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**IMPACT OF HUMAN RESOURCE DIGITAL
TRANSFORMATION ON EMPLOYEE ENGAGEMENT**

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IMPACT OF HUMAN RESOURCE DIGITAL TRANSFORMATION ON EMPLOYEE ENGAGEMENT

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ABSTRACT

IMPACT OF HUMAN RESOURCE DIGITAL TRANSFORMATION ON EMPLOYEE ENGAGEMENT

Digital transformation has become a global consensus among companies. Companies are increasingly embracing digital transformation to optimize their operations and stay competitive. This study aimed to explore the role in which Human Resource Digital Transformation has on employee engagement. Through an analysis of the various facets of HRDT adopted the organizations have adopted, were analyzed to find the relationship with the dimensions of Employee engagement namely: Vigor, Dedication and Absorption. Employee engagement was measured through the Utrecht Work Engagement Scale, focusing on its three dimensions. For clear understanding of the relationship between the variables, Job characteristics Model and Social Context theory were adopted. The research methodology included a quantitative approach where survey questionnaires were distributed to employees in Malawi from various organizations and industries. 304 questionnaires were analyzed and revealed that Human Resource Digital Transformation has a positive and significant impact on employee engagement across all the three dimensions of employee engagement.

Keywords: Human Resource Digital Transformation, Employee Engagement, Utrecht Work-Engagement Scale

Date: 08.06.2024

ÖZET

İNSAN KAYNAKLARINDA DİJİTAL DÖNÜŞÜMÜNÜN ÇALIŞAN BAĞLILIĞINA ETKİSİ

Dijital dönüşüm, işletmeler arasında küresel bir uzlaşa haline gelmiştir. İşletmeler, operasyonlarını optimize etmek ve rekabetçi kalmak için dijital dönüşümünü giderek daha fazla benimsemektedir. Bu çalışma, insan kaynaklarının dijital dönüşümünün çalışan bağlılığı üzerindeki rolünü keşfetmeyi amaçlamaktadır. İşletmelerin benimsediği çeşitli süreçler analiz edilerek, çalışan bağlılığı ve bu iki değişken arasındaki ilişki isteklilik, adanmışlık ve içselleştirme boyutları açısından ilişkisi incelenmiştir. Bunlar için Utrecht işe bağlılık ölçeği kullanılmıştır. Değişkenler arasındaki ilişkinin net bir şekilde anlaşılması için İş Özellikleri Modeli ve Sosyal Bağlam Teorisi benimsenmiştir. Araştırma metodolojisi, Malavi'deki çeşitli işletmeler ve sektörlerden çalışanlara dağıtılan anketler yoluyla yürütülen niceliksel bir yaklaşıma içermektedir. 304 anket analiz edilmiş ve insan kaynakları dijital dönüşümü'nün çalışanların üzerinde üç boyutunun tüm kriterlerinde, olumlu ve önemli bir etkisi olduğu ortaya çıkmıştır.

Anahtar Kelimeler: İnsan Kaynaklarında Dijital Dönüşüm, Çalışan Bağlılığı, Utrecht İşe Bağlılık Ölçeği

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SYMBOLS

α : Alpha symbol

$\bar{X}$: Mean/Average

ρ : Spearman's correlation coefficient



ABBREVIATIONS

HRDT	: Human Resource Digital Transformation
E-HRM	: Electronic Human Resource Management
ICT	: Information Communication Technology
SD	: Standard Deviation



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1 INTRODUCTION

Digital transformation has become a global consensus among companies. Companies are increasingly embracing digital transformation to optimize their operations and stay competitive. Before the Covid 19 outbreak, companies were not in a rush for digital transformation but the outbreak has made it clear that, digital transformation is a necessary point to ensure continued operations during uncertainties (Zhang and Chen, 2023).

Murphy (2018), defines digital transformation as the ability to convert a tangible product or service to a digital variant that gives a superior advantage than the available tangible product or service. A very important sector with the digital transformation is the Human Resources, where the traditional practices are being reshaped by digital tools and technologies. It is the view of many scholars that human resource management plays an important role in workplace innovations, employee well-being and engagement (Bamber et al., 2017; Kolwaski and Loretto, 2017). As companies embark on digital transformation, it is crucial to assess the repercussions on the workforce, particularly in terms of employee engagement as it is a critical metric for organization success and sustainability.

Schaufeli and Salanova (2008), defined employee engagement as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption”. An engaged employee is emotionally committed, and connected towards their work and organization which is an indispensable factor as far as productivity, retention and organization performance is concerned. The digitization of the human resource processes, referred to as Human Resource Digital Transformation (HRDT) has the potential to redefine the employee experience. According to Betchoo (2016), on the Human Resources processes, Digital transformation exert a positive influence which produce visible changes in selection, training and development, performance and service quality. On the side of the employee engagement, the impact of Human Resource Digital Transformation remains a subject of scholarly inquiry.

This study aims to explore the complex interactions between Human Resource Digital Transformation and employee engagement, uncovering the mechanisms, dynamics, and effects related to this dynamic relationship. Through an analysis of the various facets of

HRDT, this research aims to shed more light on the implications for the worker on the basis of work engagement.

Human Resource Management around the world has been undergoing a paradigm shift with the emergence of digital transformation. In the digital era, organizations have been aiming to restructure their operations, increase productivity and adjust to the changing needs of the modern-day workplace (Murphy, 2018). With the effects covid 19 pandemics caused, organizations are also eager to find a way to survive in case of another predicament. The benefits of Digital Transformation are widely acknowledged in literature but what it impacts the employee specifically on the engagement to work requires comprehensive investigation, specifically in the context of Malawi.

The digital paradigm is still underway in Malawi when you compare it with other countries (Makoza, 2023). With its Digitalization Policy (draft) (2022), Digital Economy Strategy, Online Transaction and Cybersecurity Act, National ICT Policy review, and Malawi 2063 Vision, the Malawian government has already set the standard and shown that digitalization is the way of the future. The policy provides comprehensive guidance to transform Malawi into a wealthy and self-reliant nation through provision of integrated and inclusive ICT, digital systems and life enhancing services. Thus, there is growing adoption of digital HR systems by Malawian organizations makes it imperative for an analysis of the impact this shift has on employee engagement, which is widely acknowledged as a critical component of both organizational success and employee well-being.

Since Malawi's digital paradigm is still developing, there is a unique opportunity to see and examine how HRDT affects employee engagement in the initial stages of development. By examining the crucial aspects of the trend and extent of human right digital transformation adoption, the relationship between HRDT and employee engagement, and the challenges and opportunities associated with the adoption, this study seeks to fill in important gaps in the body of literature already in existence.

2 LITERATURE REVIEW

This literature review aims to explore the impacts of Human Resource Digital Transformation, specifically on employee engagement. The review will look into the existing literature and research studies that have investigated the impacts of Digital Transformation on Human resource processes in the work places and the challenges faced by organizations during the Human Resource Digital Transformation implementing and operating process at the work place.

2.1 HUMAN RESOURCE DIGITAL TRANSFORMATION

Human Resource Digital transformation is changing the ways in which the Human resource functions. The transformation is going beyond just adopting the digital tools, rather organizations are taking advantage of the technology to add strategic value.

2.1.1 What is Human Resource Digital Transformation

Advancement in technology has tremendously transformed various functions in organizations including Human Resource Management Process (Diawati, Gadzali, Abd Aziz, Ausat, and Suherlan, 2023). The Human Resource digital transformation (HRDT), also referred as Electronic Human Resource Management (e-HRM), includes the adoption and implementation of Human Resource digital tools and systems to streamline Human Resource processes, improve efficiency and enhance experience of employees.

Human Resource Digital Transformation is defined by Zhang and Chen (2023), as the transformation of traditional Human Resource practices by replacing or integrating them with digital technologies to automate and improve efficiency. The transformations may include in areas such as recruitment, onboarding, performance management, learning and development, payroll and employee self-service portals where software would be used. The transition to digital Human Resource is driven by factors such as technology advancement, employees' expectations and competitive pressure.

Technologies used in Human Resource Digital Transformation may include cloud computing, Artificial Intelligence (AI) and machine learning, big data analytics and some mobile applications. Abdullah, Zeebaree, Shukur, and Jacksi (2020), defined Cloud based

Human Resources functions as functions that are based on a web software and allows the Human resource office to manage and automate a variety of the Human Resource processes. The cloud system can be accessible anytime and from anywhere which gives flexibility to both employees and administration. The technology is also used to store vast amounts of data which makes remote work a possibility as information and other Human Resource functions will be easily accessible.

In their study by Agarwal, Gupta, and Roshani (2023), on redefining HRM with Artificial Intelligence and Machine Learned stated that integrating Human Resource functions with Artificial intelligence and machine learning helps Human Resource office to make better decisions. AI applications can do analysis, predictions and diagnosis tasks that usually require human intelligence which ultimately improves organizations as there is less administrative burdens. Tasks which AI does may include screening of resumes and matching them to job requirements. Machine learning entails the use of algorithms to analyze data and then identify patterns and predict the future trends which is helpful for the Human Resource team to make informed decisions.

Big data analytics involving analyzing large volumes of data to uncover trends, patterns and correlation and ultimately aid in decision making (Nocker and Sena, 2019). The data is produced by sensors, wearables, and social media platforms. Results from the analytics help the organizations to identify trends and predict future needs which is essential to developing strategies that boost satisfaction and eventually retaining employees. On the same note, mobile applications in HRDT improves employee experience and lessens administrative burdens (Vardarlier, 2020). Through Human Resource mobile applications, employees are able to manage their Human Resource related tasks on their own. The self-service tasks may include leave applications, benefits enrolment and pay slip viewing.

2.1.2 Drivers of Human Resource Digital Transformation

Having a good understanding of what is driving the organization to HRDT is crucial to grasping how essential HRDT is. HRDT entails the move from the traditional Human Resource practices to an advanced, technology driven practice. These drivers are highlighting the need for organizations to digitally transform their Human Resource practices in order to remain competitive and meet the expectations of modern workforce.

2.1.2.1 Technology Advancement

The emergency of cloud computing, artificial intelligence, machine learning, and big data analytics has provided the foundations and infrastructures necessary for digital Human Resource practices. Cloud computing has enabled human resource departments to have flexibility in managing workloads such as recruitment and payroll processing. This gives Human Resource practitioners ability to gauge their operations according to demand and also helps the reduce the costs of acquiring their own hardware and software at their own premises hence cutting information technology costs (Bondarouk and Brewstar, 2016). The development has also enabled employees to access company systems and data from anywhere, thus making remote a possible and efficient.

Artificial intelligence has tremendously changed how human resource officer operate. The emergence of artificial intelligence has automated some of Human Resource practices such as in recruitment where it is used to screen resumes to match applicants to job openings in accordance with their skills and experience, thus, reducing time taken (Malik, Srikanth, and Budhwar, 2020). Artificial intelligence is also used to analyze employee performance data which then is used to recognize best performing employees and as well identify patterns and give insights in areas for improvement. The artificial intelligence in the context of chatbots are also used to foster employee engagement as they provide instant responses to some queries hence less tasks for Human Resource staff for more complex tasks.

The advancement of technology has led to the Human Resource office to be making data driven decisions through big data analytics (Malik et al., 2020). Big data analytics has opened the door to Human resource department to be able to analyze big amounts of data on metrics such as performance, engagement, and turnover of employees. Information gathered through the process is then used to make informed decisions. Big data is also used to make predictive analysis. Historical data from big data can be used to analyze past trends which are used to predict future trends which include potential turnover rates, impacts of some specific trainings and as well employee performance (Bondarouk and Brewstar, 2016).

