

College of Business administration



Department of Management & Marketing

HR Practices Leading to Employee Engagement During Digital Workplace Transformation: Case of Bahrain's Telecommunications Sector

A Thesis Submitted in Partial Fulfilment of the Requirements for the
M.Sc.Degree in Human Resource Management

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Defense Committee Approval

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Abstract

Purpose: The purpose of this study is to investigate the moderating influence of Human Resource Practice on facilitating the relationship between Digital workplace Transformation and Employee Engagement through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

Design/Methodology/Approach: An empirical investigation based on a quantitative method was used to conduct the study. The primary data has been collected using a structured questionnaire, designed mainly depending on non-comparative scales techniques, and distributed via social media applications. A sample size of 320 employees working in the Telecommunications sector has participated in the study. A Statistical Package for the Social Sciences was used to test the research hypotheses through different structural equation tests.

Finding: The results of the study shows that Human Resource Practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management have a moderating role on facilitating the relationship between Digital Workplace Transformation and Employee Engagement.

Research limitations/implications: The absence of a professional intake of findings acquired from a human resource manager. A follow-up study of more variables that may influence employee engagement during digital workplace transformation. For example variables like self-efficacy, leadership style, work stress, and job satisfaction, can be explored to build a holistic understanding of the success of digital workplace transformation.

Practical implications: Organization's policies developers should carefully design, implement, evaluate and upgrade HR practices during organizational change; i.e. adopting a digital workplace, to address employee engagement level.

Originality/value: The findings provide evidence that human resource practices in the Telecommunications sector in the Kingdom of Bahrain are facilitating the digital workplace transformation experience while enhancing employee engagement.

Recommendations: The study recommends more significant emphasis on human resource practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management, during digital workplace transformation to maintain and increase employee engagement.

Keywords: Digital workplace transformation, Human resource practices, Employee engagement, Human Resource Planning, Performance Appraisal, Training and Development, Workplace Environment Management, Telecommunications sector, The kingdom of Bahrain.

ملخص الأطروحة

الغرض: تهدف هذه الدراسة لمعرفة الدور المساند لممارسات الموارد البشرية على تسهيل العلاقة بين التحول الرقمي في مكان العمل ومشاركة الموظفين أثناء عملية التغيير، وذلك في قطاع الاتصالات بمملكة البحرين. عن طريق توظيف أربع ممارسات للموارد البشرية، وهي: تخطيط الموارد البشرية، تقييم الأداء، التدريب والتطوير وإدارة بيئة العمل.

التصميم / المنهجية / المنهج: تم إعتداد الدراسة منهجية المبينة على البحث الكمي لهذه الدراسة. وتم جمع البيانات الأولية باستخدام استبيان منظم، وتم تصميم الاستبيان ليعتمد بشكل أساسي على طرق القياس الغير مبنية على المقارنة، كما تم توزيع الاستبيان عن طريق وسائل التواصل الاجتماعي. تمت الاستجابة على الاستبيان من قبل 320 موظف يعمل في قطاع الاتصالات بمملكة البحرين. وتم استخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS) لتشكيل المسح واختبار فرضيات البحث وتحليل نتائج البيانات.

النتائج: أثبتت الدراسة وجود دور مساند لممارسات الموارد البشرية، وهي تخطيط الموارد البشرية، تقييم الأداء، التدريب والتطوير وإدارة بيئة العمل، على تسهيل العلاقة بين التحول الرقمي في مكان العمل ومشاركة الموظفين أثناء عملية التغيير في قطاع الاتصالات بمملكة البحرين.

حدود البحث/التأثيرات: نظراً لجائحة كوفيد-19 والإجراءات الاحترازية تعذر مناقشة نتائج البحث مع أحد المدراء الفعليين في قسم الموارد البشرية. ينصح بعمل دراسات لاحقة تتشابه مع هذه الدراسة في المضمون ولكن تختلف في نوع المتغيرات المؤثرة على مشاركة الموظفين أثناء التحول الرقمي في مكن العمل في المؤسسة. مثل كفاءة الموظف الذاتية، نوع القيادة، ضغوطات العمل و الرضا الوظيفي.

التأثيرات العملية: على صناع السياسات المنهجية في المؤسسات الاعتناء في تصميم وتفعيل وتقييم وتطوير ممارسات الموارد البشرية أثناء أي تغيير جذري يطرأ على المؤسسة، على سبيل المثال التحول الرقمي في مكان العمل، ل يتم أخذ مشاركة الموظف في عملية التغيير في عين الاعتبار.

الأصالة / القيمة: لقد أثبتت الدراسة أن نجاح التحول الرقمي في مكان العمل في قطاع الاتصالات بمملكة البحرين يعود للممارسات الفعالة من قبل الموارد البشرية اتجاه موظفي القطاع.

التوصيات: الدراسة تؤكد على أهمية الدور المساند لممارسات الموارد البشرية على تسهيل العلاقة بين التحول الرقمي في مكان العمل ومشاركة الموظفين أثناء عملية التغيير.

الكلمات المفتاحية: التحول الرقمي في مكان العمل، ممارسات الموارد البشرية، مشاركة الموظفين، قطاع الاتصالات، مملكة البحرين.

Publication

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Dedication

To human resource practitioners who noticed early on the impact of digital transformation on economic growth and the significant role of employees in its success, this thesis is for you.

Acknowledgment

Who would ever think this will be the most difficult page to write. Although you will be reading this at the beginning of my thesis, the truth is, I kept it for last .

Before anything, I genuinely thank Allah Almighty for bestowing enough potency, expertise, competency, and perseverance on me to accomplish this research study .

In my progression towards this degree, I experienced unprecedented encouragement from the Dean of Business Administration, Dr. Hatam Almisri, the Head of Business Department, Dr. Mesfer Al-Muhanadi, and all the University of Bahrain professors. I'm forever grateful for the invaluable support, extensive guidance, and impressive academic debates I have experienced during my Master's journey .

My Supervisor, Dr. Shaju George, has provided me with complete freedom to accomplish this research while calmly assuring me that I'm "a very good student.". His competent guidance and assistance have encouraged me to successfully complete this research study with fewer tears than expected .

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Regarding all those names I didn't mention but have helped me in one way or another, may God bless you all.

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List of Abbreviations

Abbreviation	Full Form
DWT	Digital Workplace Transformation is the process of transforming the workplace into a modern one. It is achieved by using social technology tools, contextual intelligence tools, communication mediums, and advocates mobility (<i>Dahlan et al., 2018</i>).
HR	Human Resource is a department responsible for formulating, implementing, maintaining, and developing strategies, policies, procedures, rules, practices, and managing employees strategically (<i>Opatha, 2021</i>).
HRP	Human Resource Practices are the collective work of several different functions, designed and implemented, by the human resource professionals in an organization (<i>George, 2017</i>).
EE	Employee Engagement is about acquiring, maintaining, intensifying, and directing the; cognitive, emotional, and behavioral energy of an employee (<i>Alfes & Shantz, 2011</i>).
SDT	The self-determination theory is a framework to understand human development and wellness. It is associated with intrinsic and extrinsic factors related to motivation in an educational context (<i>Rayan et al., 2020</i>).
SPSS	Statistical Package for the Social Sciences is a data management and analysis software. It provides statistical data analysis, including descriptive statistics, frequencies, charts, and lists, as well as inferential and multivariate statistical procedures (<i>Untawale & Akant, 2008</i>).

Abbreviation	Full Form
HR Planning	The process of acquiring (recruitment and selection), utilizing (deployment), improving (training and development), and maintaining (through compensation) an organization's employees (<i>George, 2017</i>).
Performance Appraisal	The method of evaluating an employee's performance during a specific time to form personnel decisions objectively (<i>Idowu, 2017</i>).
Training and Development	Training is a professionally constructed program for employees to learn new abilities and enhance their knowledge and performance. In comparison, development is considered to enhance the current employees' performance via different tools and techniques (<i>Allen Communications Learning Services, 2018</i>).
Workplace environment management	The place includes workstations, furniture, ventilation, lighting, personal protective equipment that assist employees in performing job tasks and activities (<i>Razi & Maulabakhsh, 2015</i>).

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Chapter One: Introduction to the Study

1.1 Background of the Study

Implementing change in organizations is crucially tricky. It requires mapping out a strategic direction, and implementing the necessary changes to achieve the organizational objectives. Implementing change usually impacts several organizational elements. The results usually manifest as comprehensive developments in operations, enhancement in services, diverse human resources practices (Bel et al., 2018).

Digital workplace transformation was excessively implemented in 2020 due to the Covid-19 pandemic (Udovita, 2020). Digital workplace transformation is a continuous complex process. It can substantially re-structure operations (Matt et al., 2015). The transformation process requires advanced digital knowledge and skills. Moreover, it requires innovative knowledge sharing and information communication channels.

Effective digital workplace transformation needs support from all-level employees. Different relevant positions have to collaborate and successfully implement the digital workplace (Albukhitan, 2020). It is critical to assign and communicate adequate and clear responsibilities and roles to the employees during the digital workplace transformation.

When it comes to digital workplace transformation, several organizations mainly focus on the technological aspect of the transformation process (Lagos, 2020). With the aid of the technology information department, the organization constructs its digital workplace transformation agenda. Organizations attempt to acquire critical technology application systems and infrastructures. Organizations develop financial frameworks to obtain digital tools and software (Matt et al., 2015). Organizations mainly identify the future

uses of technologies within the organization. Therefore it seems that the digital workplace transformation strategy focus on managing the technology infrastructure. Thereby, the direction of digital workplace transformation relatively doesn't address the social and psychological aspects; the employees. Digital workplace transformation depends on employees as one of the key pillars for an agile and successful digital transformation (Alieva & Powell, 2020). The digital workplace transformation agenda should take on different social and psychological perspectives. Organization should pursue different organizational-employee objectives. The digital workplace transformation agenda should consider increasing productivity and value creation. Also, it should reflect the workforce's social welfare dimension. Hence, the digital workplace transformation strategy should focus on managing the technology infrastructure and managing employees' digital experience (Ismail et al., 2017).

Digital workplace strategies take on different perspectives and pursue different objectives. However, it is essential to address the social and psychological aspects (Lagos, 2020). A digital workplace strategy should empower employees in a novel way. The chosen strategy should create an efficient digital workplace environment that would attract talent. The strategy should also provide employees with the appropriate digital tool-set. Offer digital skills training courses following the organization's objectives. The strategy should have a definable and measurable success value. The strategy objectives have to direct employees toward achieving the coveted digital workplace competencies. Furthermore, the strategy should establish a governance and compliance workplace environment. This would strengthen employee relations, propose innovative management methods and facilitate knowledge.

Organizations that excel in forming a digital workplace strategy would build a workforce characterized by skilled employees, high productivity, high employee satisfaction, smooth communication, effective decision-making channels, and innovation-prone culture. This characteristics would ultimately increase employee sense engagement.

Human resource are responsible for communicating an organization's strategic vision to the employees and help them to act upon it (Kim et al., 2019). In a different word, human resources consequently responsible for the successful implementation of digital workplace Therefore, Human resource has to formulate and initiate several practices that reflect the organization's overall digital workplace transformation vision and objectives. Human resource practices can influence employees' attitudes, commitment, and performance by empowering employees and enhancing employee engagement (Tang et al., 2018).

Although there is growing literature on digital workplace transformation and its association with employee engagement, few have acknowledged the moderating role of human resource practices in this relationship, especially in studies conducted in Bahrain. As a result, this gap is addressed in this research. This research study further explore the empirical predictions of the moderating influence of Human Resource Practice (HRP) on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management. This research was conducted using a sample of 320 representatives working in the telecommunications sector in the Kingdom of Bahrain. The theoretical

framework rests on literature and references previous studies discussing the different aspects of digital workplace transformation, human resource practices, and employee engagement. A Quantitative research method is adapted to conduct this empirical study. Research study data is gathered by circulating an online questionnaire via social network applications.

1.2 Research Problem

There is a popular notion among researchers that an organization's success rests heavily on the effort, behaviors, and interactions of employees within the structure of an organization, as they work under the organization's mission and act upon its objectives (Wright & McMahan, 1992). Another argument has stressed the organization's role in effectively influencing employees' interactions, behaviors, and motivation by focusing on different human resource practices (Wright et al., 2001). Therefore, it is a central issue for organizations to decide on choosing and implementing the appropriate human resources practices to aid the organization in digital workplace transformation. As the transformation to the digital workplace starts gaining momentum, most organizations hurried to transform their processes and activities to be digitally compatible. Organizations began to rely heavily on the Information Technology department solely to manage the transformation process. From purchasing the latest digital technology tools, implement the digital workplace, supervising the employees' adaptation process and evaluating the success of the transformation process (Muro et al., 2017). This has created a significant hurdle as some employees have significantly struggled to adapt to the new norms (Lagos, 2020).

For some employees, digital transformation carries a daunting perspective. Some employees perceive the digital workplace transformation initiation as a

possible threat to their jobs. Employees are concerned about the potential of job redundancy or downsizing measures as "intelligent" alternatives are adopted (Kissmer et al., 2018). As a result, employees develop, consciously or unconsciously, certain resisting feelings and actions towards the digital workplace transformation process (Ismail et al., 2017).

The success and failure of a digital workplace transformation depend significantly on whether or not employees are on board with the transformation process. Research done by McKinsey illustrated that around 70% of digital transformation fail, primarily due to a lack of employee engagement (Whelan, 2020).

Human resource management has to plan and manage the digital workplace transformation process by focusing on specific practices and building the appropriate programs, strategies, and teams that would facilitate the digital workplace implementation (Tracey, 2014). Human resource management has to allow the employees to take the leading seat in the transition process to be digital.

As discussed above, the current situation is far from ideal. The digital workplace transformation process is held back by the most valuable resource for any organization; the employees. Automating the system while ignoring the human element will not achieve long-term productivity or efficiency in performance.

Therefore, this research study argues that human resource management should have a critical role in facilitating the digital workplace transformation while enhancing employee engagement. Deploying new technological tools in the workplace has to be accompanied by a specific strategy and several practices to facilitate the transformation process for the employees. New talents, new digital-focus departments, new digital-skill training courses, new employee-

employer participation channels, new performance competencies appraisal categories, and a new digital-supportive culture must motivate employees and help them adapt to the digital workplace and aid the organization in achieving its digital transformation objectives.

1.3 The Telecommunications sector

The Kingdom of Bahrain is considered a regional leader in digital transformation. According to Al-Alawi and Al-Bassam (2019) Bahrain's premature realization of technology's potential to facilitate economic growth, human development, and job creation, has established the kingdom as one of the leading information and communication technologies center in the Gulf Cooperation Council region. Thus, Bahrain has been at the forefront of the technological investment market for decades now. Bahrain's monarchy and the Bahrain government have taken several steps to enhance the Telecommunications sector to remain in this competitive position. The most significant act was the establishment of the Kingdom of Bahrain Telecommunications Regulatory Authority (Varoudakis & Rossotto, 2004). The Telecommunications Regulatory Authority is accounted for implementing the National Telecommunications plan and work closely with policy-makers to digitally transform the telecommunications sector and achieve growth in the market. (Swid & ElMelegy, 2012).

The Telecommunications sector's successful implementation of the digital workplace transformation is attributed to their human development practices. Highly qualified employees assemble the Telecommunications sector with exceptional talent. Moreover, the kingdom digitally-native measures placed it as the first globally in terms of internet users (according to the population percentage) and among the top 30 countries around the world in

Telecommunications efficiency (Al-Alawi & Al-Bassam, 2019). Telecommunications sector employees are well trained and prepared to respond effectively to any radical changes and difficult situations as they are committed to bringing their organization forward in the competitive marketplace.

The Telecommunications sector in Bahrain is continuously growing and enhancing its digital transformation. Upon these facts, the Telecommunications sector is the most suitable avenue to conduct the study and investigate whether the Human resource practices developed in the Telecommunications organizations are responsible for the successful implementation of digital workplace transformation and enhancing employee engagement level.

1.4 Research Questions

The study aims to verify whether human resource practices can enhance employee engagement during digital workplace transformation. Therefore, the study's primary question is whether there is the moderating role of human resource practices in the relationship between digital workplace transformation and employee engagement. Additional two overreaching research questions guide this study:

RQ1: Is there a relationship between Digital Workplace Transformation and Employee Engagement?

RQ2: Is there a relationship between Human Resource Practices and Employee Engagement?

Thereby, this study provides theoretical guidance for human resource management to formulate and implement certain practices to enhance employee engagement as the organization pursues its mission to transform

digitally and build a competitive advantage during a critical economic situation.

1.5 Research Objectives

Based on the theory of understanding the influence of human resource practices on enhancing employee engagement level during digital workplace transformation, by developing a combination of specific practices. The primary objective of this research is to investigate the moderating position of human resource practices on the relationship between digital workplace transformation and employee engagement. Moreover, the research study has additional operational objectives that guide this study:

RO1: To analyze the relationship between digital workplace transformation and employee engagement.

RO2: To analyze the relationship between Human Resource Practices and employee engagement.

1.6 Significance of the Study

The journey to digital workplace transformation has started, and organizations are being aware of an entirely new workplace environment on the horizon. Therefore, this research highlights the role of human resource practices during a digital transformation process. Digital workplace adaption and acceptance overlap with employee' dynamics, especially when novel digital tools are being embedded in the workplace and regular everyday routine activities. Through this study, an attempt will be made to emphasize the importance of specific human resource practices in facilitating the induction of employees to a digital workplace and how these certain practices will contribute to the development of digital organizational capabilities. The research results will

contribute to human resource management field of study, not only in the kingdom of Bahrain but also worldwide, by providing theoretical insights into the moderating role of human resource practices in facilitating digital workplace transformation while enhancing employee engagement. Moreover, human resource management professionals can influence the digital workplace transformation process by utilizing a simple set of practices. It is worth mentioning that this research adopted one of the Sustainable Development Goals, Industry, innovation and infrastructure, to offer a set of recommendations based on significant results and ensure a more sustainable future.

1.7 Research contribution

The Kingdom is recognized for its big digital growth ambitions. A recent report published by The Arab Gulf States Institute in Washington has described the information and communications technology infrastructure as "progressive" and "liberalized" (Mogielnicki, 2020). Therefore, this research would contribute to the Kingdom's Economic 2030 vision; digital transformation and technological innovation. This empirical study will complement the accelerating pace of the digital transformation the Kingdom is witnessing nowadays. The research will offer specific human resource practices that advocate a long-term human capital development and support Bahrain's Government Action Plan 2019-2022. The research will further address the gap in the related literature about the relationship between digital transformation and employee engagement and the possible moderating role of human resource practices in this relationship in the gulf region. Human resource professionals in Bahrain will benefit from the research results by

developing policies and strategies based on the research findings and achieve the Kingdom's aspiration to become the regional data-hosting hub.

1.8 Research setting:

This research represents a study conducted to investigate the moderating role of human resource management practices on the relationship between digital workplace transformation and employee engagement in the Telecommunications sector in the kingdom of Bahrain through four different chapters as follow:

Chapter 1 (Introduction to the Research Study): This chapter of the research starts with investigating the several aspects that prompt the need for this study, followed by the research problem, research questions, research objectives, research significance, research contribution, research settings, and the definition of different terminologies which are discussed thoroughly in the research.

Chapter 2 (Theoretical Framework and Literature Review): This chapter of the research focuses mainly on exploring the different variables of the study by referring to previous studies and literature that have already been published in the Digital Workplace, employee engagement, and human resource practices. This chapter also presents the research framework inspired by different previous literature, followed by the research hypotheses formulated from the research framework.

Chapter 3 (Methods and Procedures): This chapter of the research explains the methods and procedures used to collect and analyze the needed data for the research. This chapter also discusses the research design, research methodology, research population, research sample, conceptual and

operational definitions of variables, questionnaire development, and questionnaire sources.

Chapter 4 (Results and Discussion): This chapter of the research interprets the statistical analysis of the questionnaire data. It includes data analysis based on different statistical techniques such as Normality Tests, Reliability Analysis, Correlation, Mean and Standard Deviation, and PROCESS v3.5 test. Furthermore, the chapter explains the study results and discusses the study hypotheses based on the data analysis.

Chapter 5 (Conclusion and Recommendations): This chapter of the research summarizes the chapters, including the main findings of the research. This chapter also discusses the managerial and practical implications of the research findings, an outline of encountered research limitations, and directions for future research. Finally, the chapter offer recommendations based on the research results.

1.9 Terminology:

Following the study background information, crucial definitions related to the most frequent terms discussed in this research study are presented:

Digital workplace transformation: According to previous literature and preliminary research, a digital workplace concept describes a workplace that uses social technologies tools, contextual intelligence tools, communication mediums, and advocates mobility. Digital workplaces improve employees' productivity, performance, collaboration, communication, and engagement within the organization. Most importantly, the different tools allow employees to find, process, and share knowledge per request (Dahlan et al., 2018).

Human resource practices: Academics have referred to human resource practices as the collective work of several different functions designed and

implemented by the human resource professionals in an organization to ensure proper capital human management system and achieve employee growth, organizational outcomes, and competitive advantage (Kotler & Armstrong, 2013), i.e., recruitment and selection, performance appraisals, appropriate training programs, and employee compensation (Sittisom, 2020).

Human Resource Planning: This term has been discussed in literature since the 1970s. Human Resource planning is considered the first step of human resource management functions. Often recognized as the designed strategy for acquiring (recruitment and selection), utilizing (deployment), improving (training and development), and maintaining (through compensation) an organization's human capital to help the organization meets its objectives (George, 2017).

Performance appraisal: The majority of prior research identifies performance appraisal as evaluating an employee's performance during a specific time to form personnel decisions objectively (Idowu, 2017). It is also acknowledged as obtaining, analyzing, and recording information that revolves around progress in the organization (Armstrong, 2009). The performance appraisal process happens when an interaction between an organization's supervisors and employees occurs, in which the former evaluate the latter's performance. This process aims to identify employee's strengths and weaknesses and indicates a suitable training program to improve employee performance.

Training and development: Pervious literature has considered training and development as an imperative responsibility of an organization's Human Resource Management. This function is defined as creating programs for employees to learn new abilities and enhance their knowledge and performance. Similarly, development is considered to enhance employees'

performance and growth in the long term (Allen Communications Learning Services, 2018).

Workplace environment management: Several works of literature have mentioned the workplace environment as the place that includes workstations, furniture, ventilation, lighting, excessive noise, safety measures, and the availability of personal protective equipment that assist employees in performing job tasks and activities. Academic studies about the workplace environment have suggested that the quality of the workplace environment significantly impacts employees' level of motivation, satisfaction, and engagement (Razi & Maulabakhsh, 2015).

Employee engagement: Kahn first introduced the concept of employee engagement in 1990. Khan's study has formed the base for many later empirical studies on employee engagement. As a result, academics have proposed different definitions, words, measurements, and frameworks for employee engagement. Common in theoretical and empirical research is that employee engagement signifies the acquiring, maintaining, intensifying, and directing the cognitive, emotional, and behavioral energy in an employee while performing task activities and achieving both organizational and personal objectives (Alfes & Shantz, 2011).

