

**UNIVERSITY OF EDUCATION, WINNEBA**

**ROLE OF JOB AUTONOMY AND EMPLOYEE-CENTRIC TECHNOLOGY  
ON EMPLOYEE PERFORMANCE**



**A dissertation in the Department of Management Sciences,  
School of Business, submitted to the School of  
Graduate Studies in partial fulfilment  
of the requirements for the award of the degree of  
Master of Business Administration  
(Human Resource Management)  
in the University of Education, Winneba**

**FEBRUARY, 2023**

## DECLARATION

### Student's Declaration

I, Racheal Atawuwu, declare that this dissertation, with the exception of quotations and references contained in this thesis which have all been identified and duly acknowledged, is entirely my own original work, and that it has not been submitted, either in part or whole, for another degree elsewhere.

Signature: .....

Date: .....



### Supervisor's Declaration

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of dissertation as laid down by University of Education, Winneba.

Supervisor's Names: Dr. Philip Siaw Kissi

Signature: .....

Date: .....

## **DEDICATION**

I dedicate this project to my late father.



## **ACKNOWLEDGEMENT**

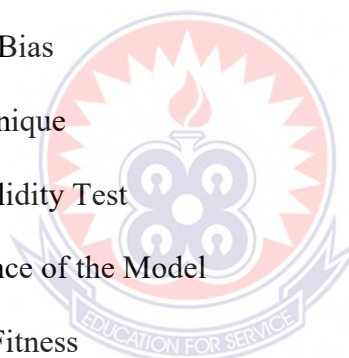
I acknowledge all lecturers in the Department of Management Sciences for your warm contribution towards my academic success.



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## LIST OF ABBREVIATION

| <b>Abbreviation</b> | <b>Meaning</b>                  |
|---------------------|---------------------------------|
| <b>ECT</b>          | Employee-Centric Technology     |
| <b>EJS</b>          | Enhanced Job Satisfaction       |
| <b>IP</b>           | Increased Productivity          |
| <b>JA</b>           | Job Autonomy                    |
| <b>JCM</b>          | Job Characteristics Model       |
| <b>SDT</b>          | Self-Determination Theory       |
| <b>SIB</b>          | Stimulated Innovation Behaviour |



## ABSTRACT

This study seeks to address this gap by investigating the role of job autonomy and employee-centric technology in shaping employee performance within organisational contexts. The study used a simple random sampling procedure to select 776 participants for the study. SmartPLS v4 software was used in this study to apply the Partial Least Squares Structural Equation Modeling (PLS-SEM), a statistical technique to analyse the respondents' data. The finding indicates that job autonomy has a significant and positive impact on increased productivity, enhanced job satisfaction and simultaneous innovation behaviour. More so, employee-centric technology has a significant and positive impact on increased productivity, enhanced job satisfaction and simultaneous innovation behaviour. Further, the finding shows that the interaction between job autonomy and employee-centric technology has a significant and positive impact on increased productivity and enhanced job satisfaction. However, the interaction has no significant and positive impact on simultaneous innovation behaviour. These findings generate valuable knowledge that informs organizational practices, improves employee well-being, and drives innovation in the workplace. Detailed policy and practice implications were discussed.



## CHAPTER ONE

### INTRODUCTION

#### 1.0 Overview

The chapter presents the background of the study, the problem statement, the aim of the study, and the research objectives. It further discusses research questions. The chapter also includes the scope of the study and the rest of the organisational of the study.

#### 1.1 Background to the Study

In the modern workplace, the dynamics of job autonomy and the integration of Employee-centric technology have emerged as pivotal factors influencing employee performance. Job autonomy, defined as the degree of independence and discretion employees have in carrying out their work responsibilities, has long been recognized as a critical determinant of job satisfaction, motivation, and overall performance (Fleischer & Wanckel, 2023; Kpinpuo, Akolgo & Naimi, 2023). Employees with higher levels of autonomy often exhibit increased initiative, creativity, and productivity, contributing positively to organizational outcomes (Elsetouhi, Mohamed Elbaz & Soliman, 2023).