2.1.2.2 Employee Expectations

As reported by Bulut and Maraba (2021), on the study of Generation Z on perception of work through habits, these generation has grown up using technology in the form of internet, smartphones, social media, etc. Their expectation of the workplace is to mirror the digital interactions as in their personal lives, thus significantly influencing adoption of digital Human Resource practices. Kim, Jang, Choi, Youn, and Lee, (2022), reiterated that Generation Z and including the millennials demand for digital interactions where they can access general human resource services and information, such as leave application, benefits enrolment, performance appraisals etc., on the go through mobile devices and applications.

A study by Nam (2014), on technology use and work life balance reported that the use of technology molds an employee's perception of flexibility and permeability. It gives the possibility of remote work which is viewed as a flexible approach to work by the modern employees. Modern employee put an emphasis on work life balance and the digital Human Resource offers a gateway to achieving these by supporting remote work through the provision of communication platforms to maintain connection and productivity outside the traditional work environment (Bloom, Liang, Roberts, and Ying, 2015).

As the work force is currently progressing and having a majority of it is millennials and generation Z, they value regular performance feedback and seek career development opportunities (Nam, 2014; Bloom et al., 2015). Digital Human Resource comes with it performance management systems where employees can learn about their performance and areas in need for improvement and also these systems are used for employee recognition. Digital Human Resource is also used to give a learning training platform for employees tailored to employee career goals and learning preferences.

2.1.2.3 Competitive Pressure

Organizations are undergoing Human Resource Digital transformation so as to have a competitive edge over other organizations (Adle and Akdemir, 2019). The pressure on organizations from competitors is driving them to digital transformation so as to be innovative and to improve productivity while maintaining the attraction and retaining their top talents, thus having a competitive advantage. Adler and Akdemir (2019), in their research reported that Human Resource Systems represents a direct basis for achievement of

competitive advantage. Organizations are trying to get a competitive advantage through human resource and intellectual capacity. Having an advanced human resource system is often associated with being innovative and forward thinking, making them attractive to top talents.

In a study by Iqbal, Ahmad, MC Allen, and Raziq (2018), on commercial banks in Pakistan, it was reported that e-HRM influences the quality of Human Resource Service which fully mediates significantly and positively managers perceptions of labour productivity. Automation of some of the routine Human Resource services has tremendously reduced the margin of errors and effort required to do a task. This has increased productivity as Human Resource professionals and employees focus more on strategic activities that propels the company to greater value (Bondarouk and Brewstar, 2016). With digital tools, doing performance analytics becomes easier and more detailed enabling managers to identify high performing employees, address performance gaps, and as well implement development plans in accord to the data. This helps companies to effectively utilize their resources and at the end enhance productivity.

Tate, Lartey and Randall (2021), reported that digital Human Resource tools are used to facilitate regular feedback from managers to employees, recognition of employees and also for development of employees' careers. The tools help the employees to maintain higher levels of engagement and also for managers to identify potential leaders. This helps Human Resource professionals to identify capable individuals within the workforce to fill out critical positions hence ensuring a succession plan for the company and career advancement plan for employees which in turn reduces the risk of talent shortage and turnover.

2.1.3 Importance of Human Resource Digital Transformation

Human Resource Digital Transformation is becoming integral. Its importance lies in that it is able to enhance operational efficiency and productivity, improves employee experience, enables data driven decision making, and as well supports remote work and flexibility (Bondarouk and Brewstar, 2016).

2.1.3.1 Enhancing Efficiency and Productivity

Bondarouk and Brewstar, (2016), reported that traditional Human Resource practices more often than not, are time consuming and susceptible to errors. Human Resource Digital Transformation automate the human resource process ensuring that they are timely and accurate. This reduces administrative workload and errors which would have led to employee's dissatisfaction. The Human Resource process being digital also reduces and at some point, eliminates the need for paper-based processes, thus cutting costs. The coming in of Digital Human Resource helps in managing complex tasks such as employee benefits which may involve various plans and providers. The Digital Human Resource process helps to save time and at the same time ensuring compliance with regulatory requirements.

Human Resource digital transformation is also helping to streamline Human Resource processes such as recruitment, performance management and onboarding (Xiang et al., 2023). Human Resource Digital Transformation comes with it artificial intelligence (AI) algorithms which automates resume screenings, candidates and job matchings leading to effective, quicker and accurate hiring decisions. It also gives continuous feedback, goal settings and performance reviews to employees which ensures that performance management is not a periodic event as in tradition, but rather an ongoing process, thus timely and relevant feedback. The HRDT also helps new employees by providing them with necessary information and training. This reduces the onboarding time for new employees thus becoming productive quicker.

2.1.3.2 Improving Employee Experience

A study by Chandwani, Shah, and Shaikh (2021), on the role of technology on employee experience, it was reported that employee experience has the potential to drive Human Resource digital transformation. Digital Human Resource tools is associated with ease of access to information and services. Self-service portal is one of the possibilities with digital tools and they empower employees to take control of their information and needs and are convenient as they can be accessed anytime, anywhere hence reducing dependence on Human Resource officers and valuable for remote workers.

Digital tools go to the extent of improving communication between administration and the employees (K. Mishra, A. Mishra and Walker, 2019). There is continuous feedback

between employees and the administration where the employees are made aware of their strengths and areas in need of improvement, allows reward and recognition of achievements and contributions of the colleagues. This promotes a culture of continuous development and positive environment and as well increases morale among employees.

In a study by Tate et al. (2021), where they looked at how performance goals, feedback and recognition improve employee engagement, it was found that feedback and recognition was statistically significant suggesting that it explained some of the variability in engagement. It concluded that implementing performance management processes yields engaged employees. By recognizing employees and having a feedback system boosts the morale and engagement of the employees.

2.1.3.3 Enabling Data-driven Decision Making

Stone, Deadrick, Lukaszewski, & Johnson (2015), in their study reported that HRDT enables human resource professionals to make informed decisions based on data insights which is crucial for talent management improvements, performance assessments and strategies for employee development. Emergence of big data gives the ability to analyze past performance data and use it to predict the employees are likely to succeed in a targeted role. This helps in ensuring that key positions are filled by qualified personnel. Big data and analytics enable Human Resource officers to have an objective measure of employee performances which ensures that reviews are fair and accurate.

The information from data analytics also helps human resource officers to develop targeted and personalized training programs and support initiatives through learning platform which ensures employees obtain relevant and effective training programs that enhances the capabilities. The same digital Human Resources is used to track the effectiveness of the training programs by checking its impact on employee performance. These gives Human Resource officers room to continuously improve and tailor the training programs to meet employee needs and organization goals (Suhasini and Suganthalakshmi, 2015).

2.1.3.4 Supporting Remote Work and Flexibility

Human Resource digital transformation is important as it provides the necessary tools and communication platforms to support remote work (Mishra et al., 2019). Cloud based Human Resource systems allows employees to have access to resources necessary for remote work regardless of location. Coupled with the digital collaboration tools in digital Human Resource system, such as video conferencing, messaging platforms and others, facilitate communication and collaboration in the company. This ensures that remote employees can work together effectively and have the information needed to perform their jobs efficiently from any location. These flexibility gives authority to employees to manage their time effectively thereby having a better work and life balance thus improving employees' well-being and satisfaction.

In a study by Mishra et al. (2019), on Lenovo company where they looked at how innovative internal communication practices are used to promote collaboration and engagement across dispersed employee teams, employees reported that one barrier to productivity was to access data when they were away from their desk. Lenovo developed platforms such as mobile applications so as employees have access to company data on the go. This also provided an easy way on which colleagues would easily contact each other and also the management. The mobile application improved both the connectivity and productivity of the company. Communication tools such as Microsoft teams, zoom, etc., improves collaboration and communication of employees regardless of their location. This helps to maintain a sense of connection and teamwork with colleagues which is crucial for employee engagement.

2.1.4 Examples of Human Resource Digital Transformation

Examples of HRDT demonstrate how digital tools are used to address some specific functions with the Human Resource office (Tate et al., 2021). There are recognition platforms which are used to promote a culture of appreciation and even to promote recognition among peers. Employee engagement and feedback solutions facilitate timely and open communication thus fostering an inclusive work environment. Recruitment and onboarding innovations fasten the recruitment process and provide an easy and structure onboarding

experience for new employees. Employee self-service portals give the employees autonomy to manage their own Human Resource related tasks, hence improving satisfaction.

2.1.4.1 Recognition Platforms

Tate et al. (2021), reported that organizations having recognition platforms boosts the morale and motivation of employees as it makes them feel value and acknowledged for their efforts. These also give the opportunity for workers to recognize each other's work, thus encouraging a sense of community and teamwork. This is evidenced by the report from LinkedIn (2021), where they implemented a digital employee recognition program called Bravo! and the results were that employees were becoming happier and more engaged and felt that they are part of the process. It further reported that as the number of awards increased, so did the employee retention rate because whenever an employee was recognized, they were more likely to recognize others hence more employees feeling valued.

2.1.4.2 Employee Engagement and Feedback Solutions

Employee engagement and Feedback solutions may include digital tools used to do surveys, and have feedback platforms where employee sentiments might be gauged in real time through the continuous feedback mechanisms which would allow Human Resource officers to address concerns in real time thus promoting an inclusive culture (Mishra et al., 2019). The digital feedback platforms foster transparency and trust as it enables open communication between managers and employees and the engagement tools gives the human resource needed information to identify the key drivers of employee engagement.

In a case study by Bock (2014), on google where the focus was on a scientific approach to work-life balance, and continuous feedback was one of the initiatives, reported that it promotes responsive and inclusive workplace environment. Microsoft company did a study on Microsoft workplace analytics where one of the goals was to identify main drivers of engagement and the communication patterns. The results helped the managers develop targeted strategies that enhanced productivity and satisfaction.

2.1.4.3 Recruitment and Onboarding Innovations

Companies like Unilever have used artificial intelligence (AI) in their recruitment process where it has been used to source, screen and interview candidates (Hu, 2023). Applicants were asked to submit their LinkedIn profiles where they were matched with the company's core values, vision statement and goals and using key words from the job requirements. The applicants' backgrounds were automatically checked by the system to ensure a timely and thorough verification of applicants. This helped the company reduce the recruitment time and improved the quality of recruits. Another company "Accenture" uses virtual reality to onboard employees (Accenture, 2020). Inspired by the covid19 pandemic and the increase of remote working, the companies sought new ways to onboard its employees. It being a big company with about 700000 employees, they created a 3D virtual campus for new hires to watch live. These offered practical experience that new employees were able to acclimate quickly to the company's culture and processes.

2.1.4.4 Employee Self Service Portals

Self-service portals allow employees to be the masters of their own human resource related tasks. They give autonomy to the employees which gives the feeling of empowerment and satisfaction as they are accessible anytime. These also reduce administrative burdens, thus allowing the administration to focus on other tasks that can drive engagement and organizational success (Stone et al., 2015). Companies like Siemens, Oracle and ADP mobile solutions have adopted the initiative where employees manage their own leave applications, benefits enrolment, personal information updates and have anytime access to the Human Resource services. Siemens company, having a lot of employees which meant more excel sheets to fill up by employees and reconciled by Human Resource officers, reported a higher engagement of employees, improved job satisfaction and as well less strain on human resource function when human resource self-service portal was adopted.