1.10 Chapter Summary

This chapter of the research starts by presenting the research topic in a detailed manner and gradually discussing the study's research problem. The research questions and research objectives that have been adopted to conduct the research study are objectively listed. Moreover, research significance and research contribution are discussed according to the Kingdom's digital transformation aspirations and strategic plan. This chapter also briefly

presents the current digital workplace situation in the Telecommunications sector in the Kingdom of Bahrain, along with the complete structure of the research and the definitions of the frequently used term in this research study. The next chapter will discuss the literature review and theoretical framework of the study.

The next chapter presents the literature review related to digital workplace transformation, human resource practices, and employee engagement theories and models. The research variables and conceptual framework is presented.

Chapter Two: Literature Review

2.1 Introduction

A review of secondary sources and previous studies conducted in digital workplace transformation, human resource practices, and employee engagement was explored to formulate a holistic apprehension of the research variables and examine the proposed hypotheses.

Directed by the research question and objectives, keywords such as 'digital transformation,' 'digital workplace,' 'human resource practices,' 'employee engagement,' 'digital working environment' were defined and further articulated in search engines such as Google Scholar, Emerald Group Publishing Limited and ResearchGate. Respectively, a related literature list was generated, then skimmed, compared, and evaluated regarding their suitability for the research study and their legitimacy.

This chapter was formulated by literature sources that are most cited, accompanied by theoretical perspectives in solely credible articles, journals, and books. However, literature sources conducted by academics can exhibit a degree of bias according to the academic background, expertise, and point of view on the subject matter (Schneider et al., 2014); therefore, literature sources are not objective nor comprehensive, and wherefore, a primary source was included in this study to examine the research variables and answer the research question.

This chapter is not solely dedicated to gaining insight into how the workplace has changed in the past few years since the integration of digital technologies, but more so to examine this topic concerning employee engagement and human resource practices during the transformation process. This section

provides an overview of the relevant concepts and perspectives published by academics and their relevance to this research's objectives.

2.2 Digital transformation

The risen of the Fourth Industrial Revolution, the proliferation of Artificial Intelligence, and the age of technology have invaded every aspect of economic activities and processes (Udovita, 2020). A novel act of conduct known as Digital Transformation was introduced. According to Aly (2019) digital transformation has been a subject of interest to academics and policymakers. Researches on the impact of digital transformation and its major alteration on economic functions were thoroughly studied and frequently discussed (Bakar et al., 2020). As the popularity of digital transformation grows, economists and academics make an effort to interpret and explore the term.

According to Micic (2017) Digital transformation is associated with digital technology adoption. Thereby, organizations can achieve digital transformation by automating processes and procedures, sharing and transferring information, and refer to multiple technologies interfaces in conducting business functions, such as telecommunications networks, computer portals, software engineering, and social applications (Williams et al., 2018) . Based on this explanation, the availability of Artificial Intelligence tools would facilitate digital transformation in an organization.

Hence several cases have questioned the accuracy of the previous definition (Zimmer et al., 2020).

Some organizations, despite their tech-savvy capabilities, experience, and market share, have failed in implementing a digital transformation properly. One example is General Electric (Margiono, 2019). The organization board

decided to upgrade their current disruption procedures and integrate digital technologies to the traditional ones. However, the organization has failed as the digital transformation has not been planned to meet customer expectations and was directed toward enlarging the unit size instead of focusing on the digital services offered by the unit. Another example is Ford Motor Company (Margiono, 2019). The organization realized early on the importance of digital transformation and launched a separate department to integrate digital technology into a new vehicle line. However, due to poor management of resources, the organization suffered a slump in sales.

Therefore, academics conducted further studies on digital transformation and proposed several scenarios for organizations to adopt digital technologies to enhance business activities. According to Bharadwaj et al. (2013), managers have to start thinking about constructing a digital transformation strategy and integrate it into the functional business strategy.

Nevertheless, these studies show the increasing awareness among managers and business leaders of the importance of digital transformation. Consequently, the digital transformation phenomenon has created new research interest across academics (Lucas et al., 2013).

Thus over time, an extensive literature has recognized Digital Transformation in a broader prospect, defining it as "a process that aims to improve operational functions by triggering significant changes through combinations of technologies, information, computing, communication, and connectivity" (Vial, 2019). This explains Digital Transformation in association with modifying the landscape of organizations for better digital technology adoption, reshaping the strategy, reforming the structure, and re-designing the culture to create a competitive edge and survive the external challenges (Herrera et al., 2010). Based on this explanation, digital transformation is

guarded by the availability of Artificial Intelligence tools and the establishment of an innovative organization; agile policy, novel structure, digital strategy, and innovative-prone culture.

In a more comprehensive description, an organization must reshape the workplace environment for an empirical embrace of digital transformation. Business-wise, digital technologies adaptation should improve business functions (Lisova, 2020). Digital transformation should help create new content to complement customers' expectations and build a relatively sustainable competitive advantage over competitors (Hamburg, 2019). Employer-wise, digital technologies adaptation should improve management practices, construct a proper business strategy, and motivate employees to enhance productivity (Kissmer et al., 2018). Employee-wise, digital technologies adaptation should promote effective collaboration and communication, enhance employees' experience, and complete assigned tasks more efficiently (Hamburg, 2019).

In summary, organizations are recognizing the advantages of digital transformation. Nowadays, the workplace must be compatible with modern work styles, digital technologies, and innovative data processing mediums.

2.2.1 definition and evolution of Digital workplace transformation

Since the beginning of this decade, office work has gone under several transition phases from repetitive and routine-like tasks to knowledge-driven and flexible, finally being digital technology adaptive (Towers et al., 2006). Information as a significant organizational resource has often be mistreated since there is a widespread assumption that information is managed

automatically through technology toolsets rather than appropriate venues supervised by specialized organizational departments. Therefore, as revolutionary digital technologies are introduced, information management and innovation search became the focus of every organization. Most of the work nowadays is "Information Work," which is defined as "work that requires information to be available, and in which information often regulate the outcome of the work" (Attaran et al., 2019). Therefore, policymakers recognized the importance of workplace transformation to facilitate information transactions.

Given the above, the workplace should equip employees with digital toolsets that are thoroughly aligned with modern work styles to process information effectively, a workplace that is designed to be personalized, mobile-enabled, collaborative, and technologies-oriented. The transformation to the digital workplace is expected to enhance employee engagement, employee productivity, employee efficiency, and employee profitability (Igloo, 2017). The term "Digital Workplace" was first probed by Charles Grantham and Larry Nichols in 1993 (Perks, 2015), and since then, academics have offered several definitions of the term in accordance to the type of the organization and the industry. In its simplest definition, Perks (2015) define it as a "collection of all the digital tools in an organization that aid employees in their job performance." Those tools consist of an array of digital tools, i.e., intranet, communication tools, email, HR system, calendar, and other organization processes or tools which assist in the every day-to-day function. (Perks, 2015). It has been discussed by a significant number of academics in the literature that the digital workplace alters the physical workplaces, information management, and employee experience interchangeably. According to Attaran et al. (2017), the main components of a digital workplace are

information technology, agile work functions, and employee collaboration. This suggests that the digital workplace includes digital toolsets and automated processes that allow employees to collaborate and accomplish a task on any device, anytime, and from anywhere. Alternatively, another study suggests that a digital workplace is constructed of three building blocks: employee performance, team performance, and organizational performance (Attaran et al., 2019). This suggests that these building blocks should interact together to create a digital workplace.

The digital workplace has gained much importance in recent years (Attaran et al., 2019), the year 2020 specifically, as the Covid-19 pandemic has a significant impact on the conventional workplace. A previous study has suggested three fundamental factors that compel organizations to start a digital workplace transformation (Deloitte, 2014):

- 1) Information proliferation: recently, information is expanding at unprecedented rates, imposing a challenge on organizations as they strive to find, filter, and forward information to a specific employee at a specific time.
- 2) Speed: nowadays, information is growing faster, and employees are obliged to work faster, collaborate extensively and communicate more efficiently to achieve the tasks.
- 3) Workforce Demographics: organizations aim to respond to the varying needs of a multigenerational workforce. On the one hand, there are the experienced, knowledgeable, and loyal baby boomers who are approaching retirement, and on the other hand, the technology savvy, flexible and digital-oriented Millennial workers are expected to perform efficiently. Therefore, the workplace should address all the different needs and requirements of the employees.

It can be concluded that the digital workplace is an information technology-oriented platform that provides employees with a reliable and flexible infrastructure that is required to gain access to secure information using different portal devices to perform an assigned task. The technology-oriented platform can include intranet, social applications and tools, personal productivity tools, business systems, and the physical workplace (Elcom, 2016). A well-managed digital workplace can increase employee productivity, efficiency, effectiveness, and engagement.

2.2.2 Characteristic of the digital workplace

Academics have recognized that the digital workplace has a significant impact on how work is being conducted (Towers et al., 2006). More specifically, literature has emphasized establishing a digital workplace to solve geographic flexibility, knowledge sharing, collaboration, and agility (Fitzgerald et al., 2014, Purnam et al., 2014). According to a study conducted by Deloitte, organizations that advocate social networking have witnessed a 20% increase in employee satisfaction, also recorded a 7% increase in productivity compared to organizations that shy away from social applications tools as a medium to knowledge sharing between employees (Deloitte, 2014).

Through a review of the literature, academics have identified several distinctive digital workplace characteristics that can be grouped into three thematic categories (Williams et al., 2018).

- 1) Strategy and design: the DWP should have its separate strategy that is integrated into the organizational strategy. This would impose specific modifications to the organization's culture and the workplace environment. The constructed strategy must convey the desired digital workplace

framework and the needed digital technology platforms to implement a collaborative and flexible workplace. Academics suggested that a DWP strategy should be future-oriented and compatible with the recent developments in digital technology. The organization must construct and manage an adoptive DWP strategy that is coherent with the organization's objectives and reflect the latest laws and regulations regarding laws relating to the appropriate use and distribution of data and information.

- 2) People and work: a key element in the succession of the digital workplace is the employees. The DWP should provide the digital sources and conditions to enable employees to be more productive in their work and catalyst creative thinking and problem-solving skills. The digital workplace should be implemented to support knowledge management, employee engagement, communication, and collaboration.
- 3) Digital technology platform: digital workplace relies heavily on digital technology platforms and offers a different set of tools and functionalities to aid employees in their work activities. These digital platforms should be integrated with other organization portals and information systems. DWP should be location-independent and advocate flexibility in performing tasks. Nevertheless, the chosen digital platforms should support consumer-oriented styles and technologies.

2.2.3 Outcomes of the Digital workplace

There is a broad conscience among academics available in the literature that the main virtue of the digital workplace is optimizing employees' productivity. Since the Digital workplace erases barriers between people, information, and procedures, employees can perform their tasks more efficiently and

effectively. Likewise, organizations can benefit from the digital workplace by experiencing greater agility and mobility (Udovita, 2020). Hence, a planned and well-communicated digital workplace strategy would assist the integration of digital technologies into the workplace and empower employees to perform tasks faster and communicate anytime and anywhere.

A considerable number of research results indicate the digital workplace's ability to facilitate and speed the process of attaining information. Nowadays, allocating information is considered costly and time-consuming for organizations. It is estimated that an employee spends 2.5 hours per week looking for people and information located in several mediums in the organization. A similar study also suggests that an employee spends almost 2.5 hours a day duplicating work that has previously been done, but due to lack of access to information and people, the employee remains ignorant of its existence (Schubmehl, 2014). In a more comprehensive description, the digital workplace is considered an appropriate option to reduce employee distractions and eliminate time wasted inducers.

Since 2010, several types of research have been published about the digital workplace, recognizing the importance of establishing a digital workplace in an era directed by digital technologies. Research published by Wakefield college has surveyed 500 middle managers and IT professionals in seven different countries regarding the advantages of the digital workplace. The results have firmly indicated a reduction in costs, improvement in productivity, growth in innovation, a surge in revenue, and increased employee engagement (Avanade, 2017). Another study conducted on 500 employees has indicated that an innovative workplace design can improve employee productivity, increase employee retention, improve employee collaboration and positively impact employee engagement (Miller, 2012).

Furthermore, a survey administered by HR professionals and held by Society for Human Resource Management suggested that a digital workplace promotes flexible work arrangements that directly impact employee wellbeing. Indicators showed decreased health problems, decreased signs of depression and sleep deprivation, and decreased stress levels (Miller, 2012). Although few in literature, some studies investigated the adverse outcomes of transforming to a digital workplace. According to Köffer (2015), signs of stress, misuse of digital technology portals, and difficulty finding work-life balance are expected to arise.

In brief, the Digital workplace positive impact has been discussed by many academics in literature. Showing evidence that a digital workplace implemented with the appropriate strategy and a fully-digital equipped organization can create employee value, increase employee productivity, raise employee engagement, improve employee collaboration, boost employee satisfaction, and prompt innovative thinking (Miller & March 2016).

By examining the literature, the digital workplace transformation sounds like an excellent maneuver to be adopted by organizations to address several challenges. However, in practice, organizations have struggled to master an efficient transition. Studies suggest that organizations still have to realize the all-embracing impact of the digital workplace on employee's experience. The digital workplace transformation should be orchestrated and monitored by management, as the changing effect from the physical space with all its related tasks and procedures to a digital workplace can overwhelm employees. As organizations tend to rely on the IT departments to manage the digital transformation process, they tend to overlook the pivotal role of human resource management in the implementation process.

Digital technologies are worthless if not implemented accurately, and sometimes, the transformation process can counteract its benefits. Thereupon, To truly gain from digital workplace transformation and prevent employee confusion, organizations must lean on their human resource professionals to guide the transition process.

Human resource professionals have a very significant area to focus on; develop a digital workplace strategy. The digital workplace advantages can be attained if a suitable strategy can produce a specific set of practices that can advocate cross-company communication and collaboration, improve productivity, speed the workflow, enhance knowledge sharing and raise employee engagement. In sum, it is within organizations to create a suitable fit digital workplace strategy according to their needs and objectives.

2.2.4 Challenges related to digital workplace transformation

Recent studies implied that organizations are starting to adopt a 'Digital Focus' long-term vision and initiate several digital channels across all organizational levels. However, like any other drastic and gradual change, common challenges are bound to arise. Academics have illustrated several challenges: the most consistent among all, the lack of a clear strategic decision about appropriate digital technologies to be used and for what purpose (Attaran et al., 2019).

A study conducted by Haddud and McAllen (2018) and later investigated more thoroughly by Attaran et al. (2019) has discussed the significant digital workplace transformation challenges. The study discussed four digital workplace transformation concerns. First, security concerns, organizations are in distress over transferring valuable knowledge and information via digital platforms and the possibility of hijacking. Second, employee skills concerns,

digitally ill-literate employees happen to be less efficient in performing tasks using the digital workplace. Third, efficient governing measures concerns, lack of strategic direction, lack of executive support, budget constraints, and limitations of current platforms and technology available have impeded the speed and succession of the digital workplace transformation. Fourth, compliance concerns; if an organization lacks the strategic direction for the transformation process, the transformation will create additional and unprecedented problems.

2.2.5 Best practices to implement and manage digital workplace transformation

Several studies asserted that the fundamental factor for a successful digital workplace transformation is an effective digital workplace strategy. Digital workplace strategy can be defined as the efficient alignment of the organization's work patterns with a digital environment to enhance productivity and reduce costs (Hamburg, 2019). To create the right fit of a digital workplace strategy, human resource professionals must consider several aspects, such as the organization's objectives, the opportunity to create a new business model, enhancing the operational processes, and improving employee engagement and collaboration (Berman, 2012).

Like any other strategy, the digital workplace strategy is often associated with employee behavior and organizational culture, and its implementation often occurs whenever a change is made to these two factors (Hamburg, 2019). Thereby, human resource professionals have to encourage behaviors that support the digital transition in the workplace, support the adaptation of digital technologies, support the integration of digital transformation in work patterns, and support cooperation across the organization to ensure the

effectiveness of the digital workplace. This set of behaviors creates a learning culture known mainly for its educational tendencies, preparing employees and managers for the digital workplace transformation.

According to Smith (2016), the human resource management department has to go through three distinct phases to ensure an efficient digital workplace transformation with the aid of other departments. Smith's three phases start with allocating the required resources to implement the digital workplace transformation. The second step is concerned with the procedural aspect of the implementation process, and the third step tackles the development and evaluation of the digital workplace transformation process (Smith, 2016).

- 1) **Phase one:** in collaboration with all relative departments that make digital workplace technology purchase decisions in the organization, a digital workplace strategy should be identified. The strategy should convey the organization's objectives, implementation procedures, logistic and human capital requirements, and timeline action plan. An effective strategy should also address the digital tools the organization should acquire, how each tool will be operated, how it will operate, which department will operate it, and how it will be operated. Therefore, human resource professionals must fully consider and integrate the organization's objectives, the organization's different policies and strategies, the workforce, and the organization's future business direction in designing the appropriate digital workplace strategy.
- 2) **Phase two:** in collaboration with upper management and employees, the digital workplace transformation process should be implemented gradually. This phase is often associated with specific structural changes, activities realignment, new value creation, and elimination of some procedures and

processes. The implementation will also require the availability of a workplace environment that offers an appropriate mix of digital devices and online applications to enable knowledge sharing through digital platforms and ensure secure access to information across several devices and communication channels at any given time and place. Human resource professionals should consider two aspects; adjusting the workplace environment and creating digital workplace training and development schemes. With the aid of both the IT department and digital research department, the human resource management department should adjust the workplace with digital devices, user-friendly operating systems, social network applications, and cloud computing technologies. Besides, human resource professionals should launch training programs to enhance employees' digital skills and facilitate mobile enablement.

- 3) **Phase three:** in collaboration with all departments, human resources professionals should continually analyze and improve the digital workplace state. This requires an evaluation process that includes both the efficiency of the digital workplace by conducting a thorough evaluation of the digital workplace during specific periodic intervals and employees' performance by adjusting the performance appraisal system to reflect digital workplace skills and achievements. This evaluation may suggest that the organization needs to acquire more innovative digital technology toolsets, change the social networking applications, enhance the digital communication channels and offer specific digital workplace training programs and workshops.

2.3 Human Resource Management

Literature on human resources has developed considerably over the past ten years. Academics have been interested in HR and its distinctive functions to gain more insights into how specific HR policies, practices, and procedures may influence individuals and organization-level outcomes (Russell et al., 2018).

Academics such as Haslinda (2009) and Torraco (2009) cited the emerging of HR was in England during the 1800s. Whereas some literature investigated the origin of human resource management to the earliest days of humankind, learning and repeating were processes of survival (Haslinda, 2009; Torraco, 2009). Today Human Resource Management is considered a significant functional unit in organizational management (Amrutha & Geetha, 2020). HR department deals with managing human capital in an organization and any aspect related to the human factor (Trullen et al., 2020). HR is also referred to by alternative terms such as People Management, Manpower Management, Personnel Management, and Staff Management (Cooke et al., 2020).

The literature has presented several definitions of human resource management. According to Opatha (2021), "HR consist of several activities, practices, and functions that govern employees performance to achieve the organization's objectives efficiently and effectively". Another definition provided by Pak et al., (2020) suggested that "HR is the collective activities and practices that influence individuals to increase their ability, motivation and opportunity in the workplace"

Also, previous studies have shown that HR is perceived as being responsible for designing and implementing several practices in an organization to have effective and efficient use of human talent to achieve organizational goals (Michael, 2019).

The literature on human resources is vast and transversal as it deals with the most critical assets of an organization; the employees. Ahmed (2019) proffer that every decision suggested or taken by the organization is bound to affect the employees; it is then the responsibilities of human resources to plan, implement and develop guidelines for carrying them out as desired by the stakeholders and the organization board. In this sense, the objectives of the human resources have to be aligned with the organizational objectives (Fahed-Sreih, 2018).

In summary, HR encompasses all the designed, implemented, and developed activities related to human capital; individuals have to be recruited, compensated, trained, and developed. HR is responsible for enhancing employees' working experience, create high value and a competitive edge to the organization that differentiates it from its competitors. HR's role is to provide, motivate, and coordinate an organization's human capital since employees are perceived as one of the main competencies acquired by an organization.

2.3.1 Human Resource Practices

The majority of prior literature has taken a closer look into human resource management practices to learn more about how HR functions are implemented in a term that can persuade individuals to achieve business objectives. Several theories have been proposed to investigate HR practices, focusing on how these practices are designed and implemented to create a competitive edge for the organization. Others discussed HR practices in terms of promoting more practical work settings for employees.

Human Resource Practices are known to be the structured functions performed by the human resource management department to enhance

employee experience in an organization and develop an adequate management system for achieving organizational outcomes and competitive advantage (Kotler et al., 2013). When an organization aims to develop its unique workforce, human resource practices come into aid; a collective work of policies, systems, and activities is selected to guide employees' behavior, performance, and workstyle. According to Sittisom (2020), Human resource decisions and practices, i.e., employee performance appraisals, good training programs, and employee performance-based compensation, facilitate the organization's policies and procedures. Therefore, we expect and propose that human resources practices play a significant role in facilitating the relationship between digital workplace transformation and employee engagement.

Several academics have recognized that effective implementation of human resource practices positively impacts organizational performance. Human resource practices are an approach of an organization to invest in their employees, considering their needs and interests in a protracted-manner. (Sriviboon & Jermsittiparsert, 2019).

For this research, we will focus on certain HR practices known for impacting employees' perceptions and address the digital workplace transformation challenges stated previously in this chapter. Several HR practices are directed toward managing individuals at work, specifically in the aspects related to training, evaluation, remuneration, compensation, and the provision of a flexible and secure working environment. For digital workplace transformation, every organization has to consider four primary practices to facilitate digital workplace transformation while enhancing employee engagement, and they are; human resource planning, performance appraisal, training and development, and working environment management.

Among several HR practices, These four practices are considered essential during digital workplace transformation as HR professionals aim to motivate and retain employees as the organization goes through a fundamental transformation. The four HR practices should be designed and implemented to facilitate employee adaptation during digital workplace transformation since human capital plays a significant role in achieving the digital workplace vision of the organization. The appropriate implementation of HR practices should positively influence employee engagement (Dessler, 2003). For example, practices such as learning and development, performance appraisal encourage employees to enhance their work to increase organizational performance. The HR practices selected for this research are based on their relativeness to the digital workplace transformation process and employee engagement. The practices used in this study are discussed thoroughly next.

I. Human Resource Planning

Human resource planning is an evaluation procedure targeting the current workforce of human capital regarding the current and future organization vision, business expansions, and mergers (Kovačević & Mladenović, 2018). Human Resource planning is about deciding on having the right human capital, with the right skills, recruited in the proper position.

Academics have suggested that since organizations perform in a highly competitive environment, human resource management must focus on having the strategic fit of human capital and organizational objectives to respond effectively to external challenges.

Literature has often identified HR planning as the process of estimating the demand for human capital by assessing the size, nature, and activities of a specific task that is required to achieve organizational objectives (Akey et al.,

2017). This indicates that HR planning is considered the thinking stage before the implementing stage of any strategic decisions made by the organization. Referring to previous studies, HR planning happens through three stages (Fahed-Sreih, 2018):

- 1) **Stage one:** HR professionals start planning by considering the qualitative aspects of the job description, mainly focusing on employees' skills and appropriateness to the organization's future vision. HR professionals need to refer to the available data in the current workforce's skill inventory to decide on the desired digital skills needed to obtain the organization's objectives. Since digital workplace transformation implies specific changes and modifications to several job activities, HR professionals must reassess the available digital technologies sources and workforce skills and construct a strategic selection and recruitment plan to hire specific talented candidates and design good entry-level digital workplace training programs.
- 2) **Stage two:** Then HR professionals shift focus toward the current workforce available in the organization and design a long-term training and development strategy to accommodate the changes and advancement created by implementing the digital workplace. In this stage, human resource management should conduct several performance appraisal sessions to determine the current level of digital expertise available and forecast the degree of employee acceptance to the digital workplace transformation. Upon this, HR professionals will construct a strategic training and development plan for the employees aligned with the acquired digital technologies and delivered using modern techniques.