Concurrently, the advent of employee-centric technology has revolutionized how work is conducted and managed. Employee-centric technology encompasses a wide array of tools, platforms, and systems designed to empower and support employees in their daily tasks. These technologies aim to streamline workflows, facilitate communication and collaboration, and provide employees with greater flexibility and control over their work processes (Qian, 2020). From project management software to communication platforms and self-service HR portals, these technological innovations

have reshaped the modern workplace, offering new opportunities for efficiency and effectiveness (Soin, 2023). The convergence of job autonomy and employee-centric technology presents an intriguing area of study with profound implications for organizational behavior and performance. While both factors have individually been linked to positive outcomes in the workplace, there is a need to understand how they interact and jointly impact employee performance.

## **1.2 Statement of the Problem**

The dynamic interplay between job autonomy and employee-centric technology presents a critical challenge in understanding its collective impact on employee performance within contemporary organisational contexts. Despite individual recognition of the significance of job autonomy in influencing various facets of employee behaviour and performance (Choi, Yoon & Kim, 2020; Cho et al., 2021; Khoshnaw & Alavi, 2020; Pan et al., 2024; Zhang et al., 2017), a comprehensive understanding of how job autonomy and employee-centric technology intersect to shape employee performance remains elusive. Furthermore, the role of job autonomy and employee-centric technology in influencing employee performance is not fully understood, particularly concerning how their combined effects contribute to enhancing productivity, job satisfaction, and overall organizational effectiveness. More so, despite the recognized importance of job autonomy in influencing employee performance and the growing significance of employee-centric technology in modern workplaces, there is a notable absence of comprehensive research examining the moderating effects of employee-centric technology on the relationship between job autonomy and employee performance. These gaps in the literature highlight the need for empirical studies that investigate how employee-centric technology may shape or enhance the impact of job autonomy on employee performance outcomes.

The lack of research in this area hinders the understanding of the complex dynamics between job autonomy, employee-centric technology, and employee performance. Without empirical evidence exploring the moderating effects of employee-centric technology, organizational leaders and policymakers may lack guidance on how to effectively leverage these factors to optimize employee performance and organisational success.

### **1.3 Aim of the Study**

This study seeks to address this gap by investigating the role of job autonomy and employee-centric technology in shaping employee performance within organisational contexts.

### **1.4 Objectives of the Study**

Specifically, the objectives of this research are to examine the:

1. Impact of job autonomy and employee-centric technology on various dimensions of employee performance (increased productivity, job satisfaction, and innovative behaviour among employees)?
2. Impact of employee-centric technology on various dimensions of employee performance (increased productivity, job satisfaction, and innovative behaviour among employees)?
3. Interaction effect of job autonomy and employee-centric technology on employee performance (increased productivity, job satisfaction, and innovative behaviours among employees)?

### **1.5 Research Questions of the Study**

1. What is the impact of job autonomy and employee-centric technology on various dimensions of employee performance (increased productivity, job satisfaction, and innovative behavior among employees)?
2. What is the impact of employee-centric technology on various dimensions of employee performance (increased productivity, job satisfaction, and innovative behavior among employees)?
3. What is the interaction effect of job autonomy and employee-centric technology on employee performance (increased productivity, job satisfaction, and innovative behavior among employees)?

### **1.6 Significance of the Study**

The study on the role of job autonomy and employee-centric technology on employee performance has the potential to generate valuable knowledge that can inform organizational practices, improve employee well-being, and drive innovation in the workplace. By addressing this important research area, the study contributes to both theoretical understanding and practical implications in organisational context:

- The study contributes to a deeper understanding of the factors influencing employee performance in modern workplaces. This understanding can inform theoretical models of organizational behavior and provide insights into the mechanisms underlying employee productivity and job satisfaction.
- The findings of the study can offer valuable insights for organizational leaders and managers seeking to optimize employee performance and organizational effectiveness. Understanding the impact of job autonomy and employee-centric technology can guide decision-making processes related to workforce management, technology adoption, and organizational design

- Insights from the study can help organizations create work environments that empower employees and promote their well-being. By understanding how job autonomy and employee-centric technology impact employee performance, organizations can design policies and practices that foster autonomy, support technological integration, and enhance employee satisfaction and engagement.

