysis, eight (8) responses were deleted due to extreme values. The deleted responses represented 1.7% as shown in **Table 4.2** and were not imputed by mean since the value was less than 5% following the guidelines of Hair, Black, *et al.* (2013).

Table 4.2: Responses used in further analysis

Response	No. of responses	Percentage
Valid responses	468	98.3%
Invalid responses	8	1.7%
Total	**476**	**100%**

Source: **Survey Data (2021)**

4.2.4 Screening outliers

The data was screened for outliers using descriptive statistics to create composite variables. The standardized z-values were used to isolate the unusual extreme values (low and high values) under each variable. After scrutiny of the z-values for each case for all the study variables, the values above 3.0, either positive or negative, were considered to have outliers. Treatment was instituted to remove the outliers with values below or above the observed values, bringing the expected values closer to the observed values to ensure that the data was suitable for further analysis.

In respect of the study variables, cases with outliers were identified and corrected. For instance, talent management had cases 218, 238, 271, 283, 325, 386, 311, 208, and 213 with outliers. Employee engagement had cases 252, 258, 280, 319, and 50; consequently, transformational leadership had the presence of outliers in cases 23, 229, 252, 279, 344, 238, 257, 273 and 243. While employee performance had outliers in cases 375 and 386. After performing the above tasks, the study applied Mahalanobis distance with critical values Chi-square ($\chi 2$) $p < 0.001$. Following this procedure, the cases were reduced from 476 to 468, as eight cases were deleted due to outliers.

4.2.5 Demographic characteristics of the respondents

This section provides information on the demographic characteristics of the respondents who participated in the study. The information was in relation to gender, age, education level, job title, and tenure of the respondents as discussed below.

The gender of the respondents showed that there were 65% male and 35% female. This result demonstrates that the study was gender sensitive since it incorporated the views of all dominant genders in the study, i.e., male and female. Above all, the study

implies that public universities in Uganda use affirmative action in recruitment practices to have equal opportunity for both male and female genders when recruiting academic staff in the various academic positions in public universities.

The results of age group demonstrate that 46.6% of the respondents were between 31 and 40 years old, followed by 32.5% representing the respondents between 41–50 years, 11.5% representing those between 51–60 years, 7.7% representing those below 30 years, and those who were above 60 years old were represented by 1.7% as the least age group in the study population. Above all, the composition of the workforce of the academic staff in public universities in Uganda consists of the different age groups in the population, which is very vital for the performance of the university tasks at various levels to achieve the universities' goals in the interest of various stakeholders.

The study also took into consideration the education level of the respondents, where the key attributes on education level were bachelor's degree, master's degree, and PhD as the academic qualifications required of the academic staff in the teaching profession in a university setup as per the National Council of Higher Education (NCHE) in Uganda. The results indicated that 60.9% of the respondents had master's degrees, followed by 30.3% with PhD degrees, and 8.8% represented with bachelor's degrees. The education level was adequate for the respondents to read and understand the items in the questionnaire and provide relevant responses to the questions raised in the questionnaire, which meant that the study dealt with literate people who are able to read and write.

The study took into account the job titles of the respondents. The findings show that lecturers accounted for 33.8% of the respondents, followed by assistant lecturers at

29.7%, senior lecturers at 13.7%, teaching assistants at 12.6%, associate professors at 7.7%, and professors at 2.6%. This means that public universities have a good composition of academic staff to perform the needed academic tasks in support of the university's mission. The study incorporated the views of all academic staff from the lowest to the highest rank within the teaching professions, which provided confidence to the researcher that the views contained in the report are a reasonable representation of academic staff of public universities in Uganda.

The finding on tenure indicates that the majority of the respondents who participated in the study have served in universities between 6 and 10 years, representing 41.2%, followed by those who have served between 1 and 5 years, representing 26.9%. Those who served the universities between 16 and 20 years were represented by 6.2%, while those who served the universities for over 20 years were represented by 1.3%. This indicates that the majority of the respondents have served the universities for a good number of years, which provides the academic staff with relevant teaching experience to perform their tasks to the expectations of the clients based on the wealth of experience accumulated on the job.

Finally, the study took into account the universities where the academic staff work. The findings revealed that 59.2% of the academic staff who participated in the survey studied work at Makerere University. 13.5% of the respondents were from Kyambogo University, 7.5% from Mbarara University of Science and Technology, and 6.2% were from Gulu University and Kabale University, respectively. 4.1% of the respondents came from Busitema University, and 1.3% from Lira University. Lastly, Muni University and Soroti University were represented by 1.1% and 1.0%, respectively. This implies that academic staff in the nine public universities were

proportionately represented based on the population size from which the sample was drawn. This provides the confidence to believe that the views presented in the report are a true reflection of the perceptions of the academic staff of public universities in Uganda at various levels, from which generalized conclusions were drawn. Table 4.3 summarizes the demographic characteristics.

Table 4.3: Demographic characteristics of the respondents

Demographic characteristics	Attributes	Number of respondents	Percentage responses
Gender	Male	304	65.0
	Female	164	35.0
	Total	**468**	**100.0**
Age	Below 30 years	36	7.7
	31-40 years	218	46.6
	41-50 years	152	32.5
	51-60 years	54	11.5
	Above 60 years	8	1.7
	Total	**468**	**100.0**
Education Level	Master Degree	285	60.9
	PhD	142	30.3
	Bachelor Degree	41	8.8
	Total	**468**	**100.0**
Job Title	Professor	12	2.6
	Assoc. Prof.	36	7.7
	Senior Lecturer	64	13.7
	Lecturer	158	33.8
	Assistant Lecturer	139	29.7
	Teaching Assistant	59	12.6
	Total	**468**	**100.0**
Tenure	1-5 years	126	26.9
	6-10 years	193	41.2
	11-15 years	114	24.4
	16-20 years	29	6.2
	Above 20 years	6	1.3
	Total	**468**	**100.0**
University of work	Makerere University	277	59.2
	Mbarara University of Science and Technology	35	7.5
	Kyambogo University	63	13.5
	Gulu University	29	6.2
	Busitema University	19	4.1
	Muni University	5	1.1
	Kabale University	29	6.2
	Soroti University	5	1.1
	Lira University	6	1.3
	Total	**468**	**100.0**

Source: **Survey Data (2021)**

4.2.6 Analysis of Variance (ANOVA)

It is essential to statistically test the research data to assess if there is a statistically significant difference in mean between the demographic characteristics (gender, age, education level, job title, tenure, and university) of the respondents with the study variables (talent management, employee engagement, transformational leadership, and employee performance) using inferential statistical mathematical approach. Subsequently, a one-way ANOVA was adopted to test for the mean differences in the demographic characteristics of the respondent with respect to gender, age, education level, job title, tenure, and the university where the respondent works to evaluate if the two or more groups significantly differ from each other in behaviors using a one-way ANOVA (Field, 2009; George & Mallery, 2019). The results of the findings are provided in the subsequent subsections.

4.2.6.1 ANOVA for Gender

The analysis of variance in respect to gender of academic staff in the university indicates that there are statistically significant differences between groups mean of talent management ($F = 12.671$, $p < .001$) and transformational leadership ($F = 4.545$, $p < .05$). Employee engagement ($F = .057$, $p > .05$) and employee performance ($F = 2.219$, $p > .05$) showed no statistically significant difference between academic staff groups. The significant results on gender imply that gender-responsive talent management assumes attracting, developing, and retaining a talented workforce to promote gender equality (Bogievi-Miliki, 2019).

Consequently, a balanced representation of female and male employees at work benevolences and opportunity to prevent, detect, and investigate problems that occur at the workplace (Miliki, 2019). However, in a number of countries and organizations,

such as police departments, women continue to be underrepresented in high-ranking positions due to underutilization of their skills, discriminatory attitudes and policies, sexual harassment, and difficulties balancing police work with family responsibilities, necessitating a strategic human resource management imperative to address gender parity (Bogievi-Miliki, 2019; Miliki, 2019).There is a need for organizations to promote a gender-responsive talent management practice if they are to leverage employees' talents to achieve performance targets.

Bass *et al.* (1996) found that women, on average, were more effective and satisfying to work for as long as they were able to generate extra effort from their people. Women measured higher on all of the four elements of the transformational leadership tool, but the difference was closest on intellectual stimulation. Men were better at intervening to correct followers' mistakes. Bass *et al.* (1996) concluded that women were more likely to be trusted, respected, and show greater concern for individual needs. Women tend to be more nurturing, caring, and sensitive than men, and that these characteristics are more aligned with transformational leadership. While there are significant differences between men and women in the practice of transformational leadership, others found no significant differences in transformational leadership and gender in managers in equivalent positions.

The non-significant results are consistent with the findings of Cleveland, Menendez, and Wallace (2017), who stated that women and men do not differ substantially in terms of their overall levels of performance or effectiveness at work; if anything, women show slightly higher levels of job performance. Furthermore, women and men do not differ substantially in job-related abilities or in the individual determinants of

job performance (Cleveland *et al.*, 2017). According to Bastick (2014), women can often bring different, useful skills and strengths to increase the effectiveness of work.

Additionally, in a number of countries, organizations continue to be predominantly male with poor representation of women, and the recruitment processes discriminate against women who are often disproportionally underrepresented in low-ranking positions, and often leave as a result of the underutilization of their skills and owing to discriminatory attitudes and policies, sexual harassment, and difficulties combining police work with family responsibilities (Bastick, 2014; Cleveland *et al.*, 2017; Martin & Jurik, 2006). **Table 4.4** shows the summarized results of the analysis of the variance of the respondents with respect to gender.

Table 4.4: ANOVA for Gender

Variables	Gender	N	Mean	Std. Deviation	F Statistic	Sig.
Talent Management	Male	304	5.544	.819		
	Female	164	5.819	.759	12.671	0.000
	Total	**468**	**5.640**	**.808**		
Employee Engagement	Male	304	6.042	.500		
	Female	164	6.053	.482	0.057	0.811
	Total	**468**	**6.046**	**.493**		
Transformational Leadership	Male	304	5.905	1.007		
	Female	164	6.109	.946	4.545	0.034
	Total	**468**	**5.976**	**.990**		
Employee Performance	Male	304	5.713	.628		
	Female	164	5.804	.632	2.219	0.137
	Total	**468**	**5.745**	**.630**		

Source: **Survey Data (2021)**

4.2.6.2 ANOVA for Age Group

The age group of academic staff has statistically significant differences between group means with regard to employee performance ($F = 3.958$, $p < .05$) and transformational leadership ($F = 2.854$, $p < .05$). While talent management ($F = .610$, $p > .05$) and employee engagement ($F = .498$, $p > .05$) demonstrated that there were

no statistically significant differences between group means in terms of age group. This result is supported by Yusoff, Queiri, Zakaria, and Hisham (2013), who conducted a study in the oil industry and noted that since oil and gas companies are increasingly investing in new projects, growth is being held back due to the loss of young talent, particularly from generation Y (Jauhar, Ting, Rahim, & Fareen, 2017) due to the inclination to switch jobs. Besides, attractive job offers from other organizations or lifestyle transformations that are beyond the employers' control to retain those employees who are unhappy with their current situation lead them to leave their job and retard employees' performance (Jefri & Daud, 2016). **Table 4.5** below provides a detailed narrative of the analysis of variance for the age group of the respondents.

Table 4.5: ANOVA for Age Group

Variables	Age Group	N	Mean	Std. Deviation	F Statistic	Sig.
Talent Management	Below 30 years	36	5.584	.920	.610	.655
	31-40 years	218	5.600	.785		
	41-50 years	152	5.723	.822		
	51-60 years	54	5.601	.767		
	Above 60 years	8	5.671	.979		
	Total	**468**	**5.640**	**.808**		
Employee Engagement	Below 30 years	36	6.137	.480	.498	.738
	31-40 years	218	6.033	.521		
	41-50 years	152	6.045	.453		
	51-60 years	54	6.019	.479		
	Above 60 years	8	6.163	.632		
	Total	**468**	**6.046**	**.493**		
Transformational Leadership	Below 30 years	36	5.824	1.167	2.854	.023
	31-40 years	218	5.874	1.040		
	41-50 years	152	6.131	.853		
	51-60 years	54	6.143	.801		
	Above 60 years	8	5.389	1.701		
	Total	**468**	**5.976**	**.990**		
Employee Performance	Below 30 years	36	5.488	.745	3.958	.004
	31-40 years	218	5.681	.689		
	41-50 years	152	5.871	.521		
	51-60 years	54	5.790	.526		
	Above 60 years	8	5.951	.446		
	Total	**468**	**5.745**	**.630**		

Source: **Survey Data (2021)**

4.2.6.3 ANOVA for Education Level

The results on the education level of the academic staff of public universities produced mixed responses. First, the results show that there is a statistically significant difference in academic staff's mean responses to employee performance ($F = 7.344$, $p < .05$). Second, no statistically significant difference in mean responses of academic staff to talent management ($F = .962$, $p > .05$), employee engagement ($F = .105$, $p > .05$), or transformational leadership ($F = 1.174$, $p > .05$) was found. These results are in line with Gallie and White (1993), who found that highly educated employees have a higher task obligation that results in better task performance and helping behaviors.

Whereas, the second result is in agreement with earlier studies that associated education with negative commitment and consequently engagement (Battarsby, Hemmings, Kermode, Sutherland, & Cox, 1990; Fornes & Rocco, 2013; Neelam, Bhattacharya, Sinha, & Tanksale, 2015). Lee, Ashford, Walsh, and Mowday (1992) argued that the inverse relationship may result from the fact that highly educated employees have higher expectations that the organization might not be in a position to satisfy. Similarly, DeCotiis and Summers (1987) suggest that the negative correlation might be due to the failure of the rewards to reflect adequately the level of education, knowledge, and skills possessed by the employees. The tabular representation of the education level of the academic staff of public universities is shown in **Table 4.6**.

Table 4.6: ANOVA for Education Level

Variables	Education	N	Mean	Std. Deviation	F Statistic	Sig.
Talent Management	Bachelor Degree	41	5.558	.912	.962	.383
	Master Degree	285	5.614	.851		
	PhD	142	5.715	.678		
	Total	**468**	**5.640**	**.808**		
Employee Engagement	Bachelor Degree	41	6.078	.534	.105	.901
	Master Degree	285	6.040	.481		
	PhD	142	6.047	.507		
	Total	**468**	**6.046**	**.493**		
Transformational Leadership	Bachelor Degree	41	5.770	1.160	1.174	.310
	Master Degree	285	5.975	.987		
	PhD	142	6.039	.941		
	Total	**468**	**5.976**	**.990**		
Employee Performance	Bachelor Degree	41	5.462	.723	7.344	.001
	Master Degree	285	5.723	.652		
	PhD	142	5.871	.522		
	Total	**468**	**5.745**	**.630**		

Source: **Survey Data (2021)**

4.2.6.4 ANOVA for Job Title

The results in **Table 4.7** on job titles reveal that employee performance ($F = 5.115$, $p < .001$) and transformational leadership ($F = 2.265$, $p < .05$) had statistically significant mean differences with the job titles of academic staff of public universities in Uganda. While talent management ($F = 1.758$, $p > .05$) and employee engagement ($F = .960$, $p > .05$) were not statistically significant with academic staff job titles at Ugandan public universities.

This result is supported by Viswanathan and Kayande (2012), who disclosed that work performance is a requirement for middle level managers in cascading regulations, policies, and performance-related information from top managers to operational managers. Socially, the level of work performance can increase the empowerment and welfare of employees that facilitate the development and

implementation of ongoing work processes to connect with clients, key stakeholders, and interested parties at organizational, social, and community levels.

Theoretically, a job title has a relationship with work performance due to work satisfaction. Purba, Lasise, and Maming (2021) stated that an individual with a high level of work satisfaction shows positive organizational behavior, gives their best to the organization, sacrifices, exhibits high loyalty, and has the willingness to stay in the organization. This means that employees who enjoy their positions show a high level of performance. On the contrary, employees who have low levels of job appreciation in their positions exhibit irresponsibility and take no care of work achievements (Chayomchai, 2020; Eliyana & Ma'arif, 2019).

Table 4.7: ANOVA for Job Title

Variables	Job Title	N	Mean	Std. Deviation	F Statistic	Sig
Talent Management	Professor	12	6.226	.215	1.758	.120
	Assoc. Prof.	36	5.649	.773		
	Senior Lecturer	64	5.681	.680		
	Lecturer	158	5.642	.709		
	Assistant Lecturer	139	5.633	.889		
	Teaching Assistant	59	5.483	1.025		
	Total	**468**	**5.640**	**.808**		
Employee Engagement	Professor	12	6.220	.301	.960	.442
	Assoc. Prof.	36	6.100	.484		
	Senior Lecturer	64	6.013	.480		
	Lecturer	158	6.001	.506		
	Assistant Lecturer	139	6.092	.497		
	Teaching Assistant	59	6.024	.497		
	Total	**468**	**6.046**	**.493**		
Transformational Leadership	Professor	12	6.468	.628	2.265	.047
	Assoc. Prof.	36	6.097	.801		
	Senior Lecturer	64	5.981	.968		
	Lecturer	158	5.914	.937		
	Assistant Lecturer	139	6.095	.970		
	Teaching Assistant	59	5.687	1.267		
	Total	**468**	**5.976**	**.990**		
Employee Performance	Professor	12	6.226	.254	5.115	.000
	Assoc. Prof.	36	5.968	.402		
	Senior Lecturer	64	5.795	.552		
	Lecturer	158	5.742	.628		
	Assistant Lecturer	139	5.750	.635		
	Teaching Assistant	59	5.454	.753		
	Total	**468**	**5.745**	**.630**		

Source: **Survey Data (2021)**

4.2.6.5 ANOVA for Tenure

Talent management ($F = 4.264$, $p > .05$) had a statistically significant mean difference with the number of years academic staff had spent at the universities, according to the

findings in Table 4.8 on academic staff tenure at Ugandan public universities. Meanwhile there was no statistically significant relationship between academic staff job title and transformational leadership ($F = 1.963$, $p > .05$), employee engagement ($F = .565$, $p > .05$), or employee performance ($F = 1.747$, $p > .05$), Ng and Feldman (2013) suggest that, contrary to common beliefs held among practitioners that job tenure is related to job performance, job tenure was found to be unrelated to job performance. The key reason advanced for such an argument is that as job tenure increases, employees are likely to become more bored and less motivated or engaged on the job. Employee engagement depends on the work environment created by the leaders at work that induces performance among staff for greater work outcomes.

Talent management provides the enabling ground for public universities to identify academic staff suitable for academic roles, leading to an increment in performance and reducing grievances, which have a detrimental influence on performance goals. Therefore, it is paramount to guarantee employment stability and long-term stay of academic staff to make a long-lasting contribution to universities' goals and objectives (Chaudry, 2017). Public universities need to create well-structured on-boarding practices and improve retention (Abubakarr, 2014), which protect public universities against continuous recruitment and performance management costs (Zengeya, 2020).

Table 4.8: ANOVA for Tenure

Variables	Tenure	N	Mean	Std. Deviation	F Statistic	Sig
Talent Management	1-5 years	126	5.602	.839	4.264	.002
	6-10 years	193	5.787	.691		
	11-15 years	114	5.556	.915		
	16-20 years	29	5.216	.743		
	Above 20 years	6	5.356	.957		
	Total	**468**	**5.640**	**.808**		
Employee Engagement	1-5 years	126	6.067	.569	.565	.689
	6-10 years	193	6.069	.456		
	11-15 years	114	6.001	.461		
	16-20 years	29	5.972	.456		
	Above 20 years	6	6.074	.740		
	Total	**468**	**6.046**	**.493**		
Transformational Leadership	1-5 years	126	5.878	1.037	1.963	.099
	6-10 years	193	6.088	.954		
	11-15 years	114	5.995	.918		
	16-20 years	29	5.699	1.213		
	Above 20 years	6	5.441	.919		
	Total	**468**	**5.976**	**.990**		
Employee Performance	1-5 years	126	5.656	.639	1.747	.139
	6-10 years	193	5.785	.636		
	11-15 years	114	5.787	.637		
	16-20 years	29	5.626	.512		
	Above 20 years	6	6.119	.430		
	Total	**468**	**5.745**	**.630**		

Source: **Survey Data (2021)**

4.2.6.6 ANOVA for University

The ANOVA results in **Table 4.9** show the universities where the academic staff work. The finding reveals that all the study variables were statistically significant at various levels of the F-values and p-values. For instance, talent management ($F = 13.192$, $p < .001$), employee engagement ($F = 4.002$, $p < .001$), transformational leadership ($F = 2.959$, $p < .05$) and employee performance ($F = 5.554$, $p < .001$). This implies that talent management, employee engagement, transformational leadership,

and employee performance vary according to the university where academic staff work, depending on what each university wants to achieve at a particular point in time. This can be best explained by organizational culture, which is fundamental in streamlining organizational structure, processes, and systems, which requires streamlining and modification of employees' behavior to conform to the organizational practices in meeting set goals and targets in a predetermined manner.

Table 4.9: ANOVA for University

Variables	University	N	Mean	Std. Deviation	F Statistic	Sig
Talent Management	Makerere University	277	5.749	.701	13.192	.000
	Mbarara University of Science and Technology	35	5.477	.960		
	Kyambogo University	63	5.871	.558		
	Gulu University	29	4.489	1.077		
	Busitema University	19	6.044	.126		
	Muni University	5	4.765	.580		
	Kabale University	29	5.548	.844		
	Soroti University	5	4.945	.805		
	Lira University	6	5.155	1.005		
	Total	**468**	**5.640**	**.808**		
Employee Engagement	Makerere University	277	6.068	.462	4.002	.000
	Mbarara University of Science and Technology	35	5.975	.615		
	Kyambogo University	63	6.095	.526		
	Gulu University	29	5.776	.512		
	Busitema University	19	6.028	.251		
	Muni University	5	5.294	.255		
	Kabale University	29	6.287	.477		
	Soroti University	5	5.878	.545		
	Lira University	6	5.880	.414		
	Total	**468**	**6.046**	**.493**		
Transformational Leadership	Makerere University	277	6.032	.945	2.959	.003
	Mbarara University of Science and Technology	35	5.519	1.274		
	Kyambogo University	63	5.988	.994		
	Gulu University	29	5.782	.839		
	Busitema University	19	6.575	.531		
	Muni University	5	4.860	.453		
	Kabale University	29	5.955	1.250		
	Soroti University	5	5.906	.692		
	Lira University	6	6.106	.471		
	Total	**468**	**5.976**	**.990**		
Employee Performance	Makerere University	277	5.824	.583	5.554	.000
	Mbarara University of Science and Technology	35	5.616	.639		
	Kyambogo University	63	5.821	.728		
	Gulu University	29	5.271	.680		
	Busitema University	19	5.957	.197		
	Muni University	5	4.988	.430		
	Kabale University	29	5.645	.647		
	Soroti University	5	5.073	.616		
	Lira University	6	5.355	.440		
	Total	**468**	**5.745**	**.630**		

Source: **Survey Data (2021)**

4.2.7 Manifestation of the Study Variables

Garson (2012) observed that statistical analysis implies a sound measurement free from coding errors. Descriptive statistics provide a detailed description of the characteristics of the responses in the dataset. It is generally accepted to run descriptive statistics on the dataset to ensure that the data is within the expected distribution range. Descriptive statistics consist of two categories: measures of central tendency, which describe the central location of the data; and measures of variability, which measure the spread of the data from the mid-point (Gravetter & Wallnau, 2009). The descriptive statistics that were used to describe the patterns of data distribution among the academic staff of public universities include minimum, maximum, mean, standard deviation, skewness, and kurtosis.

The mean was obtained by the sum collection of the numbers of responses divided by the count of numbers in the collection from a survey study among academic staff of public universities in Uganda. A standard deviation was used to measure the relative dispersion of the mean responses among the academic staff. Skewness was used to determine whether the data collected was normally distributed (Gravetter & Wallnau, 2009; Gravetter & Wallnau, 2014), whereas Kurtosis was used to determine the degree of peakedness in the data distribution (Cain, Zhang, & Yuan, 2017). Descriptive statistics were performed on the retained items that measure employee performance, talent management, employee engagement, and transformational leadership after factor analysis to reflect the perceptions of academic staff of public universities in Uganda.

4.2.7.1 Manifestation of Employee Performance

The dependent variable for the study was employee performance, which was manifested inform of teaching, research, publication, and community engagement. The study adopted the Individual Work Performance Questionnaire (IWPQ) Version 0.1 to quantify employee performance in an academic work environment. Initially, the Individual Work Performance Questionnaire consisted of four dimensions: task performance, contextual performance, adaptive performance, and counterproductive performance (Koopmans *et al.,* 2013). The study modified the dimensions of individual work performance to include teaching (9 *items*), research (9 *items*), publication (9 *items*) and community engagement (13 *items*) to suit the work environment of academic staff. The items on the measure of employee performance were linked to a seven-point Likert scale ranging from 1-"Strongly Disagree" to 7-"Strongly Agree". After running factor analysis, the items were reduced to 30 items. The four dimensions of employee performance were retained with a reduced number of items.