- 3) **Stage three:** after deciding on both strategic selection and recruitment plan and training and development plan, HR professionals start developing appropriate retirement packages for leaving and retiring personnel, as the structural changes ensued of digital workplace transformation would cause specific jobs to be obsolete or merged with others. At this stage, HR professionals have to introduce a mentorship program to prepare the selected employees for the new job's role and responsibilities.

Considering what it has stated above, the researcher concludes that for an organization to achieve its digital workplace transformation, the HR professionals will have to forecast the organizational needs for human capital, consider the internal workforce and the external supply of talented employees, and meet the staffing requirements necessary for the digital workplace transformation. With the HR planning, the organization will fill the gap between what is vital to acquire and what is currently available regarding highly skilled employees. If it is implemented effectively, HR planning is likely to create a competitive edge for the organization, for HR planning is a critical factor in accumulating the desired workforce to adapt to the digital workplace's short and long-term objectives. In this event, HR professionals should consider several factors as they execute the agreed-upon policies and processes, for instance, budget constraint, turnover, contract terminations, employee relocations, employee retirement, and quality in hiring. The human resource management department needs to obtain the support of all levels of management and across departments during the planning process since HR planning is one of the primary functions that contribute to the succession of human resource management agenda, especially during transformational periods

II. Performance appraisal

Comprehensive performance appraisal process is the center of assessing an individual's performance, highlighting potential future career advancement and areas for improving the performance. According to Sanyal & Biswas (2014), Employee evaluation enables HR professionals to distinguish the degree of development required to implement the digital workplace effectively. It is a cumulative process of attaining, analyzing, and recording information about individual performance in the organization (Armstrong, 2009). The performance appraisal would help HR professionals to conduct proper HR planning for the digital workplace transformation, identifying and evaluating current workforce performance.

The input and output of the performance appraisal can determine several career aspects, in terms of compensation and career path, for example, remuneration, pay rise, and promotion. According to Sittisom (2020), performance appraisal is a merit rating scale that benefits both parties, the employee and the organization, and aids in the decision making process for many aspects, such as:

- 1) **Promotion:** Performance appraisal assists upper management in deciding promotional entitlement for creative employees.
- 2) **Compensation:** Performance appraisal assists upper management in making a decision regarding compensation package for talented employees.
- 3) **Employee development:** Performance appraisal assists upper management in deciding on required training programs for each employee.
- 4) **Selection:** Performance appraisal assists upper management in deciding selection and recruitment vacancies.

- 5) **Communication:** Performance appraisal allows communication channels between the employee and upper management.

Considering what it has stated above, the researcher concludes that for the organization transfers from a classic and traditional workplace to a digital one, the performance appraisal method should be reviewed and developed to reflect the organizational vision of being digitally transformed and the employees' needs and requirements to be digitally capable. HR professionals must consider developing an appropriate performance appraisal method to alleviate some of the digital workplace challenges such as competencies concerns and employee skills concerns. The development of an effective performance appraisal method should cover both individual and organizational digital workplace strategic objectives and result in a high-quality performance in a digital workplace. Since the digital workplace transformation requires highly technical skilled employees, human resource planning will help retain the talented employees and attract the professional candidates required to operate in the digital workplace to fulfill the organization's digital workplace objectives. Therefore, it is crucial to develop an appropriate performance appraisal method that identifies certain digital workplace practices and behaviors to be achieved by the employee. The desired digital workplace practices should be efficiently and effectively measured and clearly explained and communicated to the employees. It is then; the organization will create the best digital practices at this particular transformation stage.

III. Training and development

HR professionals understand the importance of training and development since it is considered one of the primary means to create and sustain a

competitive advantage over the competitors and increase profitability margins (Kozhakhmet et al., 2020). The organization's training and development policy identifies the required training programs and courses for employees to attain the capabilities and skills needed to achieve the job requirements and responsibilities (Sittisom, 2020). The literature review identifies training as a set of activities directed to provide instructions and information for the employee to improve performance, accumulate knowledge, and enhance skills (Al-qudah et al., 2014). On the other hand, academics perceive development as a set of activities that help employees attain new knowledge or skills required for their improvement.

With that, training and development significantly impact improving employees' job performance in a digital workplace. With the gradual transition to the digital workplace, some employees appear to possess less knowledge about using digital tools. HR professionals need to design specific training and development programs to enhance employee's digital experience. In undergoing training programs, employees can develop their knowledge, skills, and abilities to perform the job efficiently and effectively (Kapur, 2018). As discussed by several academics, training and development methods aim to guide the growth of employees in terms of knowledge and skills to perform the job duties operatively and successfully. According to Kapur (2018), as training programs occur, several training methods happen simultaneously in most cases. However, there are two main types of training and development methods, these include:

- 1) **On-the-job training:** referred to training programs initiated inside the organization, for example, coaching, multiple management, and job rotation.

- 2) **Off-the-job training:** referred to training programs hosted outside the organization, for example, conferences and lectures, case method, role-playing, incident method, business game.

Considering what it has stated above, the researcher concludes that for a digital workplace to be implemented as desired and for organizations to achieve their objectives in a high-tech competitive environment, HR professionals, with the support of all management levels, should focus on the appropriate training and development programs according to employees' job responsibilities and activities. The organization will require highly skilled employees with technical expertise to meet their digital workplace objectives. HR professionals are expected first to identify the training demand of the employees and then design suitable training programs. When designing the training programs, it is essential to address the required skills and capabilities needed to facilitate employees' digital workplace adaptation. According to the digital workplace strategic goals, HR professionals will have to plan the training and development policy and address the organization's employee skills concerns. The entire training and development process, starting from deciding on an appropriate training strategy and policy, analyzing the training programs, implementing the training programs and evaluating the training program, and make the necessary adjustments, should reflect both the organizational digital workplace objectives and the employee digital workplace competencies that are appointed in the performance appraisal method.

IV. Workplace environment management

Many academics have studied the impact of the workplace environment on employees, on different aspects, employee's productivity, performance, and

engagement (Hafeez et al., 2019). Raziqa and Maulabakhsha (2015) stated that a workplace environment has two structural dimensions; work and context. The work dimension refers to the different job characteristics, for example, job skills, job activities, job significance, autonomy, and feedback. These characteristics shape the behavioral elements of a workplace environment as it is often associated with the intrinsic value of performing a job. The second dimension is the context. It refers to the physical workplace conditions. The context dimension shapes the physical elements of a workplace environment, as it is often associated with noise, color, temperature, resources, and workplace design (Hafeez et al., 2019). Following this, HR professionals should consistently develop the workplace environment considering the literature supporting the positive impact of the workplace environment on enhancing employee performance and engagement. Chaudhry et al. (2017) confirmed the significant relationship between workplace environment and employee performance. Likewise, Pawirosumarto et al. (2017) concluded that employees who are contented with the workplace environment are more likely to achieve organizational objectives. Similarly, Junejo et al. (2020) claimed that the workplace environment, job satisfaction, and compensation significantly impact employee productivity and engagement.

A series of studies have indicated that organizations that ignore the importance of having a flexible and innovation-prone workplace environment can harm employee performance (Hafeez et al., 2019). The ideal workplace environment, according to academics, should offer safety to employees, job security, good relationships with co-workers, recognition, motivation, and participation in the decision-making process. Raziqa and Maulabakhsha (2015) have elaborated that once employees know that the organization

considers them necessary, they will have a high level of commitment and a sense of engagement.

The literature has also demonstrated the relationship between the workplace environment and organizational culture (Isa, 2016). It is claimed that the organizational culture forms the base of the workplace environment and impacts its elements (Nguyen et al., 2020). Hardiyono et al. (2017) argued that an employee satisfied with his job would have high motivation, high engagement to the organization, and strong work participation. If the workplace environment was not developed constantly according to the external and internal changes, it might restrict employee involvement and responsibility in the organization. It is argued that how employees perceive the workplace environment can determine the employee attitude toward the job and the organization.

Considering what it has stated above, the researcher concludes that for an organization to transfer to a digital workplace, where jobs are being accomplished using a computer and mobile applications, the workplace environment should promote the adaptation of a digital workplace. Employees must have a significant role in the decision-making process. Therefore, HR professionals should consider the necessary changes that need to be implemented to the current workplace environment to support the digital workplace transformation objectives. Digital workplace transformation also involves cultural changes. Thereby, HR professionals have to engage with employees, understand their needs, respond effectively to them through different logistics, and enhance their digital workplace experience and work productively. The organization culture should encourage appropriate information-sharing methods between employees and efficient knowledge management to advocate employees' creative thinking and innovative ideas.

Precisely, the digital workplace environment must reflect a work-life balance scheme, encourage cooperation across departments, offer fair recognition and rewards, support delegation of authority, solve the organization's security concerns. Equally, the workplace environment has to be innovation prone, provide different digital platforms, and emphasize continuous e-learning and knowledge management with digital workplace training and development programs. Only then, the workplace environment's physical and psychological working conditions are ideal for digital workplace implementation.

2.3.2 HR practices in the Telecommunications sector in the Kingdom of Bahrain

The Telecommunications sector in Bahrain is very competitive. According to AL-Alawi et al. (2020), the Telecommunications industry is known for its escalating rivalry between the different organizations. Every organization aspires to reach the top of the market and acquire the majority of the customers more forcefully. The Telecommunications organizations are known for their strong workforce. The human resource professionals continue to explore and encompass new practices to develop and improve their workforce (Naim, 2021). The kingdom's prominent organizations have utilized and systematized their employees' relations more efficiently and innovatively (Al-Shammari & Al-Showaikh, 2021). The human resource practices adopted by the Telecommunications organizations are committed to nurturing the finest Bahraini talents and focus on energizing and inspiring the workforce (Al-Shammari & Al-Am, 2018). According to Al-Buflasa (2019), human resource management has focused on providing professional training programs that develop and create leaders in the workplace. Human resource practices deployed in most Telecommunications organizations aspire to improve

informal communications, promote friendship, support employees, advocate collaboration and citizenship behaviors (Al-Buflasa, 2019). The Telecommunications sector has implemented several human resource practices to achieve the above by using intra-organizational social networks and digital toolsets and creating channels for exchanging thoughts, ideas, conversations, and dialogue between the workforce (Al-Buflasa, 2019).

.2.4 Employee Engagement

Studies on employee engagement have gained momentum in the past few years (Albrecht et al., 2015). However, to trace it back to its origin, early studies have introduced employee engagement as work engagement in the mid-1980s (Meyer & Gagne, 2008). First, Deci and Ryan (1985) presented the self-determination theory. This theory examines employee motivational factors and sets employees' behavioral states as the primary drivers of motivation on a professional and personal level. The SDT considers the natural and intrinsic tendencies to perform effectively. According to SDT, the employee must enjoy doing job activities and be naturally interested in developing his skills and capabilities to enhance his performance, without waiting for external reward, as extrinsic motivation; doing job activities for instrumental reasons can take different forms and generate different results. (Ryan & Deci, 2000).

Much existing literature has varied in how employee engagement can be defined and distinguished from employee involvement and employee commitment. For example, Shuck et al. (2017) defined employee engagement as a set of cognitive, emotional, and behavioral factors that direct employees toward achieving positive organizational and personal outcomes. Some academics have suggested that the term engagement is academically

defined as a positive, accomplishing, work-related state of mind identified by vigor, dedication, and absorption in performance (Schaufeli et al., 2002).

To Kahn (2010), employee engagement is demonstrated only when an employee harness himself to his work, to the degree that he fully emerges his physical, cognitive, and emotional resources positively to accomplish work tasks. More broadly, employee engagement is manifested when an employee's relation to the workplace environment is guided by striving to accomplish organizational goals (Macey & Schneider, 2008). Meanwhile, Schaufeli et al. (2010) described employee engagement as positive work-related energy that actively affects employee performance. Islam and Tariq (2018) highlighted the psychological aspect of employee engagement that advocates the notion to measure employee's perspectives about an accomplished task. In the same sense, Rana et al. (2014) represented another perspective of employee engagement, referring to it as an increase in employees' cognitive, emotional and physical state influenced by different workplace environment factors.

2.4.1 Review of employee engagement models

Through literature, academics have proposed several Employee engagement models to describe qualitatively and quantitatively the relationship between an organization and the employees. Several models have identified employee engagement as the strength of employees' mental and emotional connection toward their workplace. Other models suggested that employee engagement is not equivalent to happiness, satisfaction, or well-being. They argued that when an employee is engaged, he is emotionally committed to the organization, and thereby the employee will focus on enhancing his efficiency and productivity. Employee engagement has been an essential element for any organization in recent years, especially with the recent digital workplace

transformation. Table (2-1) illustrates different employee engagement models that have been discussed in the literature (Nasution & Absah, 2019):

Table (2-1): employee engagement models

Name of the model: Kahn Engagement Model
Khan identified engagement as three different psychological conditions: Meaningfulness, Safety, and Availability. An engaged employee can harness his entire self with the job and thereby will display loyalty and ownership. Kahn suggested that engagement is not a static emotion– an employee's experiences with the workplace can result fluctuate over time.
Name of the model: Gallup Engagement Model
Gallup identifies engagement as an employee's sense of involvement, enthusiasm about the job, and commitment towards the workplace. The Gallup model consists of 12 questions to measure and classify employee engagement.
Name of the model: Zinger Engagement Model
Zinger supported the establishment of an employee engagement strategy in every organization. The Zinger model provides managers with 12 keys that impact the involvement, engagement, and dedication of employees. these 12 keys are considered acquire the desired level of engagement.
Name of the model: Aon Engagement Model
Aon defined engagement as a psychological state that results in specific behavioral outcomes that positively impact performance. Aon's Engagement Model addresses interconnected key engagement drivers to identify both engagement outcomes and business outcomes. Thereby, organizations can focus on specific engagement drivers to achieve their objectives.
Name of the model: Korn Ferry Engagement Model
The Korn Engagement Model identifies the drivers of employee effectiveness perceived to result in employee engagement and enhance productivity. This model relies on the assessment of engagement and enablement to provide organizations with insights on the level of employee engagement.
Name of the model: Sirota Engagement Model
Sirota's model introduced three distinctive factors that have been proven to impact employee engagement significantly. Sirota's Three-Factor Model suggests that engagement is obtained through the satisfaction of three main engagement factors: achievement, workforce relationship, and equity.
Name of the model: The Simply Irresistible Organization by Deloitte University

The Simply Irresistible Organization views employee engagement as an outcome of having an ideal functional organization. This model identifies five factors that ensue engagement and 20 fundamental strategies that make the organization a successful entity. In this model, the organization's culture plays a significant role.

2.4.2 Kahn's Theory of Employee Engagement

Khan (1990) defined EE as "the expression of an employee's behaviors in performing a task that creates connections to work and others. It is the personal presence in three distinctive components (physical, cognitive, and emotional)". Khan's model has formed the basis for numerous research and has been severally mentioned in professional and academic research discussing employee engagement. What makes Khan's theory on EE the most referred concept is that Kahn's unique framework separates EE from everyday hard work since it investigates the underlying context of an employee's tendencies to engage. As mentioned above, engagement occurs on three distinct elements (Cole et al., 2011; Rich et al., 2010; Shuck et al., 2011):

- 1) **Cognitive Engagement:** Kahn (1990) suggests that cognitive engagement originates from an employee's perception about his work achievements, safety (physically and emotionally), and the availability of resources to accomplish tasks. Literature on cognitive engagement illustrates the relationship between employee's psychological interpretation of the workplace environment and the degree of engagement (Brown & Leigh, 1996). Favorable working conditions and the availability of the required resources to accomplish a task result in cognitively engaged employees. Khan (2010) further supports his claims with a study that showed that an employee who believes his work matters to the organization is more likely to be engaged. On the contrary, employees who experience unfavorable work circumstances can develop negative emotions and display signs of

exile and burnout (Fredrickson & Joiner, 2002). Cognitive engagement is highly affected by the workplace environment as cognitive engagement revolves around how employees perceive their workplace surroundings and the assigned tasks. Cognitively engaged employees in a digital workplace declare a statement such as "I clearly understand how to use the digital workplace technologies appropriately," "I have the support I need to perform my job using digital workplace technology tools." and "I provide input to my organization about my digital workplace experience."

2) **Emotional Engagement:** Khan (1990) suggests that emotional engagement stems from an employee's emotional investment in his work. Literature confirms the idea that when employees are emotionally engaged with their assigned task, they imbue different emotions, most likely pride, trust, and professionalism. Similar to cognitive engagement, emotional engagement is deeply affected by employee's perception of the workplace environment. Accordingly, these positive emotions can be a catalyst to critical and creative thinking processes that enhance employee performance. Thereby, employees' emotions and beliefs influence the quality of their performance (Rich et al., 2010). Emotionally engaged employees in a digital workplace declare a statement such as "Performing in a digital workplace enhances my skills and work abilities" and "I am satisfied with the digital workplace experience at my organization."

3) **Behavioral Engagement:** Khan (1990) suggests that Behavioral engagement derives from an employee's interaction with his work settings. It is the display of physical manifestation of both cognitive and emotional engagement. Behavioral engagement can also be distinguished from the increased level of effort the employee exhibit toward achieving organizational objectives (Shuck & Wollard, 2010). According to Khan

(2010), some indicators of behavioral engagement in workplace contexts are planning, on-task attention, concentration, hard work, persistence, attendance, voluntary participation. Since the three psychological aspects of EE can occur interchangeably, the behavior engagement is often accompanied by emotions such as enthusiasm, enjoyment, satisfaction, and pride. Employees who are behaviorally engaged would declare a statement such as "Despite the digital workplace difficulties, I am willing to overcome them to continue the organization's digital transformation process" and "I am encouraged to continuously develop my digital workplace skills."

For the past decades, employee engagement has gained interest among both academics and practitioners. This interest is traced to Kahn's (1990) theory on EE. This original concept of engagement and others mentioned above considers engagement as a psychological state that varies within employees and between them (Sonnentag et al., 2010).

2.4.3 Impact of Employee Engagement

Considerable scholars and academics have advocated the notion that employee engagement can result in desirable work behaviors and, thereby, enhanced job performance (Inceoglu & Fleck, 2010; Rich et al., 2010). A critical reference about the link between employee engagement and performance is derived from Social Exchange Theory, which states that when employees are provided with opportunities for training and development, support, and feedback, they seek to respond with tremendous effort and focus on the assigned tasks (Carter et al., 2018). Therefore, A diligent employee who has a sense of purpose will display signs of personal initiative, adaptability and most likely be persistent in making considerable efforts to achieve organizational goals (Macey et al., 2008). Byrne (2015) claimed that

engaged employees could employ varying emotional and cognitive levels on an assigned task and thrives to accomplish task activities. It is believed that highly engaged employees display a great passion for the assigned work, understand the significance of the assigned task and illustrate loyalty for the organization compared to disengaged employees. Several existing theories emphasized that employee engagement results in higher job performance and can improve motivation (Parker & Griffin, 2011). Stairs and Galpin (2010) discussed that engaged employees significantly influence job performance in their study. Supporting this claim, Bakker and Bal (2010) investigated the relationship between employee engagement and performance. The findings indicated that employee engagement and job performance were positively related. In this regard, Gorgievski et al. (2010) stated that employee engagement significantly impacted task and contextual performance. Thus, the majority of the studies have outlined the positive relationship between employee engagement and job performance.

Prior studies have shown that engaged employees are more inclined to develop creative solutions, think innovatively and apply flexible resolutions in challenging situations (Eldor, 2017). For instance, a study conducted by Slatten and Mehmetoglu (2011) assists the notion of the relationship between employee engagement and creativity, as the findings suggested that engaged employees are more inclined to develop innovative behavior. Slatten and Mehmetoglu's (2011) study has also highlighted the importance of frequently measuring employee engagement to determine the innovative behavior of the workforce. In sum, engaged employees are efficiently productive and deploy innovative approaches to attain organizational outcomes (Ahmetoglu et al., 2015).

At the organizational level, research on employee engagement argued that organizations could benefit mainly from their engaged workforce. Employees' sense of engagement makes them enjoy performing tasks and duties, developing creative thinking, and aiding the organization to move ahead even in uncertain situations or during challenging times. Existing theories have also proposed a strong and positive relationship between employee engagement and many organizational outcomes. For instance, a study of 125 organizations suggested, with statistical evidence, a significant correlation between employee engagement and several organizational outcomes such as profitability and productivity (Harter et al., 2006).

Employee engagement is critical to any organization. Research has asserted that engaged employees are more productive, creative thinkers, loyal to the organization, and interact positively with other employees. Further empirical research has provided evidence of the impact of highly engaged people on job attitudes. Eldor and Harpaz (2016) discussed how fully engaged employees often experience positive emotions, such as joy, interest, and enthusiasm, enhancing employees' thought-action reactions and expanding their creativity. Engaged employees who experience positive emotions are highly motivated, more open to new experiences, and more likely to think creatively and enhance their work results (Eldor and Harpaz, 2016).

2.5 Digital workplace transformation and employee engagement

This section provides an analytical view of the relationship between digital workplace transformation and employee engagement. Referring to recent literature, it is evident that digital transformation has become one of the prominent topics researched by academics. Several previous studies have

emphasized the significant effect of digital technologies across all-level workforce (Ostrom et al., 2015). Jonsson et al., (2020) study aimed to create an in-depth understanding of the digital transformation influence on employee engagement. The study concluded that digital transformation could be perceived as a factor that positively influences employee engagement. The study also stated that managers should not overlook the importance of having digital transformation strategies that support systems, transparent, and well-communicated to increase employees' engagement level.

Likewise, Abhari et al. (2021) study critically investigated the implementation of digital transformation to determine its success factors from the employees' perspective. The study concluded. It is imperative to consider the employee as strategic participants to improve the success rate of digital transformation. The study suggests that digital transformation is more than acquiring and implementing new technologies; it is also about the employees it affects. Therefore, managing employee engagement during the digital workplace transformation should be one of the primary considerations for upper management and HR professionals.

Attaran et al.'s (2019) research on the digital workplace has studies the evolution of the workplace over the past years. The study emphasized the importance of proper implementation, as the organization can create a substantial working environment. The study suggested that an agile digital workplace transformation should provide a balanced work-life program for the employees while simultaneously achieving organizational goals and increasing productivity. The study concluded that the success of a digital workplace relies on a well-orchestrated strategy that addresses all aspects; technological and social aspects. To guide the transformation process to enhance employee engagement and meet the digital workplace objectives,

Kahn (1990) stated that organizations must include the employees in every transformation process step. Thereby employees will be physically engaged through the transformation process and will be able to cognitively and emotionally express their outtakes of the digital workplace. As a result, the HR professionals will be able to deduct negative perspectives and emotions and address them appropriately.

The extensive review of previous studies indicated the association that positive employee engagement is one of the digital transformation success factors; however, further analysis has suggested that some organizations are merely focusing on the technological aspects of the transformation process and do not exert the same attention to the social and psychological aspects.