### **1.7 Scope and Delimitation of the Study**

The study included employees from various levels within the organization, including frontline workers, middle managers, and executives, to capture a comprehensive view of the impact of job autonomy and employee-centric technology on employee performance across different hierarchical levels. More so, The study encompasses employees from diverse job functions and departments within the organization, such as sales, marketing, operations, and customer service, to examine how job autonomy and employee-centric technology impact performance across different roles and responsibilities. Also, the study focuses on a specific organisational context or industry sector, limiting the generalizability of findings to other organizational settings with different cultures, structures, and practices. Finally, the study may be delimited to employees within a particular geographic region or location, which may impact the generalisability of findings to organizations operating in different geographical areas.

### **1.8 Rest of the organisation of the study**

The remaining chapters are structured as follows. Chapter 2 explains the theoretical background, the hypothesis development and the literature review at the base of the conceptual model. Chapter 3 presents the research methodology which includes research design, instrument, population, sample techniques and data analysis strategy.



Chapter 4 provides the study results and analysis. Finally, Chapter 5 discusses a summary of the results with key findings and concludes the study with some policy and practice implications. Recommendations for further studies are also included in chapter 5.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

The literature review includes two theoretical frameworks, namely the Self-Determination Theory (SDT) and the Job Characteristics Model (JCM). The chapter further presents the research hypothesis development and conceptual framework. It lastly considered other issues related to the study

#### 2.1 Self-Determination Theory (SDT):

Self-Determination Theory (SDT) is a framework developed by psychologists Edward L. Deci and Richard M. Ryan in the 1980s to understand human motivation and behaviour. SDT posits that people are inherently motivated to satisfy three basic psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2022). SDT suggests that individuals have innate psychological needs for autonomy, competence, and relatedness (Chiu, 2022; Ntoumanis, 2021). In the context of this study, job autonomy can be viewed as fulfilling the need for autonomy, while employee-centric technology may contribute to competence and relatedness needs. That is, SDT emphasizes the importance of autonomy in motivating individuals and fostering optimal performance (Ryan & Deci, 2020). In the context of this study, job autonomy refers to the extent to which employees have control over their work tasks, decision-making processes, and scheduling. When employees perceive that they have autonomy in their job roles, they experience a sense of ownership and self-direction, which can enhance their motivation, engagement, and performance (van Dorssen-Boog, Jong, Veld & Van Vuuren, 2020). For example, employees who are given the freedom to choose how they complete tasks or utilize technology tools may feel more

empowered and motivated to perform at their best. Also, SDT suggests that individuals are motivated to seek opportunities to develop and demonstrate competence in their actions and pursuits. In the context of this study, competence can be related to employees' proficiency in using employee-centric technology to accomplish job tasks and achieve desired outcomes. When employees feel competent in their ability to effectively utilize technology tools, they are more likely to engage in task-related behaviors that contribute to higher performance levels (Meske & Junglas, 2021). Additionally, providing employees with training and support to enhance their technological skills can further contribute to their sense of competence and confidence in their abilities (Beer & Mulder, 2020). Again, SDT highlights the importance of social connections and relationships in influencing motivation and well-being (Nunes, Proença & Carozzo-Todaro, 2023). In the context of this study, relatedness can refer to the interpersonal interactions and support systems within the workplace that impact employee performance. Employee-centric technology can facilitate relatedness by enabling communication, collaboration, and social connections among employees (Soin, 2023). For example, technology platforms that facilitate virtual teamwork or social networking within the organisation can strengthen relationships among employees, fostering a sense of belongingness and support that positively impacts performance outcomes.