The descriptive result on teaching indicates that there were eight (8) items that were retained. The results further demonstrate that the respondents were in agreement with items that state: "I mark all the tests, assignments, and examinations given to students" and "I do administer tests, assignments, and field/practical work to students in every course unit I teach," which scored the same mean of 6.29 and standard deviation of 0.888 and 0.897, respectively, while "I attend to my lectures according to the assigned timetable," scored the lowest mean of 6.15 and standard deviation of 0.943. This means that academic staff mark all the tests, assignments, and examinations given to students; administer tests, assignments, and field/practical work to students in every course unit; read and correct students' projects; start lectures at

the right time; return all course work marked scripts to students; release the course work results to students before the examination commences; end lectures at the right time; and attend to my lectures according to the assigned timetable. This implies that the academic staff execute their roles as assigned and are aware of their core duties in the universities where they work to meet the universities' mission.

Furthermore, the descriptive statistics of the research demonstrate that two (2) items were retained after factor analysis. The results show that the respondents agreed that universities have research policies that guide academic staff in doing research, with the highest mean scores of 6.01 and a standard deviation of 1.044, and that I do participate in the departmental research dissemination workshops, scoring a mean of 5.91 and a standard deviation of 1.121. This means that universities have research policies that guide academic staff in doing research and that academic staff participate in departmental research dissemination workshops to guide their course actions in universities.

Relatedly, the descriptive statistics on publication revealed that there were nine (9) items retained after factor analysis. The results indicate that the respondents agreed with the question that states, "I collaborate with colleagues to do research publication." That scored the highest mean of 5.71 and a standard deviation of 1.478, while "I have authored a book" scored the lowest mean of 4.56 and a standard deviation of 2.190. This demonstrates that academic staff collaborate with colleagues to do research publications; their research articles are published in newspapers and magazines; the published work is cited by other researchers; they are regularly published in international peer-reviewed journals; conference papers are published in conference proceedings; they always publish articles in local peer-reviewed journals;

they publish research articles with the university; they have co-authored a book; and have authored a book. This implies that academic staff at public universities are working hard to maintain their relevance among their peers around the world in order to promote academic rigor and scholarship.

Lastly, the descriptive statistics on community engagement showed that 10 items were retained after factor analysis. The results reveal that the respondents agreed with the item; "I support the communities where I work and live" with a mean score of 6.15 and a standard deviation of 0.969, while "I participate in research dissemination and knowledge sharing in the community" scored the lowest with a mean of 5.56 and a standard deviation of 1.225. The results imply that academic staff support the communities where they work and live; ensure safe, ethical, and efficient use of data obtained from the community; participate in community events like conferences, seminars, sports activities, trade shows, and exhibitions in the community; participate in public ceremonies, awards, competitions, and community events; participate in cultural and social gatherings in the community; contribute to charitable organizations within the community; participate in discussions that raise issues of social responsibility; continuously expand the frontiers of knowledge, innovation, and technology to improve people's well-being in the community; have social and networking skills to involve the community in research activities; and participate in research dissemination and knowledge sharing in the community.

This indicates that universities promote peaceful coexistence between universities and communities for the exchange of knowledge and resources in pursuit of the universities' mandate in the broader community for joint interventions. The general posture of performance of academic staff of public universities in Uganda is highly

centered on teaching and research as revealed by the results of Skewness and Kurtosis falling within the acceptable range of +3 and -3, with the exception of 12 items whose kurtosis was out of range as shown in **Table 4.10.** However, the divergent view was corrected during data transformation to reduce the peakness (Hair *et al.*, 2021) and have a normal distribution in the data set. Overall, the academic participates in community events like conferences, seminars, sports activities, trade shows, and exhibitions; adheres to ethical issues when engaged in community affairs.

Table 4.10: Manifestation of Employee Performance

Employee Performance	N	Min	Max	Mean	SD	Skewness	Kurtosis
Teaching							
I attend to my lectures according to the assigned timetable	468	1	7	6.15	.943	-1.963	7.797
I start my lectures at the right time	468	1	7	6.25	.869	-2.365	10.899
I end my lectures at the right time	468	1	7	6.16	.910	-1.617	5.653
I do administer tests, assignments, and field/practical work to students in every course unit I teach	468	1	7	6.29	.897	-2.205	8.785
I mark all the tests, assignments and examinations given to students	468	1	7	6.29	.888	-2.258	9.677
I return all course work marked scripts to students	468	1	7	6.21	.971	-1.858	5.679
I release the course work results to students before examination commences	468	1	7	6.17	.943	-1.876	6.628
I read and correct students' projects	468	1	7	6.21	.893	-1.790	6.200
Research							
My University has a research policy that guides academic staff in doing research	468	1	7	6.01	1.044	-1.396	2.809
I do participate in the departmental research dissemination workshops	468	1	7	5.91	1.121	-1.563	3.132
Publication							
I regularly publish in International peer reviewed journals	468	1	7	5.16	1.807	-1.032	-.071
I always publish articles in local peer reviewed journals	468	1	7	4.86	1.991	-.681	-.921
I publish my research	468	1	7	4.75	1.935	-.650	-.853

articles with the university							
My research articles have been published in newspapers/ magazines	468	1	7	4.63	2.068	-.556	-1.178
My conference papers are published in conference proceedings	468	1	7	5.15	1.834	-.962	-.280
My published work is always cited by other researchers	468	1	7	5.31	1.768	-1.139	.250
I collaborate with colleagues to do research publication	468	1	7	5.71	1.478	-1.600	2.226
I have authored a book	468	1	7	4.56	2.190	-.495	-1.311
I have co- authored a book	468	1	7	4.64	2.215	-.493	-1.321
Community Engagement							
I have social and networking skills to involve community in research activities	468	1	7	5.69	1.259	-1.554	2.947
I participate in research dissemination and knowledge sharing in the community	468	1	7	5.56	1.225	-1.156	1.464
I continuously expand the frontiers of knowledge, innovation and technology to improve people's well-being in the community	468	1	7	5.58	1.222	-1.220	1.827
I provide public lectures and talk shows to build collaboration with community organizations	468	1	7	5.33	1.540	-1.118	.775
I participate in discussions that raise issues of social responsibility	468	1	7	5.62	1.233	-1.327	2.273
I contribute to charitable organizations within the community	468	1	7	5.65	1.278	-1.350	2.154
I participate in cultural and social gatherings in the community	468	1	7	5.74	1.125	-1.437	3.278
I participate in community events like conferences, seminars, sport activities, trade shows and exhibitions in the community	468	1	7	5.85	1.039	-1.648	4.920
I participate in public ceremonies, awards, competitions, and community events	468	1	7	5.79	1.118	-1.289	2.483
I ensure safe, ethical and efficient use of data obtain from the community	468	1	7	5.91	1.038	-1.443	3.624
I support the communities where I work and live	468	1	7	6.15	.969	-1.871	5.900

Source: **Survey Data (2021)**

4.2.7.2 Manifestation of Talent Management

Talent management was displayed with four dimensions of talent attraction, deployment, development, and retention that were linked to a seven (7) Likert scale (Annakis *et al.,* 2014; Farooq *et al.,* 2017; Kamal & Lukman, 2017b). The measures of talent management had 31 items. After conducting factor analysis, 22 items were retained; meanwhile, all the constructs of talent management were retained, though some items on the constructs were deleted.

The results on talent attraction indicate that most respondents align their view to, "My University has a system that makes talented people aspire to join the university." was with the highest mean at 5.60 and standard deviation of 1.224, whereas "My University differentiates talent based on their contribution to the university's objectives" had the least mean at 5.37 and standard deviation of 1.318. Based on the finding of talent attraction, the university should put more emphasis on a system that makes talented people aspire to join the university; talent that makes the maximum contribution to the university's success; and make use of the available assessment tools to scrutinize new recruits to join the university.

Conversely, on talent deployment, the results reveal four items were retained after factor analysis. The results on talent deployment revealed that, "At my university, deployment of academic staff is based on policies, procedures, and practices that are responsive to students' needs" scored the highest mean at 5.81 and a standard deviation of 1.204, while "My university deploys academic staff with creative thinking in key positions" scored the least mean at 5.56 and a standard deviation of 1.322. This result implies that the deployment of academic staff in all public

universities in Uganda is aligned to policies, procedures, practices, skills, interests, and capabilities that are responsive to students' needs.

Furthermore, talent development had five items retained. The results revealed that the respondents agreed that the training activities for the identified academic staff require financial resources. They scored the highest mean at 6.05 and the standard deviation at 1.087, while my university identified career development needs for academic staff scored the least mean at 5.75 and standard deviation of 1.110. Therefore, it is imperative for public universities to identify career development needs, encourage career development and growth opportunities, and organize training for academic staff to grow and develop within the universities, which requires public universities to have a clear career path for the growth and development of academic staff.

Additionally, on talent retention, eight items were retained after factor analysis. The results show that respondents agreed that My University recognizes the good work of academic staff and celebrates academic achievement, scoring the highest mean at 5.62 and standard deviation at 1.370, while My University creates an environment where academic staff are excited to work, scoring the lowest mean at 5.28 and standard deviation at 1.450. This indicates that universities recognize and celebrate academic achievement; create a culture in which academic staff passionately believe in what they do; empower academic staff to make decisions; reward top-performing academic staff; provide academic staff with salary adjustments as they master significant skills for the jobs; have developed programs for retaining academic staff; and create an environment in which academic staff are excited about their jobs.

The values of Skewness and Kurtosis are all within the normal distribution range of +3 and -3 as shown in **Table 4.11,** with the exception of talent development, where

the training activities for academic staff require more financial resources as indicated by Kurtosis 4.03. This implies that more financial resources are invested in academic staff training in order for them to acquire the necessary skills to perform on the job.

Table 4.11: Manifestation of talent management

Talent Management	N	Min	Max	Mean	SD	Skewness	Kurtosis
Talent Attraction							
My University identifies all-important positions that are aligned with the University strategies	468	1	7	5.60	1.224	-1.285	2.211
My University identifies talent that makes maximum contribution to the University success	468	1	7	5.63	1.282	-1.276	1.672
My University builds up talent pool at every level of the University	468	1	7	5.52	1.351	-1.118	1.163
My University differentiates talent based on their contribution to University's objectives	468	1	7	5.37	1.318	-.995	.753
My University has a system that makes talented people aspire to join the University	468	1	7	5.65	1.325	-1.242	1.476
Talent Deployment							
My University deploys academic staff with creative thinking in key positions	468	1	7	5.56	1.322	-1.043	.836
My University places emphasis on skill, interests and capabilities of academic staff during deployment	468	1	7	5.73	1.205	-1.365	2.372
At my University, deployment of academic staff is based on policies, procedures and practices that are responsive to student's needs	468	1	7	5.81	1.204	-1.340	1.886
My University organizes orientation programme for newly recruited academic staff	468	1	7	5.77	1.446	-1.534	2.013
Talent Development							
My University has policies that encourage career development and growth opportunities for academic staff	468	1	7	5.79	1.162	-1.200	1.973
My University identifies career development needs for academic staff	468	2	7	5.75	1.110	-1.351	2.146
My University has a clear career path for academic staff	468	1	7	5.86	1.259	-1.431	2.171
The training activities for the identified academic staff require financial resources	468	1	7	6.05	1.087	-1.735	4.089

Talent Retention							
My University has developed programs for retaining high-potential academic staff	468	1	7	5.45	1.550	-1.078	.478
My University creates an environment where academic staff are excited to work	468	1	7	5.28	1.450	-1.068	.625
My University creates an environment where academic staff ideas are listened to and valued	468	1	7	5.38	1.456	-.990	.558
My University creates a culture where academic staff passionately believe in what they do	468	1	7	5.59	1.246	-1.095	1.265
My University empowers academic staff to make decisions	468	1	7	5.49	1.318	-1.053	1.205
My University recognizes good work of academic staff and celebrates academic achievement	468	1	7	5.62	1.370	-1.238	1.341
My University rewards top-performing academic staff	468	1	7	5.38	1.600	-.979	.203
My University provides academic staff with salary adjustments as they master significant skills for the jobs	468	1	7	5.30	1.746	-.973	-.023

Source: **Survey Data (2021)**

4.2.7.3 Manifestation of Employee Engagement

Employee engagement as the mediating variable in the study had three constructs: vigor, dedication, and absorption (Schaufeli & Bakker, 2004; Schaufeli et al., 2002), all of which were retained after factor analysis, although with fewer items. The findings on the construct of vigour indicate that the respondents' feelings are aligned to the items which state that: "I have a strong passion for the work that I do" with the highest mean of 6.43 and a standard deviation of 0.765, followed by "When I get up in the morning, I feel like going to work", which scored a mean value of 6.00 and a standard deviation of 0.900, and "I put a lot of energy into my work" with the lowest mean score of 5.97 and a standard deviation of 0.969. This implies that universities must institute mechanisms that ensure that academic staff have a strong passion for

the work that they do; this passion energizes them to wake up in the morning with a strong energy to work, which energy translates into enhanced performance.

Additionally, dedication has three items that were retained. The result revealed that the respondents' feelings about their job were in line with the items stated in the questionnaire: "I am enthusiastic about my job" with a mean score of 6.27 and a standard deviation of 0.767, followed by "I derive a sense of inspiration from my job" with a mean score of 6.21 and a standard deviation of 0.843, and "At my work, I always persevere, even when things do not go well" with a mean of 6.06 and a standard deviation of.929. This means that, as far as dedication is concerned, academic staff feel enthusiastic about their academic responsibilities, which makes them derive a sense of inspiration when the job is full of challenging responsibilities and persevere even when things do not go well in their job.

Lastly, absorption remained with four items. The results demonstrate that the respondents aligned their views with the statement on the questionnaires which states that: "I enjoy my job when it is challenging" with a mean value of 6.14 and a standard deviation of.918, followed by "It is difficult to detach myself from my job" with a mean score of 5.96 and a standard deviation of 1.082; "I am always taken up in my work" with a mean score of 5.91 and a standard deviation of 1.043; and "When I am working, I do not pay attention to what is around me" with a mean of 5.56 and a standard deviation of 1.380. The results indicate that it is difficult to detach academic staff from their job, which makes them fully taken up in the work they do to the extent that they do not pay attention to what is going on around them while at work.

The results in **Table 4.12** indicate that the Skewness and Kurtosis are all within the range of +3 and -3, which implies that most of the academic staff are always engaged

in executing their duties as prescribed in the job description. This confirms the assertion of Laage (2003) that when the values of Skewness and Kurtosis fall within the range between +3 and -3, it shows a normal situation. The only exception lies with very few individuals who are so intimidated that they have a strong passion (4.692) for the work they do.

Table 4.12: Manifestation of Employee Engagement

Employee Engagement	N	Min	Max	Mean	SD	Skewness	Kurtosis
Vigour							
I put in a lot of energy in my work	468	1	7	5.97	.969	-.908	1.372
I have a strong passion for the work that I do	468	1	7	6.43	.765	-1.580	4.867
When I get up in the morning, I feel like going to work	468	1	7	6.00	.900	-1.072	3.019
Dedication							
At my work, I always persevere, even when things do not go well	468	1	7	6.06	.929	-.983	1.589
I am enthusiastic about my job	468	3	7	6.27	.767	-.853	.409
I derive a sense of inspiration from my job	468	3	7	6.21	.843	-.761	-.195
Absorption							
I enjoy my job when it is challenging	468	3	7	6.14	.918	-1.038	.808
When I am working, I do not pay attention to what is around me	468	1	7	5.56	1.380	-1.222	1.323
I am always taken up in my work	468	1	7	5.91	1.043	-1.313	2.939
It is difficult to detach myself from my job	468	1	7	5.96	1.082	-1.194	1.635

Source: **Survey Data (2021)**

4.2.7.4 Manifestation of Transformational Leadership

Transformational leadership was presented with four indicators of idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation (Bass & Avolio, 1997), where the respondents rated the extent to which their supervisors display transformational leadership behaviors at any given moment on a

7-point Likert scale ranging from 1 (Almost Never) to 7 (Always). These subscales were converted into higher-order factors, which is consistent with recent empirical tests (Masood & Afsar, 2017) and theoretical developments of transformational leadership (Armstrong & Muenjohn, 2008).

The dimension of idealized influence had six items retained, where the respondents aligned their thoughts to the item that states, "My supervisor specifies the importance of having a strong sense of purpose." That item scored the highest mean of 5.93 and a standard deviation of 1.023, while the supervisor instills pride and respect in others and inspires me by being highly competent, scoring the lowest mean of 5.51 with a standard deviation of 1.092. The results mean that the supervisor specifies the importance of having a strong sense of purpose, talks about important values and beliefs for the team members, considers the moral and ethical consequences of decisions, displays a sense of power and confidence, puts the interest of the university before himself/herself, instills pride and respect in others, and inspires the academic staff to use their intellectual competence to derive meaning and purpose from their job.

Also, on inspirational motivation as a construct of transformational leadership, four items were retained. The respondents aligned their judgments to the fact that: "My supervisor communicates a clear and positive vision of the future" scored the highest mean of 6.01 and standard deviation of 1.006, followed by "My supervisor is optimistic when talking to his/her followers about the future goals of the university," with a mean score of 5.88 and standard deviation of.974; and "My supervisor describes the strategies for achieving the university's future goals," scored the lowest mean of 5.79 and standard deviation of.990. This means that the supervisor

communicates a clear and positive vision of the future; they are optimistic when talking to their followers about the future goals of the university; and they talk passionately about what needs to be done by the followers in pursuit of common goals.

In addition to individual consideration, there were four items retained. The results demonstrate that the respondents aligned their views to the item, which states, "My supervisor treats employees as individuals and supports and encourages their development." scored the highest mean of 5.74 and a standard deviation of 1.206, while "My supervisor spends time coaching employees" scored the lowest mean of 5.31 and a standard deviation of 1.479. This means that supervisors in public universities treat academic staff as individuals, support and encourage their development, help in solving academic staff life, work and family-related problems, and spend a great deal of time teaching and coaching academic staff to master job skills to meet job requirements.

Lastly, intellectual stimulation had four items retained. The respondents' indicate that: "My supervisor encourages thinking about problems in new ways and questions assumptions for appropriateness" and "My supervisor encourages open-mindedness and innovative ideas among team members" scored the same mean of 5.72 and standard deviation of 1.125 and 1.087, respectively. This was followed by "My supervisor seeks different perspectives from the followers when solving problems" with a mean of 5.63 and a standard deviation of 1.196; and "My supervisor is always satisfied with the reality and gets rid of old ideas" with a mean of 5.59 and a standard deviation of 1.220. This implies that the supervisor encourages thinking about problems in new ways and questions assumptions for appropriateness, as well as

encourages open-mindedness and innovative ideas among team members. When solving problems, he seeks different perspectives from his followers so that they are always satisfied with the reality and get rid of old ideas to bring in new ones.

According to the results in **Table 4.13** on transformational leadership, it shows that the figures of Skewness and Kurtosis fall within the acceptable range of -3 and +3, which means that the leaders in public universities exhibit transformational leadership styles when performing their leadership roles with the followers.

Table 4.13: Manifestation of Transformational Leadership

Transformational Leadership	N	Min	Max	Mean	SD	Skewness	Kurtosis
Idealized Influence							
My supervisor instills pride and respect in others and inspires me by being highly competent	468	1	7	5.51	1.092	-.750	1.026
My supervisor puts the interest of the University before himself/herself	468	1	7	5.76	1.075	-1.304	2.354
My supervisor fosters trust, involvement and cooperation among team members for the benefit of the University	468	1	7	5.83	1.122	-1.099	1.749
My supervisor displays a sense of power and confidence	468	1	7	5.78	1.071	-.994	1.506
My supervisor specifies the importance of having a strong sense of purpose	468	1	7	5.93	1.023	-1.092	1.669
My supervisor talks about important values and beliefs for the team members	468	1	7	5.88	1.071	-1.155	1.929
Inspirational Motivation							
My supervisor is optimistic when talking to his/her followers about future goals of the University	468	1	7	5.91	1.001	-.899	1.146
My supervisor talks passionately about what needs to be done by the followers	468	1	7	5.88	.974	-.972	1.563
My supervisor communicates a clear and positive vision of the future	468	1	7	6.01	1.006	-.916	.827
Intellectual Stimulation							
My supervisor seeks different perspectives from the followers when solving problems	468	1	7	5.63	1.196	-1.270	1.615
My supervisor encourages thinking about problems in new ways and questions assumptions for appropriateness	468	2	7	5.72	1.125	-.879	.655
My supervisor encourages open-mindedness and innovative ideas among team members	468	1	7	5.72	1.087	-1.118	2.043
My supervisor is always satisfied with the reality and gets rid of old ideas to bring fresh ones	468	1	7	5.59	1.220	-1.153	1.458
Individualized Consideration							
My supervisor spends time teaching employees	468	1	7	5.36	1.459	-.935	.324
My supervisor spends time coaching employees	468	1	7	5.31	1.479	-.887	.048
My supervisor treats employees as an individual, supports and encourages their development	468	1	7	5.74	1.206	-1.278	2.011
My supervisor helps in solving life, work and family problems of employees	468	1	7	5.49	1.497	-1.127	.719

Source: **Survey Data (2021)**

4.2.8 Manifestation of the Study Variables

The descriptive statistics (mean, standard deviation, minimum, maximum) were computed to provide the data profile. In a normal statistical manipulation, descriptive statistics help calculate the t-and F-statistics without prior knowledge of the raw data. The values of the descriptive statistics were used to describe the data distribution. It should be noted that the t-test and ANOVA require that the data follow a normal distribution pattern. In the event that data is not normal, then transformation may be desirable to transform the data to normal.

The results of the descriptive statistics for the composite variables in **Table 4.14** revealed that employee engagement scored the highest mean of 6.05 with a standard deviation of.493, with skewness and kurtosis of -.779 and 1.186, respectively. This was followed by transformational leadership with a mean score of 5.98 with a standard deviation of.990, with skewness of -1.062 and kurtosis of.894. The next in the order is employee performance, with a mean score of 5.75 with a standard deviation of.630, with skewness of -1.321 and kurtosis of 2.125. While talent management had the lowest mean score of 5.64 with a standard deviation of.808 and skewness and kurtosis of -1.389 and 1.402, respectively.

The computed descriptive statistics of the composite variables provide a true reflection of reality in the field (Field, 2013). The degrees of variability are not far away from the mean, as reflected by the variable standard deviations that depict the absence of sampling error during the sampling process. This provides confidence that the sampling statistics are a true reflection of the population parameters. Thus, we can rely on the quantitative data generated from the field to develop a linear model and a

predictive model using multiple regression models to answer the research objectives and hypotheses.

Table 4.14: Manifestation of the Study Variables

	N	Min	Max	Mean	SD	Skewness	Kurtosis
Talent Management	468	3	7	5.64	.808	-1.389	1.402
Employee Engagement	468	4	7	6.05	.493	-.779	1.186
Transformational Leadership	468	2	7	5.98	.990	-1.062	.894
Employee Performance	468	3	7	5.75	.630	-1.321	2.125

Source: **Survey Data (2021)**

4.2.9 Reliability and Validity Tests

4.2.9.1 Reliability Test

4.2.9.1.1 Reliability test before factor analysis

The measures of employee performance, talent management, employee engagement, and transformational leadership were subjected to reliability tests before data reduction. The results revealed that talent management had a Cronbach alpha of 0.944, employee engagement had a Cronbach alpha of 0.765, and transformational leadership had a Cronbach alpha of 0.923, while employee performance exhibited a Cronbach alpha of 0.935, as shown in **Table 4.15**.

Table 4.15: Reliability test before factor analysis

Variables	Number of Items	Cronbach Alpha
Employee Performance	40	.935
Talent Management	31	.944
Employee Engagement	17	.765
Transformational Leadership	20	.923

Source: **Survey Data (2021)**

The interpretation drawn from the results in the table is that transformational leadership exhibited the highest level of internal consistency, followed by talent management, employee performance, and employee engagement. All the variables met the threshold of 0.70 set by Holmbeck and Devine (2009). It can be deduced that

the variables had an acceptable level of internal consistency, which can be relied upon for further analysis and drawing valid conclusions.

4.2.9.1.2 Reliability test after factor analysis

The measures of employee performance, talent management, employee engagement, and transformational leadership were further subjected to reliability tests after data reduction. The results revealed that employee performance exhibited a Cronbach alpha of 0.900, talent management with a Cronbach alpha of 0.925, employee engagement had a Cronbach alpha of 0.643, and transformational leadership had a Cronbach alpha of 0.914, as shown in **table 4.16**.

Table 4.16: Reliability test after factor analysis

Variable	Number of Items	Cronbach's Alpha
Employee Performance	30	.900
Talent Management	21	.925
Employee Engagement	10	.643
Transformational Leadership	17	.914

Source: **Survey Data (2021)**

The interpretation drawn from the findings is that transformational leadership exhibited the highest level of internal consistency, followed by talent management, employee performance, and employee engagement. Much as the level of internal consistency is high for the rest of the variables, employee engagement exhibited the lowest level of Cronbach alpha and was far below the threshold of 0.70 set by Holmbeck and Devine (2009). However, much as the Cronbach alpha of employee engagement was below 0.70 (0.643), the result is supported by Hair, Ringle, *et al*. (2013), who argued that a Cronbach alpha of 0.60 is considered to have average reliability. This argument is further supported by Garson (2012). Hence, it can be

deduced that the study variables are within the acceptable level of internal consistency, which means they can be relied on to draw statistical inferences.