Andrus et al., (2019) study on digital transformation in financial services survey showed that 76% of the respondents think it is important to work for a digital-enabled organization. On the other hand, only 38% of the respondents agree or strongly agree that their organization does not offer employees digital training programs for skill development to thrive in a digital workplace environment.

The term "technostress" was discussed in Melián-González (2019) study about the impact of digital technology on work. In this study, the researcher argued that new opportunities and facilitation provided to employees due to digital transformation could result in a new type of stress. Like any other kind of stress, technostress harms employees.

Melián-González (2019) further explained that several studies have found that technostress has a significant negative influence on employees' productivity, performance, commitment, and engagement.

In a study conducted by Ragu-Nathan et al. (2008) to explore the phenomenon of technostress, the researcher explained technostress as a kind of stress that

users of Information and Communication Technologies experience. The study aimed to examine the influence of technostress on employees' job satisfaction, commitment, and retention. The findings stated that technostress influences employees and organizational outcomes and usually occurs in organizations that overlook the bivalent nature of workplace-technology integration.

Research conducted by Anderson (2010) claimed that when organizations go under radical changes, the process could affect employees' experience. The organization's responsibility is to manage and eliminate negative emotions that may arise during the transformation period and reverse them into positive energy that would support the transformation process.

Keane's (2018) study supported the previous findings. The research acknowledged the lack of research investigating how computerized technologies undervalued the required human skills and how employees perceive them.

The study stated that employees' perceptions about job security, the possibility of downsizing, and career opportunities, as the organization initiates changes in standard policies, regulations, and procedures due to digital workplace transformation, could cause employees to experience job stress and disengagement feelings.

From the above theoretical findings and the current practice in literature, it is evident that there is an association between initiating digital workplace transformation and employee engagement level. Building from these previous studies, this research aims to analyze the relationship between human resource practices and employee engagement in the Telecommunications sector in the kingdom of Bahrain. However, the author of this research differs from the previous studies by offering organizations an insourcing solution to implement a successful digital workplace while simultaneously enhancing

employee engagement levels. This study will investigate the moderating influence of human resource practice (HRP) on facilitating digital workplace transformation (DWT) and while enhancing employee engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

2.6 Human Resource practices and employee engagement

This section presents a critical analysis of literature to examine the relationship between human resource practices and employee engagement. It is assumed among academics that human resource practices manage all employee affairs aspects in the organization. By examining the literature, studies on HR practices have identified different HR practices with different names and definitions.

A study conducted by Robbins and Judge (2012) has restricted human resource practices on recruitment and selection, training and development, and performance management. The study suggested that these practices have to be appropriately managed to aid the organization in achieving its objectives. The study also discussed how HR practices should be considered practical tools for enhancing employees' organizational commitment.

A different set of human resource practices have been investigated in a study conducted by Aktar and Pangil (2017). the researchers aimed to analyze the relationship between human resource management practices, such as career advancement, job security, and performance, and its influence on employee engagement, based on the social exchange theory. The quantitative approach of the study revealed that human resource management practices significantly

and positively influence employee engagement. The study also indicated that proper human resource management practices would affect employees' perception as they feel valued, recognized, and appreciated. As a result, it will increase employee engagement levels.

Furthermore, Alba and Alafeshat (2020) investigating the impact of human resource practices on employee engagement in the airline industry in Jordan. The study was based on social exchange theory. The study explored the impact of recruitment and training on employees' psychological states. the researchers chose these two specific practices due to their vital role in creating a competitive advantage. The study's qualitative approach confirmed the significant impact of human resource practices on employee engagement levels. The study suggested that managers and policymakers consider the relative impact of human resource practices in attracting and retaining efficient employees. Furthermore, the study findings offered a conceptual framework to support future studies in this field.

Mihalcea (2017) conducted a study to identify different trends and strategies related to talent management and digital skills development in the workforce. The study indicated that managers and HR professionals should create a collaborative culture, design a working environment that engages employees, and construct a new model of leadership and career development; at the same time, thrive on embracing digital technologies to reinvent the workplace.

However, a recent study conducted by Baiquni et al. (2020) examining the HR practices' influence on employee engagement level have disagreed with the above publications' findings.

Baiquni et al., (2020) study investigated the role of human resource practices and job characteristics on employee engagement and organizational commitment. The study examined the mediating role of employee

engagement on the relationship between human resource practice, job characteristics, and organizational commitment. The study confirmed that HR practice and job characteristics significantly influence organizational commitment, and employee engagement significantly influences organizational commitment. However, contrary to most previous studies, This study results showed that HR practices negatively influence employee engagement. The study attributed this result to the fact that each organization differs in implementing human resource practices.

From the above theoretical findings and the majority of the current practice in the literature, it is evident that there is an association between human resource practices and employee engagement level. Building from these previous studies, this research aims to analyze the relationship between human resource practices and employee engagement in the Telecommunications sector in the kingdom of Bahrain. However, the author of this research differs from the previous studies by offering organizations a different set of human resource practices that literature has strongly connected with the concept of employee engagement during digital workplace transformation.

This research study will investigate the moderating influence of Human Resource Practice (HRP) on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

2.7 Digital transformation in the Kingdom of Bahrain

It appears that the Kingdom of Bahrain is treading on the right path toward digital transformation. According to Qwaider (2021) the most important byproduct of digital transformation is the establishment of an e-Government. The concept of e-government is related to the information and communication technology revolution and its impact on different sector; the industry sector, the Telecommunications sector, the commerce sector and the tourism sector (Gomaa, 2020). The collectiveness of different initiations, for example, gradual establishment of the regulatory framework, the implementation of infrastructure development, and the formation of several committees to supervise the digital transformation and qualify the workforce have allowed the Kingdom to support a smooth digital transformation across the national level (Al-Ammary et al, 2017).

The Government of Bahrain has been among the first to recognize the importance of utilizing technological advancements to assist its citizens, residents, and businesses. Therefore, the country has advocated digital transformation before the Covid-19 crisis (Mogielnicki, 2020).

Since 2007, HRH Prince Salman bin Hamad Al Khalifa, crown prince, deputy supreme commander, and prime minister, have appointed several committees and considered different approaches to promoting digital transformation in public and private sectors (Mogielnicki, 2020). However, the recent diffusion of digital technologies due to the Covid-19 pandemic has urged the government to accelerate the paradigm shift in all procedures and functions offered by the government, most importantly, the ones that are related to the interaction and communication between the Government and citizens (Alkadash & Alamarin, 2021).

The supreme committee for Information and Communication Technology, and the supervision of H.H. Shaikh Mohammed bin Mubarak Al Khalifa, Deputy Prime Minister, with the membership of several ministers, is responsible for addressing and solving any possible obstacles that may arise during the implementation of the digital transformation in the government sector. Moreover, the committee is responsible for interconnecting with the public and private institutions to ensure joint efforts in preparing and implementing e-government strategies and schemes (Deputy Prime Minister's office, 2020). Alongside this committee works another entity known as the Information and eGovernment Authority. According to Kamali (2018) the government has invested logistic and human resources to create a strategy and develop policy, law and infrastructure to achieve its goals, and that is to make the e-Government, the leader in the region and to provide multiple automated services to all citizens and expatriates.

One of the central business lines offered by this authority is the Digital Transformation Line. In this line, the authority is responsible for developing systems and frameworks that deliver digital public services to government associates, individuals, or business sector beneficiaries. This is achieved through hosting Change Management methodologies across different ministries and preparing the workforce to manage the digital transformation changes and challenges (Information and eGovernment Authority, 2020).

2.7.1 Bahrain's Digital government Journey and the Role of the Telecommunications sector

The Kingdom's Digital transformation manifested majorly on the emergence of e-Government, and it has been evolving through the years (Al-Ammary et al., 2017). In order to facilitate the connection between e-Government and the

citizens, the kingdom of Bahrain invested heavily in the Telecommunications sector to expand its information and communication Technology infrastructure (Mogielnicki, 2020).

The information and communication technology infrastructure is the basis for a successful implementation of e-Government, besides diffusion and adoption (Alkhusaili & Aljazzaf, 2020). The information and communication Technology infrastructure being as the Telecommunications organizations have considered different aspects to enable effective and professional cooperative and interactive working environment (Al-Ammary et al., 2017)

As a result, Telecommunications organizations developed a comprehensive strategy to hire a technically qualified individual to adopt and advocate digital transformation among the workplace and the citizens (Kamali, 2018). Employees accomplished several hands-on functions by using digital applications, and this approach has helped in offering citizens who do not have the internet at home or were not affluent with digital set tools to get access to e-Government services through specially equipped public places as commercial cyber. As a result, The Telecommunications sector has played a significant role in helping the kingdom to be within a leading position in the region in Digital Transformation (Mogielnicki, 2020).

2.8 Research model

Literature has proposed several models and theories to produce several frameworks for enhancing employee engagement. Wright et al. (1994) considered HR practices as the portal in which employee perceptions and behaviors are shaped. Besides, investment in employee development creates a sense of obligation by employees towards the organization and motivates them to enhance their performance to achieve organizational objectives (Lee

& Bruvold, 2003). Bailey (1993) stated that HR practices are often under-utilized by the organization. He further argued that HR practices could influence employee skills and increase employee motivation, which can be witnessed in employees' ability to control their performance quality.

Alba and Alafeshat's (2020) study on the impact of recruitment and training on employees' psychological state suggested that managers and policymakers consider the relative impact of human resource practices on attracting and retaining efficient employees. Sittisom (2020) study examined the role of human resource practices; training and development, reward system, recruitment and selection, and performance appraisal on employees' organizational commitment. This study has highlighted the significant relationship between human resource practices and employee's organizational commitment.

From the above theoretical findings and previous studies, this research seeks to address the relationship between human resource practices and employee engagement. This research aims to further analyze the relationship between human resource practice and employee engagement by adopting four practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

While studies continue to demonstrate the relationship between HR practices and employee engagement, with the modern technological shift, the focus on achieving digital workplace transformation has obscured employee engagement amid this. Most literature justifies the application of digital workplace transformation in several industries. However, recently, digital workplace transformation has become a management issue for organizations rather than a technical issue (Li et al., 2017).

Jansson et al. (2020) studied the influence of digital transformation on employee engagement, and his study concluded that digital transformation could be perceived as a factor that positively influences employee engagement. The study offered several recommendations for managers to consider while designing the digital workplace transformation strategy. The study emphasized the importance of having a strategy that addresses the social and psychological aspects during the transformation process.

From the above theoretical findings and previous studies, this research seeks to address the relationship between digital workplace transformation and employee engagement. This research aims to analyze further the relationship between digital workplace transformation and employee engagement.

The discussion concerning the link between human resource practices and employee engagement has reached an exciting crossroads. With the recent integration of digital transformation in different industries to evade economic challenges, the digital workplace concept has emerged and has become an essential element for organizational success.

The formulation and implementation of the digital workplace have become a core issue (Chanias et al., 2019). Current studies on digital workplace transformation primarily focus on augmenting the physical workplace with information technology and information systems and assigning the information technology department as the main responsible for the transformation process, thus, disregarding the social and psychological aspects of the digital workplace transformation. Therefore, there is a considerable empirical gap in exploring the moderating role of human resource practices in facilitating the relationship between digital workplace transformation and employee engagement.

Therefore, this research seeks to address the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement. Upon that, the primary objective of this research is to investigate the moderating influence of Human Resource Practice (HRP) on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

2.9 Research conceptual model

After reviewing the literature, The conceptual research framework chosen for this research study was formulated based on the critical analysis of the previous studies' theoretical findings and the current practice in the literature. While constructing the conceptual framework, the researcher referred to the current situation of digital workplace transformation in the Telecommunications sector. The researcher also studied the human resource management department practices in several prominent Telecommunications organizations in Bahrain to develop a better understanding.

To illustrate the conceptual framework underlying the empirical research assumptions, different theoretical and empirical studies were explored, but the researcher chose the variables that address the research objectives and answer the research questions. Moreover, the researcher considers the different environmental factors in the Kingdom of Bahrain.

Therefore, following Khan's (1990) study findings on employee engagement as a multidimensional construct, where employees could be emotionally,

cognitively, or physically engaged, as detailed in his study conceptual framework presented in figure (2-1), the concept of "Employee engagement" was selected as the dependent variable for this research.

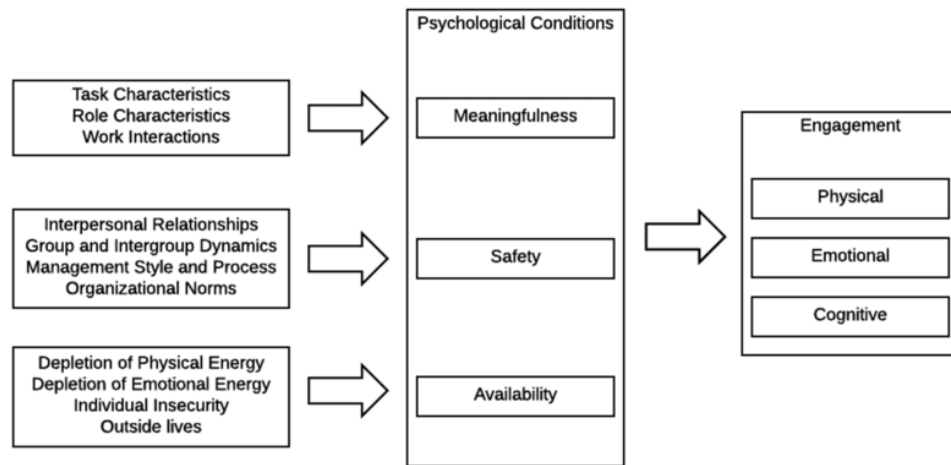


Figure (2-1): A framework for the Employee Engagement (Khan, 1990)

Following Udovita (2020) proposed Dimensions of Digital Transformation detailed in figure (2-2). These building blocks work interchangeably to create the concept of digital agility during digital workplace transformation. As detailed in Udovita's study framework for dimensions of digital transformation, presented in figure 1, the concept of "Digital workplace Transformation" was selected as the first dependent variable for this research.

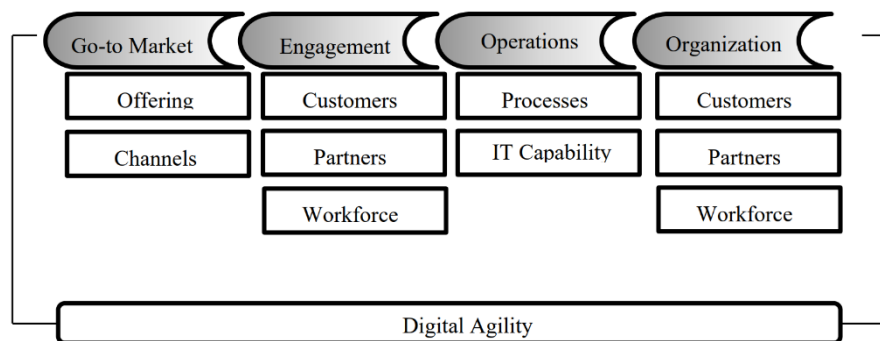


Figure (2-2): A framework for dimensions of digital transformation (Udovita, 2020)

Following Sittisom's (2020) study findings to examine the role of human resource practices on employees' organizational commitment. The study concluded that human resource practices such as training and development, reward system, recruitment and selection, and performance appraisal positively influence employees' organizational commitment. According to the detailed conceptual framework of the study presented in figure (2-3), the concept of "human resource practices" was selected as the second dependent variable for this research.

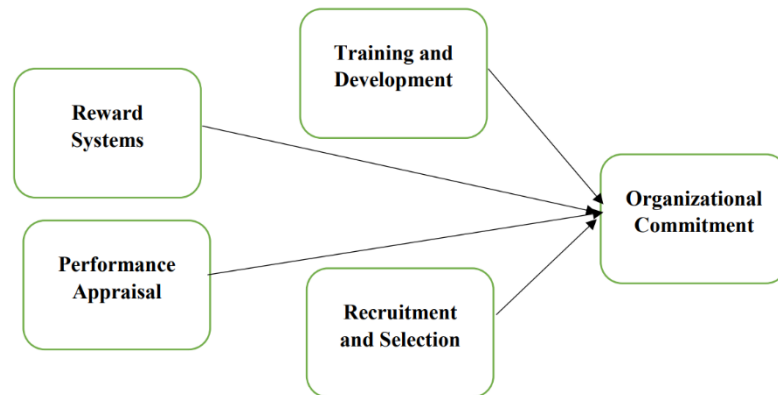


Figure (2-3): A framework for the human resource practices (Sittisom, 2020)

However, in this research, the researcher adopted two HR practices, training and development, and performance appraisal, from Sittisom's study and included HR planning and workplace environment management, since digital workplace transformation will require re-structuring of organization's strategies policies, operations, and positions. Therefore, the human resource practices construct for this research consist of four practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management. These four HR practices will achieve the research

objectives; to analyze the relationship between HR practices and employee engagement with the digital workplace transformation context.

Academics believe that a successful digital workplace is attributed to the human capital factor, as some would call the digital workplace transformation as human transformation (Tabrizi et al., 2019), but based on the discussed literature in this chapter, studies are still seldom in investigating potential moderating factors in the relationship between digital workplace transformation and employee engagement. Thereby, Human Resource Practices were selected as the moderating variables for this research.

All independent, dependent, and moderating variables selected to construct the research framework were tested with the help of a sample survey. Figure (2-4) below demonstrates the research framework adopted to carry out this research study.

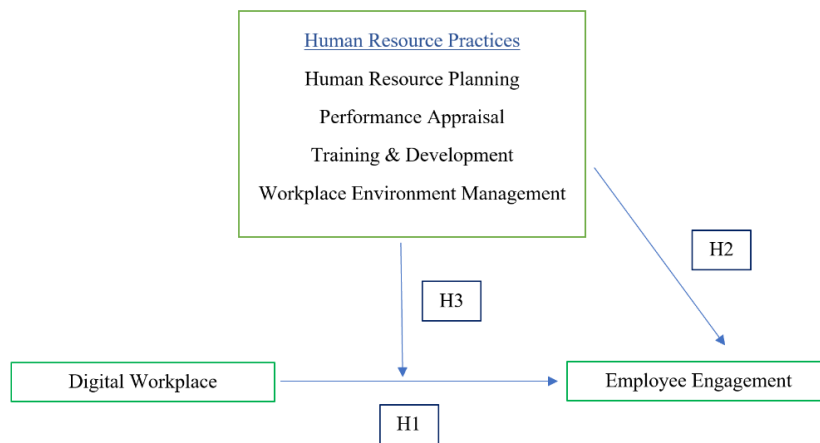


Figure (2-4): The research conceptual framework (Developed by the researcher)

This framework was constructed for this research study to give insights to organizations that aim to implement a successful digital workplace while considering the social and psychological aspects of the employees in the concept of employee engagement.

2.10 Research Variables

This research focuses on studying the moderating role of Human Resource Practices in the relationship between the digital workplace and Employee Engagement. Two independent variables are chosen; Digital Workplace transformation and HR practices. One dependent variable chosen; Employee Engagement, and one moderating variable chosen; Human Resource Practices, which consists of four sub-variables (Human Resource Planning, Performance Appraisal, Training and Development, and Workplace environment management). All these variables which are used to conduct this research study are discussed as follows:

- 1) **Digital Workplace Transformation:** This is one of the independent variables of the study. Since it has been necessary for organizations to have a competitive advantage in the current unstable market, one of the modern trends adapted by organizations is to advocate digital transformation. It has been proven that digital workplace transformation has a significant impact on organization productivity, performance, revenue, and operational costs reduction. Haddud and McAllen (2018) have recognized the digital workplace as a workplace encompassing all the technologies to efficiently help employees perform their daily tasks. It ranges from an employee portal, HR portal, core business applications, and knowledge management to mobile enablement, chat and collaboration tools, and virtual meeting tools. According to Williams and Schubert (2018), digital workplace

transformation includes three distinctive categories; deciding on organizational digital workplace strategy, investing in digital platforms, and qualified employees. Hamburg (2019) has stated that although digital workplace transformation can improve business operations, it should be considered as a radical change affecting a wide variety of different elements in the organization.

- 2) **Employee Engagement:** This is the dependent variable of the study. The concept of employee engagement is constructed of three interrelated elements: physical engagement, cognitive engagement, and emotional engagement (Khan, 1990). Employee engagement is also referred to as the affirmative state of mind about the workplace environment, which is also traced back to Khan's three elements of workplace environment; meaningfulness, safety, and availability. Thereby, The increased investment in technology and the recent shift to the digital workplace must impact employees' level of engagement. Several works of literature have recognized employee engagement as the product of workplace variables. This actively demonstrates the assumed relationship between digital workplace transformation and employee engagement exhibited behavior (Physical, Cognitive, and Emotional). This study suggests that when an employee is passionately involved in the digital workplace transformation process, he will exert physical capabilities using digital workplace tools; physical engagement. Whereas cognitive engagement will ensue as the organization communicate the organizational digital workplace transformation process with the employees and assign digital training programs to employees. On the other hand, emotional engagement will manifest as the employee starts feeling a passionate attachment to the organization due to involvement in decisions and digital workplace

transformation. Therefore, through this explanation, the first hypothesis was formulated as follows:

Hypothesis 1: There is a significant relationship between digital workplace transformation and employee engagement.

3) **Human Resource Practices:** This is an independent, as well as a moderating variable of the study. Studies on employee engagement have supported the notion that HR practices have a significant impact on employee outcomes. These studies have stated that both employees and organizations must corporate and develop shared values and objectives to attain the organization's objectives (Bedarkar & Pandita, 2014). As a result, employee engagement should be considered as a digital workplace strategy is formulated and implemented. Therefore, to enhance employee engagement during a digital workplace transformation, the organization must be flexible, involve employees more frequently in decision=s, and provide a continuous stream of learning and development programs. This argument has been presented in different studies about employee engagement, demonstrating that the concept of employee engagement should remain in an evolutionary state (Taghipour & Dejban, 2013). Empirical studies have presented a link between high levels of engagement and high-performance HR practices. This study includes four HR practices moderating sub-variables: HR planning, performance appraisal, training and development, and workplace environment management. Based on empirical findings, HR practices are positively related to employee engagement. The study assumes a direct relationship between HR practices and employee engagement and a moderating influence on the relationship

between digital workplace transformation and employee engagement. Thus the second and third hypothesis was formulated as follows:

Hypothesis 2: There is a significant relationship between human resource practices and employee engagement.

Hypothesis 3: Human resource practices have a moderating role in the relationship between digital workplace and employee engagement.

2.11 Previous Studies about Digital workplace transformation, Human resource practices and Employee Engagement.

Udovita, P. (2020) study titled: "**Conceptual Review on Dimensions of Digital Transformation in Modern Era**" is a concept research study that explores different definitions, perspectives, and models to identify the term digital transformation. The study adopted a qualitative approach by presenting an excessive literature review as the study instrument tool to answer the research question holistically -to propose a proper definition for digital transformation – and understand how an organization can succeed in implementing digital transformation. The study concluded that there are three crucial areas that organizations have to consider in order to formulate and implement a successful digital transformation strategy, and they are Go-to-Market, engagement, operations and organization factors. The study also offers a discussion on empirical insights to direct future studies. This study has highlighted the importance of workforce engagement and the working environment during digital workplace transformation. However, the study did not offer an empirical investigation to validate the suggested findings.