## **2.2 Job Characteristics Model**

The Job Characteristics Model (JCM) is a theory developed by organizational psychologists J. Richard Hackman and Greg Oldham in the 1970s (Asghar & Yazdani, 2022). It aims to explain how various aspects of a job impact employee motivation, satisfaction, and performance (Le Thu Hanh, 2022; Zaman et al., 2020). The model suggests that certain job characteristics can lead to positive outcomes for

employees when properly aligned. The Job Characteristics Model has been widely used in organizational research and practice to guide job redesign efforts aimed at improving employee engagement, satisfaction, and productivity (Bayona, Caballer & Peiró, 2020). It provides a structured approach for organizations to enhance the quality of work experiences and promote positive outcomes for employees. The JCM identifies five core job dimensions that contribute to the meaningfulness of work which include job autonomy (Han, Sung & Suh, 2021). Thus, in the context of this study, JCM suggests that job autonomy has several positive effects on employees and their work outcomes. Thus, it provides the level of independence and freedom employees have in scheduling their work and making decisions related to their job. Employee autonomy allows employees to have a sense of ownership and control over their work, which can increase their intrinsic motivation. When individuals feel empowered to make decisions and shape their work environment, they are more likely to feel motivated to perform well and achieve their goals. It allows employees to have more control over their work schedules and priorities. This flexibility enables individuals to better balance their work and personal lives, reducing stress and burnout (den Boer, van Vuuren & de Jong, 2021). As a result, employees are more likely to feel satisfied and engaged both in and out of the workplace

### **2.3 Hypotheses Development**

#### ***The impact of job autonomy on productivity, job satisfaction, and innovative behaviour***

Job autonomy empowers employees to make decisions about how to accomplish their tasks and allocate their time effectively (Hassi, Rohlfer & Jebsen, 2022). When employees have control over their work processes, they can tailor their approach to suit their strengths, preferences, and the demands of their tasks. With greater

autonomy, employees are more likely to feel a sense of ownership and responsibility for their work (Edmondson & Matthews, 2024). Autonomy allows employees to prioritize tasks based on their judgment, leading to a more efficient use of time and resources. They can focus on high-impact activities and adapt their approach as needed, leading to better outcomes.

Job autonomy contributes to a sense of empowerment and control over one's work environment. Employees who have the freedom to make decisions about how to perform their tasks are more likely to feel valued and respected by their organization (Altaş et al., 2024). Autonomy fosters a sense of trust between employees and their employers, as it signals confidence in the employees' abilities to manage their responsibilities effectively (Gabler & Kalra, 2024). This trust can strengthen the employee-employer relationship and lead to higher levels of job satisfaction. Autonomy allows employees to align their tasks with their interests and values, which can increase their overall job satisfaction. When individuals feel that their work is meaningful and aligned with their personal goals, they are more likely to experience job satisfaction (Alzghoul et al., 2024).

Autonomy provides employees with the flexibility and freedom to explore new ideas, experiment with different approaches, and take calculated risks. This freedom encourages creativity and innovation by allowing employees to think outside the box and propose novel solutions to problems (Lee, Choi & Kang, 2021). When employees are empowered to make decisions and take ownership of their work, they are more likely to feel motivated to seek out innovative solutions (Bowen & Lawler, 2006). Autonomy encourages a culture of experimentation and learning, where failures are seen as opportunities for growth rather than setbacks. Organizations that promote

autonomy tend to attract and retain employees who are creative and entrepreneurial, further fostering a culture of innovation (Kim et al., 2021). Employees are more likely to contribute innovative ideas and initiatives when they feel trusted and supported by their organization (Opoku, Choi, & Kang, 2019). Therefore, job autonomy can have a positive impact on productivity, job satisfaction, and innovative behaviour among employees by empowering them to take control of their work, fostering a sense of ownership and responsibility, and encouraging creativity and experimentation. Thus, organisations that recognize the importance of autonomy and provide employees with the freedom to make decisions are likely to see improvements in employee performance, satisfaction, and innovation.