2.1.4.5 Digital Learning Platforms

Abdali (2019), reported that Human Resource managers see the potential in digital learning solutions in his study on the strategic use of digital learning solutions under HRM perspective. Its convenient access to learning fosters a culture of learning which enables

employees to perform better, thus being the source of company's competitive advantage. Digital learning platforms support employees continuous learning by providing them access to training material and resources enabling continuous skill development. The emergence of artificial intelligence and analytics has led development of trainings tailored to individual needs and preference which increases the engagement. Coursera is one of the digital learning platforms of which companies like Google and IBM have taken advantage to provide their employees and others at large, online courses from a variety of disciplines so as to foster a culture of learning and for skill development and career growth.

2.2 CONCEPT AND THEORIES OF EMPLOYEE ENGAGEMENT

Employee engagement has a direct connection to the emotion and cognitive connection of employees to their organization. Understanding this paradigm has become crucial for both the success of the organizations and employees as it encompasses areas such as job satisfaction, organization commitment which are integral for employee's overall performance and well-being. Theories of employee engagement provides us with the psychological understanding of the drivers of engagement and how the impact an individual and organizations.

2.2.1 The Concept of Employee Engagement

Robertson-Smith and Markwick (2009), describes that employee engagement is a term which represents how employees are committed to a company and its jobs. It is further explained that the term "employee engagement" is sometimes used interchangeably with employee experience. Employee experience is then defined as total of all the various perspectives that workers have regarding the company they work for over their time there (Patterson, Wride and Maylett, 2017).

Nikolic (2023), has described Employee engagement as something which includes the employees physical, cognitive and emotional energy at work. It is a positive attitude held by the employees towards the organization and its values. Smith and Bititci (2017), has describes some of the key characteristics of an engaged employee to be: having an ongoing and permanent state of mind that reflects continuous effort, a high level of energy and dedication, and ambition for growth and innovation.

Proposing new ideas, exhibiting enthusiasm while working, taking initiatives, trying to enhance or improve their work, continuously exceeding set goals, high curiosity, encouraging all team members to achieve above-average results, overcoming barriers, and staying goal-oriented are all characteristics of engaged employees (Albrecht, Breidahl, & Marty, 2018). The paper further states that for business or company prosperity, engaged employees are important because they give their heart to complete set tasks, have positive energy, initiative, motivation, commitment and a genuine concern for the future of the organization. This helps organization to be productive and profitable.

Employee engagement can be influenced by several factors in an organization such as the leadership style, work environment, organization culture and personal attributes. According to Schaufeli and Bakker (2004), leadership style plays a vital role in employee engagement. A good leadership style is capable of motivating and inspiring its employees by having a strong and clear vision, showing integrity and support and also recognizing individual employee contribution. These fosters a sense of trust and respect between the management and employees. Effective leadership has leaders who regularly communicate with their employees either to provide them with constructive feedback or to recognize the efforts. The employees perceive that as being valued which then raises their emotional commitment to the organization.

A conducive work environment is necessary to have engaged employees. A conducive environment is characterized by having a safe physical workspace, access to necessary tools and resources and also having supportive work colleagues (Bakker & Demerouti, 2008). Employees feel valued and appreciated when they have a positive and supportive work environment. Work environment where the conditions of working are conducive enough, experiences higher levels of engagement from employees. The same with organization culture which entails the values, beliefs, and practices that shapes the behavior of employees in an organization. A culture which encourages collaboration among employees, innovation, and recognizes each other's contributions contributes highly to employee engagement (Xenikou, 2010). When the organization culture is in line with an employee's values, it instils a sense of belonging which leads to high commitment and thus high engagement.

To assess employee engagement, Schaufeli and Bakker developed the Utrecht Work Engagement Scale (UWES). It is known for highlighting the organization's environmental context as a stable source of influence in employee's day to day work engagement (Schaufeli and Bakker, 2010). The scale is an extensively used as an instrument for measuring employee engagement. In developing the theory, engagement was redefined as a positive, fulfilling, work related state of mind which has the three core dimensions characterized by vigor, dedication, and absorption (Rumbles, 2022).

Vigor

Schaufeli & Bakker (2004), defined vigor as having high levels of energy and resilience, the willingness to invest effort as well as not being easily fatigued and showing persistence in the face of difficulties. Employees who score high on vigor typically display much energy, enthusiasm and stamina when working and those who score low on vigor portrays less energy and enthusiasm as regard to their work.

Energy and Resilience: One of the characteristics of Vigor is high energy levels and resilience in the face of challenges. Employees who are proactive, enthusiastic and are able with high vigor are proactive, enthusiastic, and are able to overcome obstacles are said to be high in vigor. As engagement also relates to performance and productivity of an organization, this characteristic is crucial (Schaufeli & Bakker, 2004).

Willingness to Invest Effort: As with energy and resilience, an employee who is engaged has the will to put in the effort need to achieve their goals. They are driven and devoted to their work, which contributes to their higher levels of engagement and job satisfaction (Schaufeli & Bakker, 2004).

Persistence: The other key component of vigor is persistence. Persistent is the state of refusing to give up or let go in the face of challenges When employees face difficulties, those who are persistent overcomes the challenges and continue working to achieve their goals which enhances their engagement and overall performance (Schaufeli & Bakker, 2004).

Dedication

Dedication as described by Schaufeli & Bakker (2004), in UWES manual is characterized by having a sense of significance for one's work, a feeling of enthusiasm and pride about one's job and feeling inspired and challenged by it. Employees who score high on dedication feel a strong sense of identification with their work and it is perceived as meaningful and rewarding. Employees who are dedicated strongly identify with their work and deem it significant and important. They feel that their contributions matter to the organization and are in line with the personal values and goal. They show passion to their work and are motivated to do better in their roles. They are also willing to take on challenging tasks as they motivated by the opportunity to grow and develop.

Absorption

Absorption is described as being fully and happily immersed in one's work whereby one has difficulties in detaching oneself from it and time passes by quickly without noticing and often forgets everything around. An employee scoring high in absorption is deeply concentrated, engaged and engrossed in their tasks, often associated with high levels of creativity and productivity and overall job satisfaction (Kopperud & Straume, 2009). Employees scoring high on absorption may also find it difficult to detach themselves from tasks at work which leads to high productivity (Schaufeli & Bakker, 2004).

2.2.2 Theories Approached to Work Engagement

The study has used several theories to understand employee engagement. The theories delve deeper into various factors that drive engagement, what entails an engaged employee and how to enhance engagement. Discussing the engagement theories gives a comprehensive understanding on how to motivate employees.

2.2.2.1 Kahn's Engagement Theory (1990)

Kahn's theory was first identified by William Kahn in 1990 (Rumbles, 2022). The concept drew upon the work of Alderfer and Maslow on the idea of motivation and also took upon it the works of Hackman and Oldman on Job design in developing the Kahn's theory

of personal engagement. The concept dwells at, for one to be engaged in work, the person has to be physically involved, emotionally connected and cognitively vigilant (Crawford, Lepine and Rich, 2010) and the three arises from the three critical psychological conditions necessary for engagement: meaningfulness, safety, and availability (Rumbles, 2022).

Psychological Meaningfulness

According to Rumbles (2022), psychological meaningfulness relates to the feeling of return in investment which is achieved by task characteristics, roles and work interactions. When employees find their work tasks to be significant and valuable, it becomes meaningful to them. The concept narrates that when employee's contributions are value, treated with dignity and shown respect and not just someone filling up the position, they tend to gain sense of meaningfulness. Tasks that are in line with an employee's personal values and allows for free expression in terms of skill utilization tend to be more engaging.

Psychological Safety

Rothmann (2013), and Rumbles (2022), described psychological safety as a work environment where employees would express themselves freely in terms of thoughts and ideas without fear of negative repercussion. These include nurturing a supportive and trusting interpersonal relationships with workmates, a supportive and inclusive work culture where employees feel respected and valued. By nurturing these, it promotes a sense of safety among employees which is a crucial aspect for engagement.

Psychological Availability

As Describes by Rumbles (2022), psychological availability relays to an employee's belief that they have the physical, emotional and cognitive resources to personally engage in their work. It gives the view that when physical energy is depleted, its influence on engagement is clearly observed. When a task is emotionally involving, there is a high chance employees will become disengaged and also it accounts for the influence of outside life on engagement. When employees are prepared physically and mentally, they tend to be engaged.

2.2.2.2 Social Exchange Theory

Social exchange theory holds that social behavior results from an exchange process. The theory was developed by Blau in 1964 which narrates that when employees perceive that their organizations value their contributions and cares for their well-being, they return the treatment by high levels of engagement, commitment and performance. This theory explains that people consider the prospective rewards and risks of their social relations (Cook, Cheshire, Rice and Nakagawa, 2013). When the risks outweigh the benefits, they will end or leave the relationship. That entails that people enter into relationships with the expectation of reciprocity. This theory can be used to understand how workers view the exchange of their time, talents, and efforts in the context of HR digital transformation in reaction to the company's use of digital tools. It facilitates the investigation of shared expectations and how these expectations affect employee engagement throughout the transition.

2.2.2.3 Job Characteristics Model (JCM)

The Job Characteristics model's framework was developed by Richard Hackman and Greg Oldham in the 1970's who were organization psychologists. The model explains that how work is structured has a significant impact with regard to an employee's motivation and effort (Robins and Judge, 2019). It puts forward that the way the elements of a work are organized can influence on the effort an individual exerts on a job. In the context of HR digital transformation, it can be used to investigate how the use of digital tools influences job characteristics at the work place. Understanding these shifts allows the examination on how the nature of work affects employee engagement levels. The Job characteristics Model (JCM) focuses on the job design and has with it five core job dimensions which it suggests individuals experience greater satisfaction and motivation when a job contains them.

The dimensions are as follows:

- **Skill Variety:** This defines as the degree to which a job requires a variety of different activities requiring an individual to use specialized skills and talents. Jobs requiring a range of tasks and skills are most of the time interesting and engaging for employees.

- **Task Identity:** This refers to the extent to which a job requires the execution of complete and identifiable piece of work.
- **Task significance:** This refers to the degree to which a job significantly impacts the lives or work of other people.
- **Autonomy:** This job dimension explains about the extent to which the job provides the employee substantial freedom, independence and discretion in determining the work schedule and procedures to be used to carry out the job.
- **Feedback:** Feedback refers to the degree to which work activities provide direct and clear information about one's own performance.

2.2.2.4 Self Determination Theory

In an annual review paper by Deci, Olafsen and Ryan (2017), it was reported that Self-Determination Theory emphasizes the role of intrinsic motivation in fostering engagement. It focuses on meeting the basic psychological needs for autonomy, competence and relatedness which in turn lifts up the intrinsic motivation thus increased engagement. The theory focuses on organizations creating environments that fulfils employee's psychological needs with the aim to create a more engaged and motivated workforce.

Autonomy

Autonomy refers as described by Deci et al. (2017), refers to an employee engaging in an activity with the full sense of willingness, volition and choice. When employees understand the worth and purpose of their job, feel ownership and freedom to choose how to carry out their activities and they receive feedback and support, they tend to be more autonomously motivated thus performing better.

Competence

Deci et al. (2017), argue that perceived competence of a task impacts the motivation of an employee. Competence was defined as the feeling of being effective and capable in one's work. Competence refers to the need to feel effective and capable in one's work. A competent employee feels confident in their abilities and have opportunities to develop their skills hence

being more engaged. Competence in employees can be improved through the provision of training, development opportunities, and regular feedback.

Relatedness

Relatedness is defined as a sense of connection belonging (Ryan and Patrick, 2009). The connection relates to being able to have a sense of connection with others, to have the feeling of being included and cared for by others within the domain of action. A supportive and inclusive work environment coupled by positive relationships with workmates and supervisors can enhance engagement.