Winasis et al., (2020) study titled: "**Digital Transformation in Indonesian Banking Industry: Impact on Employee Engagement**" investigated the influence of digital transformation on human resource practices, the working environment, and the psychological condition of employees. The study followed the quantitative approach with a survey method. The survey targeted 41 employees working in a private bank in Indonesia that has implemented technological-based changes. The study concluded that engaged employees are more innovative and operative during digital transformation. This study has highlighted the significant relationship between digital transformation and employee engagement. However, the findings of the study cannot be generalized due to the small sample size.

Lisova, O. (2020) study titled: "**Business plan: digital workplace solution for business management and employee engagement**" aimed to develop a business plan for an organization. The organization is seeking digital workplace transformation to improve its management style and employee engagement. The study adopted both a quantitative approach and a qualitative approach to meet the research objectives. As a result, the study presented a business plan that responds to internal and external factors affecting the organization and identified the areas that are positively and negatively impacting the organization's success as they implement a digital workplace solution. The dual-research approach adopted by the researcher strengthens the validity of the proposed business plan, as the qualitative approach constructs a holistic understanding of the circumstances and the quantitative approach offered a systematic analysis to design the business plan appropriately. However, the offered business plan has been developed for a specific organization, and it was based on the internal and external elements

affecting this organization's business, which may differ in other organizations.

Lagus's (2020) study titled: "**Implementation of a digital workplace from the perspective of employees.**" aims to investigate employees' perception of the change process ensured by implementing the digital workplace and the role of change management in facilitating the transformation process. This study draws on the literature on change management and the digital workplace in addressing the aim of this study. The study adopted the qualitative approach to answer the research questions. The researcher conducted in-depth interviews with six employees working in different industries. The study concluded the organizations focus on the technological aspects of the digital workplace transformation and tend to overlook the social and psychological aspects. This impacts employees' satisfaction, productivity, and engagement. This study has highlighted the significant relationship between digital workplace transformation and employee engagement. However, the findings of the study cannot be generalized due to the small sample size.

Alzyoud's (2018) study title: "**The influence of human resource management practices on employee work engagement.**" investigated the proposed influence of Human Resources Management practices on employee engagement. The study selected four human resource management practices; employee communication, employee development, rewards, and recognition as the independent variables. The study adopted a quantitative approach to measure the direction and strength of the relationship between human resource management practices and employee engagement. The study sampled 151 employees from the manufacturing industry, and the survey method was used to collect reliable data. The study concluded that human resource management

practices influence employee engagement. Furthermore, the study offered managers some insights about developing human resource management practices. The study has highlighted the significant relationship between human resource management practices and employee engagement. Although the findings of this study agreed with other previous studies' findings, further elaboration on how organizations can manage the four selected human resource management to influence employee engagement level is needed.

Sittisom's (2020) study title: "**The Impact of Human Resource Practices on Organizational Commitment of the Pharmacy Employees in Thailand.**" examined the role of human resource practices; training and development, reward system, recruitment and selection, and performance appraisal on employees' organizational commitment. The study followed the quantitative approach and collected related data from employees working in the pharmacy business in Thailand, using the survey method. The sample size consisted of 650 representatives. The study concluded that human resource practices such as training and development, reward system, recruitment and selection, and performance appraisal positively influence employees' organizational commitment. This study has highlighted the significant relationship between human resource practices and employee's organizational commitment. This study has presented an academic and easy-to-follow research flowchart. However, the study lacks further elaboration and recommendations on how organizations can efficiently implement human resource practices to influence employee organizational commitment.

Jose's (2012) study title: "**Satisfaction with HR Practices and Employee Engagement: A Social Exchange Perspective.**" this study investigates the relationship between employees' satisfaction with human resource practices

and their level of engagement in a conceptual manner. The study adopted a qualitative approach; it draws on literature and secondary data to identify the research question. The study concluded the relationship between employees' satisfaction with human resource practices and their level of engagement within the social exchange context. The study has highlighted the significant relationship between human resource practices and employee engagement. The study also thoroughly discussed the decline in employee engagement and its negative impact on its outcomes. However, the study did not offer an empirical investigation to validate the suggested findings; a qualitative approach is needed to understand the findings better.

2.12 The research gap

The topic of employees' role in digital workplace transformation has been discussed in other literature. The findings have suggested the importance of considering employee engagement level, as both a component and a consequence, in implementing a successful and efficient digital workplace (Jonsson et al., 2020; Abhari et al., 2021). Moreover, digitalization studies have recognized employees as the key driver for changes and improvements in organizations. Moreover, previous studies have emphasized the significant impact of human resource practices in influencing employees' behavior and attitude towards the organization's mission and objectives (Aktar & Pangil, 2017; Alba & Alafeshat, 2020). However, further analysis is necessary to identify the precise role of human resource practices in facilitating the digital workplace transformation while enhancing employee engagement during the transformation process, especially in the Kingdom of Bahrain. This study aims to investigate the moderating influence of Human Resource Practice (HRP)

on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management in the Telecommunications sector in the Kingdom of Bahrain.

This research study will examine evidence of these proposed relationships using a quantitative method instead of the qualitative method that has been adopted in several previous research studies in the same topic field. The data will be gathered from the Telecommunications sector employees. A specific questionnaire will precisely reflect and measure the research study variables to ensure valid and reliable results. The research methodology adopted for this research study will conclude whether establishing a successful digital workplace transformation while maintaining a significant employee engagement level is facilitated by four certain human resource practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

2.13 Chapter Summary

This chapter explores the relationship between digital workplace transformation, HR practices, and employee engagement by examining various previous literature and presenting several academic perspectives. This chapter explains in detail the digital workplace phenomenon. It also presents the human resources practices that should be considered to peruse a digital workplace transformation. Furthermore, it identifies the immense role of employee engagement in creating a productive workforce environment and help the organization achieve a competitive edge. The researcher outlines the

research framework undertaken to conduct the study and the formulated hypotheses and identifies the different variables. With the recent digital shift, researches discussing the relationship between digital workplace and employee engagement are done worldwide in various countries. However, empirical studies discussing the role of HR practices in this relationship are still scarce and have not received sufficient research attention in GCC countries. Therefore, this research will have its importance and significance based on the telecommunications sector in the Kingdom of Bahrain.

The next chapter presents the research method, research design, and research approach. Moreover, the research data collection method is discussed.

Chapter Three: Research Methodology

3.1 Introduction

This chapter examines the fundamental concepts and terms discussed in this research and based on the previous empirical studies presented in chapter two. In this context, this chapter explains the framework adopted for this research to explore the influence of HR practices on facilitating the relationship between digital workplace transformation and employee engagement and provide a holistic view of the procedures used to test the variables and interpret the results.

This chapter describes the study's research design in a detailed manner, followed by the research approach and a discussion about the target population and the research sample. Furthermore, this chapter illustrates the research flowchart, explains the data collection method, demonstrates the questionnaire development process, and identifies the conceptual and operational definitions of the variables. Besides, clarification about the questionnaire sources and a brief explanation of the statistical tools used and the questionnaire pilot test are included in this chapter.

3.2 Research Flowchart

The research flowchart aims to illustrate the various steps adopted by the researcher to complete the study. Therefore, this research flowchart aims to display the direction of the research in a diagrammatic manner. Figure (3-1) mentioned below describes the complete flowchart of this research study:

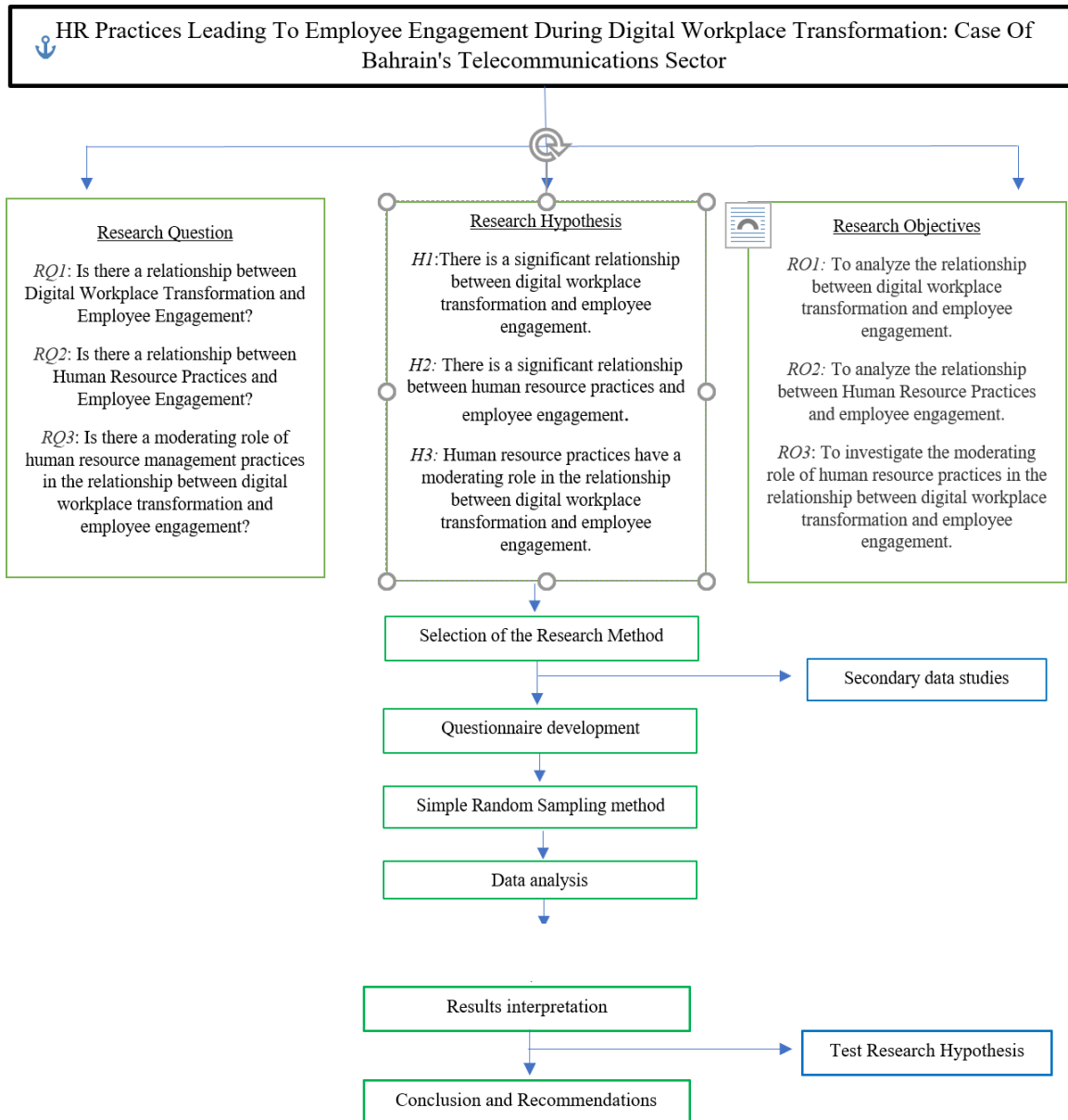


Figure (3-1): The Flowchart of the research study

3.3 Research design

The Research Design is an essential step in every research work since it identifies the various approaches and techniques chosen by the researcher to answer the research questions scientifically and efficiently.

According to Jagtap (2015), the researcher has to carefully the research design according to the nature of the study. The research design can significantly influence the reliability of the research findings. Therefore, to develop a solid base for this research and investigate the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement, the research design constructed to assist the researcher to determine the type and direction of human resource practices influence, and further demonstrate the acceptance or rejection of the researcher's proposed hypotheses.

Consequently, this research follows the quantitative research methodology, starting with stating the deductive logic from the existing literature about digital workplace transformation, human resource practices, and employee engagement as exploring the literature help the researcher to construct the research hypotheses After that, the researcher decides on the suitable data collection method to collect primary data.

Due to Coved-19 and remote-working conditions, the survey method was chosen to collect the appropriate data from the representatives. The survey, a predesigned questionnaire, is known to be time-convenient, not bias, can cover a wide range of target respondents. According to Aquino et al. (2018), the survey method helps the research be more transparent, as research transparency ensures accurate samples are acquired, consistent data analysis, and factual conclusion and recommendations.

The study results are discussed in descriptive and inferential statistics to form statistical evidence of the relationship between digital workplace transformation, human resource practices, and employee engagement. Different statistical techniques, normality test, reliability analysis, correlation, Mean and Standard Deviation, and PROCESS v3.5 test were applied to

determine the relationship between the independent, dependent, and moderating variables. Table (3-1) mentioned below presents the different variables used to conduct this research study.

Table (3-1): Independent, Moderating and Dependent Variables

Independent variable	Moderating variable	Dependent variable
Digital workplace transformation (DW)	Human Resource Practices (HRP):	Employee engagement (EE)
Human Resource Practices (HRP)	Human Resource Planning Performance Appraisal Training and Development Workplace Environment	

3.4 Research method

There are two research methods for collecting data, and they are the qualitative method and the quantitative method.

The Qualitative method aims to develop in-depth opinions from the study participants. It explores relative participants' attitudes, behaviors, and experiences. This method can be achieved by adopting different instrument tools; the most common ones are interviews and focus groups (Denzin & Lincoln, 2005).

This method has several advantages; the qualitative method requires a smaller sample size, eliminating any bias protentional in the collected data. Furthermore, the Qualitative method provides an intense and accurate data collection. It helps the researcher to develop a greater understanding of each participants' opinion. However, due to its inductive nature, the qualitative method deals with non-numerical data, and its findings are difficult to be generalized (Denzin & Lincoln, 2005).

On the other hand, The Quantitative method aims to provide statistical justifications to the research findings. This method uses a large-scale survey for data collection. This method can be achieved by adopting different instrument tools; the most common ones are structures interviews and questionnaires (Kumar, 2012).

This method has several advantages; quantitative approach research findings can be generalized due to the large sample size. In this method, the researcher chooses a sample that resembles the population; thereby, the research findings can be generalized. Moreover, the sample is selected randomly, eliminating any bias protentional. This method considers the privacy factor of the participants. Participants are not required to disclose any personal information while responding to the quantitative instrument tool. However, the qualitative method deals with numerical data due to its deductive nature, so it takes a long time to collect data. Moreover, the large scale of the collected data can obscure the depth and the detailed knowledge about each participant (Kumar et al., 2012)

Ending, as a result of the above explanation, the researcher decided to adopt the quantitative method concerning the research design. The researcher opted to generalize the research findings and understand the employees' perspective on digital workplace transformation. Therefore, the researcher developed a large-scale survey to respond to the research questions accurately. Although, upon an extensive review of previous studies conducted in the same topic field, most academics have considered the qualitative method and roughly explored the different concepts of digital workplace transformation, HR practices, and employee engagement to provide consistent secondary data. The researcher, based on the research objectives, desire to draw a generalization of the research findings, and to set hypotheses and test their

accuracy to explore all relative dimensions related to the moderating influence of Human Resource Practice (HRP) on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management.

3.5 Research approach

This section of the research explains briefly the methods used to collect and analyze the data from the questionnaire. From the literature review in chapter 2, most previous studies followed the qualitative approach to investigate the different concepts of digital workplace transformation, HR practices, and employee engagement to provide consistent findings. However, the researcher, based on the research main objective to thoroughly investigate the moderating influence of Human Resource Practice (HRP) on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management, decided to adopt the quantitative approach.

The research variables were adopted from previous theoretical and empirical studies and tested using different statistical methods. The questionnaire constructed for this study consists of closed-ended questions. The questionnaire was sectioned into four sections; the first section addresses the general profile of the respondent, and the other three sections address the research selected variables, respectively. Non-comparative scales measurement techniques, such as continuous rating scale and Itemized rating

scale, were used to analyze the questions. The designed questionnaire was then distributed to employees working in the telecommunications sector in Bahrain using social network applications. Due to the estimated target population of this study and the restrictions imposed as a consequence of the Covid-19 pandemic, it took about three months to collect the required data from the representative sample.

After that, different statistical techniques were used to process and analyze the data obtained from the questionnaire. SPSS was used to conduct several tests on the collected data. A Reliability test to measure the degree of compatibility of the questionnaire was conducted. A Normality test to check the normality of the acquired data and decide on the appropriate tests to precisely analyze the collected data. A correlation test to analyze the proximity of the relationship between the study variables. A PROCESS v3.5 test explores the strength and direction of moderating variable effect on the relationship between the independent and independent variables.

The researcher chose this approach because of the quantitative method and the need to quantify the research variables. Moreover, The numerical nature of the data collection and the deciphering method followed to obtain the research results. This approach is one of the scientific paradigms often applied in academic researches to investigate a particular phenomenon.

3.6 Questionnaire development

While constructing the questionnaire, the researcher referred to previous literature to include all aspects related to the research topic and decide which type of information is needed to be gathered. Nevertheless, the researcher has to complete a preliminary version of the questionnaire, acquiring feedback

from a small representative of the potential respondents to enhance the questionnaire further and collect relevant data.

The final approved framework of the questionnaire was constructed based on the research objectives and the research variables previously discussed in Chapter 2. The questionnaire was sectioned into four different sections to fully acquire the respondent's perception of the role of human resource practices in the relationship between digital workplace transformation and employee engagement.

As showed in the Appendix, the first section of the questionnair was designed to acquire the respondent's profile, the demographic variables and help generate a brief background of the respondent's working experience. The second section consisted of 9 questions related to the independent variable "Digital workplace transformation (DWT)." The third section consisted of 16 questions related to the independent/moderating variable "Human resource practices (HRP)." The fourth section consisted of 10 questions related to the dependent variable "Employee Engagement (EE)."

During constructing and choosing the appropriate questions for the study, the researcher attempted to formulate clear and understandable questions to gather precise responses. Only one version of the questionnaire in the English language was circulated through social network applications to potential respondents. Table (3-2) below illustrates the different sections of the questionnaire with a brief description of the above.

Table (3-2): Questionnaire sections

Section Number	Section Name	Section Description
One	Demographics	Investigate the demographic information related to the respondents in terms of gender, age, academic qualification, profession
Two	Digital workplace transformation	Measuring the different aspects of digital workplace transformation implemented in the respondent's telecommunication organization and its efficiency.
Three	Human Resource Department Practices	Measuring the four different human resource practices; Human Resource Practices, Performance Appraisal, Training and Development, and Workplace Environment Management, performed in the respondent's telecommunication organization, and its efficiency
Four	Employee Engagement	Measuring the respondent's cognitive, emotional, and behavioral engagement during digital workplace transformation

3.7 Research Population

The population of a study is defined in several previous research as a group of individuals whose contribution is needed to determine the outcomes of a specific study. A study population depends mainly on the research study's nature (David, 2019).

This research aims to investigate the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement in the telecommunications sector in the kingdom of Bahrain. Therefore, the data gathered to conduct this study and the results

ensued are beneficial for Telecommunications organizations and their HR professionals employees in the Kingdom of Bahrain; to adopt specific practices to enhance employee engagement during digital workplace transformation. Nevertheless, the research will add to the accumulative literature on digital workplace transformation implementation and managing in the kingdom of Bahrain since there has been widespread digital awareness in the kingdom.

For this research, the population is all levels (upper, middle, and junior) employees working in any telecommunications organization. Due to this fact, the target population can be classified as infinite since the researcher does not know the exact number of all employees working in the Telecommunications sector. Therefore, the research referred to Cochran's formula to estimate the sample size needed for this research study. Cochran's formula is widely used among academics to estimate the sample of an infinite population since it allows the researcher to choose the desired level of confidence and the Z score according to the research objectives. A digital version of the questionnaire was circulated using online mediums, such as social network applications, to give respondents flexibility and comfort and increase access to the questionnaire. The different survey distribution methods generated a precise amount of 320 responses that were later selected to execute different statistical tests to quantify and approve the research hypotheses.

3.8 Research Sample

When conducting research, it is challenging for a researcher to access all subjected individuals needed for data gathering. Therefore, the researcher approach a specific group of people in the target population to provide the required data for the study objectives. Thereby, the researcher can summarize

the perceptions of the whole population by referring to a relatively small group of representatives. This technique is known as research sampling (Kumar et al., 2012).

For this research, the sample size should be adequate to confirm the validity and reliability of the statistical investigation of the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement.

In the sampling process, the researcher selects some population elements as the subset of the population, and thereby, there are two types of sampling techniques researchers often adopt in their studies; Non-Probability Sampling and Probability Sampling (Kumar et al., 2012).

Non-Probability Sampling techniques select the representative from the population who would respond to the questionnaire. This implies that not all representative of the target population has an equal chance of being chosen. As a result, the bias factor can occur in the research findings (Barreiro & Albandoz, 2001).

On the contrary, Probability Sampling techniques offer each representative of the population an equal chance of being chosen as a subject for the research. This technique ensures that the collected data is randomized and the bias factor is eliminated in the research findings is without bias (Sharma, 2017)

In this research, a Probability Sampling technique was chosen to gather the required data; the Simple Random Sampling method. Besides being one of the most applicable probability sampling techniques, This method assures that each individual in the Telecommunications sector has an equal and known chance of responding to the questionnaire and being selected as a subject for the study. This method also addresses the bias issue resulting from adopting other sampling techniques.

This study's target population is all the employees working in the telecommunications sector. Given this, the sample size generally includes employees across the Telecommunications organization hierarchy, from both genders and top management to non-managerial employees. Therefore, to investigate the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement in the telecommunications sector in the kingdom of Bahrain, the researcher used the Cochran formula to measure the rational sample size for the study. Listed below is the equation used to determine the sample size estimation (Omniconvert, 2019):

Finding Sample size for infinite population

S: Sample size for infinite population

Z: Z score (1.96)

P: Population proportion (Assumed to be 50% "0.5")

M: Margin of error (0.05)

$$S = (1.96)^2 * 0.5 * (1 - 0.5) / (0.05)^2$$

$$S = 3.8416 * 0.25 / 0.0025$$

$$S \text{ (Sample size for infinite population)} = 384$$

As counted above, the sample size is equal to 384. However, the responses received from the survey were 320 responses, collected from employees working in the telecommunication sector. Since the response rate of the research survey is 83%, as shown in table (3-3), and the standard error rate is 5%, the sample size is considered sufficient to get reliable and rational results and represent the population efficiently.

Table (3-3): Error Rate

Population (N)	384
Sample Size	320
Response Rate	83%
Significance Level	95%
Error Rate	5%

3.9 Data collection method

Data gathering is one of the most critical steps in any research; a study cannot offer significant results without gathering the relevant data. There are various techniques available for data collection. The most commonly used instrument tools in research studies are the observation method and the survey method.

The observation method is a technique that involves the researcher collecting the needed data by observing the sample representatives without their knowledge. This method follows a systematic set of actions; it starts with selecting, watching, recording, and analyzing the obtained data. This method is known for its subjectivity since the respondent will not feel obliged to act in a specific manner or cooperate with the researcher. This method is best used in studying the behaviors of certain representatives. This method can be classified into two types; structured observation and unstructured observation. One major limitation of this method is the unidentified representative sample, whom to observe against who to not in the field (Mittal & Vaishay, 2019).