4.2.9.2 Validity Test

Validity test was carried by performing factor analysis as a commonly used method for examining the number of significant dimensions present in a dataset. The study used Explorative Factor Analysis (EFA) to examine the dimensions of the variables under investigation. Items that are highly correlated are clustered around one factor. The interrelation of items in the questionnaire demonstrates how well the items measure the same construct (Terwee *et al.*, 2007). Meanwhile, the items within a single factor with low correlation demonstrate its association with other factors other than the construct being examined (De Vet, Terwee, Mokkink, & Knol, 2011).

The dimension scores were summarized and collectively expressed according to their degree of importance in explaining the latent variable based on the Eigen Values using the Varimax method of Principal Component Analysis (PCA). The factor structure of the latent variable was determined using Varimax factor rotation with Kaiser Normalization (Hair, Ringle, *et al.*, 2013). To form the variable factor, the factors with an Eigen value greater or equal to one, consisting of variable dimension with a factor loading greater or equal to 0.5, were extracted. Comfrey (1992) notes that indicators with factor loading rated at 0.32 or lower are regarded as poor, while 0.32 and 0.45 are regarded as fair, 0.45-0.63 are good, 0.64 and 0.70 are very good, and 0.71 and above are excellent. The method was applied to retain the indicators with factors of 0.50 and above.

4.2.9.2.1 Validity test for Employee Performance

Employee performance was measured using the four dimensions of teaching, research, publication, and community engagement. The measures were linked to a seven point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (7). The Exploratory Factor Analysis (EFA) of employee performance demonstrates that the four dimensions were significant and retained with Eigen values between 1.757 - 6.164. Furthermore, 10 items of the 40 in the measurement scale were dropped from the factor structure for either low factor loading (i.e. factor loading < 0.5) or cross loading.

The factors extracted according to the degree of importance are: publication (Eigen Values = 6.164, Variance = 20.548%), community engagement (Eigen Values = 4.623, Variance = 15.410%), teaching (Eigen Values = 3.682, Variance = 12.273%) and research (Eigen Values = 1.757, Variance = 5.857%). The four constructs, taken together, explain 54.088% of the variance in employee performance. The EFA produced a Kaiser-Meyer-Olkin (KMO) for sample adequacy of.912, which is above 0.5, representing the adequacy of the sample for factor analysis (Field *et al*., 2012). The Bartlett's test of sphericity of approximate chi-square = 6827.260, df = 435, P < .001, signifying that the factors had significant relationships with each other and sufficient to measure employee performance as per the summarized results shown in **Table 4.17**.

Table 4.17: Validity test for Employee Performance

	Publication	Community Engagement	Teaching	Research
I always publish articles in local peer reviewed journals	.834			
My research articles have been published in newspapers/ magazines	.812			
I have co- authored a book	.806			
I publish my research articles with the university	.792			
I regularly publish in International peer reviewed journals	.791			
I have authored a book	.782			
My conference papers are published in conference proceedings	.775			
My published work is always cited by other researchers	.715			
I collaborate with colleagues to do research publication	.555			
I participate in community events like conferences, seminars, sport activities, trade shows and exhibitions in the community		.710		
I participate in cultural and social gatherings in the community		.683		
I participate in public ceremonies, awards, competitions, and community events		.661		
I contribute to charitable organizations within the community		.654		
I support the communities where I work and live		.652		
I participate in discussions that raise issues of social responsibility		.644		
I ensure safe, ethical and efficient use of data obtain from the community		.631		
I provide public lectures and talk shows to build collaboration with community organizations		.564		
I continuously expand the frontiers of knowledge, innovation and technology to improve people's well-being in the community		.524		
I participate in research dissemination and knowledge sharing in the community		.512		
I have social and networking skills to involve community in research activities		.500		
I mark all the tests, assignments and examinations given to students			.757	
I do administer tests, assignments, and field/practical work to students in every course unit I teach			.739	
I attend to my lectures according to the assigned timetable			.711	
I start my lectures at the right time			.693	
I release the course work results to students before examination commences			.642	
I return all course work marked scripts to students			.624	
I end my lectures at the right time			.595	
I read and correct students' projects			.544	
I do participate in the departmental research dissemination workshops				.684
My University has a research policy that guides academic staff in doing research				.646
Eigen Value	***6.164***	***4.623***	***3.682***	***1.757***
Variance (%)	***20.548***	***15.410***	***12.273***	***5.857***
Cumulative Variance (%)	***20.548***	***35.958***	***48.231***	***54.088***
KMO=.912, Bartlett's Test of Sphericity = 6827.260, df=435, sig=.000				
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.				

Source: **Survey Data (2021)**

4.2.9.2.2 Validity test for Talent Management

Talent management was measured using the four dimensions of talent attraction, deployment, development, and talent retention with 31 items. The items were linked to a seven point Likert scale; ranging from Strongly Disagree (1) to Strongly Agree (7) (Farooq *et al.,* 2017). The Exploratory Factor Analysis (EFA) of talent management shows that the four dimensions were significant factors and retained with Eigen values ranging between 2.359 to 4.938. The ten (10) items of the 31 in the measurement scale were dropped from the factor structure for either cross loading or their factor load < 0.5.

The factors extracted in the order of significance include; talent retention (Eigen Values = 4.938, Variance = 23.512%), followed by talent attraction (Eigen Values = 2.995, Variance = 14.262%), talent deployment (Eigen Values = 2.463, Variance = 11.729%) and talent development (Eigen Values = 2.359, variance = 11.231%). The four factors explain 60.734% variance in talent management. The EFA generated a Kaiser-Meyer Olkin (KMO) for sample adequacy of .940, which is above 0.5; indicating the adequacy of the sample for factor analysis (Field, 2009). The Bartlett's test of sphericity of approximate chi-square = 4653.011, df = 210, P < .001, implying that the factors had significant relationships with each other and sufficient to measure talent management as per the summarized results shown in **Table 4.18**.

Table 4.18: Validity test for Talent Management

	Talent Retention	Talent Attraction	Talent Deployment	Talent Development
My University rewards top-performing academic staff	.784			
My University creates an environment where academic staff are excited to work	.757			
My University provides academic staff with salary adjustments as they master significant skills for the job	.755			
My University creates an environment where academic staff ideas are listened to and valued	.715			
My University has developed programs for retaining high-potential academic staff	.692			
My University recognizes good work of academic staff and celebrates academic achievement	.689			
My University creates a culture where academic staff passionately believe in what they do	.682			
My University empowers academic staff to make decisions	.674			
My University identifies talent that makes maximum contribution to the University success		.790		
My University differentiates talent based on their contribution to University's objectives		.718		
My University builds up talent pool at every level of the University		.700		
My University identifies all-important positions that are aligned with the University strategies		.588		
My University has a system that makes talented people aspire to join the University		.587		
My University deploys academic staff with creative thinking in key positions			.728	
At my University, deployment of academic staff is based on policies, procedures and practices that are responsive to student's needs			.713	
My University places emphasis on skill, interests and capabilities of academic staff during deployment			.679	
My University organizes orientation programme for newly recruited academic staff			.608	
My University has policies that encourage career development and growth opportunities for academic staff				.767
My University identifies career development needs for academic staff				.721
My University has a clear career path for academic staff				.656
The training activities for the identified academic staff require financial resources				.627
Eigen Value	***4.938***	***2.995***	***2.463***	***2.359***
Variance (%)	***23.512***	***14.262***	***11.729***	***11.231***
Cumulative Variance (%)	***23.512***	***37.774***	***49.503***	***60.734***

KMO=.940, Bartlett's Test of Sphericity = 4653.011, df=210, sig=.000

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

Source: **Survey Data (2021)**

4.2.9.2.3 Validity test for Employee Engagement

Employee engagement was analyzed using three dimensions of vigor, dedication and absorption with 17 items. All the items were scored on a seven-point rating scale ranging from 1 (Never) to 7 (Always). The Exploratory Factor Analysis (EFA) of employee engagement indicates that the three dimensions of employee engagement were found to be significant and retained with Eigen values ranging between 1.540 - 2.275. Furthermore, 7 items of the 17 items in the measurement scale of employee engagement were dropped from the factor structure for either low factor loading (i.e. factor loading < 0.5) or cross loading.

The factors extracted in order of significance include: absorption (Eigen Values = 2.275, variance = 22.750%), followed by vigor (Eigen Values = 1.837, variance = 18.371%) and dedication (Eigen Values = 1.540, variance = 15.397%). The three factors explain 56.518% of the variance in employee engagement. The EFA generated a Kaiser-Meyer-Olkin (KMO) for sample adequacy of.731, which is above 0.5, depicting the adequacy of the sample for factor analysis (Field, 2013). The Bartlett's test of sphericity of approximate chi-square = 773.451, df = 45, P .001, indicating that the factors had significant relationships with each other and sufficient to measure employee engagement as per the summarized results shown in **Table 4.19**.

Table 4.19: Validity test for Employee Engagement

	Absorption	Vigor	Dedication
I get carried away when I am working	.775		
When I am working, I do not pay attention to what is around me	.753		
I am always taken up in my work	.722		
It is difficult to detach myself from my job	.681		
I put in a lot of energy in my work		.835	
I have a strong passion for the work that I do		.778	
When I get up in the morning, I feel like going to work		.656	
I derive a sense of inspiration from my job			.706
I am enthusiastic about my job			.700
I enjoy my job when it is challenging			.614
Eigen Value	***2.275***	***1.837***	***1.540***
Variance (%)	***22.750***	***18.371***	***15.397***
Cumulative Variance (%)	***22.750***	***41.121***	***56.518***
KMO=.731, Bartlett's Test of Sphericity = 773.451, df=45, sig=.000			
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			

Source: **Survey Data (2021)**

4.2.9.2.4 Validity test for Transformational Leadership

Transformational leadership was measured on a four-dimensional scale of idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation with 20 items (Bass & Avolio, 1997). The responses were ranked on a 7-point Likert scale ranging from 1 (Almost Never) to 7 (Always) depending on how frequently academic staff supervisors display the leadership behaviors on a given item. The Exploratory Factor Analysis (EFA) of transformational leadership shows that the four dimensions were significant and retained, with Eigen values ranging between 2.136 and 3.131. Most importantly, three (3) items out of the 20 in the measurement scale were dropped from the factor structure for either low factor loading (i.e., factor loading > 0.5) or cross loading.

The factors of transformational leadership extracted in order of importance include: individualized consideration (Eigen Values = 3.131, Variance = 18.420%); idealized influence (Eigen Values = 3.078, Variance = 18.106%); intellectual stimulation (Eigen Values = 2.449, Variance = 14.408%); and inspirational motivation (Eigen Values = 2.136, Variance = 12.567%). The four factors, taken together, explain 63.500% of the variance in transformational leadership. The EFA generated a Kaiser-Meyer-Olkin (KMO) for sample adequacy of.932, which is above 0.5, depicting the adequacy of the sample for factor analysis (Field *et al.,* 2012). The Bartlett's test of sphericity of approximate chi-square = 3667.750, df = 136, P .001, showing that the factors had significant relationships with each other and was sufficient to measure transformational leadership as per the summarized results shown in **Table 4.20**.

Table 4.20: Validity test for Transformational Leadership

	Individualized Consideration	Idealized Influence	Intellectual Stimulation	Inspirational Motivation
My supervisor spends time coaching employees	.849			
My supervisor spends time teaching employees	.835			
My supervisor helps in solving life, work and family problems of employees	.800			
My supervisor treats employees as an individual, supports and encourages their development	.652			
My supervisor displays a sense of power and confidence		.757		
My supervisor instills pride and respect in others and inspires me by being highly competent		.710		
My supervisor specifies the importance of having a strong sense of purpose		.668		
My supervisor puts the interest of the University before himself/herself		.661		
My supervisor talks about important values and beliefs for the team members		.549		
My supervisor fosters trust, involvement and cooperation among team members for the benefit of the University		.544		
My supervisor encourages open-mindedness and innovative ideas among team members			.711	
My supervisor encourages thinking about problems in new ways and questions assumptions for appropriateness			.678	
My supervisor seeks different perspectives from the followers when solving problems			.627	
My supervisor is always satisfied with the reality and gets rid of old ideas to bring fresh ones			.617	
My supervisor talks passionately about what needs to be done by the followers				.736
My supervisor is optimistic when talking to his/her followers about future goals of the University				.729
My supervisor communicates a clear and positive vision of the future				.662
Eigen Value	***3.131***	***3.078***	***2.449***	***2.136***
Variance (%)	***18.420***	***18.106***	***14.408***	***12.567***
Cumulative Variance (%)	***18.420***	***36.526***	***50.933***	***63.500***

KMO = .932, Bartlett's Test of Sphericity = 3667.750, df = 136, sig = .000

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

Source: **Survey Data (2021)**

4.2.9.3 Operational model for the study variables

The aim of the operationalization was to derive a measurement model for latent variables based on the variable dimensions, items and measurement scales used. The measurement models were used to assess the validity, reliability, model fit and the significant relationships of the variable dimensions in relation to the main constructs

(Anderson & Philips, 1981; Chavance *et al*., 2010). The validity and acceptability of the measurement models developed in terms of factor loadings, average variance extracted, and factor structure of the model. The derived measurement of the study variables is shown in **Table 4.21.** The elements of the measurement models are explained below. Employee performance had 40 items in the initial measurement scale. Ten items were dropped from the factor structure for either low factor loading or cross loading. The factors that were extracted according to the degree of importance were: publication, community engagement, teaching, and research. The four constructs of employee performance explain 54.088% of the variance.

Talent management had 31 items in the original measurement scale, of which 10 items were dropped from the factor structure. The factors that were extracted, in order of significance, include: talent retention, talent attraction, talent deployment, and talent development. In total, the four factors account for 60.734% of the variance. Employee engagement was analyzed using three dimensions of vigor, dedication, and absorption with 17 items, out of which seven were deleted from the factor structure. The factors that were extracted, in order of significance, include: absorption, vigor, and dedication. The three factors of employee engagement explain 56.518% of the variance.

Transformational leadership was measured on a four-dimensional scale of idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation with 20 items. Two of which were considered in further analysis. The results of the extracted factors were arranged in the order of importance as follows: individualized consideration, idealized influence, inspirational motivation, and

intellectual stimulation. Thus, explaining the 63.500% variation in transformational leadership.

Table 4.21: Operational model for the study variables

Study Variables	Dimensions	Initial items	Extracted Items	Variance (%)	Cum. (%)	Dimension Cronbach	KMO	Total Cronbach
Employee Performance	Publication	9	9	20.548	20.548	0.928		
	Community Engagement	13	11	15.410	35.958	0.866		
	Teaching	9	8	12.273	48.231	0.821		
	Research	9	2	5.857	54.088	0.599		
	Total	**40**	**30**				**0.912**	**0.900**
Talent Management	Talent Retention	8	8	23.512	23.512	0.911		
	Talent Attraction	7	6	14.262	37.774	0.815		
	Talent Deployment	7	4	11.729	49.503	0.772		
	Talent Development	9	4	11.231	60.734	0.738		
	Total	**31**	**21**				**0.940**	**0.925**
Employee Engagement	Absorption	6	4	22.750	22.750	0.721		
	Vigour	5	3	18.371	41.121	0.663		
	Dedication	6	3	15.397	56.518	0.465		
	Total	**17**	**10**				**0.731**	**0.643**
Transformational Leadership	Individualized Consideration	4	4	18.420	18.420	0.867		
	Idealized Influence	8	6	18.106	36.526	0.839		
	Intellectual Stimulation	4	3	14.408	50.933	0.796		
	Inspirational Motivation	4	4	12.567	63.500	0.714		
	Total	**20**	**17**				**0.932**	**0.914**

Source: **Survey Data (2021)**

4.2.10 Data Diagnostic Tests

According to Tabachnick and Fidell (2013), multiple regression models are very sensitive to various parametric assumptions that were tested to ensure dependable statistical results. All statistical procedures have underlying assumptions, some of which are more stringent while others are lenient. In rare circumstances, violations of the tests may not change much of the substance of research deductions (Garson, 2012). Alternatively, violation of some of the diagnostic tests can be a cause for arriving at wrong research inferences. Therefore, researchers' effort must be devoted towards establishing that research data meets the test's procedure since sound statistical results are expected in all quantitatively-based journal articles, theses, and dissertations to arrive at credible research conclusions (Garson, 2012).

4.2.10.1 Sample size

Sample size is critical in any statistical analysis because it increases effect size and statistical power, making it easier to make predictions and draw generalized conclusions about population parameters using sample statistics. Large sample size in statistical analysis has the potential to reduce the effect of non-normally distributed data in a regression model. Similarly, multiple regression analysis requires a minimum ratio of valid cases to the independent variables to be 5:1. That should always be adhered to when performing statistical analysis (Hair *et al.*, 2006). The number of valid cases in the study was 468, and the independent variables were three. Thus, the ratio of cases to independent variables is 156:1 (468/3), which is far greater than the minimum ratio of 5:1, implying that the sample size is adequate to perform the required statistical analysis. The distribution of mean and standard deviation for independent variables is presented against the sample size as shown in **Table 4.22**.

Table 4.22: Distribution of Mean and Standard Deviation (SD) of independent variables

Independent Variables	N	Mean	SD
Talent Management	468	5.64	.808
Employee Engagement	468	6.05	.493
Transformational Leadership	468	5.98	.990

Source: Survey Data (2021)

4.2.10.2 Testing for linearity

The linearity assumption was tested using a correlation matrix, as illustrated in **Table 4.26.** Field *et al.* (2012) use correlation as one of the most commonly used methods of determining the linear relationship between the independent variables and dependent variables in the study model (Field *et al.,* 2012). The patterns of linear relationships between the variables were also examined using a Q-Q plot where the standardized residuals were fitted against standardized estimates as shown in **Appendix XIII**. The general rule is that data is considered linear and normal if the observed values are fitted along a straight line. The Q-Q plots show that the data follows linear patterns and is normally distributed, as fitted values are along the straight line, as shown in **Appendix XIII.** It implies that the data meets the linearity and normality assumptions, so the data was fit for correlations and regression.

4.2.10.3 Testing for normality

This assumption is made in a number of statistical procedures on the belief that data is normally distributed. To account for this distribution, statisticians usually apply two main methods of assessing data normality, i.e., the graphical method and numerical tests (Bland, 2015). The assumption was tested using graphical methods, especially histogram and quantile-by-quantile (Q-Q) plots that form a 45-degree line that assesses whether the observed values are in conformity with the hypothetical

distribution (Field, 2013; Garson, 2012). It is imperative to ensure that the data follows a normal distribution pattern when performing parametric tests, as non-normally distributed data lowers the statistical power and inflates the **Type I Error** or the significance, leading to false positives (that the parameter estimates are not significant). Thus, resulting in wrong conclusions and decision-making. Subsequently, data was subjected to numerical tests of goodness of fit using the Kolmogorov-Smirnov test (Field *et al.,* 2012).

The Shapiro–Wilk test is more appropriate for small sample sizes (n 50 samples), although it can be used for handling large sample sizes, while the Kolmogorov–Smirnov test is used for large sample sizes (n 50). The null hypothesis for the Shapiro-Wilk and Kolmogorov-Smirnov tests states that data is drawn from a normally distributed population (Ghasemi & Zahediasl, 2012). The study relied on the thumb rule, which states that, when $P > 0.05$, the null hypothesis is accepted on the presumption that data is normally distributed. The results in **Table 4.23** for the Kolmogorov-Smirnov and Shapiro-Wilks tests show that the study variables were not normally distributed as the p-values were significant below 0.05. This indicates that the study variables cannot be subjected to further statistical tests in their current state without data transformation to remove negatively and positively skewed data.

Table 4.23: Normality test of the study variables before data transformation

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**Df**	**Sig.**	**Statistic**	**df**	**Sig.**
Employee Performance	.128	468	.000	.903	468	.000
Talent Management	.184	468	.000	.856	468	.000
Employee Engagement	.103	468	.000	.962	468	.000
Transformational Leadership	.151	468	.000	.882	468	.000

Source: **Survey Data (2021). Lilliefors Significance Correction[a]**

To ensure that the data conforms to the rule of normality, a natural logarithm transformation was conducted on the variables, after which the variables were subjected to normality tests (Field, 2009b). The Shapiro-Wilks test shows that the study variables exhibit significance values above 0.05. The only exception lies with transformational leadership, which had a significance value below 0.05 (p = 016). The Kolmogorov-Sminorv test after natural logarithm transformation indicates that the study variables have significance levels above 0.05, implying that the transformed variables conform to the normality test. As a result, the study relied on the Kolmogorov-Smirnov test to conclude that the sample data came from a normally distributed population (Ghasemi & Zahediasl, 2012), whereas the Shapiro-Wilk test is better suited for small sample sizes (n = 50 samples) (Mishra et al., 2019), and the study had a large sample size (n = 468 samples). The results of the transformed data are contained in **Table 4.24**.

Table 4.24: Normality test of the study variables after data transformation

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
Study Variables	**Statistic**	**Df**	**Sig.**	**Statistic**	**df**	**Sig.**
Talent Management	.011	468	.200*	.999	468	.999
Employee Engagement	.027	468	.200*	.996	468	.229
Transformational Leadership	.037	468	.141	.992	468	.016
Employee Performance	.016	468	.200*	.999	468	1.000

Source: **Survey Data (2021). Lilliefors Significance Correction[a]**

The normality test was examined graphically using a histogram that represents the form and distribution of data. When the errors are normally distributed, the histogram of standardized residuals represents the normal curve, indicating that the normality assumption was met (Garson, 2012). Overall, the histogram was a bell-shaped curve, as shown in **Figure 4.1**, demonstrating that the data was normally distributed. This

means that the data was good for further statistical analysis since it conformed to the assumption of normality.

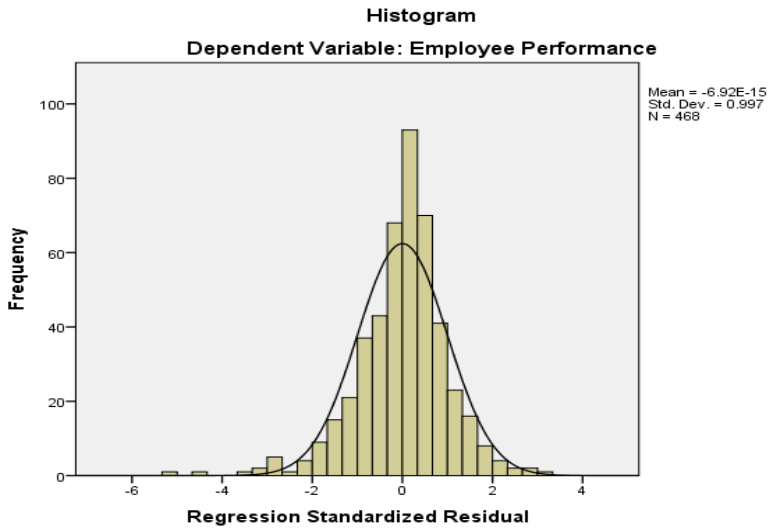

Figure 4.1: Histogram showing the Normality Test

4.2.10.4 Testing for homoscedasticity/ heteroscedasticity

Homoscedasticity infers that the association under examination is the same for the whole range of the dependent variable. The scatterplot of the standardized predicted dependent variable was plotted against the standardized residuals**.** The result shows that the variance of the residual is the same for all predicted values of the dependent variable, indicating that the regression model was equally accurate across the range of the dependent as the residuals are randomly scattered along the zero line, providing support for homoscedasticity. In a study model, the presence of heteroscedasticity is shown when residuals are not evenly distributed along the zero line. Following the result from the scatter plots in **Figure 4.2**, most of the residuals lie between -2 and +2 points, as recommended by Osborne and Waters (2002), implying that the homoscedasticity has been satisfied by the study as the residuals are within the recommended threshold. The plot is largely a cloud-indicating the presence of

homoscedasticity. In the event that the patterns of residuals show high prediction values, the lower the residuals, suggesting that there is heteroscedasticity.