2.2.3 Importance of Employee Engagement

Employee engagement is integral to any organization as far as sustainability is concerned. Employee engagement is directly connected to the performance of employees, satisfaction as well as retention. These are the crucial ingredients to the success of an organization.

2.2.3.1 Link to Organization Performance

Numerous studies have reported a significant relationship between employee engagement and categories of performance (Motyka, 2018; Tanwar, 2017). The studies demonstrate that engaged employees are immersed in their job hence more productive which directly impacts outcomes. Engaged employees are more efficient and effective in their roles and they usually perform above their set goals. This increased efficiency and effectiveness work best for the company as it means more revenue realized and lower costs. Gallup (2020), conducted a research study which calculated a work unit level relationship between employee engagement and performance outcomes that organizations supplied. In the study, it was reported that companies with engaged employees had a higher earnings per share and they outperformed companies with less engaged employees. To add to that, employees who are engaged offered better customer service which led to satisfied customers, thus repeat business and a positive word of mouth. Understanding what entails engagement helps organizations implement strategies that boost engagement and ultimately performance.

2.2.3.2 Foundation for Human Capital Development

As reported by Mitchel et al. (2001), it is very unlikely to leave for an employee who is engaged to leave an organization. Investing in employee engagement is important to reduce turnover and cut costs on recruiting and training new staff. When employees are engaged, they also invest in their personal development and skills thereby creating a skilled and adaptable workforce. Engaged employees are enthusiastic with their work and seek out learning opportunities to continuously improve their skills which benefits not only the individual, but also the organization as it gains more skilled employees. When the employees participate in training programs, it ensures that they remain competitive and ready to face future challenges. Robinson, Perryman, and Hayday (2004), reported that when an organization encourages a culture of continuous learning and development, it attracts other top talents as top talents often seek companies that invest in their employee's professional growth.

2.2.3.3 Insight into Employee Well-being

Schaufeli et al. (2009), reported that employee well-being is often intertwined with employee engagement as an engaged employee is mentally and physically healthy. Engaged employees are associated with low stress levels, higher job satisfaction and better overall health. This entails that engaged employees have a positive state of well-being which is vital to reducing absenteeism and turnover rates at the work place. A work place which supports employee's health and happiness tends to have employees sticking to it. Doing research on engagement is imperative as it provides insights on the factors to consider for employee well-being which may include job security, work-life balance and a conducive work environment. Information obtained from such studies may be used by organizations to create policies and practices that promote both engagement and well-being.

2.2.3.4 Strategic Human Resource Management

Studying about engagement provides human resource officers with insights on how to develop policies and practices that are in line with company's goals and at the same time enhance engagement (Sparrow, 2013). Employee engagement is used as the basis for Human Resource Strategy. Strategic HRM entails the Human Resource office aligning its practices

with the overall strategic goals of the organization. Adding engagement in strategic HRM helps to create a competitive advantage against competitors because having engaged employees means that they will be contributing to the achievement of the organization's goals. Examples of strategic HRM include implementation of performance management systems so as to recognize and reward employees, encouraging a continuous feedback culture and developing training programs that promote employee engagement. These practices drive employees and organization's performance by ensuring that employees are engaged and aligned to the company's objectives. Engagement studies are important because they give a blueprint to Human Resource professionals on how to develop policies and practices that elevates employee engagement and aligns with organization's strategies.

2.2.3.5 Holistic Understanding of Work Place Dynamics

Engagement is vital area to study because it gives a comprehensive view of the work dynamics which is crucial for organizations to create effective engagement strategies (Rumbles, 2022). Studies on engagement give insights on how various factors such as leadership, communication and collaboration, job design, and organization culture interplay to influence the attitudes and behaviors of employees. The facets of work environment have an impact of the engagement of employees. Taking leadership into perspective, leadership with clear and effective communication channel, supports its workers and recognize the contributions of employees, experiences high levels of engagement from employees. On the same note, employees perceive meaningful and fulfilling work to be those having a job design which offers skill variety, gives autonomy to employees and offers opportunities for growth. Ultimately, that kind of jobs enhances their engagement.

2.3 IMPACT OF HR DIGITAL TRANSFORMATION ON EMPLOYEE ENGAGEMENT

Human Resource Digital Transformation is changing how organizations operate their function. These changes bring about changes in the organization's culture, communication systems and as well how the employees perceive the organization. There are positive impacts and negative impacts to the changes.

2.3.1 Positive Impacts of HRDT at the Work Place

This section discusses the positive impacts of Human Resource Digital Transformation in details. It discusses how HRDT is change organization's recruitment and staffing, training and development, remote work, performance management and reduced stress or burden on Human resource officers.

2.3.1.1 Recruitment and Staffing

Organizations are revolutionizing their recruitment and selection to electronic recruitment. Holm and Haahr (2018), reported that when organization are looking for new candidates, they rely on websites, social media platform and job portals where they then deploy computerized and online assessment tools to select best qualified candidate for the job. On the same note, to communicate with the applicants, applicants tracking systems are used where recruiters may use mobile technologies to track and assess candidate. Artificial intelligence is in use by hiring managers to quickly screen resumes, analyze candidate's skills and also to predict job performance (Zhang & Chen, 2021).

One of the main focuses of digital transformation in the Human Resource Management is to use it for recruitment and staffing (Zhang and Chen, 2021). It is further reported that digital transformation practices in the human resources adds to reduced intensity of work in selecting candidates, analyzing the skill requirements needed to fill out vacant positions, and selecting the candidates fit for the roles. Vardarlier (2020), has additionally reported that, in the era before digitization, recruitment was mostly done through traditional means such as job postings and printing publications such as newspapers. In this era, there is internet which is widely used and has contributed to the development of recruitment initiatives of professional networking and employment websites.

2.3.1.2 Training and Development

Suhasini and Suganthalakshmi (2015), Reported that in today era, many employees want to join an organization where their knowledge and skills will be upgraded. Organizations are taking advantage of the advancement in technologies to be providing trainings through E-learning platforms and virtual training programs which provide

continuous learning and development to employees. The training being online also gives flexibility to employees as they can access the training from anywhere and anytime which is crucial for employee growth and engagement (Betchoo, 2016).

Digitization of the Human Resource processes also means that it is used during training and developments. According to Betchoo (2016), the development of digital systems has highlighted the idea of using e-learning and has emphasized that this will be the main trend in the future which will also encompass the use of Artificial intelligence (AI). Nawaz (2017), also narrated that the development of technology has made it possible for new staff members to be trained in an efficient manner.

The digital transformation has given human resource professionals the ability to access organization information and training programs from a remote area which eliminates the need for face-to-face training on some training programs. This has also given room for the trainers to be able to train a large number of workers quickly and assess progress through computerized testing programs.

One of the benefits of Human Resource Digital Transformation is that it enhances the opportunities for learning and development (Parry and Tyson, 2011; Stone et al., 2015). Employees are able access flexible learning opportunities through trainings from e-learning platforms that cater for diverse schedules. Supporting their continuous learning and career growth boosts employee motivation and engagement which is crucial for employees to perform better.

2.3.1.3 Remote Work

Remote work entails working from home or teleworking and has become increasingly popular practice, compounded by the pandemic, across industries (Swaroop and Sharma, 2022). Digital transformation in the work place has allowed for employees to be able to work remotely. Advancement in technology where employees can have access to company information and also able to communicate with colleagues has given room for explore it as it gives employees flexibility and autonomy. On the other hand, employees can also cut costs in commuting to the work place, office space and other expenses which may be incurred in a traditional work place. A study by Baudot and Kelly (2020), on survey on perceptions of remote work and work productivity has also demonstrated that remote workers more often

than not, report high levels of productivity as they have less distractions and also at a time convenient to them. However, the study suggested to organizations to look at demographic variables (Childcare access on remote work), job related variables and supervisory control variables.

One of the noticeable changes at the work place brought about by digitization is the increase in remote working (Nikolic, 2023). Remote working basically means employees being able to work from any location where they have a personal computer and access to internet. During covid pandemic, employees and organizations were made to swiftly adapt to new circumstances. A chair, desk, computer and good internet was the norm, being accustomed to working with family around and getting used to new communication and software tools. According to research by Lonska et. Al. (2021), engaged employees worked longer and harder while working remotely. Employees who were engaged gave their jobs and activities more of attention because they felt more pressure to put in more effort and support the company during those unforeseen and unexpected changes.

In a research study by Bloom et al. (2015), which compared performance when people when from home and from work reported a 13% increase in productivity when working from home. Bloom et al. (2015), further explained that human resource digital transformations enable remote work and flexible scheduling tools which in turn helps employees to better balance their work and private life. Improved work-life balance leads to increased job satisfaction and engagement.

2.3.1.4 Performance Management

In a study by Diawati et al. (2023), on the role of information technology in improving efficiency and productivity of Human Resource reported that information technology facilitates automation of tasks improves collaboration at work place, supports easy access to information which is used in intelligent data analysis hence promoting efficient performance. Pulakos et. Al. (2015), also reported that digital transformation of human resources process has become an indispensable component as they facilitate real time feedback, performance tracking which makes performance appraisals more efficient and transparent thus employees satisfied and productivity improved.

Human Resource Digital Transformation helps in the performance management of an organization in the sense that it facilitates fast and regular feedback, goal setting and performance tracking (Pulakos, Hanson, Arad, & Moye, 2015). The transformation offers continuous feedback and recognition to employees which in-turn gives the employees feeling of being valued and appreciated hence want to develop more thus driving higher engagement which ultimately leads to high performances.

2.3.1.5 Reduced Stress on Human Resource Functions

In a study by Stone et al. (2015), on the influence of technology on the future of human resource management reported that digital human resource help in increasing employee autonomy. Digitization helps the human resource office to streamline other services such as self-service portals for some activities like leave application, updating personal information, managing benefits, and the ability to do performance appraisals digitally. These provide employees with control of their work-related activities thus having a sense of autonomy and increased engagement.

2.3.2 Negative Impacts and Challenges of HRDT at the Work Place

This section discusses the negative impacts and challenges of Human Resource Digital Transformation in details. It discusses the psychology on how HRDT can affect the well-being of employees and ultimately impacting engagement.

2.3.2.1 Employees Fear of Losing their Jobs

Ghani et al. (2022), has reported that the implementation of Human Resource Digital Transformation (HRDT) has raised concerns to employees about job insecurity, owing to advances in machine learning, artificial intelligence, and robotics. Some tasks which were routine and standard have been automated which potentially impacts job roles and stability within organizations. A study by Grace et al. (2018), which 352 artificial intelligence experts took part reported a 50% chance, which is a significant likelihood, that machines will replace humans within the next 45 years. Employees fearing losing their jobs become more motivated to enhance their performance and adapt to new technologies while others may feel overwhelmed and despair thus their engagement declining.

2.3.2.2 Work Life Conflict

The use of Human Resource Digital Transformation (HRDT) has blurred the lines between work and personal time, resulting in increasing work-life conflict for employees (Nikolić, 2023). While employers and managers were initially excited about modern technology' ability to improve coordination, control, decision-making, and reporting, unforeseen negative repercussions have developed over time. Employees frequently feel under constant monitoring and control, as they are readily available to their employers even outside of formal working hours. This constant connectivity makes it difficult for employees to genuinely escape from work and fully engage in their personal life, resulting in a blurred line between professional responsibilities and personal leisure.

2.3.2.3 Data Privacy and Security Concerns

Human Resource Digital Transformation involves the use of digital tools and platforms where data of employees is continuously collected, stored and processed. This raises concerns because any mismanagement means that sensitive employee information would be exposed leading to loss of trust and potential legal action from employees (Smith, Dinev, and Xu, 2011). With HRDT, employees have a fear of their data being exposed to public and the organizations fear that if data is not managed properly, it might be catastrophic to the company.