The Survey method is a technique that involves collecting information from representatives in a target population using a predesigned questionnaire. This method is a structured method since it generates the exact needed data from the exact sample representative of an exact target population. Overall, this method can be cost-effective, generate a large-scale response rate, and time-

effective. Nevertheless, a downside of this method is that it requires additional instructions and explanations, and many representatives may have a different primary language than the one used in the survey (Kumar et al., 2012).

Following the review of previous studies conducted in the same topic field, most academics have considered the survey method for data collection to explore the different concepts of digital workplace transformation, HR practices, and employee engagement and provide reliable findings.

Therefore, for this research, to apply the appropriate method to investigate the moderating role of human resource practices in the relationship between digital workplace transformation and employee engagement, the researcher chose to gather the relevant primary data by following the qualitative research method. Primary data refers to original data that were not processed before and gathered by the researcher for the first time to conduct a study. Thus, it was mandatory to design an instrument tool to explore the telecommunications sector employees' experience in the digital workplace transformation. Considering the CovidD-19 precautionary measures and the time limit, choosing the internet survey technique as a data collection method was appropriate. The questionnaire was developed to be distributed through social network applications to the potential sample.

As showed in the appendix, the researcher constructed a questionnaire containing self-administered questions, along with close-ended questions to thoroughly investigate the moderating role of HR practices in the relationship between digital workplace transformation and employee engagement. Moreover, the survey technique allowed the researcher to cover all aspects

needed for the study and efficiently acquire the data from the representative sample.

3.10 Conceptual and Operational Definition of Variable

With the quantitative research method, the researcher must identify each variable's operational and conceptual definition used in the study and interpret the possible relationship between the variables before the data collection process. According to Abumere and Muraina (2018), the Conceptual definition usually illustrates the scientific definition of the variable, whereas the operational definition illustrates the method adopted by the research to quantify the variable (Referr to the Apendices

Table (3-4): Operational and Conceptual Definition of Variables

Variable	Conceptual definition	Operational detention
Digital workplace transformation (DWT)	The digital workplace transformation concept describes a workplace that operates using social technologies tools, contextual intelligence tools, communication mediums, and advocates mobility (Dahlan et .al., 2018)	This variable is measured by applying a continuous rating scale and close-ended questions methods stated in 9 questions
Human Resource Practices (HRP)	The collective work of several different functions designed and implemented by the human resource professionals in an organization to ensure proper capital human management system and	This variable is measured by applying the five points Likert-scale method stated in 16 questions

	achieve employee growth (Kotler & Amstrong, 2013)	
Employee Engagement (EE)	Employee engagement signifies the acquiring, maintaining, intensifying, and directing the cognitive, emotional, and behavioral energy in performing task activities and achieving both organizational and personal objectives (Alfes & Shantz, 2011).	This variable is measured by applying the five points Likert-Scale and close-ended 10 question methods stated in questions

3.11 Questionnaire source

While constructing the questionnaire, the researcher referred to the research objectives and hypotheses to develop questions that would measure the research variables correctly. Nevertheless, the various previous literature was analyzed to help in developing relevant questions. Therefore, the questions used in the questionnaire were adopted and further modified from several questionnaires used in previous researches in the same field.

Table (3-5): Questionnaire Sources

The variable	The Source	Modification status
Demographic		Listed by the researcher in relevance to the study
Digital workplace transformation	Digital workplace Experience. (2017). 2017 State of Digital workplace Survey. Retrieved June 6, 2020, from https://www.surveymonkey.com/r/tw-170421	Minor modifications

Human Resources management practices	• Madanat, H. and Khasawneh, A. (2018). Level of effectiveness of human resource management practices and its impact's on employee's satisfaction in the banking sector in Jordan. Journal organizational culture, communication and conflicts	Major modifications
Employee engagement	• Listening to Our Employees. (2017). EMPLOYEE ENGAGEMENT SURVEY 2012. Office of Research, Planning & Effectiveness. Northwestern Michigan Collage. Retrieved June 6, 2020, from https://www.nmc.edu/departments/orpe/research-and-data/surveys/2012-employee-engagement-report.pdf • Na-Nan, K., Pukkeeree, P., Chaiprasit, K. (2020). Employee engagement in small and medium-sized enterprises in Thailand: the construction and validation of a scale to measure employees. International Journal of Quality & Reliability Management.	Major modifications

3.12 Statistical Tools Used

After gathering a suitable number of responses from the telecommunications sector employees, the researcher decided to process the collected data using Statistical Package for Social Science (SPSS). According to Mizumoto and Plonsky (2016), SPSS software is highly regarded and popular among researchers for data interpretation not only for being user-friendly but also because of the various options the software provides; from cleaning and screening the data to offering accurate and reliable tests, which verify the efficiency and the effectiveness of the results.

Table (3-6): Research Tools

The tools	The reasons
Reliability Analysis	To test the compatibility of the questions and the measuring methods for providing consistent results.
Normality test	To decide which type of SPSS tests should be used to analyze the collected data.
Descriptive statistics	To measure both the mean and standard deviation of the collected data to understand the results better.
Correlation	To measure the linear association, in other words, the relationship between the variables.
PROCESS v3.5 test	To test the moderating influence of one moderate variable on the relationship between independent and dependent variables.

Furthermore, Microsoft Excel (MS Excel) was used as an interpret medium to decipher the data received from the questionnaire in a numerical and meaningful manner. Thereby, Statistical Package for the Social Sciences (SPSS) would process the data in a more detailed manner. A specific numerical score was assigned to questions measured by continuous rating scale and Itemized rating scale (five-points Likert scale) to understand how strongly a respondent agrees or disagrees with the statement, as shown in table (3-7) and (3-8).

Table (3-7): Likert Scale

Likert Scale	Score
Strongly Agree	1
Agree	2
Neutral	3
Disagree	4
Strongly Disagree	5

Table (3-8): Continuous rating scale

The Question	Score	Interpretation
Rate the organization's digital workplace priorities	1	Very important
	2	Important
	3	Somewhat important
	4	Not very important
	5	Not at all important
Rate the effectiveness of the organization's digital workplace tools	1	Working well
	2	Needs work
	3	Non-existent
How would you rate the maturity of the organization's digital workplace experience?	1	At a mature phase
	2	About mid-way
	3	At an early phase

3.13 Questionnaire pre-testing and Reliability analysis (Pilot Test)

Questionnaire pre-testing is a crucial step in every research study. Testing the questionnaire's validity and reliability helps identify possible complications and flaws in the research approach to collect data and the proposed instrument tool (Wright, 2018). Consequently, the researcher opted to test the reliability and validity of the questionnaire ahead of the distribution stage. The pre-testing of the questionnaire allows the researcher to construct an error-free questionnaire, avoid bias and provide consistent results. Therefore, the researcher conducted a virtual focus group session including 19 members of the target representatives from different telecommunications organizations. During the session, the researcher explained the purpose of the session, how to answer the questionnaire, and responded to inquiries received from the target representatives.

The Questionnaire pre-testing session has helped in mending all possible errors and issues in the questionnaire and discovering areas for improvement in the proposed questions and the measurement techniques chosen; thereby, some necessary modifications have been applied to the questionnaire before submitting the final version for approval and distributing it to the target sample.

Table (3-9): Reliability Analysis (Pilot Test)

Variables	No. of Items	Cronbach's Alpha
Digital Workplace Transformation	9	0.791
Human Resource Practices	16	0.847
Employee Engagement	10	0.829
All Variables	35	0.836

Table (3-9) above shows the Cronbach's Alpha values of the Questionnaire pre-testing session, the pilot. Accordingly, The results ranged between (0.791) to (0.829), which demonstrates that the variables and the items chosen to measure the variables used in this research study range within the acceptable reliability values. Therefore, the results of this research can be defined as highly reliable. Nevertheless, the Alpha Cronbach test results show that they are above (0.7); This indicates the consistency of the results since all the items measure the same construct.

3.14 Chapter Summary

This research follows the quantitative methodology approach to investigate the role of human resource practices in the relationship between digital workplace transformation and employee engagement. This chapter starts with a brief introduction, then demonstrates the research design and the study's research approach. It also mentions the population of the research. This chapter also illustrates the research flowchart diagrammatically. This chapter explains the steps taken to develop the questionnaire and the sources from where the questions were adopted. It also identified the conceptual and operational definitions of the different variables. Lastly, it classifies the different statistical tools used to analyze the collected data.

The next chapter presents the data analysis and the research results discussion.

Chapter Four: Analysis and Discussion

4.1 Introduction

This chapter mainly presents the data analysis from the questionnaire, followed by a discussion of the research results. For this research, 320 respondents from the telecommunications sector have completed the research questionnaire distributed through different social network applications. Thereby, the collected data has been analyzed and processed using Statistical Package for Social Science (SPSS) to answer the research questions, achieve the proposed research objectives, and test the validity of the research hypotheses mentioned previously in Chapters 1 and 2.

Besides, this chapter discusses the demographic profile of the respondents, the relationship between the different variables, and the acceptance or rejection of the research hypotheses. At the end of this chapter, the research study's results are being explained based on the interpretation of the collected data, followed a detailed discussion.

4.2 Normality Test

Normality Tests compare the scores in the sample to a normally distributed set of scores with the same mean and standard deviation. The main tests for the assessment of normality are Kurtosis tests, Omnibus K2 tests, Kolmogorov-Smirnov (Lilliefors) tests, D'Agostino-Pearson Skewness tests, and Shapiro-Wilk Tests (Kumar, 2018). Normality test helps to identify which set of analysis tests should be used when processing the collected data. For this research study, Shapiro-Wilk Normality Test was used. Shapiro-Wilk

Test is one of the most appropriate normality tests as it can be applied to different theme studies.

Table (4-1): Shapiro-Wilk Normality Test

Variables	Statistic	df	Sig.
Digital Workplace Transformation	.935	320	.000
Human Resource Practices	.920	320	.000
Employee Engagement	.892	320	.000

Statistically, suppose the significance value is above (0.05); in that case, the data is considered to be distributed normally, and therefore collected data should be analyzed using parametric tests. In contrast, if the significance level is less than (0.05), then the data is considered not to be distributed normally, and therefore collected data should be analyzed using non-parametric tests. Table (4-1) above shows that all the variables have a significance level of less than (0.05), so the collected data for this research study is considered not normal since it significantly deviates from a normal distribution. Accordingly, non-parametric tests will be used to process the data collected from the questionnaires.

4.3 Respondent's Profile

This part discusses the respondents' demographics characteristics such as gender, age, academic qualification, Profession, and Work Experience in the organization. The respondents' employees work in different telecommunications organizations of various age groups, gender, and educational backgrounds. The tables included in each demographic character

displays the frequency and percentage of the data received from the questionnaires.

4.3.1 Gender

Table (4-2): Gender

Gender	Frequency	Percent
Female	144	45.6%
Male	176	54.4%
Total	320	100%

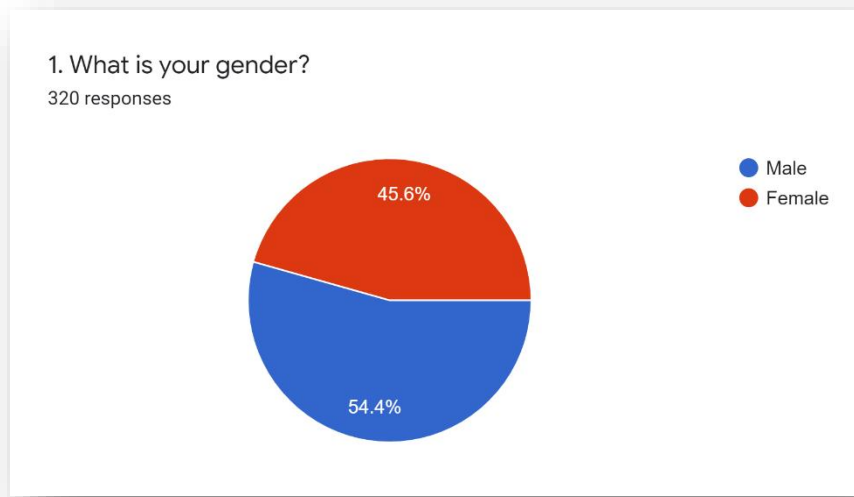


Figure (4-1): Gender

Table (4-2) and Figure (4-1) show the gender frequency and percentage of the respondents. The outcome demonstrates that 144 females respond to the research questionnaire entitled HR Practices Leading To Employee Engagement During Digital Workplace Transformation: Case Of Bahrain's Telecommunications Sector, and this represents 45.6% of the total sample,

whereas 176 males responded to the questionnaire and thereby they represent 54.4% of the target representatives.

4.3.2 Age

Table (4-3): Age

Age	Frequency	Percent
18-24 years old	3	0.9%
25-34 years old	101	31.6%
35-44 years old	107	33.4%
45-55 years old	103	32.2%
55 years old and above	6	1.9%
Total	320	100%

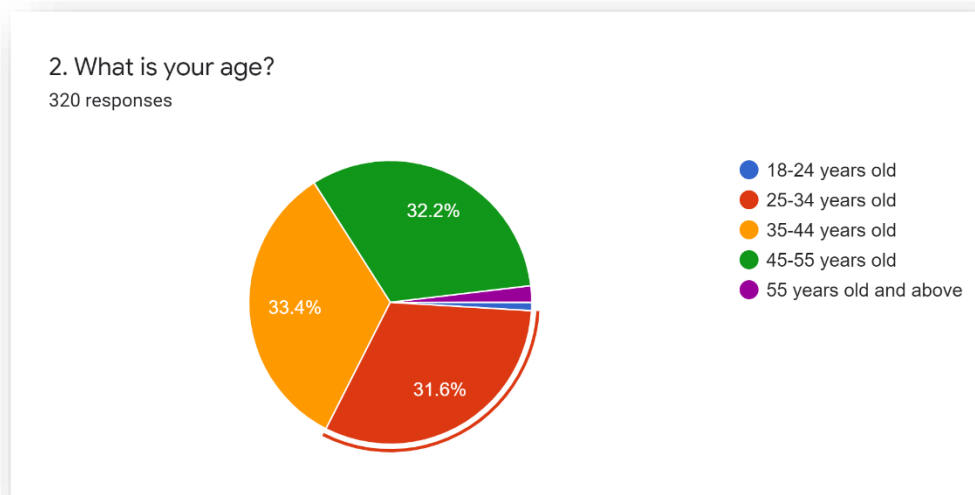


Figure (4-2): Age

Table (4-3) and Figure (4-2) show the Age-frequency and percentage of the respondents. The age was divided into five different groups. The first age group was 18-24 years old employees, a total of 3 respondents and

representing 0.9% of the target representatives. The second age group was 25-34 years old employees, a total of 101 respondents and representing 31.6% of the target representatives. The third age group was 35-44 years old employees, a total of 107 respondents and representing 33.4% of the target representatives. The fourth age group was 45-55 years old employees, a total of 103 respondents and 32.2% of the target representatives. Finally, the fifth age group was 55 years old and above employees, a total of 6 respondents and representing 1.9% of the target representatives. According to the sample of the population collected, employees in the age group of 35-44 years old comprised most of the respondents.

4.3.3 academic qualification

Table (4-4): Academic Qualification

Academic qualification	Frequency	Percent
High school	4	1.3%
Advanced diploma	5	1.6%
Bachelor's Degree	202	63.1%
Master's Degree	103	32.2%
Ph.D.	6	1.9%
Total	320	100%

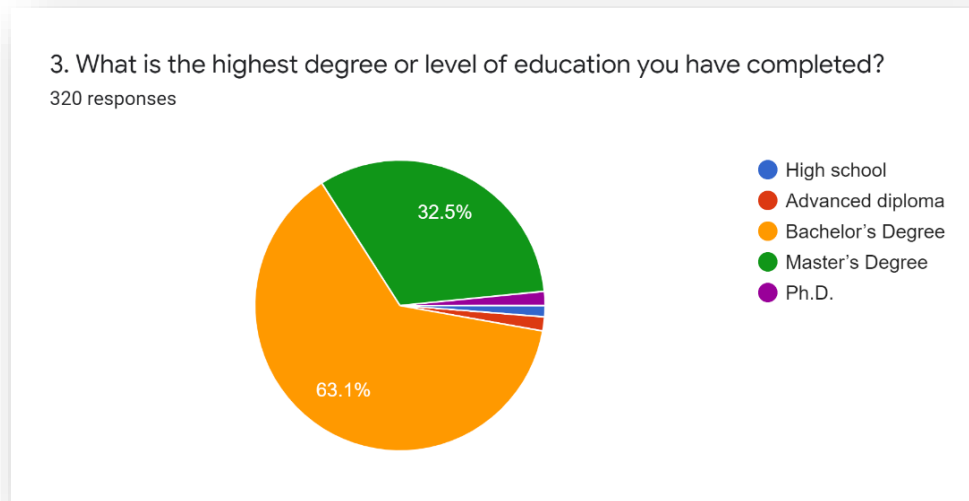


Figure (4-3): Academic Qualification

Table (4-4) and Figure (4-3) show the educational level of the respondents. The educational level of the employees was divided into five main categories. The first category consisted of employees having a High school level of education, which were only 4 and represented 1.3% of the target representatives. The second category consisted of employees having an Advanced diploma which was 5 and represented 1.6% of the target representatives. The third category consisted of employees having a Bachelor's degree which was 202, and represented 63.1% of the target representatives. The fourth category consisted of employees having a Master's degree, which was 103 and represented 32.2% of the target representatives. The last category consisted of employees having a Ph.D. degree, which was only 6 and represented 1.9% of the target representatives. According to the data collected, the survey showed that the employees working in the telecommunications sector mainly were Bachelor's degree holders.

4.3.4 Profession

Table (4-5): Position

Profession	Frequency	Percent
Administration	71	21.9%
Executive	19	5.9%
Finance	31	9.7%
Human Resources	81	25.3%
IT/ Engineering	23	7.2%
Legal	14	4.4%
Sales	30	9.4%
Research and developments	14	4.4%
PR/ Marketing	37	11.6%
Total	320	100.0%

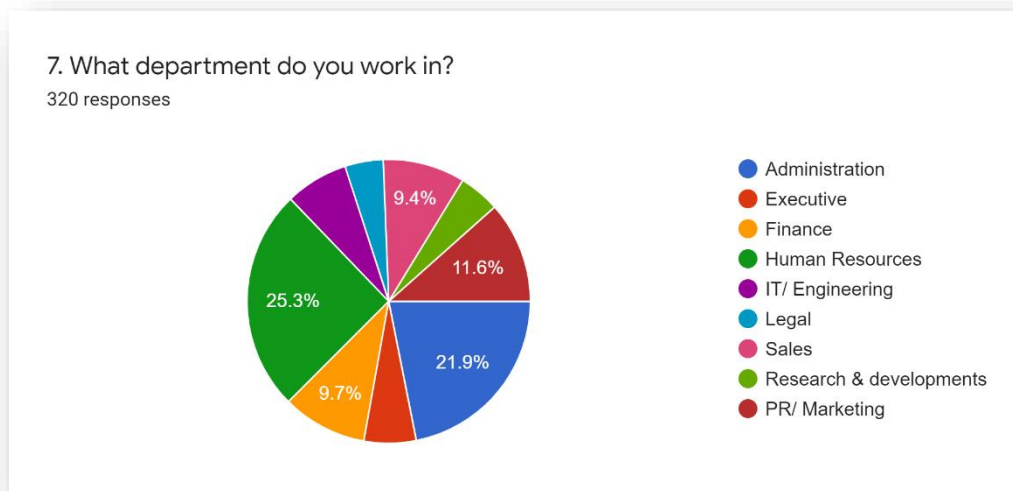


Figure (4-4): Profession

Table (4-5) and Figure (4-4) show the employees' profession in the organization. The organizational profession was divided into nine main

groups. The first group consisted of employees working in the Administration, 71 according to the responses collected from the questionnaire and represented 21.9% of the target representatives. The second group consisted of employees working as Executives, which were 19 in numbers and represented 5.9% of the target representatives. The third group consisted of employees working in the Finance department, 31 in numbers, and represented 9.7% of the target representatives. The fourth group consisted of employees working in the Human Resources department, which were 81 in numbers and represented 25.3% of the target representatives. The fifth group consisted of employees working in the IT/ Engineering department, 23 in numbers, representing 7.2% of the target representatives. The sixth group consisted of employees working in the Legal department, which were 14 in numbers and represented 4.4% of the target representatives. The seventh group consisted of employees working in the PR/Marketing department, which were 30 in numbers and represented 9.4% of the target representatives. The eighth group consisted of employees working in the Research and Development department, which were 14 in numbers and represented 4.4% of the target representatives. Finally, the last group consisted of employees working in the PR/Marketing department, 37 in numbers, representing 11.6% of the target representatives. According to the data collected, employees working in the Human Resource department comprised most of the respondents.

4.3.5 Work Experience

Table (4-6): Work Experience

Work Experience	Frequency	Percent
Less than 5 years	20	6.3%
5 to 10 years	59	18.1%
11 to 15 years	155	48.7%
16 to 20 years	73	22.8%
More than 20 years	13	4.1%
Total	320	100%

4. How long have you been working in the current organization?
320 responses

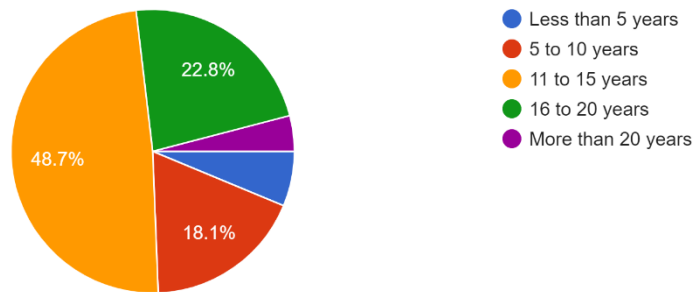


Figure (4-5): Work Experience

Table (4-6) and Figure (4-5) show the level of experience working in an organization. The level of experience was divided into five different groups. The first group consisted of employees who have Less than 5 years of experience, 20 respondents, and 6.3% of the target representatives. The second group are employees who have 5 to 10 years of experience, 59 respondents, and representing 18.4% of the target representatives. The third group consisted of employees who have 11 to 15 years of experience, 155

respondents, and 48.7% of the target representatives. The fourth group consisted of employees who have 16 to 20 years of experience, 73 respondents, and 22.8% of the target representatives. Finally, the fifth group consisted of employees who have More than 20 years of experience, 13 respondents, and representing 4.1% of the target representatives. According to the sample of the population collected, employees with a working experience equal to 11 to 15 years comprised most respondents.

4.3.6 Summary of Respondents Profile

Table (4-7): Summary of Respondents' Profile

Variable	Category	Frequency	Percent
Gender	Female	144	45.6%
	Male	176	54.4%
Age	18-24 years old	3	0.9%
	25-34 years old	101	31.6%
	35-44 years old	107	33.4%
	45-55 years old	103	32.2%
	55 years old and above	6	1.9%
Academic Qualification	High school	4	1.3%
	Advanced diploma	5	1.6%
	Bachelor's Degree	202	63.1%
	Master's Degree	103	32.2%
	Ph.D.	6	1.9%
Profession	Administration	71	21.9%
	Executive	19	5.9%
	Finance	31	9.7%
	Human Resources	81	25.3%
	IT/ Engineering	23	7.2%
	Legal	14	4.4%
	Sales	30	9.4%

	Research and developments	14	4.4%
	PR/ Marketing	37	11.6%
Work Experience	Less than 5 years	20	6.3%
	5 to 10 years	59	18.1%
	11 to 15 years	155	48.7%
	16 to 20 years	73	22.8%
	More than 20 years	13	4.1%

4.4 Research Hypotheses and Testing Methods

This section presents the main aim of the research by investigating the moderating role of human resource practices in the relationship between digital workplace transformation and employee engagement. In this section, the research results are presented through hypotheses testing. Different statistical tests were used to process the collected data from the questionnaire to attain the research objectives and clarify the research questions discussed thoroughly in Chapter 1 .