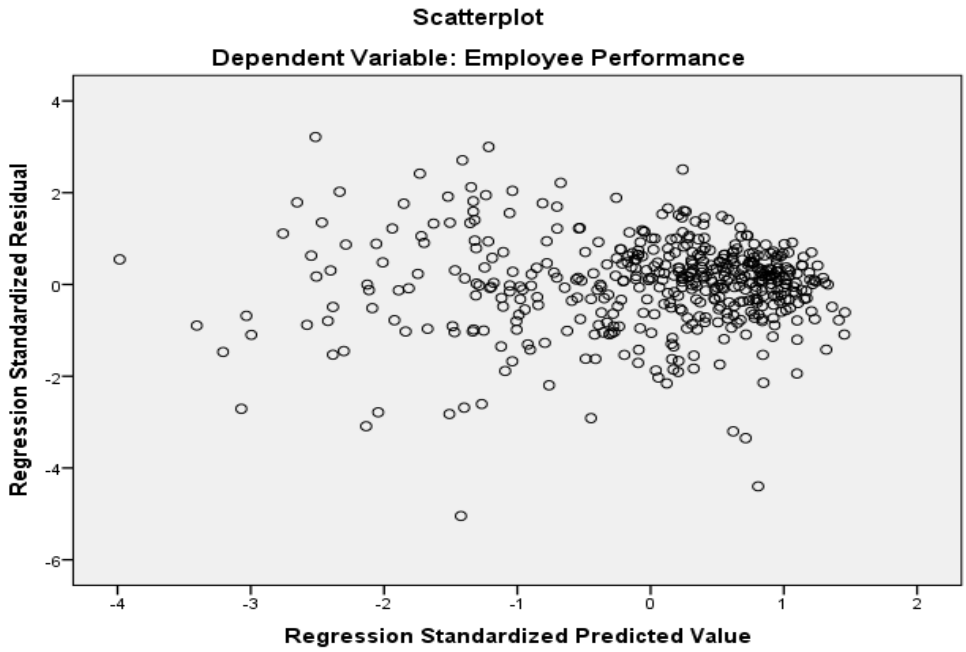

Figure 4.2: Scatter plot for Homoscedasticity/ Heteroscedasticity Test

Homoscedasticity/heteroscedasticity was assessed statistically using Levene's statistics to test the null hypothesis that the variances in the groups were equal and the difference between the variances is equal to zero. The rule of thumb is that if the Levene's statistics is significant at the level of 0.05 or below, the null hypothesis is rejected. The result in **Table 4.25** show that for the untransformed variables, the Levene's statistic for talent management and transformational leadership have significant values below 0.05 indicating a rejection of the null hypothesis of homoscedasticity, while employee performance and employee engagement had significant values above 0.05, an indication of failure to reject the hypothesis of equal variance, hence a need to do data transformation. However, after data transformation all the variables had significant values above 0.05. Therefore, the study fail to reject

the null hypothesis of equal variance as the transformed values conform to the assumption of homoscedasticity.

Table 4.25: Test for Homoscedasticity/Heteroscedasticity

	Untransformed values				Transformed values			
Study variables	**Levene statistic**	**df1**	**df2**	**Sig.**	**Levene statistic**	**df1**	**df2**	**Sig.**
Employee Performance	.240	1	466	.625	.014	1	466	.907
Talent Management	5.711	1	466	.017	.065	1	466	.799
Employee Engagement	.762	1	466	.383	.654	1	466	.419
Transformational Leadership	4.477	1	466	.035	3.671	1	466	.056

Source: Survey Data (2021)

4.2.10.5 Testing for multicollinearity and singularity

The assumption of multicollinearity was tested using tolerance (Tol.) and variance inflation factor (VIF) to examine whether talent management, employee engagement, and transformational leadership are competitive or non-competitive in predicting employee performance (Disatnik & Sivan, 2016). Variance inflation factors range from .320 to 1.367 (VIF = 1.320 - 1.367), indicating that predictor variables do not compete to predict the criterion variable.

Furthermore, with VIF 4 and Tol. > 0.2, the results show that talent management (β = .416, $p < .001$), transformational leadership (β = .294, $p < .001$), and employee engagement (β = .146, $p < .001$) are significant predictors of employee performance. This is an indication that there was no multicollinearity or singularity among the disturbances in the model. This suggests that predictor variables studied (talent management, employee engagement, and transformational leadership) in the model are non-competitive in predicting employee performance among academic staff of

public universities in Uganda. The results of multicollinearity tests are shown in **Table 4.26**.

Table 4.26: Tolerance (TOL) and Variance Inflation Factor (VIF)

Predictor Variables	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	β	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	1.668	.265		6.298	.000		
Talent Management	.324	.031	.416	10.557	.000	.731	1.367
Employee Engagement	.187	.049	.146	3.787	.000	.764	1.309
Transformational Leadership	.187	.025	.294	7.603	.000	.758	1.320

Source: **Survey Data (2021)**. **Dependent Variable:** Employee Performance

4.2.10.6 Testing for data independence

Independent observations are presumed in most statistical procedures, especially in multiple regression, logistic regression, and general linear models (Garson, 2012). Lack of independence in these models occurs due to repeated measured data, time series data, and hierarchical and grouped data. When testing for independence, there are two presumed hypotheses (i.e., null and alternative), which state that the factors are independent of each other and that factors are not independent, respectively (Murphy *et al.,* 2020). Failure to test for autocorrelation indicates that the research outcomes are likely to produce false positives (*Type I Error*), which affects the predictive capability of the chosen research model (Forstmeier, Wagenmakers, & Parker, 2017).

Data independence in the research model was tested using the Durbin-Watson (D) coefficient that uses studentized residuals. The result of the Durbin-Watson statistics was found to be **1.773** for the observed values, which lies between the expected values of **1.5** and **2.5** for normal independent observations (Garson, 2012). The result

of the observation indicates that the factors under examination are independent of each other as the observed values are greater than 1.5 and less than 2.5, which provides the confidence to develop a predictive regression model based on the research hypotheses. The result of data independence statistics is shown in **Table 4.27**.

Table 4.27: Test for data independence

				Change Statistics					Durbin-Watson
R	**R^2**	**Adj. R^2**	**SEE**	**R^2 Change**	**F Change**	**df1**	**df2**	**Sig. F Change**	**D**
.688[a]	.473	.470	.459	.473	139.030	3	464	.000	1.773

Source: **Survey Data (2021).** **Predictors:** (Constant), Transformational Leadership, Employee Engagement, Talent Management. **Dependent Variable:** Employee Performance

4.3 Findings of the Study

The study findings were presented and interpreted according to the research hypotheses formulated in null. The study had 8 null hypotheses consisting of 4 direct null hypotheses and 4 indirect null hypotheses. Prior to hypotheses testing Pearson correlation was conducted to examine the strength and direction of relationships between the study variables.

4.3.1 Correlation analysis

Pearson's correlation analysis was conducted to test for the strength and direction of relationships between talent management, employee engagement, transformational leadership, and employee performance. The results show that there are linear patterns of positive relationships between the study variables. However, it should be noted that when the degree of association is high (r >.70), there is a high likelihood of bivariate multicollinearity between the study variables. A critical assessment of the observed relationships between the study variables indicates that the correlation coefficients

were below.70, signifying that there was no bivariate collinearity among the study variables in the research model (Tabachnick & Fidell, 2013).

The Pearson's correlation results demonstrate that there were statistically significant relationships between talent management and employee performance (r =.607, $p < 0.05$), employee engagement and employee performance (r = .440, $p < 0.05$), transformational leadership and employee performance (r = .533, $p < 0.05$) and talent management and employee engagement (r = .429, $p < 0.05$). These results imply that talent management, employee engagement, and transformational leadership are significant predictors of employee performance. The existence of significant positive relationships between independent variable (talent management), mediating variable (employee engagement), moderating variable (transformational leadership) and dependent variable (employee performance) provided the basis for the study to conduct regression analysis in line with the research hypotheses. The result of Pearson's correlation statistics is provided in **Table 4.28**.

Table 4.28: Correlation analysis results

	1	2	3	4
1. Employee Performance	1.000			
2. Talent Management	.607**	1.000		
3. Employee Engagement	.440**	.429**	1.000	
4. Transformational Leadership	.533**	.436**	.393**	1.000

Source: **Survey Data (2021)**. **Note:** **. Correlation is significant at the 0.01 level (2-tailed).

4.3.2 Hypotheses Testing

The hypotheses tested consisted of direct hypotheses (*i.e.* H_{01}, H_{02}, H_{03}, & H_{04}) and indirect hypotheses (*e.g.* H_{05}, H_{06}, H_{07}, & H_{08}). The direct hypotheses were tested using beta coefficients (β), p-value (p), r-square change (ΔR^2) and t-value (t) as statistical information extract from hierarchical regression results (Richardson,

Hamra, MacLehose, Cole, & Chu, 2015), where the decision to reject or fail to reject the hypotheses were based on p-value ($p \leq .05$) and critical t-value ($t \geq 1.96$).

The indirect hypotheses relied on β-value (β), p-value (p), F-value (F), r-square (R^2), r-square change (ΔR^2), t-value (t) and the confidence intervals (CI) as statistical information generated from multiple regression model (Process Macro Version 3.2) in line with Hayes (2012); Hayes (2013a, 2013b); Hayes (2018) model 4 and Model 8 of mediation, moderation and moderated mediation. The decision to reject or fail to reject the mediation hypothesis (H_{05}) and moderations hypotheses (H_{06} & H_{07}) were based on confidence intervals being none zeros, p-value ($p \leq .05$) and critical t-value ($t \geq 1.96$). The decision to reject or fail to reject the moderated mediation hypothesis (H_{08}) was based on confidence interval of the moderated mediation index being non-zeros.

4.3.2.1 Testing for the effect of control variables on employee performance

A hierarchical multiple regression model was conducted to examine the effects of control variables (gender, age, education level and tenure) on employee performance. The finding revealed that the education level ($\beta = .261$, $p < .01$) of academic staff in public universities significantly predicts employee performance. While the gender ($\beta = .168$, $p > .05$), age ($\beta = .122$, $p > .05$) and tenure ($\beta = -.084$, $p > .05$) of academic staff in public universities were insignificant in predicting employee performance. However, much as the three control variables (gender, age and tenure) were insignificant in predicting employee performance, the overall effect of the control variables on the model was significant. $F(4,463) = 5.204$, $p < .001$, $R^2 = 0.043$, $p < .001$. Signifying that the control variables account for 4.3% variation in employee performance. Whereas, the model was significant in predicting employee

performance, much of the change in employee performance is explained by education level (β = .261, p <.01) of academic staff of public universities in Uganda. The results signify that the level of employee performance vary with education level, the more educated the academic staff, the higher the level of job performance. The educational level attained by the academic staff is expected to translate into action orientation, task structuring and probing, synthesis, and judgment (Engelbrecht & Fischer, 1995) as part of one's core job dimensions as stipulated in the job descriptions (Mensah, 2015), which in way vary from job to job and organization to organization depending on the occupational acumen and business concerns of an entity or enterprise (Tett, Guterman, Bleier, & Murphy, 2000).

4.3.2.2 Testing for the effect of talent management on employee performance

Hierarchical regression model *2* was run to determine the hypothesis that: t*alent management has no significant effect on employee performance of academic staff in public universities in Uganda* (**H_{01})**. The hypothesis was tested while controlling for the effects of gender, age, education level and tenure as control variables. The results revealed that gender (β = -.048, p >.05), age (β = .072, p >.05), education level (β = .117, p >.05) and tenure (β = .052, p >.05) were insignificant in predicting employee performance.

The result of the study differ from the previous studies (Aquino, Galperin, & Bennett, 2004; Howladar *et al.*, 2018; Zhang & Bartol, 2010) found that gender; age, education level and tenure are related to employee performance. The variability in results can be explained by context of the study and environmental dynamics. The results of the analysis further suggests that talent management has a significant positive effect on employee performance β = .607, p <.001, ΔR^2 = .349, F (5,462) = 264.779, p <.001.

Therefore, talent management account for 34.9% variance in employee performance. Hence, Hypothesis **H_{01} was rejected.**

4.3.2.3 Testing for the effect of employee engagement on employee performance

The hierarchical regression model 3 examined the hypothesis that: *Employee engagement has no significant effect on employee performance of academic staff in public universities in Uganda* (**H_{02}**). The hypothesis was tested while controlling for the effects of gender, age, education level, and tenure as well as talent management. The analysis revealed that gender (β = -.017, p >.05), age (β = .079, p >.05), education level (β = .130, p >.05) and tenure (β = .047, p >.05) of academic staff in public universities were found to be insignificant in predicting employee performance.

Consequently, talent management (β = .508, *p* <.001) and employee engagement (β = .226, *p* <.001) were significant predictors of academic staff performance in public universities in Uganda. Thus, the unique contribution of employee engagement in the model is explained β = .226, p <.001, ΔR^2 = .041, F (6, 461) = 33.748, p <.001. Signifying that employee engagement account for 4.1% variance in employee performance. Based on the above results, Hypothesis **H_{02} was rejected.**

4.3.2.4 Testing for the effect of transformational leadership on employee performance

The hierarchical regression model 4 examined the hypothesis that: *transformational leadership has no significant effect on employee performance of academic staff in public universities in Uganda* (**H_{03}**). The hypothesis was tested by holding constant the effects of control variables (gender, age, education level, and tenure), talent management, and employee engagement. The result indicates that gender (β = -.047, p >.05), age (β = .049, p >.05), education level (β = .123, p >.05) and tenure (β = .058, p

>.05) of academic staff in public universities were not significant predictors of employee performance. Successively, talent management (β = .420, *p* <.001), employee engagement (β = .152, *p* <.001) and transformational leadership (β = .286, *p* <.001) were significant predictors of academic staff performance in public universities in Uganda. The results for the control variables and direct effects on employee performance is shown in **Table 4.29**. Therefore, the contribution of transformational leadership in the model is explained by β = .286, p <.001, ΔR^2 = .061, F (7, 461) = 55.538, p <.001. It implies that transformational leadership accounts for 6.1% variance in employee performance. Hence, Hypothesis **H_{03} was rejected.**

Table 4.29: The results for control variables and direct effects on employee performance

	Model 1		Model 2		Model 3		Model 4	
Variables	**β**	***p-v***	**β**	***p-v***	**β**	***p-v***	**β**	***p-v***
Constant	-.934	.000	-.487	.009	-.564	.002	-.457	.007
Gender	.168	.079	-.048	.538	-.017	.816	-.047	.511
Age	.122	.082	.072	.201	.079	.148	.049	.345
Education	.261	.010	.117	.153	.130	.099	.123	.099
Tenure	-.084	.169	.052	.297	.047	.331	.058	.200
TM	-	-	.609	.000	.508	.000	.420	.000
EE	-	-	-	-	.226	.000	.152	.000
TL							.286	.000
R^2	.043		.392		.433		.494	
ΔR^2	.043		.349		.041		.061	
F Change	5.204***		264.779***		33.748***		55.538***	

Source: **Survey Data (2021). Dependent Variable:** Employee Performance, **Predictors:** Talent Management (TM), Employee Engagement (EE), Transformational Leadership (TL). **Note:** ***p* <.01, ****p* <.001

4.3.2.5 Testing for the effect of talent management on employee engagement

A separate hierarchical regression model was run to establish the hypothesis that: *talent management has no significant effect on employee engagement of academic staff in public universities in Uganda* (**H_{04}**). The model tested the hypothesis while controlling for the effects of control variables and transformational leadership. The

preliminary analysis in the model began by testing the effects of control variables (gender, age, education, and tenure) and transformational leadership on employee engagement. The results revealed that gender (β = .055, p >.05), age (β = .054, p >.05) and tenure (β = -.017, p >.05) were insignificant in predicting employee engagement. While education level (β = .204, p <.05) and transformational leadership (β = .519, p <.001) were significant in predicting employee engagement. The model account for 30.5% variance in employee engagement of academic staff in public universities in Uganda, ΔR^2 = .041, F (5,462) = 40.748, p <.001.

Subsequently, model two was developed to test for the effect of talent management on employee engagement while holding constant the effects of control variables and transformational leadership. The result revealed that the control variables; gender (β = -.070, p >.05), age (β = .040, p >.05), education level (β = .114, p >.05) and tenure (β = .063, p >.05) were insignificant predictors of employee engagement. Conversely, transformational leadership (β = .325, p <.001) and talent management (β = .471, p <.001) were found to be significant predictors of employee engagement. The results for the effect of talent management on employee engagement are shown in Table 4.30. Hence, the effect of talent management on employee engagement in the model is explained by β = .471, p <.001, ΔR^2 = .172, F (6,461) = 151.637, p <.001. Indicating that talent management accounts for 17.2% variance in employee engagement. Thus, Hypothesis **H_{04} was rejected.**

Table 4.30: The results for the direct effect of Talent Management on Employee Engagement

Variables	**Model 1**		**Model 2**	
	β	***p-v***	**β**	***p-v***
Constant	-.625	.002	-.394	.022
Gender	.055	.503	-.070	.332
Age	.054	.373	.040	.442
Education	.204	.019	.114	.134
Tenure	-.017	.744	.063	.172
Transformational Leadership	.519	.000	.325	.000
Talent Management	-	-	.471	.000
R^2	.305		.477	
ΔR^2	.305		.172	
F Change	40.478***			
			151.637***	

Source: **Survey Data (2021). Dependent variable:** Employee Engagement, **Note:** * p<.05, *** p <.001.

4.3.2.6 Testing for the mediating effect of employee engagement on the relationship between talent management and employee performance

The study assessed the hypothesis that: *employee engagement has no significant mediating effect on the relationship between talent management and employee performance of academic staff in public universities in Uganda* **(H_{05}).** The mediation hypothesis was tested using the procedures developed by MacKinnon, Cheong, and Pirlott (2012); MacKinnon and Fairchild (2009); MacKinnon, Fairchild, and Fritz (2007) that provide guidelines on how to arrive at the direct, mediation and the total effects after fulfillment of the following conditions:

i. The first condition require testing for the association between talent management (X) and employee engagement (M) as represented by a_1 part of the conceptual framework and expressed in the mathematical model as: $\mathbf{M = a_1X + \mathcal{E}}$. It is important to note that for mediation to occur a_1 must be significant. The condition was met since there was a significant association between talent management and employee engagement (**β = .444, p <.001**).

ii. The second condition necessitate testing for the association between employee engagement (M) and employee performance (Y), represented by b_1 part of the conceptual framework and expressed in the mathematical expression as: $\mathbf{Y = b_0 + C + b_1M + Ɛ}$. It is worth noting that for mediation to happen b_1 must be significant. This condition was satisfied as there was a significant association between employee engagement and employee performance (**β = .226, p <.001**).

iii. There is also need to testing for the significant association between talent management (X) and employee performance (Y) as shown in mathematical model: $\mathbf{Y = C_0 + C + b_1M + C'X + Ɛ}$. Even though this is not a necessary condition for mediation to occur, the study met the requirement as there was significant association between talent management and employee performance (**β = .508, p <.001**).

iv. The next condition involve testing for mediation, which form the basis for testing for mediation. Mediation was computed by $\mathbf{M = a_1 \times b_1}$**.** Alternatively, mediation can also be computed by **M = C (Total Effect) - C' (Direct Effect).** The two approaches of testing for mediation yield the same result; the researchers are at liberty to select the approach he/she finds easy to use. Following the multiplicative rule, mediation was computed as **M = .444 x .226 = .101**.

v. The last condition necessitate the computation of the total effect to assess the contribution of the mediation model on the dependent variable in term of its significance. This was calculated by $\mathbf{Total\ Effect = a_1 \times b_1 + C'}$ **= (.444 x .226) + 508 = 609.**

The pathways were integrated in a sequential manner to determine the mediation in accordance to the procedures of MacKinnon *et al*. (2012) and multiplication rule to estimate the direct and indirect effects in the model**.** Prior to the steps of mediation, the study tested for the effects of the control variables (gender, age, education level and tenure). The results indicate that the control variables were insignificant, implying that the control variables have no influence on talent management, employee engagement in predicting employee performance in the mediation model.

The first step was to test for the association between talent management (X) and employee engagement (M). The result revealed that there was a significant association between talent management and employee engagement ($\beta = .444$, $p < .001$), since condition is met, then it provided a base to proceed to the next step of testing for the association between employee engagement (M) and employee performance (Y). The result showed that there was a significant association between employee engagement and employee performance ($\beta = .226$, $p < .001$).

The study went further to ascertain the association between talent management (X) and employee performance (Y). The result indicated that there was a significant association between talent management and employee performance ($\beta = .508$, $p < .001$). To assess whether employee engagement mediates the relationship between talent management and employee performance; a product approach i.e. $\boldsymbol{a_1 \times b_1}$ (.444 × .226) was applied to ascertain the mediation effect, the result establishes that employee engagement has a significant mediating effect on the relationship between talent management and employee performance ($\beta = .101$, SE = .023, CI = .059, .149). The total effects was computed by $\mathbf{a_1 \times b_1 + C'}$ **(.444 x .226) + .508 = .609**) and found to be significant ($\beta = .609$, $p < .001$). The summarized results for the mediating

effect of employee engagement on the relationship between talent management and employee performance is shown in **Table 4.31.** The mediation model accounted for 39.2% variance in employee performance β = .609, p <.001, R^2 = .392, F (5,462) = 59.490, p <.001. Hence, **H_{05} was rejected.**

Table 4.31: The results for the mediating effect of Employee Engagement on the relationship between Talent Management and Employee Performance

	Model 1 (EE)		**Model 2 (EP)**		**Model 3 (Total Effect)**	
Variables	**β**	***p-v***	**β**	***p-v***	**β**	***p-v***
Constant	.314	.109	-.564	.002	-.487	.009
Gender	-.134	.134	-.017	.816	-.048	.538
Age	-.030	.641	.079	.148	.072	.201
Education	-.060	.523	.130	.099	.117	.153
Tenure	.023	.691	.047	.331	.052	.297
Talent Management	**a_1=.444**	.000	***C'* = .508**	.000	**.609**	.000
Employee Engagement	-	-	**b_1 = .226**	.000		
R	.435		.658		.626	
R^2	.190		.433		.392	
MSE	.819		.574		.615	
F	21.607***		58.714***		59.490***	
Mediation =	**a_1× b_1** = .444 × .226		=.101, **SE** = 023		**CI** = .059, .149	

Source: **Survey Data (2021). Note:** ***p <.001, **EP** = Employee Performance, **EE** = Employee Engagement, **TM** = Talent Management.

4.3.2.7 Testing for the moderating effect of transformational leadership on the relationship between talent management and employee engagement

The study sought to test the hypothesis that: *transformational leadership has no moderating effect on the relationship between talent management and employee engagement of academic staff in public universities in Uganda* **(H_{06})**. The step in the analysis of the hypothesis began with the examination of the effects of gender (β = -.129, p > .05), age (β = -.055, p > .05), education level (β = -.075, p > .05) and tenure (β = .028, p > .05) as control variables whose effects were insignificant in the model.

Later, the study went further to test for the effect of talent management and transformational leadership in the model. The result depicts that talent management (β = .291, SE = .048, t = 6.071, p < .001, CI = .197, .385), and transformational leadership (β = .232, SE = .046, t = 5.050, p < .001, CI = .142, .323) were significant predictors of employee engagement.

The interaction effect of transformational leadership on the relationship between talent management and employee engagement was also significant (β = -.110, SE = .038, t = -2.867, p < .05, CI = -.186, -.035). The result for the moderating effect of transformational leadership on the relationship between talent management and employee engagement is shown in **Table 4.32**, where it was observed that the model account for 1.3% variance in employee engagement (β = -.110, p <.001, ΔR^2 = .013, F (7,460) = 8.220, p <.05). Hence, **H_{06} was rejected.**

Table 4.32: The result for the moderating effect of Transformational Leadership on the relationship between Talent Management and Employee Engagement

Variables	β	T	p-v	LLCI	ULCI
Constant	.467	2.272	.024	.063	.870
Gender	-.129	-1.498	.135	-.298	.040
Age	-.055	-.875	.382	-.177	.068
Education	-.075	-.835	.404	-.253	.103
Tenure	.028	.513	.608	-.080	.136
TM	.291	6.071	.000	.197	.385
TL	.232	5.050	.000	.142	.323
TM × TL	-.110	-2.867	.004	-.186	-.035
R^2	.258				
ΔR^2	.013 (8.220, p = .004)				
F	22.836***				

Source: **Survey Data (2021).** Note: ****p* <.001, **TM** = Talent management, **TL** = Transformational Leadership.

The conditional effect of transformational leadership on talent management and employee engagement was further illuminated by probing the mode of interactions that took place between talent management and employee engagement at the three levels of transformational leadership. The conditional effect was significant at all the three levels with varying degree of strengths. For instance, transformational leadership had a stronger moderating effect at lower level (β = .401, SE = .051, t = 7.813, p < .001, CI = .300, .502), modest at mean level (β = .291, SE = .048, t = 6.071, p < .001, CI = .197, .385) and lower at higher level (β = .181, SE = .070, t = 2.576, p < .001, CI = .043, .318) as revealed in **Table 4.33**.

Table 4.33: The results for the conditional effect of Transformational Leadership on Talent Management and Employee Engagement

Interaction levels	Effect	SE	t	p-v	BootLLC1	BootULC1
Lower level	.401	.051	7.183	.000	.300	.502
Mean level	.291	.048	6.071	.000	.197	.385
Higher Level	.181	.070	2.576	.010	.043	.318

Source: **Survey Data (2021)**

The Modgraph in Figure 4.3 strengthens the interpretation of the conditional effect of transformational leadership on talent management and employee engagement, which demonstrates that at low levels of talent management, employee engagement is low with low levels of transformational leadership. Subsequently, at low-level of talent management, employee engagement is high with high level of transformational leadership. This implies that transformational leadership acts as a remedy for low-level of talent management in enhancing employee engagement of academic staff in public universities in Uganda. Nonetheless, as talent management increases, employee engagement also increases, but the rate of increment is high with low level of transformational leadership. This result shows that once a transformational leader is deployed in public universities, the leader is expected to use his personal attributes of

individualized consideration, idealized influence, intellectual stimulation, and inspirational motivation to build engagement among academic staff whose outcome is demonstrated by the absorption, vigour, and dedication that the academic staff display while performing assigned tasks.