2.3.2.4 Digital Divide and Inequity

The workforce is composed of people from different generations with different exposure to technology. A study by Bulut and Maraba (2021), reported that millennials and Generation Z engage with technology more and they are highly motivated at a workplace where technology usage is on the high. This is contrary to the older generations who are used to the traditional practices. There is a disparity in familiarity with digital tools leading to inequality to engagement and performance.

2.3.3 Human Resource Digital Transformation in Developing Nations

Shah, Michael, and Chalu (2020), reported that developing nations, especially in the small and medium enterprises, have low adoption rate of electronic human resource management and so, they are yet to experience the full potential of it in their business operations. They further emphasized that e-HRM may be the catalyst for the growth of many developing nations. The authors highlighted some of the challenges facing developing nations to adopt e-HRM which were but not limited to: a lack of or inadequate financial resources, lack of e-HRM knowledge and the absence of important regulations and standards of e-HRM.

Sylvester, Bamidele, and Oluyemi (2015), reported that most of the companies and organizations in developing nations have not yet adopted the culture of information or evidence-based decision making. These was attributed to the lack of or shortage of qualified personnel, equipment or financial resources that are required to collect, analyze, disseminate and use information.

In the context of Malawi, according to Makoza (2023), Malawi is still in the infancy of digital Human Resource Transformation as compared to the developed nations. The government has put in place policies and strategies to help foster digitization, which includes Malawi Digital Economy Strategy and the National ICT Policy. Even though these initiatives have been put in place, the level of adoption is still low. However, the effect of Covid 19 pandemic has awakened some organizations to begin to recognize the benefits of digital transformation as it demonstrated to them the need for digital Human Resource transformation, especially when it came to remote work and communication tools.

3 METHODOLOGY

This chapter outlines the field research the researcher will use to conduct the research “impact of Human Resource Digital Transformation on Employee Engagement”. It involves research purpose laid out first and then the research questions for the study explained in details. Next is the research method which outlines the procedures and the processes the researcher will use. It entails the research approach, research design, population of study, sample size, sampling technique, data collection methods, data analysis and its interpretation, limitations of the research and issues to do with ethics.

3.1 RESEARCH PURPOSE

The study of the impact of Human Resource Digital Transformation on employee engagement is significant for several reasons. Firstly, the relationship between job satisfaction and employee engagement is multifaceted. It is essential to understand how HRDT affects these variables in order to design work environments that promote a better well-being for employees. The findings of the research can help companies prioritize employee well-being while also fostering a work environment that aligns with the fast-changing digital landscape.

Secondly, the study adds to the current discourse in Malawi about national digital strategy and policy. Human Resource managers and policymakers can learn more about the efficiency of current frameworks and make well-informed decisions which can further promote digitalization in a way that enhances employee engagement by evaluating the correspondence between organizational HRDT objectives and governmental regulations.

Finally, the study is also important because it contributes to the wider body of research and academic literature on Human Resource Digital Transformation and employee engagement, particularly in the unique situation of a developing country like Malawi. By Providing a detailed understanding of the impact, the study can give nuanced insights which stands to be a reference to scholars, researchers, students and organization interested in the integration of the Human Resources processes and Digital transformation.

3.2 RESEARCH HYPOTHESES

Murphy (2018), has iterated in his research a range of technologies available for human resource processes which includes employee self-service, manager self-service, workflow management, Human Resource service Centers, and Human Resource Information systems (HRIS) just to mention a few. The paper also states the three important objectives to be achieved for Human Resource Technology to be deemed successful. The first of the objectives being that the technology should align to the strategy of the Human Resource process in a way that it should allow the users to carry out their role in achieving objectives. Secondly, with regard to business intelligence, the user must have all the appropriate information and data which will stimulate new insights and learning and thirdly, it must provide a change in the way Human Resource professionals perform their work by significantly increasing the effectiveness, lowering costs and freeing up more time for Human Resource functions to conduct activities of higher strategic value.

Fong and Ng (2012), in their study of measuring engagement at work defined engagement positive work-related state of fulfillment which is characterized by a sense of vigor, dedication and absorption. Schaufeli and Bakker (2004), in the Utrecht work engagement scale preliminary manual describe vigor as having high levels of energy, mental resilience and willingness to devote effort in one's work. Dedication is described as having strong involvement in one's work, a sense of significance, pride, challenge, inspiration and enthusiasm. Absorption is defined as being fully concentrated and joyfully immersed in work and having difficulties in detaching oneself from work.

The research intends to answer the question: "what is the impact of human resources digital transformation on employee engagement to their work". The research will review employee from several companies and disciplines in Malawi. The Research will look into whether employees believe that the digitization of Human Resource processes and services has resulted in increased engagement with the services provided and the Human Resource function itself.

The study model is based on the research objective that "does level of Human Resource Digital Transformation (HRDT) has an impact on the employee engagement." The research model will focus on a core objective demonstrating the relationship between Human Resource Digital Transformation and employee engagement. The dependent variable is

"employee engagement," the moderating variable is human resource digital transformation and the independent variables are "vigor," "dedication," and "absorption."

As regard to above, the main hypotheses and subordinate hypotheses will be as follows:

Main Hypothesis: Human Resources Digital Transformation has a positive impact on employee engagement

H₁: Human Resource digital transformation has a positive impact on employees' being vigor to their work.

H₂: Human Resource digital transformation has a positive impact on employees being dedicated to their work.

H₃: Human Resource digital transformation has a positive impact on employees being absorbed to their work.

3.3 RESEARCH METHOD

This chapter outlines the procedures and the processes the researcher will use to conduct the research. It involves research approach, research design, population of study, sample size, sampling technique, data collection methods, data analysis and its interpretation, limitations of the research and issues to do with ethics.

3.3.1 Universe and Sample

Skaggs et al. (2007), described a universe of study as a target population that consists of all members of an actual or hypothetical set of people, events or objects to which a study wishes to generalize the results of the research study. Employees from the working sector in Malawi make up the universe for this study. This is so because the study intends to understand how the employees are interacting with digital technology being introduced in the work places and Lilongwe being the capital city of the country, the assumption is that is where the transformation has happened the most.

Sample size refers to the number of participants or observations included in a study. The size of the sample size influences the precision of the estimates as well as the power of the study to draw conclusions. Kerlinger (1986), indicates that a sample size of 10% of the

target population is large enough so long as it allows for reliable data analysis and allows testing for significance of differences between estimates. The research was carried out from month end of May, 2024 to mid-June 2024 and it was done on voluntary basis. A total of 304 questionnaires through an online survey were collected and 297 questionnaires were fully filled out.

McCallum, Widaman, Zhang and Hong (1999), in their paper “Sample Size in Factor Analysis” reiterated about sample size that the ratio of the sample size to that of the parameters or predictors to be used should be 5:1. For complex models, a ratio of 10:1 should be adopted. For Structural Equation Modelling (SEM), a minimum sample size of at least 200 was recommended. This research has used 20 predictors, using the ration of 10:1, the minimum sample size is 200. With regard to these parameters the sample size must meet, the 304 questionnaires collected suffice when also the constraint of time is put in perspective.

3.3.2 Data Collection Tools

This study used quantitative approach of research to analyze data. Quantitative approaches are objective, deductive, and based on numeric quantification and generalization of results. This method is used to test pre-specified concepts, constructs and hypotheses that make up a theory. Quantitative research can be subjected to statistical analysis to discover the relationship between the variables. Thus, quantitative approach ideal for this type of research.

The study used primary data which will be collected through a survey. Electronic questionnaires on google forms or Microsoft forms. Survey was chosen specifically because it allows standardized data to be collected from a large population and it is cost-effective. The survey adopted a cross-sectional study design.

A 7 Point Likert type of scale that is used for the UWES designed by Schaufeli and Bakker (2004), to measure peoples’ attitudes and feelings toward particular statements was adopted. To ensure relevance of the responses to Human Resource Digital Transformation, an addition clause was inserted in each item of the UWES which made the respondents to answer the engagement related questions with respect to Human Resource Digital Transformation. Three types of scales exist for the UWES and they both have been found to be consistent as in all of them, the values of Cronbach’s α are equal to or exceed the critical

value of 0.7 in the test studies. The research intends to adopt the UWES-9 scale for data collection. Digital Human Resource Services as put in by Murphy (2018), will be used to assess the level of usage of Digital Human Resource services at the organizations.

The scales are simple to administer and good in measuring perception, attitude, values and behavior. Moreover, the scale can assist in converting the qualitative responses into quantitative values (Mugenda & Mugenda, 2003).

Table 1 Scales Used in the Study and Reliability Values

Scales	Number of Items	Type of Answer	Cronbach α Value
Vigor	3	7 Point Likert (0-Never to 6-Always)	0,824
Dedication	3	7 Point Likert (0-Never to 6-Always)	0,913
Absorption	3	7 Point Likert (0-Never to 6-Always)	0,870
Digital Human Resource services use	11	Nominal (1-Yes to 2-No)	0,783

The Cronbach alpha values indicate a good to excellent internal consistency reliability of the data meaning that the expressions on each of the parameters were measuring same underlying construct effectively. When the engagement parameters were subjected to normal distribution test, skewness were within the acceptable ranges of -1.5 to 1.5 and Kurtosis values were on -0.15 to 0.52 suggesting distribution of the sample means strongly approaches normality. Given the presence of binary data, both parametric and non-parametric analysis will be adopted where applicable.

3.3.3 Adopted Procedure

In this research, the survey technique was adopted whereby a quantitative analysis was adopted to analyze the data. The data collected from participants was transferred and managed in the statistical package IBM SPSS 20 to test for relationships between variables.

3.4 FINDINGS OF THE RESEARCH

This section will dwell upon the findings of the research. The first part will consist of the findings related to the demography of the research participants. The variables' findings were then presented within the context of descriptive statistics and their relationship statistics perspective. Finally, the findings of the research hypotheses were analyzed.

3.4.1 Findings Related to Demographic Variables

Age, Gender and level of Education of the respondents make up the demographic data of the research. The number and percentage distribution are put in the table below.

Table 2 Demographic Variables

Variable	Category	Number (n)	Ratio (%)
Gender	Female	121	40
	Male	183	60
Age	18 years to 27 years (Generation Z)	97	32
	28 years to 43 years (Millennials)	184	61
	44 years to 59 years	22	7
	60 years and over	1	0
Job Position	Individual Contributor	215	71
	People Manager	63	21
	Human Resource Professional	25	8
Level of Education	Primary	2	0
	Secondary	63	21
	Tertiary	239	79

As shown in table 2, the first line consists of distribution of the Gender of the respondents. Female respondents consisted 40% of the total sample. The sample was predominantly male which has 60 percent of the respondents.

The study consisted of individual from various ages. The largest proportion of the respondents were from 28 years to 43 years who are labeled as millennials and comprised of 61% of the total sample. The second in proportion are Generation Z who currently are within 18 years to 27 years of age and 32% of them contribute to the total sample of the study. Those aged 44 years to 59 years and those 60 years or over were the smallest groups making up 7% and 0% respectively.

The third line consist of the role of the respondents in the respective companies. Majority of the respondents were individual contributors in their companies which accounted for 71% of the total sample. People manager which are supervisors, team leaders accounted 21% of the sample and Human resource professional were 8 %.

The level of education of the participants reported having completed college or University (Tertiary) is 79% thus being where most density was gathered. Secondary Education (High School) consisted 21% of the total sample and only 1 participant, representing 0%, reported having primary school education.