Descriptive Statistics illustrated in section 4.4 Respondent's Profile are combined with Inferential Statistics, such as Pearson's coefficient of correlation and PROCESS v3.5 test for hypotheses testing. Choosing the appropriate set of statistical tests is highly dependent on the data distribution (the normality test). Table (4-8) shows the research hypotheses of this research study.

Table (4-8): Research Hypotheses

Research Hypotheses	
<i>H1</i>	There is a significant relationship between digital workplace transformation and employee engagement.
<i>H2</i>	There is a significant relationship between human resource practices and employee engagement.
<i>H3</i>	Human resource practices have a moderating role in the relationship between digital workplace transformation and employee engagement.

4.4.1 Reliability Analysis

Reliability Analysis, presented by Cronbach's Alpha test, is a test applied to evaluate the compatibility or reliability of the questionnaire used to collect data. This test examines whether the chosen questions in the questionnaire are related to the research variables and can accurately measure the set of items representing the variable as a whole (UCLA, 2019). Cronbach's Alpha is characterized as a numerical coefficient of reliability. Cronbach's Alpha value usually falls between (0.00) to (1.00) to measure the internal consistency of the questionnaire.

It has been argued that if a Cronbach's Alpha value is less than 0.70, then the questionnaire is unreliable in acquiring the research data. Whereas a Cronbach's Alpha value above 0.70, the questionnaire is reliable in acquiring the research data.

- 1) Value > (0.90) = Very High Reliability
- 2) Value between (0.70) and (0.90) = High Reliability
- 3) Value between (0.50) and (0.70) = Quite higher reliability
- 4) Value < (0.50) = Low Reliability

Table (4-9): Reliability Analysis

Variables	No. of Items	Cronbach's Alpha
Digital Workplace Transformation	9	0.732
Human Resource Practices	16	0.847
Employee Engagement	10	0.873
All Variables	35	0.815

Table (4-9) above shows the Cronbach's Alpha values for the research. Accordingly, The results ranged between (0.732) to (0.873), which demonstrates that the variables and the items chosen to measure the variables fall above the range of acceptable reliability values and are all highly reliable. The reliability of all the variables is (0.815), which determines that all variables are acceptable and highly reliable.

4.4.2 Mean and Standard Deviation

The sample mean is the most often used measure of Central Tendency measures. The sample mean is computed by summing all the data values together and dividing by the total number of data values received from the questionnaire (Kumar, 2012). the second measure is Standard Deviation. One of the most applicable measures of dispersion, Standard Deviation, is computed by calculating the distribution of data (Kumar, 2012).

Table (4-10): Mean and Standard Deviation For HRP and EE

variable	Mean	Std. Deviation
Human Resource Practices	2.53	0.712
Employee Engagement	2.77	0.332

Table (4-10) shows the mean and standard deviation of responses on two variables; Human Resource Practices and Employee Engagement. As illustrated, the Mean of these two variables falls between (2.53) to (2.77), which indicates that respondents on average responded with “Agree” in the Likert-scale questions asked in the questionnaire. The standard deviation of these two variables is between (0.332) and (0.712), which indicates a lower standard deviation value and that data is not dispersed from the mean value.

Table (4-11): Mean and Standard Deviation For HRP sub-variables

Variable	Mean	Std. Deviation
Human Resource Planning	2.13	0.892
Performance Appraisal	2.45	5.536
Training and Development	2.95	0.892
Workplace Environment Management	2.23	3.355

Table (4-11) shows the mean and standard deviation of each Human Resource Practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management. As illustrated, the Mean of all these four sub-variables falls between (2.13) to (2.95), which indicates that respondents on average responded to all Human Resource Practices individually with “Agree” in the Likert-scale questions asked in the questionnaire. Standard Deviation for the Human Resource Planning and Training and Development is (0.892), which indicates a lower standard deviation value and that data is not dispersed from the mean value. For the two other sub-variables, Performance Appraisal and Workplace Environment Management, the Standard Deviation is between (3.355) and (5.536), which

indicates a greater dispersion of the data obtained from the responses from the mean value.

Table (4-12): Mean and Standard Deviation for DWT

The question	Mean	Std. Deviation
Rate the organization's digital workplace priorities	2.471	7.015
Rate the effectiveness of the organization's digital workplace tools	1.306	2.646
How would you rate the maturity of the organization's digital workplace experience?	2.341	0.628

Table (4-12) shows the mean and standard deviation of responses to questions related to the digital workplace transformation. As illustrated, the Mean for the first question about rating the organization's digital workplace priorities is (2.471), which indicates that respondents on average responded with "important." The higher standard deviation value for the same question implies greater dispersion of the data from the mean value. Moving to the second question, rating the effectiveness of the organization's digital workplace tools, the Mean is (1.306), which indicates that respondents on average responded with "working well." This question's higher standard deviation value implies greater dispersion of the data from the mean value. The third question was about the respondents' opinion about the organization's digital workplace transformation maturity. The Mean is (2.341), which indicates that the respondents, on average, responded with "about mid-way."

This question's lower standard deviation value indicates that the data is not dispersed from the mean value.

4.4.3 Correlation Test

Correlation is one of several tests administered in SPSS that determines whether there is an association, a relationship between variables, and the strength of association, and the nature of this association (Denzin & Lincoln, 2005). The Correlation Coefficient is divided into Pearson, Kendall's Tau-b, and Spearman. In this research study, and since the collected data is not normally distributed, the Spearman Correlation will be applied to analyze the association between the variables. Spearman's Rank-order Correlation Coefficient is considered to investigate the relationship between Digital Workplace Transformation and Employee Engagement and between Human Resource Practices and Employee Engagement.

Table (4-13): Correlation Test

Variables			DWT	HRP	EE
Spearman's rho	DWT	Correlation Coefficient	1.000	.529**	.722**
		Sig. (2-tailed)	.	.000	.000
		N	320	320	320
	HRP	Correlation Coefficient	.529**	1.000	.347**
		Sig. (2-tailed)	.000	.	.000
		N	320	320	320

	EE	Correlation Coefficient	.722**	.347**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	320	320	320
**. Correlation is significant at the 0.01 level (2-tailed).					

Correlation indicates a relationship among the variables, as the variables move in the exact directions. If the value falls between (+0.5) and (+0.7), it indicates a weak positive relationship, whereas if the value falls between (+0.71) and (+1), it indicates a strong positive relationship. A negative correlation indicates a relationship among the variables, as the variables move in different directions. If the value falls between (-0.5) and (-0.7), it indicates a weak negative relationship, whereas if the value falls between (-0.71) and (-1), it indicates a strong negative relationship. Nevertheless, if the correlation value is equal to (0), it indicates that the variables are not correlated.

Table (4-13) shows correlation results between the dependent and the independent variables illustrated in the research framework in chapter 2. All the data obtained from the questionnaire demonstrates a positive correlation that ranged between (0.529) (0.722). The highest correlation was between Digital workplace Transformation (DWT) variable and Employee Engagement (EE) variable, which was (0.722) (strong positive relationship), and it indicates that the telecommunications sector employees have a great engagement as their respective workplaces adopt a digital workplace transformation. Whereas, Human Resource Practices (HRP) variable scores a correlated relationship with Employee Engagement (EE) variable, equal to (0.529) (weak positive relationship). The correlation test indicates that the

telecommunications sector employees have a great engagement as their respective human resource management department considers implementing a set of practices (Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management) during digital workplace transformation.

In the Correlation test, an indication of a relationship between variables is when the p-value between these two variables is less than (0.05). In contrast, a p-value greater than (0.05) indicates the non-existence of a relationship. The results above display a p-value equal to (0.000), which is less than (0.05) between Digital workplace Transformation (DWT) variable and Employee Engagement (EE) variable. This indicates a significant relationship between Digital Workplace Transformation and Employee Engagement. Thus, we ascertain the existence of a direct relationship between Digital Workplace Transformation and Employee Engagement, and thereby, hypothesis 1, which claims that there is a significant relationship between digital workplace transformation and employee engagement, is accepted.

Moreover, the results above display a p-value equal to (0.000), which is less than (0.05) Human Resource Practices (HRP) variable scores a correlated relationship with Employee Engagement (EE) variable. This indicates a significant relationship between Human Resource Practices and Employee Engagement. Thus, we ascertain the existence of a direct relationship between Human Resource Practices and Employee Engagement, and thereby, hypothesis 2, which claims that there is a significant relationship between Human Resource Practices and employee engagement, is accepted.

4.4.4 Moderator analysis (PROCESS v3.5 test)

A moderator analysis is usually conducted to determine whether a third variable moderates the relationship between two variables. For this research study, the Moderation test is used to address this research's primary objective: to investigate the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement. By performing the PROCESS v3.5 test, introduced first by Andrew Hayes, we will be able to understand the moderating relationship between the variables, whether human resource practices (HRP) can influence the direction and strength of the relationship between Digital Workplace Transformation and Employee Engagement that has been previously proven in 4.5. 2 Correlation Test. This test demonstrates the vital role of human resource practices to facilitate the relationship between digital workplace transformation and employee engagement in the telecommunications sector in the kingdom of Bahrain.

Table (4-14): Moderator analysis (PROCESS v3.5 test)

Model	se	t	p
Constant	0.4624	113.598	0.0000
EE	0.3605	2.0823	0.0437
HRP	0.7205	7.2294	0.0000
Int_1	1.050	2.479	0.0136

Table (4-14) shows the Moderator analysis results between the moderating variable (HRP) on the relationship between the independent variable (DWT) and dependent variable (EE) illustrated in the research framework in chapter 2. For this research study, we aim to study the moderating influence of Human

Resource Practices on facilitating the relationship between Digital Workplace Transformation and Employee Engagement.

In the Moderator analysis (PROCESS v3.5 test), an indication of the existence of a moderating influence on the relationship among variables is when the p-value of the interaction term is less than (0.05). In contrast, a p-value greater than (0.05) indicates the non-existence of a moderating influence (Hayes, 2012). The results above for the interaction term display a p-value equal to (0.013), which is less than (0.05). This indicates a significant moderating influence of Human Resource Practices on the relationship between Digital Workplace Transformation and Employee Engagement. Thus, we ascertain the moderating role of human resource practices on the relationship between Digital Workplace Transformation and Employee Engagement.

According to what has been discussed above, hypothesis 3, which claims that Human resource practices have a moderating role in the relationship between digital workplace transformation and employee engagement, is accepted.

4.4.5 Research Hypotheses Testing

By examining the different statistical tests conducted on the data collected from the questionnaire, it can be concluded that the independent variables proposed in the conceptual model had a significant positive relationship with the dependent variable, Employee Engagement. Therefore, all the projected hypotheses were accepted according to the analysis conducted using SPSS. Table 25 below shows the research hypotheses testing results for each hypothesis.

Table (4-15): Research Hypotheses Testing

Research Hypotheses		Hypotheses Status
H1	There is a significant relationship between digital workplace transformation and employee engagement.	Accepted
H2	There is a significant relationship between human resource practices and employee engagement.	Accepted
H3	Human resource practices have a moderating role in the relationship between digital workplace transformation and employee engagement.	Accepted

4.5 Preview of Research Study's Results

The research study aims to investigate the moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement in the telecommunications sector. An independent variable Digital Workplace Transformation was selected after assessing the recent digital move in several service sectors, especially the telecommunications sector. With the introduction of an appropriate mix of digital devices and social network applications to the workplace, it was reasonable and within the context to study the social and psychological aspect of the digital workplace transformation by considering the dependent variable of Employee engagement during this radical change. The research questions mentioned in chapter 1 were answered below, based on the analysis results achieved to the collected data from the questionnaire distributed.

1) Is there any relationship between Digital Workplace Transformation and Employee Engagement?

According to the previous analysis of the data, it is evident that the Telecommunications sector is going through a modern, well-defined, and

well-interpreted Digital Workplace Transformation process while prioritizing employee-related aspects during the process. By referring to the mean calculation of the question "Rate the organization's digital workplace priorities," which was equal to (2.471). This indicates that respondents on average responded with "important" to the most employee-related aspects of the digital workplace transformation process; for example, Culture and Change, Performance management, Employee Engagement, Learning and development, Smart office / Physical and digital workplace alignment, and Digital self-service.

Moreover, as per the previous analysis of the data, it can be considered that the Telecommunications sector in the kingdom of Bahrain is implementing a compelling mix of digital devices and social network applications to enhance employees' digital experience, which is a consequence enhance employee engagement level. By referring to the mean calculation of the question "Rate the effectiveness of the organization's digital workplace tools," which was equal to (1.306), this indicates that respondents on average responded with "working well" to the most digital workplace tools adopted during the digital workplace transformation process; for example, Chat/ Collaboration tools, Employee Portal, Document Management, E-learning, and HR Portal.

2) Is there any relationship between Human Resource Practices and Employee Engagement?

As per the previous analysis of the data, it is evident that human resource practices are of enormous importance during digital workplace transformation in the Telecommunications sector. All of the tests conducted on the variable "Human Resource Practices" turned out to be positive and

influenced Employee Engagement. The mean calculated for this variable was (2.53), which indicates that respondents on average responded with "Agree" to the questions in the questionnaire related to Human Resource Practices in the Telecommunications sector.

The descriptive analysis was conducted on the sub-variables of "Human Resource Practices"; Human Resource Practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management. The results turned out to be positive and influenced Employee Engagement. The mean calculated for these sub-variables was between (2.13) to (2.95), which indicates that respondents on average responded with "Agree" to the questions in the questionnaire related to each four Human Resource Practices individually.

3) Is there a moderating role of human resource management practices in the relationship between digital workplace transformation and employee engagement?

According to the previous analysis of the data, the different human resource practices undertaken by the Telecommunications sector were quite effective and are favorable for enhancing Employee Engagement levels during Digital Workplace Transformation. The results of the interaction term display a p-value equal to (0.013) which is less than (0.05), which indicates a significant moderating influence of Human Resource Practices on the relationship between Digital Workplace Transformation and Employee Engagement. Thus, Human Resource Practices help employees cope with the future challenges related to adopting a digital workplace.

According to the literature review and the results from the analysis of the research questionnaire, it can be verified that Human Resource Practices

have a moderating role in the relationship between Digital Workplace Transformation and Employee Engagement in the Telecommunications sector Kingdom of Bahrain.

4.6 Discussion:

This research attempts to investigate the influence of HR practices on the relationship between digital workplace transformation and employee engagement by focusing on four HR indicators; human resource planning, performance appraisal, training and development, and workplace environment management, on employee engagement level with the presence of digital workplace transformation, in the Telecommunications Sector. In this part, a comparison between the results of this research study and previous research studies' findings is discussed.

- 1) The research results showed a solid and significant relationship between Digital Workplace Transformation and Employee Engagement. The research findings bring out a strong link with the previous studies presented in the literature review. The finding agreed with Jansson et al., (2020) study findings; digital transformation could be perceived as a factor that positively influences employee engagement. Similarly, Winasis et al., (2020) study findings correlate with this research findings, advocating that engaged employees can be more innovative and operative during digital transformation. Digital workplace Transformation impacts organizations in various aspects. The digital workplace is not only about changing the physical offices; it also has a social and psychological dimension. This follows Abhari et al. (2021) study approach, suggesting that digital transformation is more than acquiring and implementing new

technologies; it is also about the employees it affects. The results of the previous studies validated the results of this research study by recognizing the relationship between digital workplace transformation and employee engagement, as employees are the main driving factor for a successful digital workplace.

Thereby, organizations must consider employee engagement level and focus on designing an inclusive digital workplace transformation strategy. Organizations should allow employees to participate in the transformation process and make sure they are aware of the issued digital workplace policies and strategies within the current digital workplace environment; moreover, organizations must consistently address employees' expectations about the novel digital workplace. In summary, digital workplace transformation aims to increase employees shared knowledge, productivity, and satisfaction level and collectively enhance employee engagement.

- 2) The research results showed a significant relationship between Human Resources Practices and Employee Engagement. The research findings bring out a strong link with the previous studies presented in the literature review. The finding agreed with Aktar and Pangil's (2017) study findings; although differ in the choice of practices, both studies established that human resource management practices significantly and positively influence employee engagement. Similarly, Mihalcea's (2017)) study findings correlate with this research findings, advocating that managers and HR professionals should establish a collaborative culture, design a workplace environment that engages employees at the same time, thrive on embracing digital technologies to innovate the workplace. This follows

Alba and Alafeshat's (2020) study findings, suggesting that managers and policymakers deploy human resource practices, recruitment, and training, to attract and retain efficient employees. However, the research findings oppose Baiquni et al., (2020) study findings; HR practices negatively influence employee engagement. It has been proven that a positive nexus of all HR practices, human resource planning, performance appraisal, training and development, and workplace environment management can enhance employee engagement. The results of the previous studies validated the results of this research study; Organizations overcome the challenges by strategically using their human capital. Various HR practices are crucial as they are associated with human capital management; these specific practices are required to create a sustainable competitive advantage desired by organizations and influence employees' attitudes and behaviors. Therefore, policy developers in organizations have to carefully design, implement, evaluate, and upgrade the HR practices that enhance employee engagement and ultimately improve the organization's performance. Thereby, the employee engagement level is an outcome of effective HR practices.

- 3) The research results showed a significant moderating role of Human Resources Practices on the relationship between Digital Workplace Transformation and Employee Engagement. The research findings bring out a strong link with the previous studies presented in the literature review. The finding responded to Keane's (2018) study approach, acknowledging the need for further research investigating how computerized technologies may affect human skills and how employees perceive this digital integration. Similarly, the research

addresses Andrus et al., (2019) study findings; 38% of the respondents agree or strongly agree that their organization does not offer employees digital training programs for skill development to thrive in a digital workplace environment. The positive association among HR practices, HR planning, performance appraisal, training and development, and workplace environment management has significantly influenced employee engagement levels during digital workplace transformation. A highly engaged employee would be motivated to enhance his performance and achieve the organization's operational objectives. The results of the previous studies validated the results of this research study by suggesting that an organization's success in implementing a digital workplace transformation is due to highly motivated, trained, and engaged employees, which is an outcome of effective HR practices. As a digital workplace is adopted in an organization, work and norms are changed as a consequence. Thereby, the HR practices address several human capital-related aspects and prepare employees for work in the everyday digital workplace.

4.7 Chapter Summary

This chapter represented the interpretations of the collected data from the target sample obtained from the research questionnaire. The collected data were processed using Statistical Package for Social Science (SPSS) to answer the research questions and test the research hypotheses. This chapter discussed two types of analysis, descriptive analysis, and statistical analysis, to construct a holistic understanding of the collected data and target sample where the data was gathered. The Normality Test presented at the beginning

of this chapter helped indicate the appropriate statistical tests to analyze the collected data. The chapter also provides a discussion of the results.

The next chapter presents the research conclusion, research implications, and research recommendations.

Chapter Five: Conclusion and Recommendations

5.1 Introduction

The research aims to investigate the moderating influence of Human Resource Practice (HRP) on facilitating the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment management. Moreover, the research provided an analysis of the relationship between Digital workplace Transformation (DWT) and Employee Engagement (EE) and between Human Resource Practice (HRP) and Employee Engagement (EE). The research was conducted on the Telecommunications sector in the Kingdom of Bahrain to explore their digital transformation experience. The research results suggested that HR practices in the Telecommunications sector in the Kingdom of Bahrain act as facilitators to the succession of digital workplace transformation while enhancing employee engagement.

Accordingly, this chapter will illustrate the conclusion of the research, then the managerial and practical Implications, research limitations, research recommendations, and ending with the summary.

5.2 Conclusion

The introduction of the information age and the recent technology revolution manifested in the 4th industrial revolution have imposed different requirements in contemporary work. The massive impact of Covid-19 has caused an awareness of the digital workplace worldwide. The nature of the

work has been radically characterized by automation, specialization, diversification, and decentralization. This has led to radical organizational changes as well. The digital transformation of the workplace has ranged from physical ones, such as from mechanical to computerized, from information-based to knowledge-based, and from individualized based tasks to team-based tasks, to employee-related ones. The digital workplace requires new competencies, high-level mental abstract thinking skills, and innovative-prone employees. The Digital workplace transformation has emphasized the need to respond to the emerging challenges and their consequences. The Digital workplace transformation has transformed the traditional physical constructions of workplaces and the social constructions of employees' interaction at work.

The digital workplace transformation is challenging current organizational practices and press for creating new computable ones. However, much of the prior research studies in the digital workplace field only highlight the technological aspect and how to operate specific systems or tools. Therefore, in this research study, we argue that a focus solely on information systems and their functionality is insufficient when conducting a study on digital workplace transformation. Instead, we aim to explore the emerging challenges influencing employee engagement during the digital workplace transformation, and mainly aiming to understand the profound influence of human resource management and certain proposed practices related to employee engagement and competencies; human resource planning, performance appraisal, training and development, and workplace environment management. These Human resource practices were chosen because they enhance employee performance, support employee skills- learning, and facilitate organizational development and change during digital workplace

transformation. These four HR practices allow the organization to capitalize on the benefits of digital workplace transformation.

This research study proposes a conceptual framework for investigating the moderating role of human resource practices in the relationship between digital workplace and employee engagement. This study highlights certain practices that HR professionals should consider in promoting the digital workplace transformation's social and psychological aspect: employee engagement.

Since the primary objective is to investigate the moderating role of Human Resource Practices on the relationship between Digital Workplace Transformation and Employee Engagement in the telecommunications sector in the Kingdom of Bahrain, the research objectives were achieved by constructing a questionnaire and distributing it to potential employees in the Telecommunications sector. This chapter presents the data analysis tests and demonstrates the outcomes achieved by conducting the research study.

This research study highlights that employees' engagement level during digital workplace transformation can be increased by four primary Human Resource Practices, i.e., Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management. Furthermore, from this study results, it is evident that these mentioned Human Resource Practices were related to the employee engagement level during digital workplace transformation in the Telecommunications Sector. The results obtained from this study were persistent with previous literature available on employee engagement, digital workplace transformation, and human resource practices. Nevertheless, the research results helped offer a better understanding of the research study, the research questions, and the research objectives previously mentioned in Chapter 1.