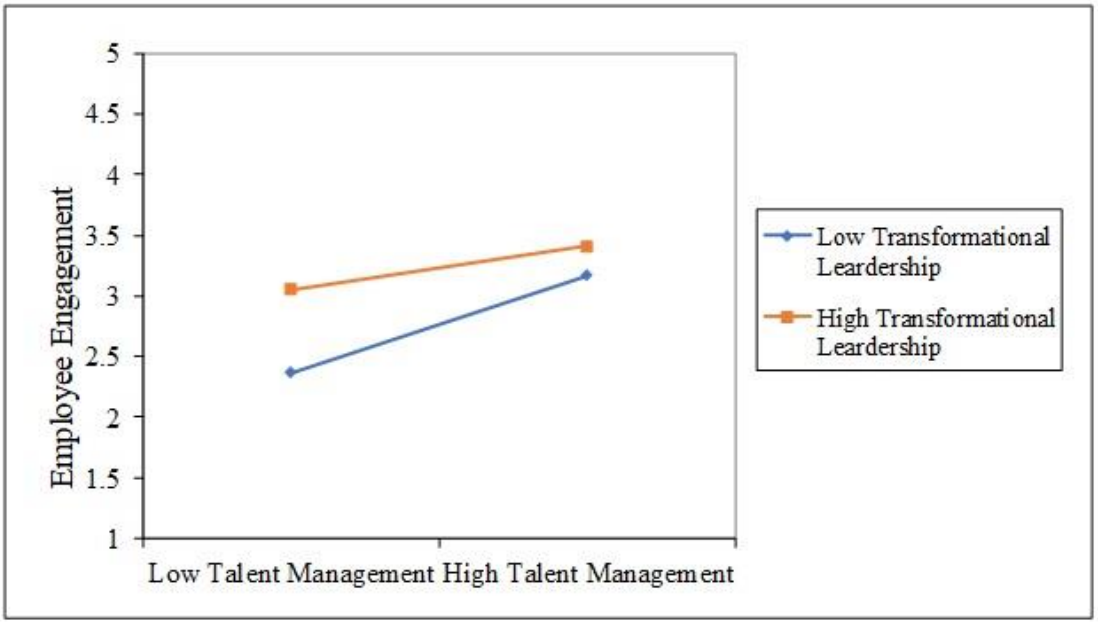

Figure 4.3: The Modgraph showing the moderating effect of Transformational Leadership on Talent Management and Employee Engagement

Source: **Survey Data (2021)**

4.3.2.8 Testing for the moderating effect of transformational leadership on the relationship between talent management and employee performance

The study sought to test the hypothesis that: *transformational leadership has no moderating effect on the relationship between talent management and employee performance of academic staff in public universities in Uganda* **(H_{07})**. The test of the hypothesis began by testing for the effects of gender (β = -.030, p > .05), age (β = .049, p > .05), education level (β = .112, p > .05) and tenure (β = .056, p > .05) as control variables whose effects were insignificant in the model. Accordingly, the model went further to test for the effect of talent management, employee engagement, and transformational leadership on the model. The test statistics indicated that talent

management (β = .390, SE = .041, t = 9.561, p < .001, CI = .310, .470), employee engagement (β = .138, SE = .038, t = 3.608, p < .001, CI = .063, .213) and transformational leadership (β = .265, SE = .039, t = 6.850, p < .001, CI = .189, .341) were significant predictors of employee performance.

The conditional effect of transformational leadership in the model was significant (β = -.090, SE = .032, t = -2.827, p = .05, CI = -.152, -.027). The result for the moderating effect of transformational leadership on the relationship between talent management and employee performance is shown in **Table 4.34**, where it was found that the model account for only 0.9% variance in employee performance (β = -.090, p <.001, ΔR^2 = .009, F (8,459) = 7.991, p = .05). Hence, $\mathbf{H_{07}}$ was rejected.

Table 4.34: The results for the moderating effect of Transformational Leadership on the relationship between Talent Management and Employee Performance

Variables	β	t	p-v	LLCI	ULCI
Constant	-.410	-2.426	.016	-.743	-.078
Gender	-.030	-.429	.668	-.169	.108
Age	-.049	.957	.339	-.052	.149
Education	.112	1.509	.132	-.034	.257
Tenure	.056	1.237	.217	-.033	.144
TM	.390	9.561	.000	.310	.470
EE	.138	3.608	.000	.063	.213
TL	.265	6.850	.000	.189	.341
TM × TL	-.090	-2.827	.005	-.152	-.027
R^2	.503				
ΔR^2	.009 (7.991, p = .005)				
F	58.040***				

Source: **Survey Data (2021).** Note: ****p* <.001, **TM** = Talent management, **EE** = Employee Engagement, **TL** = Transformational Leadership, **EP** = Employee Performance.

The conditional effect of transformational leadership on talent management and employee performance is supported by the results in **Table 4.35** that examined the mode of interactions that occurred between the talent management and employee

performance at three levels of transformational leadership. The conditional effect was significant at three levels with a varying degree of strengths. For example, transformational leadership had a stronger moderating effect at lower level (β = .480, SE = .045, t = 10.721, p < .001, CI = .392, .568), modest at the mean level (β = .390, SE = .041, t = 9.561, p < .001, CI = .310, .370) and lower at high level (β = .300, SE = .058, t = 5.190, p < .001, CI = .187, .414).

Table 4.35: The results for the conditional effect of Transformational Leadership on Talent Management and Employee Performance

Interaction levels	Effect	SE	t	p-v	BootLLC1	BootULC1
Lower level	.480	.045	10.721	.000	.392	.568
Mean level	.390	.041	9.561	.000	.310	.470
Higher Level	.300	.058	5.190	.000	.187	.414

Source: **Survey Data (2021).**

The Modgraph in **Figure 4.4** reinforces the interpretation of the conditional effect of transformational leadership on talent management and employee performance, which demonstrates that at low-level of talent management, employee performance is low with low-level of transformational leadership. Consequently, at low-level of talent management, employee performance is high with high-level of transformational leadership. This implies that transformation leadership acts as a remedy for low-level of talent management in enhancing employee performance among academic staff of public universities in Uganda. However, as talent management increases, employee performance increases, but the rate of increase is high with low level of transformational leadership. This result illustrate that the presence of transformational leadership in public universities, increases academic staff performance. The leader uses his/her personal characteristics of individualized consideration, idealized influence, intellectual stimulation and inspirational motivation to build systems that create employee engagement for greater work outcomes.

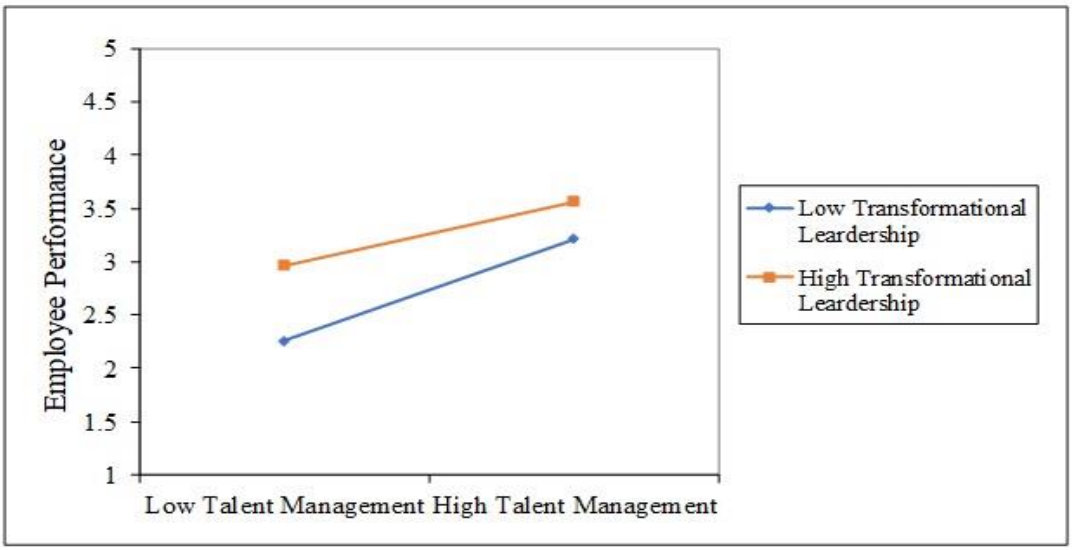

Figure 4.4: The Modgraph showing the moderating effect of Transformational Leadership on Talent Management and Employee Performance

Source: **Survey Data (2021)**

4.3.2.9 Testing for the moderating effect of transformational leadership on the mediated relationship between talent management and employee performance through employee engagement

The study sought to test the hypothesis that: *transformational leadership has no indirect effect on relationship between talent management and employee performance through employee engagement of academic staff in public universities in Uganda* (**H_{08}**). The conditional indirect effect of talent management on employee performance through employee engagement is contingent on transformational leadership. **Table 4.36** shows the varying degrees of indirect effects according to levels of transformational leadership.

Table 4.36: The results of the conditional indirect effect of Transformational Leadership on Talent Management and Employee Performance via Employee Engagement

Interaction Levels	Effect	SE	BootLLC1	BootULC1
Lower level	.055	.021	.018	.101
Mean level	.040	.016	.013	.075
Higher Level	.025	.014	.003	.057
Moderated Mediation Index	-.015	.009	-.035	-.001

Source: **Survey Data (2021)**

The findings show that the indirect effect of talent management on employee performance via employee engagement becomes stronger as the level of transformational leadership decreases. The indirect effect of talent management on employee performance through employee engagement was stronger at one standard deviation (-1 SD) below the mean (β = .055, SE = .021, CI = .018, .101), modest at the mean (0) level (β = .040, SE = .016, CI = .013, .075) and lower at one standard deviation (+1 SD) above the mean (β = .025, SE = .014, CI = .003, .057). The moderated mediation analysis suggests that transformational leaders tend to derive employee performance from the use of talent management practices via employee engagement.

The index of the moderated mediation was found to be significant (β = -.015, SE = .009, CI = -.035, -.001) since the confidence interval were non-zeros. The results show that there was moderated mediation, which means that transformational leadership moderates the indirect relationship between talent management and employee performance through employee engagement. Thus, the proposed moderated mediation hypothesis **H_{08} was rejected.**

The results in Table 4.36 were plotted on a mod graph to display visual mode of the conditional indirect effect of talent management on employee performance through employee engagement contingent transformational leadership. The graph show that there was significant interaction effect, implying that moderated mediation took place in the model to the extent that transformational leadership had a strong influence on talent management, which in turn influence employee performance through employee engagement.

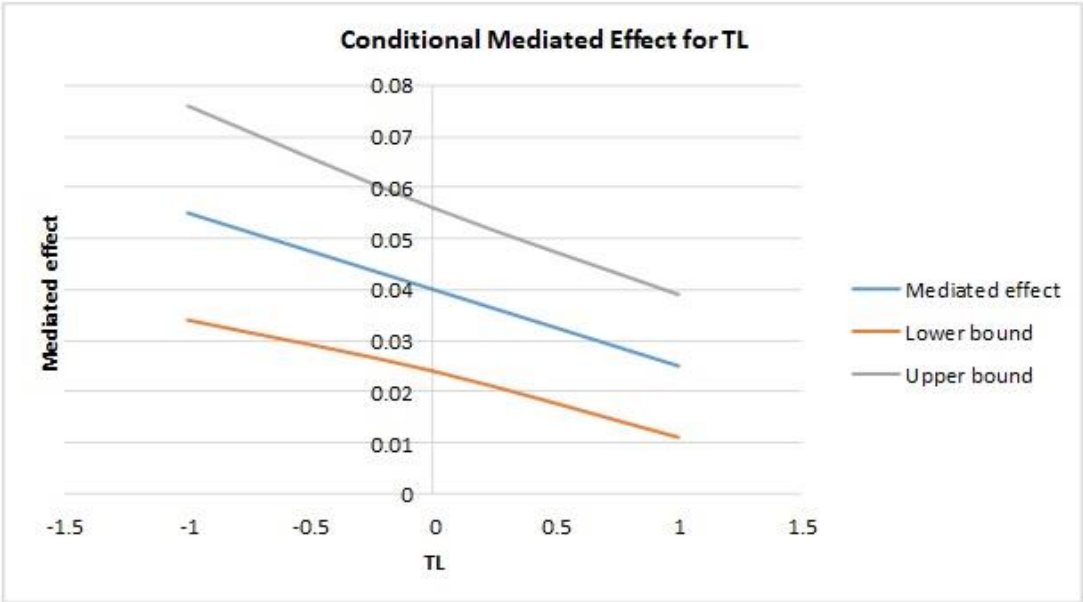

Figure 4.5: The Modgraph showing the conditional indirect effect of Transformational Leadership on Talent Management and Employee Performance through Employee Engagement

Source: **Survey Data (2021)**

4.3.3 Summary of the results of tests hypotheses

The study developed four direct hypotheses and four indirect hypotheses. These hypotheses were tested using β, p-value, F-value, ΔR^2, t-value, and CI. The decision to accept or fail to reject the hypotheses were based on $p \leq .05$, $t \geq 1.96$, and confidence intervals (CI) that are none zeros. The summary of the hypotheses with the corresponding test statistics, decision point, and decision for each hypothesis is shown in Table 4.37.

Table 4.37: Summary of the Hypotheses Tests

Research Hypotheses		Test Statistics	Decision Point	Decision
		β, p-value, F-value, ΔR^2, t-value, and CI.	$p \leq .05$, $t \geq 1.96$, and CI are none-zero.	Reject or Fail to Reject the **H_0.**
H_{01}:	Talent management has no significant effect on employee performance among academic staff of public universities in Uganda.	β = .607, p <.001, and ΔR^2 = .349, F (5,462) = 264.779, p <.001.	t > 1.96 & p <.05	**H_{01} Rejected**
H_{02}:	Employee engagement has no significant effect on employee performance among academic staff of public universities in Uganda.	β = .226, p <.001, ΔR^2 = .041, F (6,461) = 33.748, p <.001	t > 1.96 & p <.05	**H_{02} Rejected**
H_{03}:	Transformational leadership has no significant effect on employee performance among academic staff of public universities in Uganda.	β = .286, p <.001, ΔR^2 = .061, F (7,461) = 55.538, p <.001	t > 1.96 & p <.05	**H_{03} Rejected**
H_{04}:	Talent management has no significant effect on employee engagement among academic staff of public universities in Uganda.	β = .471, p <.001, ΔR^2 = .172, F (7,461) = 151.637, p <.001	t > 1.96 & p <.05	**H_{04} Rejected**
H_{05}:	Employee engagement has no significant mediating effect on the relationship between talent management and employee performance among academic staff of public universities in Uganda.	β = .101, SE = .023, p < .001, CI = .059, .149	CI = .059, .149	**H_{05} Rejected**
H_{06}:	Transformational leadership has no significant moderating effect on the relationship between talent management and employee engagement among academic staff of public universities in Uganda.	β = -.110, SE = .038, t = -2.867, p < .05, CI = -.186, -.035	CI = -.186, -.035	**H_{06} Rejected**
H_{07}:	Transformational leadership has no significant moderating effect on the relationship between talent management and employee performance among academic staff of public universities in Uganda.	β = -.090, SE = .032, t = -2.827, p = .05, CI = -.152, -.027	CI = -.152, -.027	**H_{07} Rejected**
H_{08}:	Transformational leadership has no significant moderating effect on the indirect relationship between talent management and employee performance through employee engagement among academic staff of public universities in Uganda.	β = -.025, SE = .009, CI = -.035, -.001	CI = -.035, -.001	**H_{08} Rejected**

Source: **Survey Data (2021)**

4.4 Discussion of Findings

This section is devoted to the discussion of research findings. The discussion was done according to the research objectives to provide meaning to the research data and place the findings into the perspective of previous research studies.

4.4.1 The effect of Talent Management on Employee Performance

The objective was to determine the effect of talent management on employee performance of academic staff in public universities in Uganda. The study found a significant positive effect of talent management on employee performance. This implies that talent management practices in public universities translate into employee performance that might be apparent in the way academic staff execute their core tasks in the universities to achieve university's goals. The attainment of university's goals is associated with employee performance. It can be argued that where a public university has academic staff with unique competences that cannot be replicated by other university, such university has the capacity to gain competitive advantage in the industry. This requires effective management of unique competences (talents) among the academic staff through established human resource systems, practices, processes, procedures, and approaches that identify talents and develop an action plan to retain the talents for the achievement of university goals and objectives.

The finding is in line with Tash, Ali, and Ahmadzadeh (2016) who asserts that talent management create an impact on an individual and organizational functionality. Thus, institutionalization of talent management practices is related to achievement of organizational goals. Talent managers are required to strengthen, and evaluate talent management systems to create an environment in which organization can identify, develop and retain talents to encourage employees to execute assigned tasks that

translate into performance at individual and organizational level. This provides an avenue for efficient and effective management of employee talents as organizational imperatives to gain competitiveness in the dynamic business environment (Bibi, 2019) as supported by numerous scholars e.g. Hosseinzadeh Nojedeh and Ardabili (2015); Ingram and Glod (2016); Jyoti, Sharma, and Sharma (2011); Kamel (2019); Lubitsh and Smith (2007); Mkamburi and Kamaara (2017); Ndolo, Kingi, and Ibua (2017); Obeidat, Yousef, Yassin, and Masa'deh (2018); Tash *et al*. (2016), who argue that effective talent management is linked to employee performance and provides avenue to gain a sustainable competitive advantage for long-term organizational success.

4.4.2 The effect of Employee Engagement on Employee Performance

The objective was to examine the effect of employee engagement on employee performance of academic staff in public universities in Uganda. The finding reveals that there was a significant positive effect of employee engagement on employee performance. Highly engaged employee increase innovation, productivity, and bottom-line performance, reduce costs related to high productivity and operational efficiency and excel in customer service by creating a positive workplace culture that drives organisational success and productivity. Employee engagement is regarded as a measure of employees' well-being in the service industry like universities (Chen & Peng, 2021; Hakanen, Schaufeli, & Ahola, 2008) that elevate the academic staff's willingness to invest extra energy and effort in performing universities' roles with vigor and dedication as engaged employees improve employee performance in the organization (Saks, 2006).

Moreover, employee engagement has gained prominence in the literature due to its positive association with organizational success (Saks, 2006), higher productivity (Harter, Schmidt, & Hayes, 2002), and performance (Schiemann, 2009). Thus, the rise in engagement among lowers turnover rates raises employee commitment and employee performance (Lisbona, Palaci, Salanova, & Frese, 2018), which provide an opportunity for organizations to gain competitive advantage in the market place (Anitha, 2014).

4.4.3 The effect of Transformational Leadership on Employee Performance

The objective was to analyse the effect of transformational leadership on employee performance of academic staff in public universities in Uganda. Transformational leadership has a direct effect on employee performance through the positive behavioural elements (*e.g.* individualized consideration, idealized influence, inspirational motivation, and intellectual stimulation) as shown by leader providing attention, motivation, and challenges to subordinates that raises positive psychological states among the employees to achieve exceptional level of performance in the university.

The employee performance in the university improves university's prestige and image, a reflection of transformational leadership styles that affect relationships quality and work outcomes on the account that transformational leaders create a compelling vision and inspire change in the university, which resonate with favourable academic staff performance. The finding lends support to the empirical work of Almutairi (2016), whose outcome revealed a positive significant relationship between transformational leadership and work performance.

Furthermore, Eliyana and Ma'arif (2019) studied the effect of transformational leadership on work satisfaction and work performance and found that

transformational leadership affected the employees' work performance partly, and the result was statistically significant and positive. Similarly, Ali, Ali, Ahsan, Rahman, and Kakakhel (2014) studied the effect of leadership style on work satisfaction, commitment, and willingness to resign, the results indicated that transformational leadership affected work performance positively and significantly. Transformational leadership behaviors like individualized consideration is found to have a significant relationship with employees' work performance (Long, Yusof, Kowang, & Heng, 2014). Additionally, a study by Advani (2015) alluded to the fact that transformational leadership affects work performance. It is important to note that transformational leadership behaviors in the organization have an influence on employee performance.

Contrary to the above findings, it has been discovered that transformational leadership alone cannot influence employee performance to a great magnitude except with the help of other factors (Akor, 2016). That explains why the variance explained in the study model was small compared to other predictors in the models of employee performance. This provides the basis to argue that transformational leadership cannot influence employee performance largely, but can be improved with aid of other associated variables such as work environment, employee ability, and personal attributes combined with transformational leadership can cause a rise in employee performance.

4.4.4 The effect of Talent Management on Employee Engagement

The objective was to establish the effect of talent management on employee engagement of academic staff in public universities in Uganda. The study outcome reveals a significant positive effect of talent management on employee engagement.

The result indicates that talent management practices of retention, attraction, deployment, and development plays a vital role in influencing academic staff's level of absorption, vigor, and dedication as indicators of academic staff engagement at the university. Ideally, talent management practices at work reveal management commitment (Council, 2006) to engage employees in the organizational activities to achieve a common goal of mutual interest in an exchange relationships. Organizations that fully engage employees through effective talent management practices have the potency to gain a competitive advantage (Yapp, 2009).

Extant literature note that effective implementation of talent management practices contributes to employee engagement (Piansoongnern, Anurit, & Kuiyawattananonta, 2011). Thus, effective employee engagement strategies fosters an environment of employee development and learning, superior support, rewards and recognition (Glen, 2006; Lockwood, 2007) to win employee's heart in talent management programs (Sweem, 2009). Consequently, organizations that consider talent management practices and align them to employee learning and development needs influence employee engagement.

Today, learning is no longer solely associated with education and is not viewed as a pre-career affair, but an organizational imperative tied to job security, lifelong employment, lifelong learning, employability, and talent management (Nilsson & Ellström, 2012). Furthermore, Riccio (2010) shared his professional experience, illustrating the passion for employee career development and for institutions to incorporate a holistic talent management initiative for individuals at all levels to engage and retain potential employees (Burke *et al*., 2013).

Employee engagement is related to an individual's attitudes, intentions, and behaviors (Ram & Prabhakar, 2011). Engaged employees have a substantial impact on organizational outcomes, employee productivity, and ease recruitment and talent retention (Bhatnagar, 2007) as a component of talent management (Bhatnagar, 2007; Christensen Hughes & Rog, 2008) to foster employee engagement, leading to talent retention as engaged employees are more likely to stay longer with the organization in anticipation of career development opportunities.

4.4.5 The mediating effect of Employee Engagement on the relationship between Talent Management and Employee Performance

The objective was to assess the mediating effect of employee engagement on the relationship between talent management and employee performance of academic staff in public universities in Uganda. The study found that employee engagement has a significant mediating effect on the relationship between talent management and employee performance. The type of mediation discovered in the model is complementary mediation as the indirect effect and the direct effect were all significant and point towards the same direction, which procedure closely corresponds to Baron and Kenny (1986) concepts of partial mediation (Hair *et al.*, 2021).

Therefore, in a nutshell, employee engagement play a complementary role in explaining academic staff performance in public universities that complement the effort of talent management in predicting academic staff performance as there was partial mediation in the model; an indication that employee performance can be explained by direct and indirect paths, which compete to offer explanation to academic staff performance in public universities in Uganda.

This finding of complementary mediation follows Zhao's et al. (2010) assertion that if the direct and indirect paths move in the same direction, such a type of mediation is interpreted as a complementary mediation. This finding complements the body of knowledge on mediation as the two variables increase the total effect that account for overall variations in academic staff performance. The current study supports the findings of earlier researchers as employee engagement mediated the relationship between talent management and employee performance of academic staff in public universities in Uganda.

Previous studies examined employee engagement and found the concept a mediator in numerous outcome variables in several contexts under various boundary conditions i.e. partial mediation (complementary and competitive), full mediation (indirect-only), no mediation (direct-only and no effect) (Hair *et al.,* 2021). However, the most common type of mediation reported in empirical and academic literature is either full or partial mediation. For instance, Yalabik *et al*. (2013) surveyed 167 employees working in a UK bank to test a model that postulated that affective commitment and job satisfaction were the drivers of work engagement, and job performance and intention to quit were the outcomes of work engagement. Indeed, the study claimed that employee engagement fully mediated the relationship between affective commitment, job satisfaction, and job performance; and affective commitment and intention to quit, but partially mediated the link between job satisfaction and intention to quit. Boon and Kalshoven (2014) found that the relationship between high-commitment human resource management and employee engagement was fully mediated by work engagement and supported by a sample of 270 supervisor-employee dyads. Alfes *et al.* (2013) note that employee engagement fully mediated

the relationship between perceived human resource management practices and organizational citizenship behavior.

The findings can be aligned to Li *et al.* (2012), who found the relationship between leader-member exchange and job performance was mediated by work engagement. Further to that Hoon Song *et al*. (2014) found that employee engagement fully mediated the relationship between learning organizational culture and team performance in Korean organization settings. Similarly, Yeh (2013) found that employee engagement partially mediated the relationship between tourism involvement and job satisfaction. Generally, engaged employees are believed to perform better than non-engaged employees because they display positive emotions (for example, enthusiasm, joy, and happiness) and experience better health (Bakker & Demerouti, 2008). Saks (2006) notes that when employees are engaged, they have high degree of trust and good working relationships with their colleagues, supervisors and employers; invest energy in their work to achieve extra ordinary levels of performance.