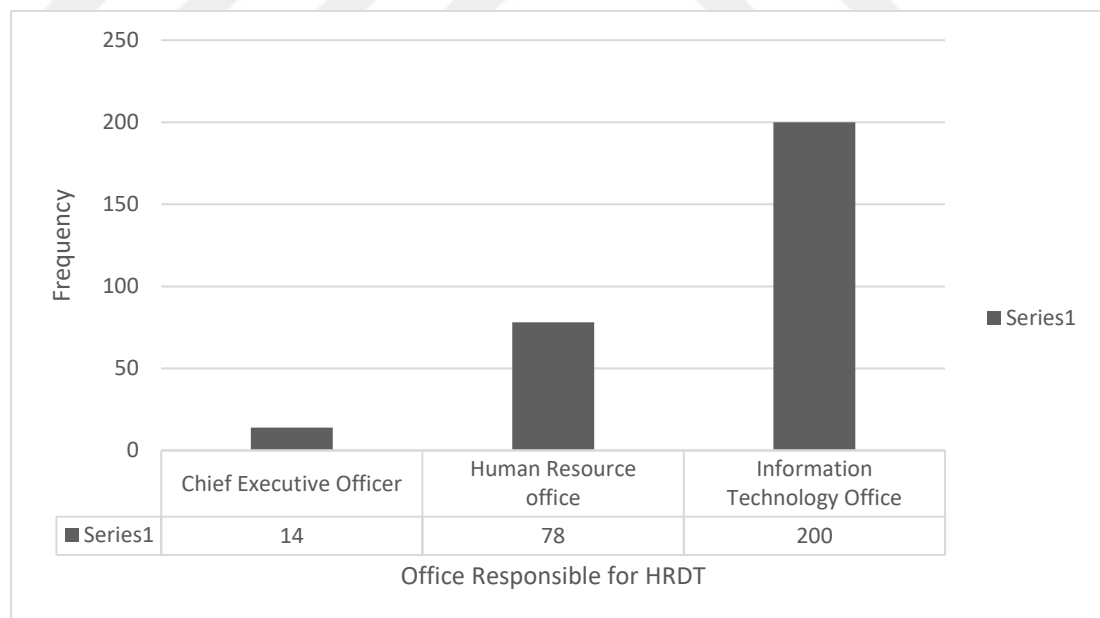


Figure 1 Frequency for Office Responsible for HRDT

The figure 1 above shows the frequency of the office responsible for HRDT in their respective companies. It shows that majority of the companies have an information technology office responsible for HRDT and a handful is controlled by Human Resource office

3.4.1.1 Findings on Relationships Related to Demographics

Table 3 Multivariate test results on Demographics and Engagement

Effect		Value	F	Sig.
Intercept	Pillai's Trace	.532	87.778	.000
	Wilks' Lambda	.468	87.778	.000
	Hotelling's Trace	1.135	87.778	.000
	Roy's Largest Root	1.135	87.778	.000
Gender of Respondent	Pillai's Trace	.006	.448	.719
	Wilks' Lambda	.994	.448	.719
	Hotelling's Trace	.006	.448	.719
	Roy's Largest Root	.006	.448	.719
Age Category	Pillai's Trace	.027	.707	.703
	Wilks' Lambda	.973	.704	.705
	Hotelling's Trace	.027	.702	.707
	Roy's Largest Root	.020	1.572	.197
Education level	Pillai's Trace	.012	.483	.821
	Wilks' Lambda	.988	.481	.823
	Hotelling's Trace	.012	.479	.824
	Roy's Largest Root	.009	.707	.549
Job Position	Pillai's Trace	.011	.412	.871
	Wilks' Lambda	.989	.411	.872
	Hotelling's Trace	.011	.410	.872
	Roy's Largest Root	.009	.733	.533
Responsible for technology	Pillai's Trace	.018	.712	.640
	Wilks' Lambda	.982	.710	.642
	Hotelling's Trace	.018	.708	.643
	Roy's Largest Root	.015	1.134	.336

P value < 0.001

The table 3 represents multivariate tests results to examine if any of the demographics had an effect on the dimensions of engagement. Multivariate analysis provides a comprehensive overview of the model's significance. All of the tests have p value of over 0.001 which is non-significant. This suggests that gender, age category, level of education,

job position of respondents and the office in charge of Digital Human Resource services did not have an impact to engagement of the employees in this study.

3.4.2 Findings Related to Variables

In this section, the findings related to the variables are given within the framework of descriptive statistics and correlation statistics.

3.4.2.1 Descriptive Statistics

Descriptive statistics regarding the scales used in the research can be followed in Table 4.

Table 4 Descriptive Statistics

	Variables	$\bar{x}$	SD	Min.	Max.
1.	Vigor	3.93	1.68	00	6.00
2.	Dedication	4.21	1.70	00	6.00
2.	Absorption	4.09	1.64	00	6.00
3.	Engagement	4.08	1.56	00	6.00
4.	Digital Human Resource Service usage	3.25	2.24	00	11.00

The descriptive statistics for the study are summarized in the table 4 above where the mean score: for vigor is reported to be $\bar{x}$ =3.93 with a standard deviation (SD) of 1.68; Dedication had a mean score ($\bar{x}$) of 4.21 with a standard deviation (SD) of 1.70; Absorption had a mean of 4.09 with a standard deviation of 1.64. Vigor, Dedication and Absorption make up the engagement score which gave a mean score of 4.08 and a standard deviation of 1.56, with both variables ranging from 0 to 6. The sample shows relatively high mean score for engagement variables which suggests moderate to high levels of these engagement variables.

The Digital Human Resource services usage among the respondents reported a low mean score of 3.25 with a standard deviation of 2.24 with a minimum score of 0 and maximum 11. This shows a low range to the extent which organizations utilize digital human resource services.

3.4.2.2. Correlation Statistics

The data on the correlation of the scales used in the research are shown in the table below.

Table 5 Correlation Statistics

Variables	1	2	3	
1. Digital Human Resource Usage Level	--			
2. Vigor	0.122*	-		
3. Dedication	0.254**	0,662**	-	
4. Absorption	0.118*	0,639**	0,700**	-

*p <0.05, **p<0.01

The table 5 above shows the correlation statistics between Digital Human Resource Usage level and the dimensions of employee engagement (Vigor, Dedication and Absorption). Spearman's rank correlation coefficient was used due to the non-parametric nature of the data. The strength of correlation in the spearman's rank coefficient is measured on a scale of -1 to 1 with negative coefficient being a negative monotonic relationship, a positive coefficient being a positive monotonic relationship and a zero (0) representing no monotonic relationship. The strength of correlation follows the scale:

- 0.01 to 0.19: is considered to be Very weak
- 0.20 to 0.39: is considered to be Weak
- 0.40 to 0.59: Is considered to be Moderate
- 0.60 to 0.79: Is considered to be Strong
- 0.80 to 1.0: Is considered to be Very strong

The correlation analysis as shown in table 5 shows that all the variables had a positive correlation with each other. When the correlation coefficient for Digital Human Resource Services usage and the variables Vigor and Absorption, they were found to be weak but significant (rho= 0.122, p <0.05) and rho= 0.118, p <0.05 respectively). The correlation between Digital Human Resource services usage and dedication was moderately positive at 0.01 significance level (rho=0.254, p <0.05).

The correlations among the dimensions of employee were all strong and significant at the 0.01 level. Vigor and Dedication had a coefficient of 0.662, Vigor and Absorption had a coefficient of 0.639 and lastly Dedication and Absorption had a coefficient of 0.70 scoring the highest correlation among all. These findings suggest that Digital Human Resource Practices has a positive monotonic relationship with employee engagement variables.

3.4.3 Findings Related to Hypothesis

The research had the main hypothesis that Human Resource Digital Transformation has a positive impact on employee engagement. The table 6 shows the multivariate test analysis results carried out to examine the effect of HRDT on the combined employee engagement dimension (Vigor, Dedication, Absorption).

The Pillai trace gives a value of 0.313 which means that 31.3% of the variance of the dependent variables are explained by human resource digital transformation. The Wilks' Lambda value of 0.706 means that 29.4% of the variance is explained by Digital human resource usage complementing the results in Pillai's trace. The Hotelling's trace and Roy Largest Root values of 0.390 and 0.313 respectively suggests a moderate to strong effect of the Human Resource Digital Transformation to the combined dimensions of employee engagement. This suggests that Human Resource Digital Transformation has a significant effect on the dimension of employee engagement.

Table 6 Multivariate Test Results on Human Resource Services on Engagement

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.767	318.046	3.000	290.000	.000
	Wilks' Lambda	.233	318.046	3.000	290.000	.000
	Hotelling's Trace	3.290	318.046	3.000	290.000	.000
	Roy's Largest Root	3.290	318.046	3.000	290.000	.000
HR Usage	Pillai's Trace	.313	3.088	33.000	876.000	.000
	Wilks' Lambda	.706	3.250	33.000	855.097	.000
	Hotelling's Trace	.390	3.415	33.000	866.000	.000
	Roy's Largest Root	.313	8.312	11.000	292.000	.000

P value < 0.001

The first hypothesis of the research was that Human resource digital transformation has a positive impact on employees' being vigor to their work (H_1 : Human Resource digital transformation has a positive impact on employees' being vigor to their work). When the table 7 is examined, the H_1 hypothesis is accepted because of the significant value of $0.000 < 0.05$.

Table 7 Vigor at Work due to HRDT ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	181.805	11	16.528	7.18	0,000*
Within Groups	672.189	292	2.302		
Total	853.994	303			

$P < 0.05$

The second hypothesis of the research was that Human Resource digital transformation has a positive impact on employees being dedicated to their work (H_2 : Human Resource digital transformation has a positive impact on employees being dedicated to their work). When the table 8 is examined, the H_2 hypothesis is accepted because of the significant value of $0.000 < 0.05$.

Table 8 Dedication to Work due to HRDT ANOVA Results

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	194.467	11	17.675	7.618	0,000*
Within Groups	677.672	292	2.321		
Total	872.139	303			

$P < 0.05$

The third hypothesis of the research was that Human Resource digital transformation has a positive impact on employees being absorbed to their work (H₃: Human Resource digital transformation has a positive impact on employees being absorbed to their work). When the table 9 is examined, the H₃ hypothesis is accepted because of the significant value of $0.000 < 0.05$.

Table 9 Absorption to Work Due to HRDT ANOVA Results

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	159.804	11	14.528	6.446	0.000
Within Groups	658.104	292	2.254		
Total	817.908	303			

P <0,05

4 DISCUSSION AND CONCLUSION

The study aimed to investigate the impact of Human Resource Digital Transformation (HRDT) on the engagement of the employees in Lilongwe, Malawi using the engagement dimensions Vigor, Dedication and Absorption. The findings of the study have provided valuable insights in the relationship between Human Resource Digital Transformation and Employee Engagement which suggest Human Resource Digital Transformation (HRDT) has a positive and significant influence on employee engagement. The findings align with findings by Johnson (2024), who reported that organizations need to adapt their policies and operations to the use of digital technology to promote employee engagement. Sulistianingtiyas and Djastuti (2022), demonstrated similar findings in their study where they reported that digitization in the workplace has a positive and significant effect on employee performance which is mediated by employee engagement.