A sample of 320 employees working in the Telecommunications sector has replied to a constructed and pre-tested questionnaire distributed using social network applications to accomplish the research objectives. The data collected was then analyzed and processed using Statistical Package for Social Science (SPSS). The results showed a moderating role of Human resource practices on the relationship between Digital Workplace Transformation and Employee Engagement. Thus, the subsequent results obtained from this study indicate that:

- 1) Firstly, the statistical analysis of the variable "Digital Workplace Transformation" showed a positive association with employee engagement for employees working in the Telecommunications Sector in the Kingdom of Bahrain. The analysis suggests that the Telecommunications organizations have a clear and precise Digital workplace transformation inclusive strategy. Its policies and procedures mainly focus on enhancing employee digital experience and employees' adaption to the digital workplace. This emphasizes that the Telecommunications sector prioritizes employee engagement during the digital workplace transformation process.
- 2) Secondly, the statistical analysis of the variable "Human Resource Practices" showed a positive association with employee engagement for employees working in the Telecommunications Sector in the Kingdom of Bahrain. It is revealed from the analysis that Telecommunications organizations give utmost importance to obtaining high-skilled employees, offering digital workplace induction training programs, linking employee performance to the digital workplace transformation objectives, and constantly evaluate the effectiveness of the digital workplace environment. It is evident that Telecommunications organizations have a very well-structured digital workplace transformation strategy and have adequately

considered the social and psychological aspects of the digital workplace transformation. Telecommunications organizations had the employee digital experience as a priority during the digital workplace transformation.

- 3) Thirdly, the statistical analysis of the moderating influence of the variable "Human Resource Practices" on the relationship between "Digital Workplace Transformation" and "Employee Engagement" showed that there is a significant moderating role of human resource practices on the relationship between digital workplace transformation and employee engagement for employees working in the Telecommunications Sector in the Kingdom of Bahrain. It showed that the different human resource practices, human resource planning, performance appraisal, training and development, and workplace environment management had a significant impact in enhancing employee engagement levels during digital workplace transformation. Upper Management has realized the vital role of human resource management during this digital transaction, and thereby each Telecommunications organization has manufactured its human resource practices around the employees to assure the succession of its digital workplace transformation attempt.

Therefore, the questionnaire analysis showed that the respondents felt that human resource practices, human resource planning, performance appraisal, training and development, and workplace environment management substantially influence employee engagement level during digital workplace transformation in the Telecommunications Sector in the Kingdom of Bahrain

5.3 Managerial and Practical Implications

Literature about Digital workplace transformation has grown over the last two decades, evolving from an initial focus on integrating digital technologies to

recently encompassing both technological and social aspects during digital workplace transformation (Hager, 2011). The contribution of this research is to exemplify the association between the ongoing digital workplace transformation with the vital role of HR professionals in terms of the social aspect. Human resource management can provide a broader range of services by selecting the best practices to enhance employee digital experience and enhance employee engagement. HR professionals can initiate a restructuring plan to the current pool of talent while offering digital workplace training programs, enhance employee digital workplace performance through developing a set of digital merit criteria in the performance appraisal, and implement a well-organized digital workplace environment. Human resource practices are considered attractive solutions to engage employees more in the digital workplace transformation process.

This research study will significantly benefit the managerial level employees in every telecommunications organization operating in the marketplace. The research is related to digital workplace transformation, which has been gradually adopted by every organization worldwide due to the Covid-19 pandemic in 2020. The organization can build a competitive advantage based on digital practices and achieve the required outcomes of the digital workplace transformation strategy. The objectives and policies of the digital workplace should be straightforward, definite, and conferred to the employees before the implementation of the transformation process. This will significantly impact employees as they will understand their specific roles during the digital workplace transformation. This will motivate them to upgrade their performance to meet the digital organizational objectives and ultimately enhance their engagement.

Secondly, because Human resource practices directly influence employee engagement, these four practices are essential indicators that must be acknowledged during digital workplace transformation to enhance employee engagement level. On the other hand, the Digital workplace is also instrumental in achieving better employee engagement. As the research suggests, digital workplace transformation plays a vital role in upgrading the Telecommunications sector's novel services in Bahrain. The Telecommunications sector has discovered before the Covid-19 pandemic the effectiveness of digital transformation since it has been proven to aid several organizations in turning around their business to achieve an almost sustainable competitive advantage.

Interestingly, the research results have demonstrated that digital workplace transformation correlates with employee engagement. This denotes the fact that telecommunications sector employees value the digital workplace transformation procedures undertaken by the organizations. The research results indicate that employees are familiar with the changes that ensued in the organization's objectives and policies, work behavior, and the environment due to digital workplace transformation. The employees appear to be strategic participants in implementing and enhancing the organizational digital workplace transformation strategy.

Therefore, the research Managerial and Practical implications are manifested by offering organizations aiming to succeed in their digital workplace transformation four distinctive human resource practices that will make an employee more effective, engaged, and ready to cope with the different challenges that ensue digital workplace transformation. The Telecommunications Sector in the Kingdom of Bahrain is a success story since it has considered early on the appropriate mix of innovative in-house

HR practices and acquiring the latest digital technology to enhance employee sense of engagement and digital experience.

5.4 Research Limitations

One of the significant problems faced was the Covid-19 pandemic and the precautionary measures issued as a consequence. The researcher opted to conduct the study on a specific Telecommunications organization and have the privilege of an upfront experience with the work of the human resource department while witnessing the implementation of the different practices. However, as many Telecommunications organizations were highly engrossed with the internal changes that ensued due to the Covid-19 pandemic, it was not easy to obtain an approval letter while meeting the deadlines set by the university. The second constraint was the lack of published previous research on digital workplace transformation in the Kingdom of Bahrain, especially since it was prohibited to personally visit the library of the University of Bahrain to examine previous students' thesis due to Covid-19 pandemic precautionary measures. The third problem was the qualitative nature of most of the previous research done in the same field; thereby, it was difficult to explore different theoretical frameworks. The last hurdle was the researcher being infected with Covid-19 and had to cancel a pr-set meeting date with an HR manager to discuss the findings and acquire professional feedback.

5.5 Suggestions for Further Research

Digital workplace transformation is a highly dynamic process with two-dimension; integrating digital technology into the workplace and engaging employees during the transformation process. Although the variables introduced and tested in this research to check their association with employee engagement

showed a positive response, for further future study, more variables that may have an influence on employees during digital workplace transformation such as self-efficacy, leadership style, work stress, and job satisfaction can be explored. The results of this suggested follow-up study will contribute to building a holistic understanding of the success of the digital workplace transformation process in the Telecommunications sector. Moreover, additional research studies on embedding digital workplace transformation in the organization strategy are needed since organizations must carefully consider forming a suitable and inclusive digital workplace transformation strategy and constantly evaluating its effectiveness. The researcher also suggests future research to be conducted on the challenges facing the digital workplace transformation in the Telecommunications sector to propose several disruptive theoretical models that will address the impact of the digital vortex on employees.

5.6 Recommendations

This research mainly focuses on examining human resource practices and their influence on the relationship between digital workplace transformation and employee engagement in the Telecommunications Sector in the Kingdom of Bahrain. Four types of human resource practices, namely, human resource planning, performance appraisal, training and development, and workplace environment management, have been chosen as the focus of this research during a digital workplace transformation movement in the organization. The research results have ensured the successful moderating role of these four practices in facilitating digital workplace transformation while enhancing employee engagement. Employees with a high level of engagement will perform passionately and develop an emotional attachment to the organization. They will give maximum creativity and ability to ensure the organization's digital

workplace transformation objectives are obtained. Following the results from the research, the recommendations offered to any operative organization in the Telecommunications sector are:

- 1) The research results have practical implications for enhancing the functionality of the human resource management department while the organization pursues digital transformation. The research result has stated a significant moderating role for human resource practices in facilitating the relationship between digital workplace transformation and employee engagement. Therefore, the researcher recommends a more significant emphasis on human resource planning as the first step before initiating the digital workplace transformation. The organizational structure needs to be taken under consideration with the transformation process. In this case, the organization has to develop multiple structural choices with different occupation titles and job descriptions. Moreover, specific selection and recruitment measures should be considered when designing a recruitment policy; to support the digital transformation and recruit highly skilled talents. The human resource department should develop a separate business unit, a digital group unite, to establish a solid organization-wide coordination mechanism based on communication and cross-department collaboration and create the desired digital business models. Moreover, this unite consistently works with employees to seek information and feedback to guide the digital workplace transformation appropriately.
- 2) The research results have practical implications for developing innovative alternatives for the performance appraisal method to reflect the digital workplace transformation action plan. The research results indicated a significant moderating role for human resource practices in facilitating the

relationship between digital workplace transformation and employee engagement. Therefore, the researcher recommends designing a digital workplace-related performance appraisal method linked to digital workplace transformation objectives and policies. Moreover, the performance appraisal should advocate incentives and reward systems to enable employees and motivate them to adapt to the digital workplace while enhancing cross-functional collaboration.

- 3) The research results have practical implications for constructing training programs that are compatible with the digital workplace transformation objectives and would further enhance employees' digital skills and innovative thinking. The research results indicated a significant relationship between human resource practices and employee engagement. Therefore, the researcher recommends designing suitable and up-to-date training and development programs to develop the desired digital skills in the employees. First, the organization must undertake a widely spread evaluation scheme to assess employees' performance according to the organization's digital workplace transformation objectives. Second, the organization has to offer training programs based on employee digital workplace training needs identified through regular performance appraisal reviews.
- 4) The research results have practical implications for establishing an effective and attractive workplace environment that would facilitate the implementation of a digital workplace while enhancing employees' digital experience. The research results indicated a significant relationship between digital workplace transformation and employee engagement. Therefore, the researcher recommends installing a subtle workplace environment management strategy. Most organizations fail to initiate the digital

transformation process due to organizational cultures and employees resisting change. It is vital to have a workplace environment that is characterized by flexibility and agility. Workplace flexibility can stimulate change-oriented mindset employees, and this is important to successfully implement a digital workplace transformation. Moreover, digital workplace transformation can be highly supported by workplace agility which facilitates the adoption of new working concepts and task-restructuring ensured by implementing the digital workplace.

5.7 Chapter Summary:

This chapter presented the conclusion of this research study based on the research results while referring to the research objectives and research questions, followed by the managerial and practical implications that would benefit human resource professionals, policymakers, and executives in the Telecommunications sector in the Kingdom of Bahrain. Also, the chapter clarified the research limitations faced by the researcher. Finally, the researcher offered a set of recommendations based on the research results.

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7. Appendix 1: The Questionnaire

HR Practices Leading To Employee Engagement During Digital Workplace Transformation: Case Of Bahrain's Telecommunications Sector

Dear Telecommunications sector employees,

You are invited to participate in this survey entitled “Practices of Human Resources Management Leading to Employee Engagement During Digital Workplace Transformation: Case of Bahrain’s Telecommunications sector” for the fulfilment of my Master degree in Human Resources Management, university of Bahrain.

As an employee in the telecommunications sector, you were among the few privileged who have experienced the shift towards digital workplaces in its early stage. As simply defined, digital workplace transformation is the modifications in the physical workplace related to the adaptation of digital technologies. Therefore, your views and perceptions are invaluable in helping me completing this study. The survey will collect information to assess the digital workplace transformation process and answer the following questions: Do mobility tools, social applications, artificial intelligence and Intranet introduced by digital workplace have helped or hindered employee engagement and what is the expected role of human resources management during the transformation process.

The survey will take only 10 minutes to complete, as your genuine responses are highly appreciated. Hereby, I assure you that no personal details or company information will be collected, published or disclosed to a third party.

Thank you for being a part of this study.

Shaima Ahmed

Part 1: Demographics

(This part will identify demographics required for the research purpose while maintaining your confidentiality. Please answer the questions by choosing the appropriate answer according to your work experience)

1. What is your gender?

- ☐ Male
- ☐ Female

2. What is your age?

- ☐ 18-24 years old
- ☐ 25-34 years old
- ☐ 35-44 years old
- ☐ 45-55 years old
- ☐ 55 years old and above.

3. What is the highest degree or level of education you have completed?

- ☐ High school
- ☐ Advanced diploma
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Ph.D. or higher

4. How long have you been working in the current organization?

- ☐ Less than 5 years
- ☐ 5 to 10 years
- ☐ 11 to 15 years
- ☐ 16 to 20 years
- ☐ More than 20 years

5. Which of the following describes your role in your organization?

- ☐ Upper Management
- ☐ Middle Management
- ☐ Junior Management
- ☐ Administrative Staff
- ☐ Consultant

- Support Staff
- Researcher
- Trainee

6. What is your organization's size?

- 1 to 100 employees
- 100 to 200 employees
- 200 to 500 employees
- 500 to 2000 employees
- 2000 to 5000 employees
- 5000 to 10,000 employees
- 10,000 to 50,000 employees

7. What department do you work in?

- Administration
- Executive
- Finance
- Human Resources
- IT/ Engineering
- Legal
- Sales/ Business developments
- Research & developments
- PR/ Marketing

8. How does the digital workplace rank in terms of your organization's priorities?

- Extremely important
- Very important
- Important
- Slightly important

Part 2: Digital Workplace Transformation

(This part will identify the current situation of digital workplace transformation in the organization. Please answer the questions by choosing the appropriate answer according to your work experience)

- 1. Rate the organization's digital workplace priorities. Start by assigning number 1 to the most important and 5 to the least important domain. Continue the procedure until you have rated all the domains.**

	1	2	3	4	5
Mobile services & adoption	○	○	○	○	○

Employee engagement	☐	☐	☐	☐	☐
Culture and change	☐	☐	☐	☐	☐
Performance management	☐	☐	☐	☐	☐
Learning & development	☐	☐	☐	☐	☐
Smart office / Physical and digital workplace alignment	☐	☐	☐	☐	☐
Digital self-service	☐	☐	☐	☐	☐
Enterprise service / app store	☐	☐	☐	☐	☐
Knowledge management	☐	☐	☐	☐	☐

2. What are the organization's digital workplace challenges? Check all that apply.

- ☐ Limited technical staff expertise
- ☐ Limited business staff expertise
- ☐ Limited operational processes
- ☐ Limitations of current platforms/technology
- ☐ Limited employee data accessibility
- ☐ Lack of cross-departmental collaboration
- ☐ Lack of strategic direction
- ☐ Lack of executive support
- ☐ Budget constraints

3. How important do you personally consider the following digital workplace tools?

	Very Important	Somewhat Important	Not Important
Enterprise Service Store	☐	☐	☐
Chat/ Collaboration tools	☐	☐	☐
Mobile Enablement	☐	☐	☐
Employee Portal	☐	☐	☐
HR Portal	☐	☐	☐
Forms & Workflow	☐	☐	☐
Document Management	☐	☐	☐
E-learning	☐	☐	☐
Knowledge Management	☐	☐	☐
Mobile Service Availability	☐	☐	☐

4. Rate the effectiveness of the organization's digital workplace tools below.

	Working Well	Needs Work	Non-existent
Enterprise Service Store	☐	☐	☐
Chat/Collaboration tools	☐	☐	☐
Mobile Enablement	☐	☐	☐
Employee Portal	☐	☐	☐
HR Portal	☐	☐	☐
Forms & Workflow	☐	☐	☐
Document Management	☐	☐	☐
E-learning	☐	☐	☐

5. Where is the organization in terms of digital workplace technology investment.

- ☐ Not active
- ☐ Researching tools & trends
- ☐ Developing our requirements
- ☐ Researching Vendors
- ☐ Purchases made, implementing now.

**6. Who makes digital workplace technology purchase decisions in the organization?
Check all that apply.**

- ☐ Executives
- ☐ IT Department
- ☐ Knowledge management
- ☐ Human Resources
- ☐ Digital Group
- ☐ Innovation or Business Transformation
- ☐ Other (Please Specify)

7. Are you personally involved in evaluating digital workplace technology within your organization?

- ☐ Yes
- ☐ No

8. How would you rate the maturity of the organization's digital workplace experience?

- ☐ At a mature phase
- ☐ About mid-way
- ☐ At an early phase
- ☐ Not yet started

9. Do job engagement surveys conducted in the organization include a review of how well employees are managing their digital workplace environment?

- ☐ Yes
- ☐ No

Part 3: Human Resource Department Practices

(This part will identify practices of the human resource department related to the digital workplace transformation in the organization. Please answer the questions by choosing the appropriate answer according to your work experience)

- **Human resource planning**

1. The human resource department studies the internal environment to determine the needed workforce for digital workplace transformation.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

2. The human resource department studies the internal environment to determine the needed digital technologies for digital workplace transformation.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

3. The human resource department determines the operative requirements of the employee in line with the objectives of digital workplace transformation.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

4. The human resource department uses modern techniques to enable the implementation of the digital workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

- **Performance management:**

1. The human resource department uses modern techniques in the employee performance appraisal process.

- Strongly Agree
- Agree

- Neutral
- Disagree
- Strongly Disagree

2. The human resource department uses organization's digital workplace transformation objectives as a criterion in the performance appraisal.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

3. The human resource department relies on the quality of performing in a digital workplace as a criterion in the performance appraisal.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

4. The performance appraisal system identifies employee strengths and weaknesses.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

• **Learning and development:**

1. The human resource department provides adequate training to enable the employee to do the job effectively in a digital workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

2. The human resource department provides the employee with the necessary digital technologies to improve the level of performance in a digital workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

3. The human resource department conducts ongoing staff development meetings.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

4. The human resource department evaluates the digital workplace training programs regularly.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

• **Working environment management:**

1. The human resource department conducts regular discussions with employees and management about the digital workplace transformation process progress.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

2. The human resource department encourages employees to propose creative and innovative ideas related to the digital workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

3. The human resource department emphasizes adaptability and innovative responsiveness to change.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

4. The human resource department maintains a flexible working environment.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

Part 3: Employee Engagement

(This part will identify the level of employee engagement related to the digital workplace transformation in the organization. Please answer the questions by choosing the appropriate answer according to your work experience)

1. I clearly understand how to use the digital workplace technologies appropriately.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

2. I have the support I need to perform my job using digital technologies.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

3. I am encouraged to continuously develop my digital skills.

- ☐ Strongly Agree
- ☐ Agree

- Neutral
- Disagree
- Strongly Disagree

4. In the year 2020 and due to COVID-19, I have had opportunities to learn more in terms of performing in a digital workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

5. I provide input to my organization about the digital workplace experience.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

6. I am satisfied with my digital workplace experience at my organization.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

7. Despite the digital workplace transformation obstacles, I'm willing to overcome them to continue the organization's digital transformation process.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

8. I engage fully in my job as I perform in a digital workplace.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

9. Performing in a digital workplace enhances my skills and work abilities.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

10. How do you describe your digital workplace experience so far? Check all that apply.

- ☐ Challenging
- ☐ Tiring
- ☐ Thrilling
- ☐ Satisfying
- ☐ Stressful
- ☐ Fascinating
- ☐ Interesting
- ☐ Exhausting
- ☐ Exciting
- ☐ Confusing
- ☐ Boring

Abstract

Purpose: The purpose of this study is to investigate the moderating influence of Human Resource Practice on facilitating the relationship between Digital workplace Transformation and Employee Engagement through the adoption of four certain practices; Human Resource Planning, Performance Appraisal, Training & Development, and Workplace Environment management.

Design/Methodology/Approach: An empirical investigation based on a quantitative method was used to conduct the study. The primary data has been collected using a structured questionnaire, designed mainly depending on non-comparative scales techniques, and distributed via social media applications. A sample size of 320 employees working in the Telecommunications sector has participated in the study. A Statistical Package for the Social Sciences was used to test the research hypotheses through different structural equation tests.

Finding: The results of the study shows that Human Resource Practices; Human Resource Planning, Performance Appraisal, Training & Development, and Workplace Environment Management have a moderating role on facilitating the relationship between Digital Workplace Transformation and Employee Engagement.

Research limitations/implications: The absence of a professional intake of findings acquired from a human resource manager. A follow-up study of more variables that may influence employee engagement during digital workplace transformation. For example variables like self-efficacy, leadership style, work stress, and job satisfaction, can be explored to build a holistic understanding of the success of digital workplace transformation.

Practical implications: Organization's policies developers should carefully design, implement, evaluate and upgrade HR practices during organizational change; i.e. adopting a digital workplace, to address employee engagement level.

Originality/value: The findings provide evidence that human resource practices in the Telecommunications sector in the Kingdom of Bahrain are facilitating the digital workplace transformation experience while enhancing employee engagement.

Recommendations: The study recommends more significant emphasis on human resource practices; Human Resource Planning, Performance Appraisal, Training and Development, and Workplace Environment Management, during digital workplace transformation to maintain and increase employee engagement.

Keywords: Digital workplace transformation, Human resource practices, Employee engagement, Human Resource Planning, Performance Appraisal, Training & Development, Workplace Environment Management, Telecommunications sector, The kingdom of Bahrain.

ملخص الأطروحة

الغرض: تهدف هذه الدراسة لمعرفة الدور المساند لممارسات الموارد البشرية على تسهيل العلاقة بين التحول الرقمي في مكان العمل ومشاركة الموظفين أثناء عملية التغيير، وذلك في قطاع الاتصالات بمملكة البحرين. عن طريق توظيف أربع ممارسات للموارد البشرية، وهي: تخطيط الموارد البشرية، تقييم الأداء، التدريب والتطوير وإدارة بيئة العمل.

التصميم / المنهجية / المنهج: تم إعتداد الدراسة منهجية المبينة على البحث الكمي لهذه الدراسة. وتم جمع البيانات الأولية باستخدام استبيان منظم، وتم تصميم الاستبيان ليعتمد بشكل أساسي على طرق القياس الغير مبنية على المقارنة، كما تم توزيع الاستبيان عن طريق وسائل التواصل الاجتماعي. تمت الاستجابة على الاستبيان من قبل 320 موظف يعمل في قطاع الاتصالات بمملكة البحرين. وتم استخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS) لتشكيل المسح واختبار فرضيات البحث وتحليل نتائج البيانات.

النتائج: أثبتت الدراسة وجود دور مساند لممارسات الموارد البشرية، وهي تخطيط الموارد البشرية، تقييم الأداء، التدريب والتطوير وإدارة بيئة العمل، على تسهيل العلاقة بين التحول الرقمي في مكان العمل ومشاركة الموظفين أثناء عملية التغيير في قطاع الاتصالات بمملكة البحرين.

حدود البحث/التأثيرات: نظراً لجائحة كوفيد-19 والإجراءات الاحترازية تعذر مناقشة نتائج البحث مع أحد المدراء الفعليين في قسم الموارد البشرية. ينصح بعمل دراسات لاحقة تتشابه مع هذه الدراسة في المضمون ولكن تختلف في نوع المتغيرات المؤثرة على مشاركة الموظفين أثناء التحول الرقمي في مكن العمل في المؤسسة. مثل كفاءة الموظف الذاتية، نوع القيادة، ضغوطات العمل و الرضا الوظيفي.

التأثيرات العملية: على صناع السياسات المنهجية في المؤسسات الاعتناء في تصميم وتفعيل وتقييم وتطوير ممارسات الموارد البشرية أثناء أي تغيير جذري يطرأ على المؤسسة، على سبيل المثال التحول الرقمي في مكان العمل، ليتم أخذ مشاركة الموظف في عملية التغيير في عين الاعتبار.

الأصالة / القيمة: لقد أثبتت الدراسة أن نجاح التحول الرقمي في مكان العمل في قطاع الاتصالات بمملكة البحرين يعود للممارسات الفعالة من قبل الموارد البشرية اتجاه موظفي القطاع.

التوصيات: الدراسة تؤكد على أهمية الدور المساند لممارسات الموارد البشرية على تسهيل العلاقة بين التحول الرقمي في مكان العمل ومشاركة الموظفين أثناء عملية التغيير.

الكلمات المفتاحية: التحول الرقمي في مكان العمل، ممارسات الموارد البشرية، مشاركة الموظفين، قطاع الاتصالات، مملكة البحرين.