4.4.6 The moderating effect of Transformational Leadership on the relationship between Talent Management and Employee Engagement

The objective was to analyse the moderating effect of transformational leadership on the relationship between talent management and employee engagement of academic staff in public universities in Uganda. This research outcome reports that transformational leadership moderates the relationship between talent management and employee engagement. The moderation took place at three levels of transformational leadership – low, mean, and high. The interaction effect was strong at low levels, modest at mean levels, and low at high levels. This indicates that once

talent management improves, employee engagement increases. Nonetheless, the amount of increment in the level of employee engagement is high when transformational leadership is at a low level.

Accordingly, at a low level of talent management, employee engagement is high with a high level of transformational leadership. These circumstances explain why transformational leadership acts as a remedy for low-level talent management in enhancing employee engagement. This is a manifestation that transformational leaders influence employee engagement through talent management to expand on employee's ability to execute assigned tasks for the achievement of university goals. The leader has the responsibility to encourage subordinates to develop competence through talent management in anticipation of a challenge that lies ahead of a task in a span of time. The leader's ability to engage positively with followers enhances the academic staff's ability to accomplish assigned tasks to reach the university goals.

Employee engagement is rooted in the employee's self-regulation and lies within the concept of motivation that values the leader's support for high work outcomes (Chen & Peng, 2021). This is consistent with Giesey, Chen, and Hoshower (2004); Hwang, Chang, and Chen (2004) assertions that the leader's support the followers encourage them to work hard to reach organizational goals.

According to Carasco-Saul, Kim, and Kim (2015), transformational leadership influences employee engagement by transforming followers' self-concept. Aryee, Walumbwa, Zhou, and Hartnell (2012) found that leadership interacts with various organizational dynamics like employee engagement to drive employees to perform at different levels. This is consistent with previous findings on leadership influence and followers' self-concept (Tims *et al.,* 2011; Zhu, Avolio, & Walumbwa, 2009) that are

aligned with the findings of Bakker and Schaufeli (2008), who found that employees who have positive interactions with their managers increased the levels of engagement. Thus, transformational leaders provide an environment that fosters the development of employee engagement. Flynn and Vonderhorst (2007) and Corace (2007) highlight presumptive leadership behaviors that are more conducive to increasing employee engagement in the workplace. Engagement is a complex process, and managers must take time to develop engagement among employees in the organization. Transformational leaders are known for displaying behaviors that influence the level of engagement among employees through sharing a common vision, building trust, and effective relationships that instill new and broader energies in the followers as that enhances employees' impetus to contribute to the organizational goals and objectives.

Leaders play an important role in developing talents and engagement by projecting ideals and characteristics associated with engagement drivers, such as being supportive in work roles, social and psychological arenas through coaching, and providing employees with a vision that extends beyond the organization's short-term goals. Similarly, a transformational leader is considered a resourceful person in the organization that provides social support that is associated with employee engagement (Hakanen *et al.*, 2008). Consequently, organizations need employees who are engaged at work (Bakker & Leiter, 2010; Schaufeli & Bakker, 2004; Schaufeli et al., 2006) to advance better performance (Harter *et al.*, 2002), Therefore, job resources like transformational leadership should be considered in fostering employee engagement in the organization (Shamir, 1991).

4.4.7 The moderating effect of transformational leadership on the relationship between talent management and employee performance

The objective was to determine the moderating effect of transformational leadership on the relationship between talent management and employee performance of academic staff in public universities in Uganda. The result demonstrates that transformational leadership moderates the relationship between talent management and employee performance. However, the moderation occurred at three different levels of transformational leadership. The interaction effect was strong at low levels, modest at mean levels, and low at all levels. Signifying that as talent management increases, employee performance increases. The amount of the increment is high at low level of transformational leadership.

Consequently, at a low level of talent management, employee performance is high with a high level of transformational leadership. These circumstances demonstrate that transformational leadership provides an explanation for the upsurge in employee performance when talent management is low. Leadership requires an individual's deliberate social influence that needs to be aligned with the activities of others within a group or organization to have an impact on organizational activities (Bastari, Eliyana, & Wijayanti, 2020). An effective leader is someone who has the power to engage with followers positively to achieve a satisfactory level of performance. During a time of radical change in organizational processes, organizations need a transformational leadership style to take advantage of competition in the dynamic environment due to the leader's ability to bring desired change in the organization (Bastari *et al.,* 2020). In such circumstances, transformational leaders should be in a position to articulate a realistic vision of the organization's future, stimulate followers in an intellectual way, and take a keen interest in the followers' differences for the

betterment of the organization (Eliyana & Ma'arif, 2019). According to Yammarino, Spangler, and Bass (1993), transformational leaders must be able to persuade their followers to carry out their tasks beyond their followers' interests. The ability of a leader to move followers to achieve extraordinary performance that depend on leader's effectiveness and the mode of communication between the leaders and followers (Bastari *et al.,* 2020).

4.4.8 The moderating effect of transformational leadership on the indirect effect of talent management and employee performance through employee engagement

The objective was to establish the moderating effect of transformational leadership on the indirect effects of talent management and employee performance through employee engagement of academic staff in public universities in Uganda. The results support the proposed indirect effect model, indicating that engagement of academic staff in their work setting mediates the relationship between talent management and employee performance. This suggests that use of talent management build academic staff competence and capacity to engage in their work, which in turn lead to employee performance. This is one of the most worthy theoretical contribution presented in the study as the findings of the study form part upsurge in literature on the mechanisms of talent management practices on employee performance beyond probing the direct relationships between talent management and employee performance by providing empirical evidence of a mediating role of employee engagement on talent management. The current literature on talent management has demonstrated that talent management practices may have a positive influence on academic staff performance and employee engagement, but such studies have focused on the direct effects of employee performance and employee engagement rather than interaction

effect. It should be noted that little is known about the indirect effects of talent management on employee performance through employee engagement. This study provide empirical evidence for the proposed mechanism by which talent management indirectly influences employee performance through employee engagement.

The finding lends support to Tims *et al.* (2011) and Breevaart *et al.* (2014), who found a positive relationship between daily fluctuations in transformational leadership and employees' daily work engagement. Similarly, Ghadi *et al.* (2013) and Kopperud *et al.* (2014) confirmed that transformational leadership positively influences the level of employees' work engagement. Transformational leadership play a fundamental role in determining job performance (Dvir *et al.,* 2002) and is regarded as an important context for examining the effect of engagement on job performance that provides the followers with the zeal to perform at high level (Bass, 1985). Thus, to exhibit a high level of job performance, the essential resource is career development that focuses on the employees' desire to acquire job-specific skills depending on the task requirements and transformational leader's behaviors. These behaviors, encourage employees to perform beyond their expectations due to competence enhancement initiatives, which prepare the employees for current and future assignments.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the key findings in line with research objectives, conclusions, implications of the study, and recommendations.

5.2 Summary of Key Findings

The general objective of the study was to examine the interaction effects of talent management, employee engagement, and transformational leadership on employee performance of academic staff in public universities in Uganda. Preliminary analysis was conducted on the respondents' demographic characteristics as control variables to ascertain the extent to which the control variables affect the outcome variable. However, the findings reveal that none of the control variables had a significant effect on the outcome variable in the research models.

The findings of the direct hypotheses indicated that talent management ($\beta = .607$, $p < .001$), employee engagement ($\beta = .226$, $p < .001$), transformational leadership ($\beta = .286$, $p < .001$) were significant predictors of employee performance. Consequently, talent management ($\beta = .471$, $p < .001$) has been found to be a significant predictor of employee engagement. The results of the indirect hypotheses included mediation, moderations and moderated mediation. On the mediation result, the study found out that employee engagement mediates the relationship between talent management and employee performance ($\beta = .101$, SE = .023, CI = .059, .149) with the direct effect ($\beta = .508$, $p < .001$) and total effect ($\beta = .609$, $p < .001$) being significant.

Accordingly, the findings on the moderating effect of transformational leadership on the relationship between talent management and employee engagement was

significant (β = -.110, SE = .038, t = -2.867, p < .05, CI = -.186, -.035). Further findings on the moderating effect of transformational leadership on the relationship between talent management and employee performance was significant (β = .265, SE = .039, t = 6.850, p < .001, CI = .189, .341). Finally, the conditional indirect effect of transformational leadership on the relationship between talent management and employee performance through employee engagement was significant with the index of the moderated mediation (β = -.015, SE = .009, CI = -.035, -.001).

5.3 Conclusion

This study aimed at examining the interaction effect of talent management, employee engagement, and transformational leadership on employee performance of academic staff in public universities in Uganda. Moderated mediation took place among the academic staff in a way that transformational leadership had a strong influence on employee engagement, which, in turn, influence employee performance. Transformational leadership interacts with talent management and employee engagement in inducing desired academic staff performance. The degree of influence varies according to the different levels of transformational leadership. This implies that transformational leadership provides a curative action in influencing employee engagement and performance when talent management is low, which add-ons the notion that transformational leadership moderates the indirect relationship between talent management and employee performance through employee engagement. Thus, public universities need to provide mechanisms through which transformational leaders can be identified and developed within the university to develop systems that will to engage academic staff using various means to achieve exceptional performance. However, in light of the above general conclusion, the study draws the following conclusions that are aligned to specific research objectives.

5.3.1 The effect of Talent Management on Employee Performance

Talent management has a significant positive effect on employee performance. When employee's talents have been well managed and aligned with employee expectations, they develop a sense of purpose and finds meaning in the work they do, become happy with the university and colleagues. Thus, increasing the level of efficiency and effectiveness in task performance, which affects employee performance in a positive direction.

5.3.2 The effect of Employee Engagement on Employee Performance

The study upholds that employee engagement is positively associated with employee performance. Employees who are engaged are likely to invest energy in their work leading to high task performance and connect positively to organization work outcome based on strong bond created between the employee and the organization making them work hard to achieve the organization's goals, stay longer, and motivate others to reciprocate their actions since employee engagement affects every important aspect of the individual and the organization, including profitability, revenue, customer experience and turnover intentions.

5.3.3 The effect of Transformational Leadership on Employee Performance

Transformational leadership has a significant positive effect on employee performance. Transformational leaders improve employee performance as the leader works closely with employees to identify areas where improvement is needed and support the employees in making necessary changes to make employees work towards a common organizational vision, promote trust and cooperation between the employees to reinforce positive behaviors and attitudes toward work.

5.3.4 The effect of Talent Management on Employee Engagement

The result demonstrates that talent management has a significant positive effect on employee engagement. Talent management and employee engagement are related in a way that talent management acquires and supports higher levels of skills and knowledge; employee engagement increases the value application of this skills and knowledge through communication and commitment; affirming that talent management is positively related to employee engagement.

5.3.5 The mediating effect of employee engagement on the relationship between talent management and employee performance

Employee engagement mediated the relationship between talent management and employee performance. Employee engagement in the model creates a two pathways in explaining the causal relationship between talent management and employee performance as complementary mediation was discovered in the link between talent management and employee performance. This provide an opportunity to management of public university invest in talent management and employee engagement as a way of increasing academic staff performance in Uganda.

5.3.6 The moderating effect of transformational leadership on the relationship between talent management and employee engagement

Transformational leadership has a conditional effect on the relationship between talent management and employee engagement. The treatment effect varies depending on the levels of transformational leadership. This shows that transformational leaders influence employee engagement through talent management to improve employees' ability to execute the assigned tasks for the achievement of organizational goals.

5.3.7 The moderating effect of transformational leadership on the relationship between talent management and employee performance

Transformational leadership moderates the relationship between talent management and employee performance. The interaction effect varies according to the level of transformational leadership. The interaction was stronger below the mean level, moderate at the mean level, and lower above the mean level. Accordingly, when talent management is low, employee performance is high with a high-level of transformational leadership. This demonstrates that transformational leadership accounts for the increase in employee performance at a low level of talent management and vice versa.

5.3.8 The moderating effect of transformational leadership on the indirect effect of talent management and employee performance through employee engagement

Transformational leadership had a conditional indirect effect on talent management and employee performance through employee engagement. A moderated mediation relationship was observed in a way that, for academic staff in public universities in Uganda, transformational leadership had a strong influence on employee engagement, which, in turn, influence employee performance. This create a condition that leaders of public universities should build academic staff competences and engagement to achieve high level of performance among academic staff in the universities.

5.4 Study Implications

Public universities has a reasonability to consider the views and aspirations of academic staff to achieve university's goals and objectives. Academic staff usually come to university with their own expectations, if not matched with the university

goals, affect their ability to perform their tasks. The study tested the constructs that have been proposed in literature to have theoretical linkages with employee performance, harnessing these concepts in academic work environment would have profound impact on performance of academic staff in public universities in Uganda. Thus, the findings of the study have implications for theory, policy, management, and methodology as presented below.

5.4.1 Theoretical Implications

The study contributes to the existing literature on employee performance since it is among the pioneer study to investigate the indirect conditional effect of transformational leadership on talent management, and employee performance through employee engagement. Providing empirical evidence for link between talent management, employee performance through employee engagement. The empirical results provide support for the theoretical framework that transformational leadership moderate the indirect relationships between talent management and employee performance through employee engagement. This provides a useful theoretical basis for research agenda in that underpin research effort on other neglected concepts to advance new empirical insights in future research studies.

The finding of the study is a unique in a way that, it provide support for the direct and indirect relationship between talent management, employee engagement transformational leadership and employee performance in public universities in the Ugandan context. The data collected supported the theoretical model of the study that transformational leadership has a theoretical linkage with talent management and employee engagement in explaining employee performance. The study findings have profound implications for expanding on the previous model of employee

performance, more specifically the role of transformational leadership in explaining the talent management-employee engagement-employee performance relationships.

Transformational leadership is theoretically linked to talent management and employee engagement in influencing work outcomes at individual and organizational levels. The study shows that talent management, employee engagement, and transformational leadership share a theoretical linkage in explaining employee performance. This has implications for the theoretical framing of how transformational leaders builds on employee engagement to leverage follower's performance in organization, which have direct and indirect effects on leadership-engagement-performance studies in future research.

This finding on mediation complements the body of knowledge on mediation as the two variables increase the total effect that account for overall variations in academic staff performance. The current study supports the findings of earlier researchers as employee engagement mediated the relationship between talent management and employee performance of academic staff in public universities in Uganda.

The study place employee engagement with the theoretical lens of social exchange theory to explain the relationship between talent management and employee performance. This affirms the theoretical congruence between AMO framework, HCT and SET in explaining employee performance, as confirmed by the complementary mediation in the research model.

5.4.2 Policy Implications

The study draws the following policy implications.

Government of Uganda through the Ministry of Education and Sports, Ministry of Science and Technology, and National Council for Higher Education should develop

a research policy for public universities. The research policy should be used to assess the share of research publications produced by each university in a refereed journals based on the university's mandate.

Ministry of Public Service (MOPS) and the University Councils of Public Universities should design talent management policy that should be integrated in the human resource management manuals of the respective public universities to attract, deploy, train, and retain key talents for key positions in the university for the achievement of the university goals. MOPS with the university appointment board to design talent acquisition strategies, tactics and processes for identifying, recruiting and retaining the human resources that meet the university work requirement. This should involve developing, implementing and evaluating programs for sourcing, recruiting, hiring and orienting academic staff.

The university council should also design employee engagement strategies to enable management of the respective public universities monitor academic staff engagement levels, assessing existing problems, working with employees on solutions, and then implementing changes to help foster academic staff efficiency and effectiveness in task performance.

Ministry of Education and Sports need to design and implement a performance management policy where managers and employees of public universities are accountable for performance levels exhibited at work.

5.4.3 Managerial Implications

The study draws several practical implications for public universities in Uganda if implemented would improve employee performance.

Management at public universities should invest in talent management and employee engagement to improve employee performance, as it has been discovered that talent management and employee engagement are among the factors that account for variation in employee performance at different levels under different circumstances. The investment in talent management should focus on talent retention, attraction, deployment, and development for academic staff to become absorbed, vigorous, and dedicated in their work to stimulate academic staff performance to achieve university goals.

Public universities need to develop effective recruitment and onboarding programs for new employees as a way of acclimating the new staff to the work environment. Management should be interested in sourcing potential talent that meets the university's job requirements. The newly recruited staff should be provided with information related to the university's vision, mission, values, policies, and procedures, as well as job-specific orientation like job duties and responsibilities, goals, and current priorities of the department to which the employee belongs in order to develop realistic job expectations and reduce role conflict that might arise in the future. On appointment, management has the responsibility of assigning the employee to the job to ensure person-job fit (job congruence). Managerial efforts at all levels should be devoted towards talent retention.

Public universities need to develop a comprehensive strategy that enhances employees' ability, motivation, and opportunity. Employee engagement should be enhanced through motivation-enhancing practices such as pay for performance or a formal reward system, challenging jobs, involvement in the decision-making process, and information sharing, which are commonly classified as opportunity-enhancing

practices. In the same way, skills and abilities might be ensured by formal training or proper recruitment practices, but they might also be enhanced by participatory practices such as self-directed work teams, in which employees learn from their fellow workers. This will eventually create an environment of building trust, sharing a common vision, and effective relationships between academic staff and the management of the university to achieve a common goal.

Public universities should promote two-way communication between management and employees with clear and consistent communication on issues that matter to the employee's job and life to pave the way for talent management and employee engagement, which require strong and visionary leadership. Such a leader should always involve employees in decision-making in relation to their tasks and show respect for their input. At the same time, the leader needs to share power with employees through participatory decision-making to build employees' sense of belongingness in the organization, thus increasing employees' engagement levels on the job.

Management of public universities needs to provide employees with the necessary economic, social, and psychological support required for effective task execution and employee engagement. This is because highly engaged academic staff have emotional attachments to the university, are highly involved in academic tasks, and have the drive to meet university objectives at all times by going beyond the employment terms. As a result, they require some level of assistance to lubricate social contracts in the dyadic relationships in order to achieve their goals.

5.5 Study Limitations

The study faced the following limitations:

The first limitation of this research is that the study used a cross-sectional research design to conduct the analysis, which in a way might present some ambiguity in establishing causal relationships between the study variables. Hence, the findings of the study should be treated with caution, as results may vary while collecting data at various times. It is suggested that future research studies conduct longitudinal research to assess the impact of disturbances (predictor variables) on outcome (criterion) variables over time.

The findings of this research can be subject to some degree of response bias as all the data was collected from the same source, i.e., employees. For example, an employee may purposefully falsify responses by providing false responses to statements in order to achieve social desirability. Future research studies might lessen the threat by collecting data from multiple sources simultaneously, such as clients, supervisors, colleagues, and employees, as meta-analytic studies lend credence to different sources of data.

Non-response. The study registered a non-response rate of 12.7% due to respondents' inaccessibility, inability to fill out the questionnaire, and/or noncompliance, which reduces the statistical power and prevents the use of certain statistical procedures in making accurate predictions, which affects the perceived credibility of the statistical inferences. The study recorded 468 responses, fewer than the expected 536 responses. The 468 responses were generated due to the multiple approaches *(i.e.,* traditional and online surveys) adopted by the researcher to distribute the questionnaire to respondents. The online survey was designed using Google Form to augment the

traditional method of survey since the online survey is easy to use, fast, and inexpensive.

The research was anchored on a positivistic research paradigm where the researcher had no control over the study environment. The respondents were given the opportunity to respond to the survey questions within a prescribed manner and within a limited time span. In this scenario, the researcher had no control over the study. The researcher's role was to interpret the study's findings as a true reflection of the circumstances occurring in a natural setting.

The study used a quantitative research approach to collect numeric data from the respondents through the use of closed-ended questions, which might limit the research outcomes to drawing a generalized conclusion. The research approach is best suited to handling what, when, and who questions but might not be suitable for how and why questions. The practice reveals that studies on variables like employee performance can be examined using quantitative and qualitative research approaches. Thus, the study recommends the use of a mixed-methods approach to broaden the scope of employee performance in future research studies to deal with how and why questions.

In reality, quantitative research necessitates a large sample size, which has implications for the available resources given the limited timeframe to collect a large-scale data to conduct thorough statistical analysis and generalize results. A quantitative research also requires extensive statistical analysis; without thorough knowledge of statistics and mathematics, it becomes difficult to analyze. Quantitative research is difficult for psychologists, social scientists, educators, and anthropologists, who in most cases use **yes-or-no** responses to analyze data.

5.6 Suggestions for Future Research

The concept of employee performance has different measures that vary from job to job, profession to profession, and organization to organization. It is incumbent upon future researchers to collaborate with practitioners to develop a unified measurement model of employee performance that cuts across job band families for a uniform and consistent result across organizations. The study was confined to the performance of academic staff at public universities in Uganda. This might limit the generalization of the findings to other settings, occupational groups, industries, and countries. The implication drawn for future researchers is to widen the scope and coverage of the study to other occupational job categories, industries, and countries for a broader explanation.

The study recommends using a mixed-methods approach to examine employee performance; when carrying out such an investigation, consideration should be given to the views of administrative and support staff to provide a robust explanation of employee performance in a university setting while controlling for the effects of gender, age, education, and tenure in the model.

The scope of the study should be expanded to include organizational variables like work environment, organizational culture, and contextual factors as well as other leadership styles like servant leadership, authentic leadership, and transactional leadership with individual variables such as personality traits, self-efficacy, and proactive behaviors to account for unexplained variance in employee performance since employee performance is a multifaceted variable whose predictors cannot be limited to the studied variables.

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APPENDICES

Appendix I: Map showing Regions and Major Towns of Uganda

Appendix II: Map Showing Locations of Public Universities in Uganda

Appendix III: Introductory Letter

MOI UNIVERSITY
POSTGRADUATE OFFICE
SCHOOL OF BUSINESS AND ECONOMICS

Tel: 0790940508
0771336914
0736138770
Fax No: (053) 43047
Telex No. MOIVARSITY 35047

P.O. Box 3900
Eldoret.
Kenya

RE: SBE/PHD/BM/08/18 **DATE:** 7th February, 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

RE: OBEDGIU VINCENT – SBE/PHD/BM/08/18

The above named is a bonafide student of Moi University School of Business and Economics, undertaking a Doctor of Philosophy in Business Management degree; specializing in **Human Resource Management**. He has completed coursework defended his proposal, and is proceeding to the field to collect data for his research titled: **"Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda."**

Any assistance accorded to him will be highly appreciated.

Yours faithfully,

DEAN
School Of Business and Econom...
MOI UNIVERSITY

DR. RONALD BONUKE
ASSOCIATE DEAN, SB&E

RB/ms

Appendix IV: Research Permission-Lira University

LIRA UNIVERSITY

P.O. Box 1035
Lira, Uganda
Tel: +256 471 660714
Web: www.lirauni.ac.ug
Email: universitysecretary@lirauni.ac.ug

OFFICE OF THE UNIVERSITY SECRETARY

9th July, 2020

Mr. Obedgiu Vincent
Moi University
P.O. Box 3900
Eldoret, Kenya

Dear Mr. Obedgiu,

RE: APPLICATION TO CONDUCT RESEARCH AT LIRA UNIVERSITY

Reference is made to your letter dated 8th July, 2020 applying to conduct the above mentioned in Lira University for a period of 1 (one) month effective 1st August to 31st August 2020.

This letter is to inform you that you have been offered an opportunity to conduct your research in Lira University.

Thank you.

Augustine Oyang-Atubo
UNIVERSITY SECRETARY

LIRA UNIVERSITY UNIVERSITY 09 JUL 2020 SECRETARY P.O. BOX 1035, LIRA

Appendix V: Research Permission-Muni University

MUNI UNIVERSITY

OFFICE OF THE UNIVERSITY SECRETARY
P.O. Box 725, Arua, Uganda
Tel: +256 476 420312/3/4; Fax +256 476 420316
Email: info@muni.ac.ug/inquiries@muni.ac.ug
www.muni.ac.ug

Our Ref: **MU/CR/150/164/3**
Your Ref:.....

21 July 2020

Mr. Obedgiu Vincent
PhD Student of Moi University
P.O Box 3900
Eldoret, **KENYA**

Dear Sir,

RE: PERMISSION TO COLLECT DATA FROM MUNI UNIVERSITY FOR YOUR PHD PROGRAMME

The above in caption refers.

I am in receipt of your letter dated 8th July 2020, regarding data collection for research study on ***"Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda"***, a case study of Muni University for a PHD Degree in Business Management, specializing in Human Resource Management you are undertaking with Moi University in Kenya.

The purpose of this communication is therefore, to inform you that, permission has been granted for you to collect the said data from staff of Muni University for academic purposes. Find attached to this letter, list of staff contacts and E-Mail addresses to ease your data collection.

By copy of the same, I request all staff that will be approached to cooperate in order for Mr. Obedgiu Vincent to successfully complete his research undertaking.

I wish to thank you for showing interest in identifying Muni University as your yard stick for academic growth.

Thank you.

Rev. Fr. Dr. Odubuker Picho Epiphany, MIDM
UNIVERSITY SECRETARY/ACCOUNTING OFFICER

C.C Vice Chancellor, Muni University
" Deputy Vice Chancellor (AA), Muni University
" Associate Dean, SB&E, Moi University
" Senior Human Resource Officer, Muni University
" File

In Any Future Correspondence Please Quote the Above in Reference

Appendix VI: Research Permission-Kabale University

OBEDGIU VINCENT
Moi University
P. O. Box 3900,
Eldoret, Kenya.