The correlation results between Human Resource Digital Transformation and the dimensions Vigor, Dedication and Absorption reported a positive and significant relationship ((rho= 0.122, $p < 0.05$, rho=0.254, $p < 0.01$ and rho= 0.118, $p < 0.05$ respectively). In a research study by Gupta (2021), reported that transformations at workplace digital innovation facilitate employee engagement and also research done by Sulistianingtiyas and Djastuti (2022), compound the results which says digitization has a positive and significant effect on employee attachment to work which can be attributed to dedication and absorption at work.

In a study by Stofberg, Strasheim, and Koekemoer (2021), it was reported that employees view digitization as their stimulant to spark creativity as they are able to access information quick and fast. It is seen as a powerful enabler of creativity as it is easy to share ideas online and provides various opportunities to be creative. This is in line with the correlation findings that Human Resource digital transformation has a positive and significant effect on employees being vigor to their work.

Similar study by Thileepan, and Raveendran (2022), on the Impact of digital transformation on employee engagement reported that dimensions of digital transformation positively affect employee engagement. Another study by Goswami and Upadhyay (2019), concurs with the research findings that employees may be more engaged in a digitalized environment as compared to manual working conditions.

The study has found out that the level of Digital Human Resource services usage is quite low with the sample averaging 3 Human resource service usage out of 11 asked in the study. The findings are in line with what Shah et al. (2020), reported in his study on small and medium enterprises in Tanzania. It was stated that majority of the developing countries have not fully adopted the Digital Human Resource tools and are yet to experience its full potential. Sylvester et al. (2015), reported similar instances of the low adoption rate digital tools to be used in gathering information for evidence-based decision making.

When the relationship between the demographics of the respondents and employee engagement with HRDT as the mediating factor was analyzed, it has been found that they do not have a significant impact on engagement. Age not having a significant impact on engagement may be attributed to 93% of the study coming from the millennials and Generation Z age group. These made the sample homogenous which reduced variability attributed to the age group. Bulut and Maraba (2021), reported that these age groups have grown up interacting with technology, so their attitude towards technology is similar and they expect the work place to have technology which minimized the differences attributed to age.

The same applies to level of Education where 79% of the sample have education to the tertiary level. This also created a homogenous sample as a high proportion is coming from the same level of education. Cohen (1992), reported that when the sample is homogenous, the statistical power to detect differences dwindles. This explains why there is no significant impact on engagement as pertains to level of education. According to Mahmood, Hall, and Swanberg (2001), employees with high education levels are job ready and competent, thus express higher levels of engagement.

The study has 40% females and 60% males which is a sample approaching heterogenous. The gender did not have a significant impact on the engagement with respect to HRDT. A study by Bondarouk and Brewster (2016), reported that the use of digital Human Resource services gives both males and females equal access to information and services which might be the crucial factor in this study on both genders demonstrating uniform engagement levels. Stone et al. (2015), stated similar instances in his study where it was reported that HRDT promotes fairness and transparency by standardizing the human resource functions, thus minimizing the differences in engagement across genders.

Despite the low adoption level of Digital Human Resource services, the positive correlation between the usage of the Digital services and the dimensions of employee engagement aligns with the social exchange theory. It shows that employees perceive that the organizations value their contributions and well-being and they are investing in digital tools to facilitate their work, which the employees are reciprocating with high level of engagement. In the context of the Job characteristics model, HRDT's positive correlation with vigor and dedication posits that HRDT brings about skill variety and task identity which gives them an energy boost and dedication. As well, the positive correlation with absorption could be attributed to autonomy, task significance and feedback. Use of Digital tools allows employees have more control of their tasks which increases chances of being immersed in their work. Digital tools are also associated with real-time feedback which keeps aware of how they are performing thus, engaged.

The findings highlight the importance for human resource digital transformation in improving the engagement of employees. Organizations should leverage digital technologies by prioritizing adoption and integration of digital Human Resource tools in order to have a more engaged and productive workforce. These will help streamline Human Resource processes and improve employee experience which in turn leads to better work outcomes. The low adoption level of digital Human Resource tools despite their reported benefits underscores the need for strategic interventions. Future research on the subject could be to explore for other mediators for employee engagement such as organizational culture, leadership styles and employee characteristics.

While the study has provided valuable insights, it is not without limitations. Firstly, due to budget limitations and time constraint, the study adopted a cross-sectional design which limits the ability to draw casual inferences. Longitudinal studies would have provided robust data of the causal impact of Human Resource Digital Transformation on employee engagement. Additionally, due to online data collection and lack of travel possibilities, convenience sampling method was used of people living in Malawi and only those familiar to using technology and internet. The questionnaire was filled out by a tiny portion of the population and may not reflect the entire organizations in the country. Future research should aim to address these limitations by using more rigorous sampling methods, larger and more diverse samples and longitudinal designs.

BIBLIOGRAPHY

- Abdali, M. (2019). The strategic use of digital learning solutions: An HRM perspective. *Auckland University of Technology*. Masters Dissertation.
- Abdullah, P. Y., Zeebaree, S. R., Shukur, H. M., & Jacksi, K. (2020). HRM system using cloud computing for Small and Medium Enterprises (SMEs). *Technology Reports of Kansai University*, 62(04), 04.
- Accenture. (2020). Virtual Onboarding: The New Normal. Accessed on 8 July 2024 at <https://www.i4cp.com/productivity-blog/how-accenture-uses-virtual-reality-to-onboard-employees-and-more>
- Adle, A. A. & Akdemir, Ö. (2019). Achieving competitive advantage in technology-based industry: How developing intellectual capital matters. *International Journal of eBusiness and eGovernment Studies*, 11(2), 89-103.
- Agarwal, S., Gupta, A., & Roshani, P. (2023). Redefining HRM with artificial intelligence and machine learning. In *The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part A*. Emerald Publishing Limited. 1-13
- Albrecht, S., Breidahl, E., & Marty, A. (2018). Organizational resources, organizational engagement climate, and employee engagement. *Career Development International*, 23(1), 67-85.
- Aluwihare-Samaranayake, D. (2012). Ethics in Qualitative Research: A View of the Participants' and Researchers' World from a Critical Standpoint. *International Journal of Qualitative Methods*, 11(2), 64-81.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career development international*, 13(3), 209-223.
- Bamber, G. J., Bartram, T., & Stanton, P. (2017). HRM and workplace innovations: formulating research questions. *Personnel Review*, 46(7), 1216-1227.
- Baudot, L., & Kelly, K. (2020). A survey of perceptions of remote work and work productivity in the United States during the COVID-19 shutdown. *Available at SSRN 3646406*.

- Betchoo, N. K. (2016, August). Digital transformation and its impact on human resource management: A case analysis of two unrelated businesses in the Mauritian public service. In *2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech)* (pp. 147-152). IEEE.
- Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2015). Does working from home work? Evidence from a Chinese experiment. *The Quarterly journal of economics*, 130(1), 165-218.
- Bock, L. (2014). Google's Scientific Approach to Work-Life Balance. *Havard Business Review*. Accessed on 7 July, 2024 at <https://hbr.org/2014/03/googles-scientific-approach-to-work-life-balance-and-much-more>
- Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), 2652-2671.
- Bulut, S., & Maraba, D. (2021). Generation Z and its perception of work through habits, motivations, expectations preferences, and work ethics. *Psychology and Psychotherapy Research Study*.
- Chandwani, J., Shah, D., & Shaikh, A. (2021). A study on role of digital technologies and employee experience. In *Innovations in Information and Communication Technologies (IICT-2020) Proceedings of International Conference on ICRIHE-2020, Delhi, India: IICT-2020* (pp. 15-25). Cham: Springer International Publishing.
- Chawla, S., Sareen, P., & Gupta, S. (2022). Wellness programs an employee engagement technique pre and during pandemic: A systematic literature review. *ECS Transactions*, 107(1), 3505.
- Cohen, J. (1992). Statistical power analysis. *Current directions in psychological science*, 1(3), 98-101.
- Cook, K. S., Cheshire, C., Rice, E. R., & Nakagawa, S. (2013). Social exchange theory. *Handbook of social psychology*, 61-88.
- Crawford, E. R., Lepine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95(5), 834-848.

- Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual review of organizational psychology and organizational behavior*, 4, 19-43.
- Diawati, P., Gadzali, S. S., Abd Aziz, M. K. N., Ausat, A. M. A., & Suherlan, S. (2023). The role of information technology in improving the efficiency and productivity of human resources in the workplace. *Jurnal Teknologi Dan Sistem Informasi Bisnis*, 5(3), 296-302.
- Fong, T. C. T., & Ng, S. M. (2012). Measuring engagement at work: Validation of the Chinese version of the Utrecht Work Engagement Scale. *International journal of behavioral medicine*, 19, 391-397.
- Goswami, B. K., & Upadhyay, Y. (2019). An empirical study on digital transformation and its impact on employee engagement. In *Proceedings of 10th International Conference on Digital Strategies for Organizational Success*.
- Grace, K., Salvatier, J., Dafoe, A., Zhang, B., & Evans, O. (2018). When Will AI Exceed Human Performance? Evidence from AI Experts. *Journal of Artificial Intelligence Research*, 62, 729-754.
- Gupta, M. (2021). Employee engagement through digital innovation: A research study. *DR. DY PATIL B-SCHOOL, PUNE, INDIA*, 381.
- Holm, A. B., & Haahr, L. (2018). E-recruitment and selection. In *e-HRM* (pp. 172-195). Routledge.
- Hu, Q. (2023). Unilever's Practice on AI-based Recruitment. *Highlights in Business, Economics and Management*, 16, 256-263.
- Iqbal, N., Ahmad, M., MC Allen, M., & Raziq, M. M. (2018). Does e-HRM improve labour productivity? A study of commercial bank workplaces in Pakistan. *Employee Relations*, 40(2), 281-297.
- Johnson, A. (2024). *Role of Career and Technology Education Support on High School Student Academic Engagement, Performance, and Successful Outcomes* (Doctoral dissertation, University of St. Thomas (Houston)).
- Kopperud, K. H., & Straume, L. V. (2009). 2.3 Flow—a positive experience. *Validation and test of central concepts in positive work and organizational psychology*, 30.

- Kerlinger, P., & Lein, M. R. (1986). Differences in winter range among age-sex classes of Snowy Owls *Nyctea scandiaca* in North America. *Ornis Scandinavica*, 1-7.
- Kim, S., Jang, S., Choi, W., Youn, C., & Lee, Y. (2022). Contactless service encounters among Millennials and Generation Z: the effects of Millennials and Gen Z characteristics on technology self-efficacy and preference for contactless service. *Journal of Research in Interactive Marketing*, 16(1), 82-100.
- Kowalski, T. H., & Loretto, W. (2017). Well-being and HRM in the changing workplace. *The International Journal of Human Resource Management*, 28(16), 2229-2255.
- LinkedIn (2021). Linking Social Recognition to Retention. *A Case Study*. Accessed on 8 July 2024 at <https://www.workhuman.com/why-workhuman/case-studies/linkedin-linking-social-recognition-to-retention/>
- Lonska, J., Mietule, I., Litavniece, L., Arbidane, I., Vanadzins, I., Matisane, L., & Paegle, L. (2021). Work-Life Balance of the Employed Population During the Emergency Situation of COVID-19 in Latvia. *Frontiers in Psychology*, Aug 6; 12:682459.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological methods*, 4(1), 84.
- Mahmood, M. A., Hall, L., & Swanberg, D. L. (2001). Factors affecting information technology usage: A meta-analysis of the empirical literature. *Journal of organizational computing and electronic commerce*, 11(2), 107-130.
- Makoza, F. (2023). *Analyzing policy change of Malawi ICT and Digitalization policy: Policy Assemblage Perspective* (No. 08/23). Working Paper ICTD.
- MALAWI ICT & DIGITALIZATION POLICY ROADMAP 2022 –2026 (DRAFT). *The Presidential Delivery Unit Digitalization Labs 25th April – 10th May 2022*.
- Malik, A., Srikanth, N. R., & Budhwar, P. (2020). Digitisation, artificial intelligence (AI) and HRM. *Human resource management: Strategic and international perspectives*, 88, 103.
- Mishra, K., Mishra, A. K., & Walker, K. (2019). Using innovative internal communication to enhance employee engagement. *In Handbook of research on strategic communication, leadership, and conflict management in modern organizations*. IGI Global, 445-468.

- Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablinski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of management journal*, 44(6), 1102-1121.
- Motyka, B. (2018). Employee engagement and performance: a systematic literature review. *International Journal of Management and Economics*, 54(3), 227-244.
- Mugenda, O. M., & Mugenda, A. G. (2003). Research methods: Quantitative and Qualitative. Approaches. Nairobi; African Centre for Technology Studies.
- Murphy, A. (2018). *Can the digitisation of HR services alter employee perceptions of those services and the HR function at the same time as delivering HR operational cost savings to an organisation?* (Doctoral dissertation, Dublin Business School).
- Nam, T. (2014). Technology use and work-life balance. *Applied Research in Quality of Life*, 9, 1017-1040.
- Nikolić, J. L. (2023). The Impact of Digital Technologies on Employee Engagement: Case Study of Company “A” In Serbia. *The European Journal of Applied Economics*, 20(2), 29-40.
- Nocker, M., & Sena, V. (2019). Big data and human resources management: The rise of talent analytics. *Social Sciences*, 8(10), 273.
- Odhiambo, N. M. (2015). Government expenditure and economic growth in South Africa: An empirical investigation. *Atlantic Economic Journal*, 43(3), 393-406.
- Parry, E., & Tyson, S. (2011). Desired goals and actual outcomes of e-HRM. *Human resource management journal*, 21(3), 335-354.
- Patterson, K., Wride, M & Maylett, T., (2017). *The Employee Experience: How to Attract Talent, Retain Top Performers, and Drive Results*. New Jersey: John Wiley & Sons.
- Pulakos, E. D., Hanson, R. M., Arad, S., & Moye, N. (2015). Performance management can be fixed: An on-the-job experiential learning approach for complex behavior change. *Industrial and Organizational Psychology*, 8(1), 51-76.
- Ryan, R. M., & Patrick, H. (2009). Self-determination theory and physical. *Hellenic journal of psychology*, 6(2), 107-124.
- Robbins S.P. & Judge, T. A. (2019). *Organizational Behavior*, 18th Edition, Global Edition, Pearson: United Kingdom.

- Robertson-Smith, G., & Markwick, C. (2009). *Employee engagement: A review of current thinking*. Brighton: Institute for Employment Studies.
- Robinson, D., Perryman, S., & Hayday, S. (2004). The drivers of employee engagement. *Report-Institute for Employment Studies*.
- Rothmann, S. (2013). Employee engagement in a cultural context. In *Employee engagement in theory and practice* (pp. 163-179). Routledge.
- Rumbles, S. (2022). *Reengaging with engagement: a reinterpretation of Kahn's theory of personal engagement in a care home setting* (Doctoral dissertation, University of Portsmouth).
- Schaufeli, W. B., & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In M. Bakker, A. B. and Leiter (Ed.), *Work Engagement: A Handbook of Essential Theory and Practice* (pp. 25–38). Psychology Press.
- Schaufeli, W. B., & Salanova, M. (2008). Enhancing work engagement through the management of human resources. *The individual in the changing working life*, 380.
- Schaufeli, W. B., & Bakker, A. B. (2004). UWES UTRECHT WORK ENGAGEMENT SCALE Preliminary Manual [Version 1.1, December 2004].
- Shah, N., Michael, F., & Chalu, H. (2020). Conceptualizing challenges to electronic human resource management (e-HRM) adoption: A case of Small and Medium Enterprises (SMEs) in Tanzania. *Asian Journal of Business and Management*, 8(4).
- Siemens (2020). Siemens Human Resource Transformation. Accessed on 8 July 2024 at <https://www.hrdconnect.com/casestudy/case-study-learn-unlearn-and-relearn-the-need-for-learning-agility/>
- Skaggs, C. D., Prather, H., Gross, G., George, J. W., Thompson, P. A., & Nelson, D. M. (2007). Back and pelvic pain in an underserved United States pregnant population: a preliminary descriptive survey. *Journal of manipulative and physiological therapeutics*, 30(2), 130-134.
- Smith, H. J., Dinev, T., & Xu, H. (2011). Information privacy research: an interdisciplinary review. *MIS quarterly*, 989-1015.

- Smith, M., & Bititci, U. S. (2017). Interplay between performance measurement and management, employee engagement and performance. *International Journal of Operations & Production Management*, 37(9), 1207-1228.
- Sparrow, P. (2013). Strategic HRM and employee engagement. In *Employee engagement in theory and practice* (pp. 99-115). Routledge.
- Stone, D. L., Deadrick, D. L., Lukaszewski, K. M., & Johnson, R. (2015). The influence of technology on the future of human resource management. *Human resource management review*, 25(2), 216-231.
- Stofberg, L., Strasheim, A., & Koekemoer, E. (2021). Digitalisation in the workplace: the role of technology on employee engagement and creativity teams. In *Agile coping in the digital workplace: Emerging issues for research and practice* (pp. 231-257). Cham: Springer International Publishing.
- Suhasini, R., & Suganthalakshmi, T. (2015). Emerging trends in training and development. *International journal of scientific and research publications*, 5(3).
- Sulistianingtiyas, I., & Djastuti, I. (2022). The Effect of Digitalization in the Workplace on Employee Performance Mediated by Employee Attachment (Study on Employees of the Center for Product Processing Research and Marine and Fisheries Biotechnology, Central Jakarta). *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(2).
- Swaroop, S., & Sharma, L. (2022). Employee engagement in the era of remote workforce: role of human resource managers. *Cardiometry*, (23), 619-628.
- Sylvester, E. O., Bamidele, A. D., & Oluyemi, O. S. (2015). Implementing e-HRM system in developing countries: Challenges and prospects. *International Journal of Applied Information Systems*, 9(8), 38-41.
- Tanwar, A. (2017). Impact of employee engagement on performance. *International Journal of Advanced Engineering, Management and Science*, 3(5), 239845.
- Tate, T. D., Lartey, F. M., & Randall, P. M. (2021). Do performance goals and development, feedback and recognition, and a climate of trust improve employee engagement in small businesses in the United States. *International Business Research*, 14(6), 1-23.

- Thileepan, J., & Raveendran, T. (2022). Impact of digital transformation on employee engagement at Ceylon Electricity Board in the Northern Province of Sri Lanka. *Journal of Management Matters*. 53-81.
- Vardarlier, P. (2020). Digital transformation of human resource management: *Digital applications and strategic tools in HRM*. In *Digital Business Strategies in Blockchain Ecosystems*. 239-264. Springer.
- Xenikou, A. (2022). Leadership and organizational culture. In *Handbook of research methods for Organisational culture* (pp. 23-38). Edward Elgar Publishing.
- Xiang, H., Lu, J., Kosov, M.E., Volkova, M.V., Ponkratov, V.V., Masterov, A.I., Elyakova, I.D., Popkov, S.Y., Taburov, D.Y., Lazareva, N.V., Muda, I., Vasiljeva, M.V., & Zekiy, A.O. (2023). Sustainable development of employee lifecycle management in the age of global challenges: Evidence from China, Russia, and Indonesia. *Sustainability*, 15(6), 4987.
- Zhang, J., & Chen, Z. (2023). Exploring Human Resource Management Digital Transformation in the Digital Age. *Journal of the Knowledge Economy*, 1-17.

BIOGRAPHY

I was born and raised in Lilongwe, the capital city of Malawi. My academic journey began with the successful completion of secondary school with excellent grades, which was crucial to me earning a place in a government university where I pursued a bachelor's degree in Animal Science at Lilongwe University of Agriculture and Natural Resources. Upon graduation, I began my career as a field monitor, a role I held for three months while also freelancing for non-governmental organizations in project data evaluation. The experience honed my skills in data analysis. Subsequently, I transitioned to sales at Unicaf University, where I worked for six months. Later on, I joined the government working under the Department of Animal Health and Livestock Development. In this role, my responsibilities included planning and directing studies to investigate human or animal diseases, overseeing public health programs through statistical analysis and surveillance systems, providing expertise in the design, management, and evaluation of study protocols just to mention a few. I worked in this department for over three years before deciding to further my education abroad to broaden my skills. I enrolled in the MBA program at Beykoz University in Türkiye, which offered a strong foundation in international business, project management, operations management, and data analytics. Studying at Beykoz University has been a transformative experience which has shaped me into the person I am today and prepared me well for future endeavors.

APPENDIX A. SURVEY

Dear Participant

Thank you for considering participation in this survey on Human Resource Digital Transformation (HRDT) and its impact on employee engagement. My name is Imran Paseli, and I am conducting this research as part of my Master's Degree in Business Administration academic program. Please be assured that all responses will be kept strictly confidential, and your privacy is our utmost priority. The data collected will be used solely for academic purposes, and individual responses will be anonymized to ensure confidentiality. Your participation is voluntary, and may you choose to participate, your honest insights are invaluable and will contribute significantly to our research findings. Thank you for your time and contribution to this academic endeavor.

Imran PASELI
Beykoz University, Graduate Programmes Institute
Business and Administration Master's Program

Gender of respondents

- a. Male
- b. Female

Age category of respondents

- a. 18 – 27
- b. 28 – 43
- c. 44 – 59
- d. 60 – 78

Respondent's level of education

- a. Primary
- b. Secondary
- c. Tertiary

Respondents job position

- a. Individual contributor
- b. People Manager
- c. Human Resource Professional

Adoption of Digital Technologies

What do you use Digital HR services for? (Tick which applies)

- Booking/approving annual leave
- Logging/approving absence from work
- Setting goals/objectives for your team
- Conducting performance appraisals
- Applying for internal job vacancies
- Undertaking learning and development
- Viewing pay slip online
- Amending or updating personal information
- To conduct compensation planning

Who is responsible for HR technology in your organization?

- a. CEO
- b. HR
- c. IT
- d. Others

Does your organization currently offer HR services or processes on mobile app?

- 1. Yes
- 2. No

Do you use messaging applications (e.g., email, WhatsApp, Facebook, etc.) for communication in your company?

- 1. Yes
- 2. No

How would you rate your overall satisfaction with the digital HR tools provided by your organization?

- 1. Very Dissatisfied
- 2. Dissatisfied
- 3. Neutral
- 4. Satisfied
- 5. Very Satisfied

Impact of Human Resource Digital Transformation

UWES-9

0 = Never

1 = Almost never (a few times a year or less)

2 = Rarely (once a month or less)

3 = Sometimes (a few times a month)

4 = Often (once a week)

5 = Very often (a few times a week)

6 = Always (every day)

1. At my work, especially with the new digital tools, I feel bursting with energy.
2. Since the digital transformation, I feel strong and vigorous at my job.
3. When I get up in the morning, I feel like using the new digital systems at work.
4. I am enthusiastic about my job, particularly because of the digital innovations we are implementing.
5. The digital transformation at my workplace inspires me.
6. I am proud of the work I do, especially with the new digital tools and processes.
7. I feel happy when I am working intensely with our new digital platforms.
8. I am immersed in my work, particularly when using digital tools.
9. I get carried away when I am working with the new digital systems and processes.