July 8, 2020

The University Secretary,
Kabale University,
P. O. Box 317,
Kabale.

Obedgiu
Proceed
PP 30/07

KABALE UNIVERSITY
P.O. BOX 317 KABALE
30 JUL 2020
UNIVERSITY SECRETARY

Dear Sir/Madam,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT KABALE UNIVERSITY

I am an Academic Staff in the Makerere University Business School service pursuing a PhD in Business Management specializing in Human Resource Management at Moi University, Eldoret, Kenya. I wish to conduct a research study entitled; ***"Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda".*** Kabale University being one of the Public Universities in Uganda, forms part of the study setting within which data will be collected from academic staff.

The research project is under the supervision of Dr. Jane Sang and Prof. Charles Lagat of School Business and Economics, Moi University, Eldoret, Kenya. Attached to this request is a copy of introductory letter from Moi University, research instrument and consent form to be used in the research process.
Upon completion of the study, I undertake to provide the University with a bound copy of the final thesis. If you require further information, please do not hesitate to contact me on +256782071717/+254728867639, vobedgiu@mubs.ac.ug/vobedgiu@gmail.com.

The purpose of this letter is to seek for your consent to conduct the research at the University by collecting primary data from Academic Staff in the various faculties with the aid of survey questionnaire.

Thank you for your time and consideration in this matter.

Yours faithfully,

Obedgiu Vincent
PhD Student, Moi University

Appendix VII: Research Permission-Gulu University

GULU UNIVERSITY
P. O. Box 166
Gulu - Uganda
TEL +256 471 432095
FAX +256 471 432094
Email: us@gu.ac.ug
URL: www.gu.ac.ug

OFFICE OF THE UNIVERSITY SECRETARY

21st September 2020

Mr. Obedgiu Vincent
PhD Student,
Moi University,
P.O Box 3900,
Eldoret, Kenya.

Dear Mr. Obedgiu,

ON: PERMISSION TO CARRY OUT RESEARCH AT GULU UNIVERSITY

Reference is made to your letter dated 27th July 2020, requesting for permission to conduct research on **"Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda"**, for your PhD study.

This letter serves to grant you permission to carry out the research for a period of one month, with effect from 01st October 2020.

You are reminded to observe the Standard Operating Procedures against the spread of COVID-19 during the course of your research.

Yours sincerely,

ASAF ADEBUA
AG. UNIVERSITY SECRETARY

Copy: Vice Chancellor
Deputy Vice Chancellor
Director, Human Resources
Academic Registrar
File

Appendix VIII: Informed Consent Form

Informed Consent Form

The nature of this study entitled "***Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda***" conducted by ***Obedgiu Vincent*** has been explained to me.

I understand that I will be asked to fill the questionnaire without any exposure to any risk. My participation in this study should take a total of about 30 minutes. I understand that my responses will be confidential or that anonymity will be preserved and that my name will not be associated with any results of this study. I know that I may refuse to answer any question asked and that I may discontinue participation at any time.

I also understand that there is no payment for participation or exercising my rights in the study. Potential risks resulting from my participation in this project have been described to me. I am aware that I may report dissatisfactions with any aspect of this research to Moi University, School of Business and Economics on +254790940508/+254771336914/ +254736138770. I am aware that I must be at least 18 years of age to participate. My signature below signifies my voluntary participation in this project, and that I have received a copy of this consent form.

Questions or interest in results of this research study may be obtained by contacting the Principal Researcher, Mr. Obedgiu Vincent at vobedgiu@gmail.com or +256 782 071 717.

Appendix IX: Questionnaire

MOI UNIVERSITY

SCHOOL OF BUSINESS AND ECONOMICS

Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda

Dear Respondent,

I am Obedgiu Vincent, a PhD Student of Business Management at Moi University. I am carryout a survey on the interaction effect of Talent Management, Employee Engagement, Transformational Leadership and Employee Performance among Academic Staff in Public Universities in Uganda.

You have been selected as a key respondent to provide valuable information in the study. I kindly request for 30 minutes of your time to fill the survey questionnaire comprising of section A, B, C, D and E following the guidelines provided in each section.

The study is purely academic and all information provided shall be treated with utmost confidentiality. I shall be pleased to share a copy of the final thesis with your University Library.

SECTION A: PERSONAL INFORMATION

Tick on the most appropriate as applicable to you

1. **What is your gender?**

   Male [ ] Female [ ]

2. **In which age category do you fall?**

   Below 30 [ ] 31-40 [ ] 41-50 [ ] 51-60 [ ] Above 60 [ ]

3. **What is your highest level of formal education**

   Bachelor Degree [ ] Master Degree [ ] PhD [ ]

4. **State the job position you occupy in the University**

Professor [ ] Assoc. Professor [ ] Senior Lecturer [ ]

Lecturer [ ] Assistant Lecturer [ ] Teaching Assistant [ ]

5. **For how long have you worked with the University?**

1-5 [ ] 6-10 [ ] 11-15 [ ] 16-20 [ ] Above 20 [ ]

6. **State the name of the University where you work**

Makerere University [ ] Mbarara University [ ] Kyambogo University [ ]

Gulu University [ ] Busitema University [ ] Muni University [ ]

Kabale University [ ] Soroti University [ ] Lira University [ ]

SECTION B: TALENT MANAGEMENT

The following statements relate to Talent Management in your University. State the level of your agreement or disagreement on the listed items by ticking on the numbers **1-7** as provided in the table below. **Where: 1** = *Strongly Disagree*, **2** = *Disagree*, **3** = *Somewhat Disagree*, **4** = *Neutral*, **5** = *Somewhat Agree*, ***6*** = *Agree*, ***7*** = *Strongly Agree*.

TM	**TALENT MANAGEMENT**							
TA	**Talent Attraction**							
TA1	My University identifies all-important positions that is aligned with the University strategies.	1	2	3	4	5	6	7
TA2	My University identifies talent that makes maximum contribution to the University success.	1	2	3	4	5	6	7
TA3	My University builds up talent pool at every level of the University.	1	2	3	4	5	6	7
TA4	My University differentiates talent based on their contribution to University's objectives.	1	2	3	4	5	6	7
TA5	The University job openings are very appealing to job applicants.	1	2	3	4	5	6	7
TA6	My University has a system that makes talented people aspire to join the University.	1	2	3	4	5	6	7
TA7	My University makes use of the available assessment tools to scrutinize new recruits to join the University.	1	2	3	4	5	6	7
TDEP	**Talent Deployment**							
TDEP1	My University places the right talent on the right jobs for the execution of University's activities.	1	2	3	4	5	6	7
TDEP2	My University creates a system that values deployment of talent in the University.	1	2	3	4	5	6	7
TDEP3	My University aligns academic staff with the University's mission and vision.	1	2	3	4	5	6	7
TDEP4	My University deploys academic staff with creative thinking in key positions.	1	2	3	4	5	6	7

TDEP5	My University places emphasis on skill, interests and capabilities of academic staff during deployment.	1	2	3	4	5	6	7
TDEP6	At my University, deployment of academic staff is based on policies, procedures and practices that are responsive to student's needs.	1	2	3	4	5	6	7
TDEP7	My University organizes orientation programme for newly recruited academic staff.	1	2	3	4	5	6	7
TDE	**Talent Development**							
TDE1	My University has policies that encourage career development and growth opportunities for academic staff.	1	2	3	4	5	6	7
TDE2	My University identifies career development needs for academic staff.	1	2	3	4	5	6	7
TDE3	My University has a clear career path for academic staff.	1	2	3	4	5	6	7
TDE4	The training activities for the identified academic staff focus on the required job competencies.	1	2	3	4	5	6	7
TDE5	The content of the training activities for academic staff is based on job performance.	1	2	3	4	5	6	7
TDE6	My University training activities such seminars, workshops, conferences and training of trainers are continuous.	1	2	3	4	5	6	7
TDE7	The training activities for the identified academic staff require a lot of time.	1	2	3	4	5	6	7
TDE8	The training activities for the identified academic staff require financial resources.	1	2	3	4	5	6	7
TDE9	In my University, trained academic staff have avenues for promotion.	1	2	3	4	5	6	7
TDE10	My University has policies that encourage career development and growth opportunities for academic staff.	1	2	3	4	5	6	7
TR	**Talent Retention**							
TR1	My University has developed programs for retaining high-potential academic staff.	1	2	3	4	5	6	7
TR2	My University creates an environment where academic staff are excited to work.	1	2	3	4	5	6	7
TR3	My University creates an environment where academic staff ideas are listened to and valued.	1	2	3	4	5	6	7
TR4	My University creates a culture where academic staff passionately believe in what they do.	1	2	3	4	5	6	7
TR5	My University empowers academic staff to make decisions.	1	2	3	4	5	6	7
TR6	My University recognizes good work of academic staff and celebrates academic achievement.	1	2	3	4	5	6	7
TR7	My University rewards top-performing academic staff.	1	2	3	4	5	6	7
TR8	My University provides academic staff with salary adjustments as they master significant skills for the jobs.	1	2	3	4	5	6	7

TR9	My University has developed programs for retaining high-potential academic staff.	1	2	3	4	5	6	7

SECTION C: EMPLOYEE ENGAGEMENT

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have had this feeling, indicate how often you felt it by ticking on the number **1-7** that best describes how frequently you feel at work. **Where: 1**=*Almost Never,* **2** = Never, **3** = *Rarely*, **4** = *Sometimes*, **5** = *Often*, **6** = *Very Often*, **7** = *Always*.

EE	**EMPLOYEE ENGAGEMENT**							
VI	**Vigour**							
VI1	I put in a lot of energy in my work.	1	2	3	4	5	6	*7*
VI2	I have a strong passion for the work that I do.	1	2	3	4	5	6	*7*
VI3	When I get up in the morning, I feel like going to work.	1	2	3	4	5	6	*7*
VI4	I can continue working for very long periods at a time.	1	2	3	4	5	6	*7*
VI5	In my job, I am mentally very resilient.	1	2	3	4	5	6	*7*
VI6	At my work, I always persevere, even when things do not go well.	1	2	3	4	5	6	*7*
DE	**Dedication**							
DE1	I find the work that I do full of meaning and purpose.	1	2	3	4	5	6	*7*
DE2	I am enthusiastic about my job.	1	2	3	4	5	6	*7*
DE3	I derive a sense of inspiration from my job.	1	2	3	4	5	6	*7*
DE4	I am proud of the work that I do.	1	2	3	4	5	6	*7*
DE5	I enjoy my job when it is challenging.	1	2	3	4	5	6	*7*
AB	**Absorption**							
AB1	When working on a busy schedule time flies faster.	1	2	3	4	5	6	*7*
AB2	When I am working, I do not pay attention to what is around me.	1	2	3	4	5	6	*7*
AB3	I feel happy when doing my work.	1	2	3	4	5	6	*7*
AB4	I am always taken up in my work.	1	2	3	4	5	6	*7*
AB5	I get carried away when I am working.	1	2	3	4	5	6	*7*
AB6	It is difficult to detach myself from my job.	1	2	3	4	5	6	*7*

SECTION D: TRANSFORMATIONAL LEADERSHIP

The following statement in the table relates to Transformational Leadership in the University. Rank your responses on a scale of **1-7** depending on how frequently your supervisor displays the following behaviour. **Where: 1** = *Never*, **2** = *Rarely*, **3** = *Occasionally*, **4** = *Some times*, **5** = *Frequently*, **6** = *Usually*, **7** = *Every time*

TL	**TRANSFORMATIONAL LEADERSHIP**							
II	**Idealized Influence**							
IIA1	My supervisor instills pride and respect in others and inspires me by being highly competent.	1	2	3	4	5	6	7
IIA2	My supervisor puts the interest of the University before himself/herself.	1	2	3	4	5	6	7
IIA3	My supervisor fosters trust, involvement and cooperation among team members for the benefit of the University.	1	2	3	4	5	6	7
IIA4	My supervisor displays a sense of power and confidence.	1	2	3	4	5	6	7
IIB1	My supervisor specifies the importance of having a strong sense of purpose.	1	2	3	4	5	6	7

IIB2	My supervisor talks about important values and beliefs for the team members.	1	2	3	4	5	6	7
IIB3	My supervisor considers the moral and ethical consequences of decisions.	1	2	3	4	5	6	7
IIB4	My supervisor emphasizes the importance of having a collective sense of mission.	1	2	3	4	5	6	7
IM	**Inspirational Motivation**							
IM1	My supervisor is optimistic when talking to his/her followers about future goals of the University.	1	2	3	4	5	6	7
IM2	My supervisor talks passionately about what needs to be done by the followers.	1	2	3	4	5	6	7
IM3	My supervisor communicates a clear and positive vision of the future.	1	2	3	4	5	6	7
IM4	My supervisor describes the strategies for achieving University's future goals.	1	2	3	4	5	6	7
IS	**Intellectual Stimulation**							
IS1	My supervisor seeks different perspectives from the followers when solving problems.	1	2	3	4	5	6	7
IS2	My supervisor encourages thinking about problems in new ways and questions assumptions for appropriateness.	1	2	3	4	5	6	7
IS3	My supervisor encourages open-mindedness and innovative ideas among team members.	1	2	3	4	5	6	7
IS4	My supervisor is always satisfied with the reality and gets rid of old ideas to bring fresh ones.	1	2	3	4	5	6	7
IC	**Individualized Consideration**							
IC1	My supervisor spends time teaching employees.	1	2	3	4	5	6	7
IC2	My supervisor spends time coaching employees.	1	2	3	4	5	6	7
IC3	My supervisor treats employees as an individual, supports and encourages their development.	1	2	3	4	5	6	7
IC4	My supervisor helps in solving life, work and family problems of employees.	1	2	3	4	5	6	7

SECTION E: EMPLOYEE PERFORMANCE

The statements in the table below relate to the tasks you perform at the University. State the level of your agreement or disagreement with the following listed items by ticking on numbers **1-7** in the table below. **Where: 1** = *Strongly Disagree*, **2** = *Disagree*, **3** = *Somewhat Disagree*, **4** = *Neutral*, **5** = *Somewhat Agree*, ***6*** = *Agree*, ***7*** = *Strongly Agree*.

TE	**Teaching**							
TE1	I attend my lectures according to the assigned timetable.	1	2	3	4	5	6	7
TE2	I start my lectures at the right time.	1	2	3	4	5	6	7
TE3	I end my lectures at the right time.	1	2	3	4	5	6	7
TE4	I give lecture notes to my students.	1	2	3	4	5	6	7
TE5	I do administer tests, assignments, and field /practical work to students in every course unit I teach.	1	2	3	4	5	6	7
TE6	I mark all the tests, assignments and examinations given to students.	1	2	3	4	5	6	7
TE7	I return all course work marked scripts to students.	1	2	3	4	5	6	7
TE8	I release the course work results to students before examination commences.	1	2	3	4	5	6	7
TE9	I read and correct student's projects.	1	2	3	4	5	6	7

RE	**Research**							
RE1	My University has a research policy that guides academic staff in doing research.	1	2	3	4	5	6	7
RE2	I do participate in the departmental research dissemination workshops.	1	2	3	4	5	6	7
RE3	My University facilitates academic staff to attend International conferences.	1	2	3	4	5	6	7
RE4	I have participated in sponsored international research.	1	2	3	4	5	6	7
RE5	I attend at least one International conference per year.	1	2	3	4	5	6	7
RE6	I have participated in sponsored national research.	1	2	3	4	5	6	7
RE7	I attend at least one national conference per year.	1	2	3	4	5	6	7
RE8	I have contributed chapters in an edited book.	1	2	3	4	5	6	7
RE9	I have contributed chapters in a book.	1	2	3	4	5	6	7
PU	**Publication**							
PU1	I regularly publish in International peer reviewed journals.	1	2	3	4	5	6	7
PU2	I always publish articles in local peer reviewed journals.	1	2	3	4	5	6	7
PU3	I publish my research articles with the university.	1	2	3	4	5	6	7
PU4	My research articles have been published in newspapers/ magazines.	1	2	3	4	5	6	7
PU5	My conference papers are published in conference proceedings.	1	2	3	4	5	6	7
PU6	My published work is always cited by other researchers.	1	2	3	4	5	6	7
PU7	I collaborate with colleagues to do research publication.	1	2	3	4	5	6	7
PU8	I have authored a book.	1	2	3	4	5	6	7
PU9	I have co- authored a book.	1	2	3	4	5	6	7
CE	**Community Engagement**							
CE1	I participate in a collaborative research projects with the community.	1	2	3	4	5	6	7
CE2	I have social and networking skills to involve community in research activities.	1	2	3	4	5	6	7
CE3	I believe involvement of community in research projects create acceptance of the research outcomes.	1	2	3	4	5	6	7
CE4	I participate in research dissemination and knowledge sharing in the community.	1	2	3	4	5	6	7
CE5	I continuously expands the frontiers of knowledge, innovation and technology to improve people's wellbeing in the community.	1	2	3	4	5	6	7
CE6	I provide public lectures and talk shows to build collaboration with community organizations.	1	2	3	4	5	6	7
CE7	I participate in discussions that raise issues of social responsibility.	1	2	3	4	5	6	7
CE8	I contribute to charitable organizations within the community.	1	2	3	4	5	6	7
CE9	I participate in cultural and social gatherings in the community.	1	2	3	4	5	6	7
CE10	I participate in community events like conferences,	1	2	3	4	5	6	7

	seminars, sport activities, trade shows and exhibitions in the community.							
CE11	I participate in public ceremonies, awards, competitions, and community events.	1	2	3	4	5	6	7
CE12	I ensure safe, ethical and efficient use data obtain from the community.	1	2	3	4	5	6	7
CE13	I support the communities where I work and live.	1	2	3	4	5	6	7

Appendix X: Factor Analysis Results for the Main Study

Factor Analysis for Employee Performance

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.912
Bartlett's Test of Sphericity	Approx. Chi-Square	6827.260
	df	435
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.328	27.761	27.761	8.328	27.761	27.761	6.164	20.548	20.548
2	3.961	13.205	40.965	3.961	13.205	40.965	4.623	15.410	35.958
3	2.565	8.549	49.515	2.565	8.549	49.515	3.682	12.273	48.231
4	1.372	4.574	54.088	1.372	4.574	54.088	1.757	5.857	54.088
5	1.207	4.024	58.112						
6	1.043	3.477	61.589						
7	1.005	3.351	64.940						
8	.786	2.619	67.559						
9	.765	2.549	70.108						
10	.724	2.414	72.522						
11	.675	2.248	74.770						
12	.634	2.114	76.884						
13	.605	2.017	78.901						
14	.538	1.795	80.696						
15	.528	1.759	82.455						
16	.513	1.709	84.163						
17	.480	1.600	85.764						
18	.462	1.541	87.305						
19	.450	1.500	88.805						
20	.418	1.392	90.197						
21	.395	1.317	91.514						
22	.393	1.309	92.824						
23	.374	1.247	94.070						
24	.368	1.228	95.299						
25	.338	1.127	96.426						
26	.262	.875	97.300						
27	.232	.773	98.073						
28	.197	.658	98.731						
29	.194	.647	99.378						
30	.187	.622	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
TE1			.711	
TE2			.693	
TE3			.595	
TE5			.739	
TE6			.757	
TE7			.624	
TE8			.642	
TE9			.544	
RE1				.646
RE2				.684
PU1	.791			
PU2	.834			
PU3	.792			
PU4	.812			
PU5	.775			
PU6	.715			
PU7	.555			
PU8	.782			
PU9	.806			
CE2		.500		
CE4		.512		
CE5		.524		
CE6		.564		
CE7		.644		
CE8		.654		
CE9		.683		
CE10		.710		
CE11		.661		
CE12		.631		
CE13		.652		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 6 iterations.

Factor Analysis for Talent Management

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.940
Bartlett's Test of Sphericity	Approx. Chi-Square	4653.011
	Df	210
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.549	40.710	40.710	8.549	40.710	40.710	4.938	23.512	23.512
2	1.705	8.119	48.829	1.705	8.119	48.829	2.995	14.262	37.774
3	1.331	6.339	55.168	1.331	6.339	55.168	2.463	11.729	49.503
4	1.169	5.566	60.734	1.169	5.566	60.734	2.359	11.231	60.734
5	.802	3.820	64.554						
6	.769	3.660	68.214						
7	.689	3.281	71.495						
8	.651	3.099	74.594						
9	.599	2.851	77.445						
10	.534	2.543	79.988						
11	.509	2.422	82.410						
12	.499	2.375	84.785						
13	.437	2.082	86.867						
14	.412	1.964	88.831						
15	.405	1.929	90.761						
16	.382	1.818	92.579						
17	.363	1.728	94.307						
18	.347	1.653	95.960						
19	.320	1.522	97.482						
20	.284	1.352	98.834						
21	.245	1.166	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
TA1		.588		
TA2		.790		
TA3		.700		
TA4		.718		
TA6		.587		
TDEP4			.728	
TDEP5			.679	
TDEP6			.713	
TDEP7			.608	
TDE1				.767
TDE2				.721
TDE3				.656
TDE8				.627
TR1	.692			
TR2	.757			
TR3	.715			
TR4	.682			
TR5	.674			
TR6	.689			
TR7	.784			
TR8	.755			

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Factor Analysis for Employee Engagement

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.731
Bartlett's Test of Sphericity	Approx. Chi-Square	773.451
	df	45
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.474	24.741	24.741	2.474	24.741	24.741	2.275	22.750	22.750
2	1.992	19.925	44.666	1.992	19.925	44.666	1.837	18.371	41.121
3	1.185	11.853	56.518	1.185	11.853	56.518	1.540	15.397	56.518
4	.784	7.839	64.357						
5	.762	7.619	71.976						
6	.641	6.411	78.387						
7	.606	6.064	84.452						
8	.552	5.524	89.976						
9	.519	5.193	95.169						
10	.483	4.831	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component		
	1	2	3
VI1		.835	
VI2		.778	
VI3		.656	
DE2			.700
DE3			.706
DE5			.614
AB2	.753		
AB4	.722		
AB5	.775		
AB6	.681		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 4 iterations.

Factor Analysis for Transformational Leadership

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.932
Bartlett's Test of Sphericity	Approx. Chi-Square	3667.750
	df	136
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.244	42.612	42.612	7.244	42.612	42.612	3.131	18.420	18.420
2	1.774	10.436	53.048	1.774	10.436	53.048	3.078	18.106	36.526
3	.930	5.468	58.516	.930	5.468	58.516	2.449	14.408	50.933
4	.847	4.984	63.500	.847	4.984	63.500	2.136	12.567	63.500
5	.761	4.478	67.979						
6	.659	3.877	71.855						
7	.623	3.666	75.521						
8	.565	3.325	78.846						
9	.529	3.110	81.957						
10	.505	2.972	84.929						
11	.484	2.846	87.775						
12	.417	2.453	90.228						
13	.413	2.430	92.658						
14	.372	2.187	94.845						
15	.350	2.060	96.905						
16	.310	1.825	98.730						
17	.216	1.270	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
IIA1		.710		
IIA2		.661		
IIA3		.544		
IIA4		.757		
IIB1		.668		
IIB2		.549		
IM1				.729
IM2				.736
IM3				.662
IS1			.627	
IS2			.678	
IS3			.711	
IS4			.617	
IC1	.835			
IC2	.849			
IC3	.652			
IC4	.800			

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

Appendix XI: Reliability Statistics before Factor Analysis

Scale: Employee Performance

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excluded[a]	0	.0
	Total	**468**	**100.0**

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
 /VARIABLES = TE1 TE2 TE3 TE4 TE5 TE6 TE7 TE8 TE9 RE1 RE2 RE3 RE4 RE5
              RE6 RE7 RE8 RE9 PU1 PU2 PU3 PU4 PU5 PU6 PU7 PU8 PU9 CE1
              CE2 CE3 CE4 CE5 CE6 CE7 CE8 CE9 CE10 CE11 CE12 CE13
  /SCALE('Employee Performance') ALL
  /MODEL=ALPHA.
```

Reliability Statistics for Employee Performance

Cronbach's Alpha	N of Items
.935	40

Scale: Talent Management

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excludeda	0	.0
	Total	**468**	**100.0**

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
VARIABLES = TA1 TA2 TA3 TA4 TA5 TA6 TA7 TDEP1 TDEP2 TDEP3 TDEP4
            TDEP5 TDEP6 TDEP7 TDE1 TDE2 TDE3 TDE4 TDE5 TDE6 TDE7
            TDE8 TDE9 TR1 TR2 TR3 TR4 TR5 TR6 TR7 TR8
SCALE('Talent Management') ALL
  /MODEL=ALPHA.
```

Reliability Statistics

Cronbach's Alpha	N of Items
.944	31

Scale: Employee Engagement

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excludeda	0	.0
	Total	**468**	**100.0**

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
/VARIABLES = VI1 VI2 VI3 VI4 VI5 VI6 DE1 DE2 DE3 DE4 DE5 AB1 AB2 AB3
             AB4 AB5 AB6
/SCALE('Employee Engagement') ALL
/MODEL=ALPHA.
```

Reliability Statistics for Employee Engagement

Cronbach's Alpha	N of Items
.765	17

Scale: Transformational Leadership

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excludeda	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
/VARIABLES = IIA1 IIA2 IIA3 IIA4 IIB1 IIB2 IIB3 IIB4 IM1 IM2 IM3 IM4
             IS1 IS2 IS3 IS4 IC1 IC2 IC3 IC4
/SCALE('Transformational Leadership') ALL
/MODEL=ALPHA.
```

Reliability Statistics for Transformational Leadership

Cronbach's Alpha	N of Items
.923	20

Appendix XII: Reliability statistics after Factor Analysis

Scale: Employee Performance

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excluded[a]	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
/VARIABLES = TE1 TE2 TE3 TE5 TE6 TE7 TE8 TE9 RE1 RE2 PU1 PU2 PU3 PU4
             PU5 PU6 PU7 PU8 PU9 CE2 CE4 CE5 CE6 CE7 CE8 CE9 CE10
             CE11 CE12 CE13
/SCALE('Employee Performance') ALL
/MODEL=ALPHA.
```

Reliability Statistics for Employee Performance

Cronbach's Alpha	N of Items
.900	30

Scale: Talent Management

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excludeda	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
/VARIABLES = TA1 TA2 TA3 TA4 TA6 TDEP4 TDEP5 TDEP6 TDEP7 TDE1 TDE2
             TDE3 TDE8 TR1 TR2 TR3 TR4 TR5 TR6 TR7 TR8
/SCALE('Talent Management') ALL
/MODEL=ALPHA.
```

Reliability Statistics for Talent Management

Cronbach's Alpha	N of Items
.925	21

Scale: Employee Engagement

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excludeda	0	.0
	Total	468	100.0

a. Listwise deletion based on all variables in the procedure.

```
RELIABILITY
/VARIABLES = VI1 VI2 VI3 DE2 DE3 DE5 AB2 AB4 AB5 AB6
/SCALE('Employee Engagement') ALL
/MODEL=ALPHA.
```

Reliability Statistics for Employee Engagement

Cronbach's Alpha	N of Items
.643	10

Scale: Employee Engagement

Case Processing Summary

		N	%
Cases	Valid	468	100.0
	Excludeda	0	.0
	Total	468	100.0

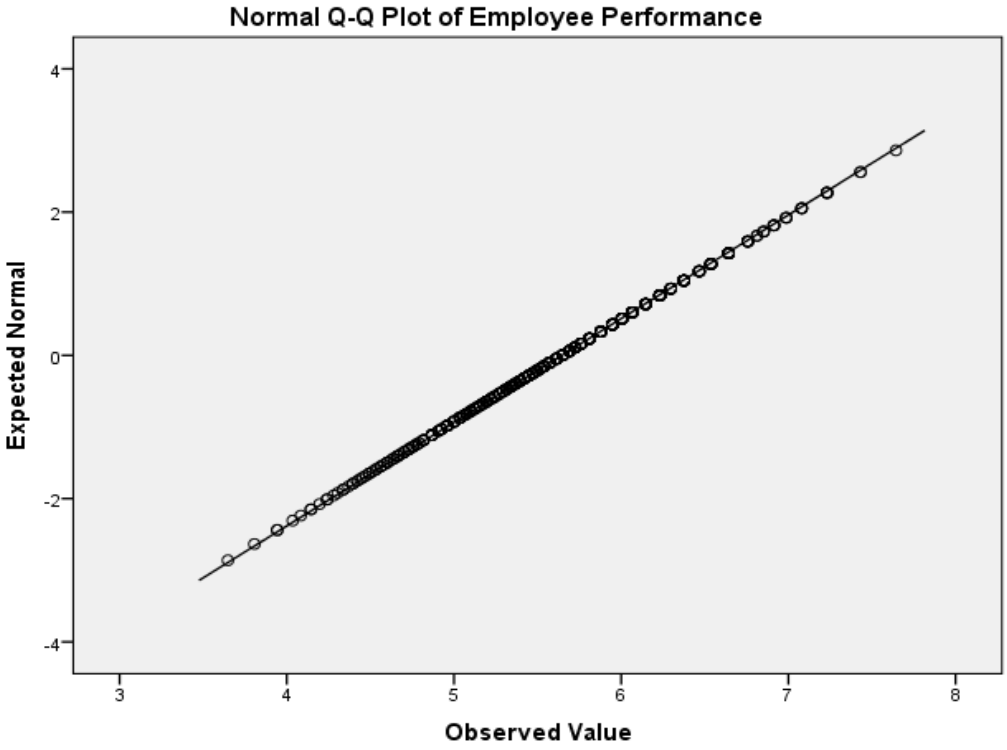
a. Listwise deletion based on all variables in the procedure.

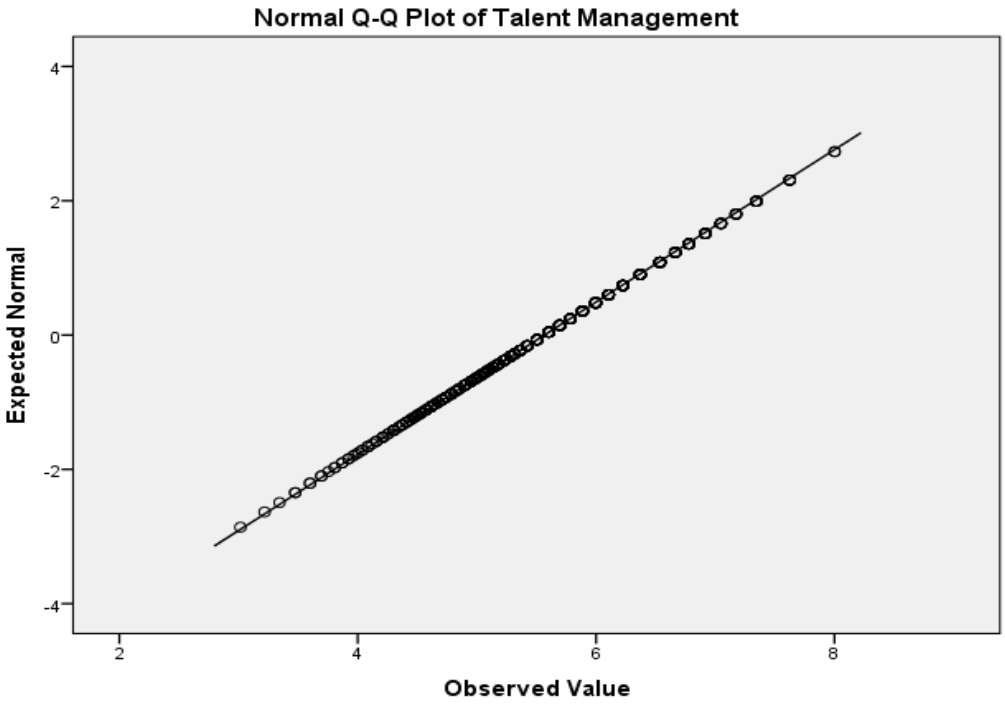
```
RELIABILITY
  /VARIABLES = IIA1 IIA2 IIA3 IIA4 IIB1 IIB2 IM1 IM2 IM3 IS1 IS2 IS3
               IS4 IC1 IC2 IC3 IC4
  /SCALE('Transformational Leadership') ALL
  /MODEL=ALPHA.
```

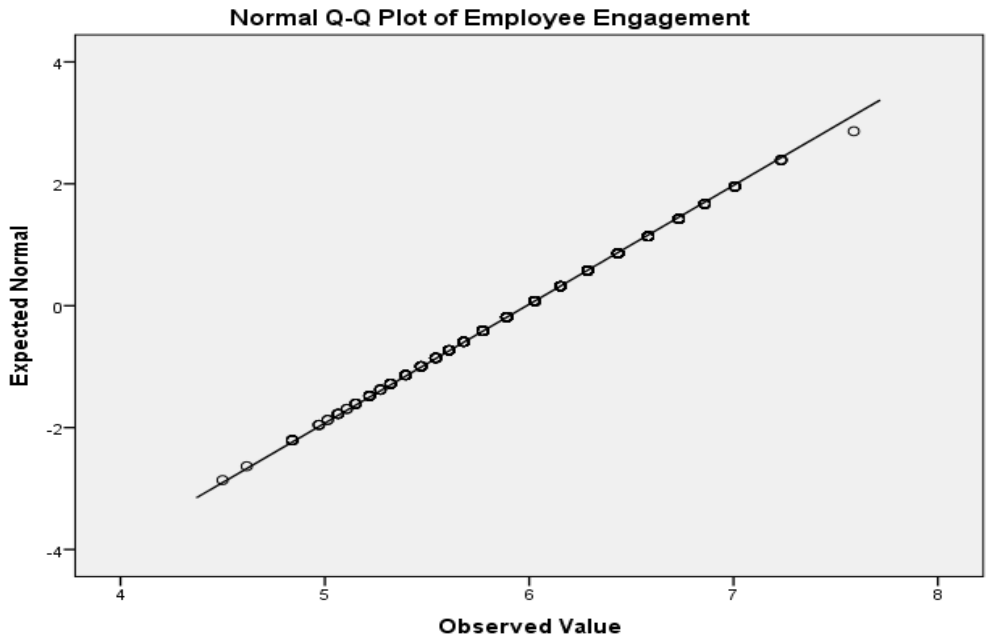
Reliability Statistics for Transformational Leadership

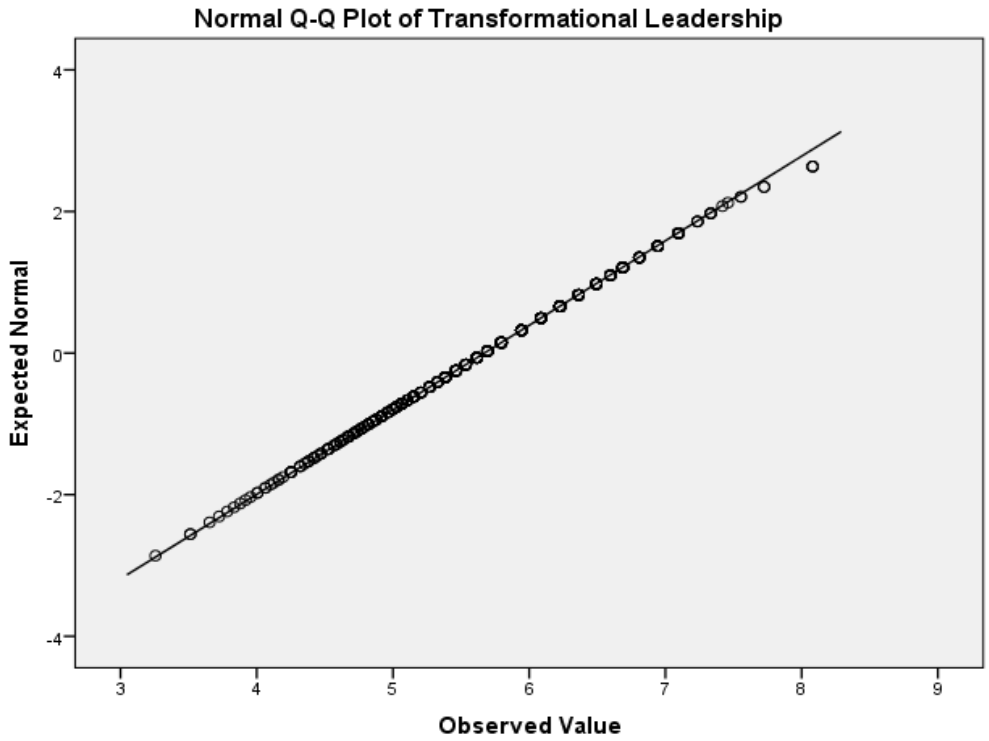
Cronbach's Alpha	N of Items
.914	17

Appendix XIII: Q-Q Plots of the study variables






Normal Q-Q Plot of Employee Engagement
Expected Normal
Observed Value
4
2
0
-2
-4
4
5
6
7
8


Normal Q-Q Plot of Transformational Leadership
Expected Normal
Observed Value
4
2
0
-2
-4
3
4
5
6
7
8
9

Appendix XIV: Correlations Results

Correlations

		EP	TM	EE	TL
Zscore: Employee Performance	Pearson Correlation	1	.607**	.440**	.533**
	Sig. (2-tailed)		.000	.000	.000
	N	468	468	468	468
Zscore: Talent Management	Pearson Correlation	.607**	1	.429**	.436**
	Sig. (2-tailed)	.000		.000	.000
	N	468	468	468	468
Zscore: Employee Engagement	Pearson Correlation	.440**	.429**	1	.393**
	Sig. (2-tailed)	.000	.000		.000
	N	468	468	468	468
Zscore: Transformational Leadership	Pearson Correlation	.533**	.436**	.393**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	468	468	468	468

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix XV: Hierarchical Regression Results

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Tenure, Gender , Educational Level , Age[b]	.	Enter
2	Talent Management[b]	.	Enter
3	Employee Engagement[b]	.	Enter
4	Transformational Leadership[b]	.	Enter

a. Dependent Variable: Employee Performance
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.207[a]	.043	.035	.98246947	.043	5.204	4	463	.000
2	.626[b]	.392	.385	.78416655	.349	264.779	1	462	.000
3	.658[c]	.433	.426	.75776959	.041	33.748	1	461	.000
4	.703[d]	.494	.487	.71656812	.061	55.538	1	460	.000

a. Predictors: (Constant), Tenure, Gender , Educational Level , Age
b. Predictors: (Constant), Tenure, Gender , Educational Level , Age , Talent Management
c. Predictors: (Constant), Tenure, Gender , Educational Level , Age , Talent Management, Employee Engagement
d. Predictors: (Constant), Tenure, Gender , Educational Level , Age , Talent Management, Employee Engagement, Transformational Leadership

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.091	4	5.023	5.204	.000[b]
	Residual	446.909	463	.965		
	Total	467.000	467			
2	Regression	182.908	5	36.582	59.490	.000[c]
	Residual	284.092	462	.615		
	Total	467.000	467			
3	Regression	202.287	6	33.715	58.714	.000[d]
	Residual	264.713	461	.574		
	Total	467.000	467			
4	Regression	230.804	7	32.972	64.214	.000[e]
	Residual	236.196	460	.513		
	Total	467.000	467			

a. Dependent Variable: Employee Performance
b. Predictors: (Constant), Tenure, Gender , Educational Level , Age
c. Predictors: (Constant), Tenure, Gender , Educational Level , Age , Talent Management
d. Predictors: (Constant), Tenure, Gender , Educational Level , Age , Talent Management, Employee Engagement
e. Predictors: (Constant), Tenure, Gender , Educational Level , Age , Talent Management, Employee Engagement, Transformational Leadership

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.934	.229		-4.088	.000
	Gender	.168	.095	.080	1.760	.079
	Age	.122	.070	.105	1.741	.082
	Educational Level	.261	.101	.153	2.573	.010
	Tenure	-.084	.061	-.078	-1.377	.169
2	(Constant)	-.487	.184		-2.639	.009
	Gender	-.048	.077	-.023	-.617	.538
	Age	.072	.056	.062	1.280	.201
	Educational Level	.117	.081	.069	1.432	.153
	Tenure	.052	.050	.048	1.044	.297
	Talent Management	.609	.037	.609	16.272	.000
3	(Constant)	-.564	.179		-3.156	.002
	Gender	-.017	.075	-.008	-.232	.816
	Age	.079	.054	.068	1.451	.148
	Educational Level	.130	.079	.076	1.653	.099
	Tenure	.047	.048	.043	.973	.331
	Talent Management	.508	.040	.508	12.678	.000
	Employee Engagement	.226	.039	.226	5.809	.000
4	(Constant)	-.457	.170		-2.697	.007
	Gender	-.047	.071	-.022	-.658	.511
	Age	.049	.052	.042	.946	.345
	Educational Level	.123	.074	.072	1.652	.099
	Tenure	.058	.045	.054	1.283	.200
	Talent Management	.420	.040	.420	10.575	.000
	Employee Engagement	.152	.038	.152	3.988	.000
	Transformational Leadership	.286	.038	.286	7.452	.000

a. Dependent Variable: Employee Performance

Excluded Variables[a]

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
Talent Management	.609[b]	16.272	.000	.604	.941
Employee Engagement	.440[b]	10.786	.000	.449	.996
Transformational Leadership	.519[b]	13.184	.000	.523	.973
Employee Engagement	.226[c]	5.809	.000	.261	.810
Transformational Leadership	.325[c]	8.658	.000	.374	.804
Transformational Leadership	.286[d]	7.452	.000	.328	.749

a. Dependent Variable: Employee Performance
b. Predictors in the Model: (Constant), Tenure, Gender , Educational Level , Age
c. Predictors in the Model: (Constant), Tenure, Gender , Educational Level , Age , Talent Management
d. Predictors in the Model: (Constant), Tenure, Gender , Educational Level , Age , Talent Management, Employee Engagement

Appendix XVI: Hierarchical Regression Results for Employee Engagement

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Transformational Leadership, Tenure, Gender , Educational Level , Age[b]	.	Enter
2	Talent Management[b]	.	Enter

a. Dependent Variable: Employee Performance
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df2	Sig. F Change
1	.552[a]	.305	.297	.83839003	.305	40.478	5	462	.000
2	.690[b]	.477	.470	.72805726	.172	151.637	1	461	.000

a. Predictors: (Constant), Transformational Leadership, Tenure, Gender , Educational Level , Age

b. Predictors: (Constant), Transformational Leadership, Tenure, Gender , Educational Level , Age , Talent Management

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142.261	5	28.452	40.478	.000[b]
	Residual	324.739	462	.703		
	Total	467.000	467			
2	Regression	222.639	6	37.106	70.003	.000[c]
	Residual	244.361	461	.530		
	Total	467.000	467			

a. Dependent Variable: Employee Performance
b. Predictors: (Constant), Transformational Leadership, Tenure, Gender , Educational Level , Age
c. Predictors: (Constant), Transformational Leadership, Tenure, Gender , Educational Level , Age ,Talent Management

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-.625	.196		-3.181	.002
	Gender	.055	.082	.026	.671	.503
	Age	.054	.060	.046	.891	.373
	Educational Level	.204	.087	.120	2.352	.019
	Tenure	-.017	.053	-.016	-.327	.744
	Transformational Leadership	.519	.039	.519	13.184	.000
2	(Constant)	-.394	.172		-2.297	.022
	Gender	-.070	.072	-.033	-.970	.332
	Age	.040	.052	.035	.769	.442
	Educational Level	.114	.076	.067	1.501	.134
	Tenure	.063	.046	.059	1.368	.172
	Transformational Leadership	.325	.038	.325	8.658	.000
	Talent Management	.471	.038	.471	12.314	.000

a. Dependent Variable: Employee Performance

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Talent Management	.471[b]	12.314	.000	.498	.777

a. Dependent Variable: Employee Performance

b. Predictors in the Model: (Constant), Transformational Leadership, Tenure, Gender , Educational Level , Age

Appendix XVII: Regression Results (Model 4)

```
Run MATRIX procedure:

************** PROCESS Procedure for SPSS Version 3.2 ***************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation       available       in       Hayes       (2018).
www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : ZEP
    X  : ZTM
    M  : ZEE

Covariates:
 Gender   Age      Educ     Tenure

Sample
Size:  468

**************************************************************************
OUTCOME VARIABLE:
 ZEE

Model Summary
      R       R-sq      MSE       F        df1        df2          p
     .435    .190      .819     21.607      5.000    462.000     .000

Model
         coeff         se        t          p         LLCI       ULCI
constant  .341       .213      1.604       .109      -.077       .760
ZTM       .444       .043     10.293       .000       .360       .529
Gender   -.134       .089     -1.499       .134      -.309       .042
Age      -.030       .065      -.466       .641      -.158       .097
Educ     -.060       .094      -.638       .523      -.245       .125
Tenure    .023       .057       .397       .691      -.090       .135

**************************************************************************
OUTCOME VARIABLE:
 ZEP

Model Summary
     R       R-sq        MSE          F        df1        df2     p
   .658      .433       .574     58.714      6.000    461.000    .000

Model
           coeff       se     t          p           LLCI       ULCI
constant   -.564     .179    -3.156     .002        -.915      -.213
ZTM         .508     .040     12.678    .000         .429       .587
ZEE         .226     .039      5.809    .000         .150       .303
Gender      .017     .075      -.232    .816        -.164       .130
Age         .079     .054      1.451    .148        -.028       .186
Educ        .130     .079      1.653    .099        -.025       .285
Tenure      .047     .048       .973    .331        -.048       .141

*********************** TOTAL EFFECT MODEL ************************
```

```
OUTCOME VARIABLE:
 ZEP
Model Summary
       R     R-sq        MSE          F        df1        df2     p
     .626    .392       .615     59.490      5.000    462.000    .000

Model
         coeff         se          t          p       LLCI       ULCI
constant -.487       .184     -2.639       .009      -.849      -.124
ZTM       .609       .037     16.272       .000       .535       .682
Gender   -.048       .077      -.617       .538      -.199       .104
Age       .072       .056      1.280       .201      -.038       .182
Educ      .117       .081      1.432       .153      -.043       .277
Tenure    .052       .050      1.044       .297      -.046       .149

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y ************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .609       .037     16.272       .000       .535       .682

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
       .508       .040     12.678       .000       .429       .587

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
ZEE       .101       .023       .059       .149

***************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence
intervals:
  5000

------ END MATRIX -----
```

Appendix XVIII: Regression Results (Model 8)

```
Run MATRIX procedure:

*********** PROCESS Procedure for SPSS Version 3.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation       available       in       Hayes       (2018).
www.guilford.com/p/hayes3

**************************************************************************
Model  : 8
    Y  : ZEP
    X  : ZTM
    M  : ZEE
    W  : ZTL

Covariates:
 Gender   Age      Educ     Tenure

Sample
Size:  468

**************************************************************************
OUTCOME VARIABLE:
 ZEE

Model Summary
      R       R-sq        MSE          F        df1        df2      p
     .508    .258       .753     22.836      7.000    460.000    .000

Model
         coeff         se          t          p       LLCI       ULCI
constant  .467       .205      2.272       .024       .063       .870
ZTM       .291       .048      6.071       .000       .197       .385
ZTL       .232       .046      5.050       .000       .142       .323
Int_1    -.110       .038     -2.867       .004      -.186      -.035
Gender   -.129       .086     -1.498       .135      -.298       .040
Age      -.055       .062      -.875       .382      -.177       .068
Educ     -.075       .090      -.835       .404      -.253       .102
Tenure    .028       .055       .513       .608      -.080       .136


Product terms key:
 Int_1    :        ZTM      x        ZTL

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W       .013      8.220      1.000    460.000       .004
----------
    Focal predict: ZTM      (X)
          Mod var: ZTL      (W)
```

Conditional effects of the focal predictor at values of the moderator(s):

ZTL	Effect	se	t	p	LLCI	ULCI
-1.000	.401	.051	7.813	.000	.300	.502
.000	.291	.048	6.071	.000	.197	.385
1.000	.181	.070	2.576	.010	.043	.318

****
OUTCOME VARIABLE:
ZEP

Model Summary

R	R-sq	MSE	F	df1	df2	p
.709	.503	.506	58.040	8.000	459.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	-.410	.169	-2.426	.016	-.743	-.078
ZTM	.390	.041	9.561	.000	.310	.470
ZEE	.138	.038	3.608	.000	.063	.213
ZTL	.265	.039	6.850	.000	.189	.341
Int_1	-.090	.032	-2.827	.005	-.152	-.027
Gender	-.030	.071	-.429	.668	-.169	.108
Age	.049	.051	.957	.339	-.052	.149
Educ	.112	.074	1.509	.132	-.034	.257
Tenure	.056	.045	1.237	.217	-.033	.144

Product terms key:
Int_1 : ZTM x ZTL

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.009	7.991	1.000	459.000	.005

Focal predict: ZTM (X)
Mod var: ZTL (W)

Conditional effects of the focal predictor at values of the moderator(s):

ZTL	Effect	se	t	p	LLCI	ULCI
-1.000	.480	.045	10.721	.000	.392	.568
.000	.390	.041	9.561	.000	.310	.470
1.000	.300	.058	5.190	.000	.187	.414

********** DIRECT AND INDIRECT EFFECTS OF X ON Y **********

Conditional direct effect(s) of X on Y:

ZTL	Effect	se	t	p	LLCI	ULCI
-1.000	.480	.045	10.721	.000	.392	.568
.000	.390	.041	9.561	.000	.310	.470
1.000	.300	.058	5.190	.000	.187	.414

```
Conditional indirect effects of X on Y:

INDIRECT EFFECT:
 ZTM         ->    ZEE         ->    ZEP

        ZTL     Effect     BootSE   BootLLCI   BootULCI
     -1.000       .055       .021       .018       .101
       .000       .040       .016       .013       .075
      1.000       .025       .014       .003       .057

Index of moderated mediation:
         Index     BootSE   BootLLCI   BootULCI
ZTL      -.015       .009      -.035      -.001
---

**************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence
intervals:
  5000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: The following variables were mean centered prior to analysis:
          ZTL      ZTM

                      ------ END MATRIX -----
```