Based on this discussion the following hypotheses were stated:

*H1a: Job autonomy has a positive impact on increased productivity among employees*

*H1b: Job autonomy has a positive impact on enhanced job satisfaction among employees*

*H1c: Job autonomy has a positive impact on stimulated innovative behaviour among employees*

***The impact of employee-centric technology on productivity, job satisfaction, and innovative behaviour***

Employee-centric technology refers to technological tools, systems, and strategies designed to prioritize the needs and well-being of employees within an organization. This can include various digital platforms, communication tools, productivity software, and employee engagement applications (Soin, 2023). Employee-centric technology streamlines workflows, automates repetitive tasks and provides access to relevant information, thereby boosting overall productivity (McDonald, 2017). For

example, project management software allows employees to organize tasks efficiently, collaborate seamlessly, and track progress in real time, leading to more efficient project completion. Additionally, tools like time-tracking software help employees manage their time effectively, reducing distractions and improving focus on critical tasks. By providing employees with user-friendly tools and resources that simplify their work processes, employee-centric technology contributes to greater job satisfaction (Batti, 2022). When employees feel supported by technology that makes their jobs easier and more enjoyable, they are likely to experience higher levels of satisfaction with their work (Shin, Perdue & Kang, 2019). Moreover, access to flexible work arrangements facilitated by technology, such as remote work options or flexible scheduling, can further enhance job satisfaction by promoting work-life balance and autonomy. Employee-centric technology encourages a culture of innovation by facilitating communication, collaboration, and knowledge sharing among employees (Batti, 2022). Employee-centric technology fosters a sense of community and encourages creativity, leading to the generation of innovative solutions and approaches to challenges. Additionally, access to employee-centric data analytics tools empowers them to make data-driven decisions and identify new opportunities for improvement or innovation within their roles (Orso et al., 2022; Marler & Boudreau, 2017). Therefore, it can be concluded that the adoption of employee-centric technology has a profound impact on productivity, job satisfaction, and innovative behaviour within organizations. Based on the aforementioned discussion, the following hypotheses are proposed:

*H2a: Employee-centric technology has a positive impact on increased productivity, job satisfaction, and innovative behavior among employees*

*H2b: Employee-centric technology has a positive impact on enhanced job satisfaction among employees*

*H2c: Employee-centric technology has a positive impact on stimulated innovative behaviour among employees*

***The synergies effect of job autonomy and employee-centric technology on employee performance***

When employees have job autonomy, they can leverage the flexibility of autonomous decision-making with the efficiency and support provided by technology (de Vargas Pinto, Beerepoot & Maçada, 2023). For instance, autonomous employees equipped with advanced tools can customize their workflows, optimize processes, and utilize technology to streamline tasks, resulting in improved productivity. Job autonomy coupled with technology related to employee needs can lead to greater job satisfaction. Employees appreciate the freedom to make decisions about how they work, combined with the support and resources offered by technology to execute their tasks effectively (Skladany, 2016). This combination may foster a sense of empowerment, control, and fulfillment in their roles. Therefore, the combination of job autonomy and technology could encourage innovative behavior among employees. Autonomous employees are more likely to explore creative solutions to challenges (Sia & Appu, 2015), and with access to advanced technology, they can experiment, collaborate, and implement innovative ideas more efficiently (Kuo et al., 2010), leading to a culture of innovation within the organization (Shah et al., 2024). Therefore, it is suggested that:

*H3a: interaction between job autonomy and employee-centric technology has a positive impact on increased productivity*



*H3b: interaction between job autonomy and employee-centric technology has a positive impact on enhanced job satisfaction among employees*

*H3c: interaction between job autonomy and employee-centric technology has a positive impact on stimulated innovative behaviour among employees.*

**Table 2.1 Definition of Construct**

| <b>Construct</b>                | <b>Definition</b>   |
|---------------------------------|---|
| Employee-centric technology     | The availability and utilization of technology tools and resources that prioritize employee needs, facilitate task execution and support work processes   |
| Job Autonomy                    | The extent to which employees have control and discretion over their work activities, decision-making processes, and task execution   |
| Increased productivity          | A higher level of output or efficiency achieved within a given timeframe or with a given set of resources   |
| Enhanced job satisfaction       | An elevated level of contentment, fulfilment, and positive feelings that employees experience in their work roles   |
| Stimulated innovative behaviour | the extent to which employees are encouraged, motivated, and empowered to engage in creative thinking, problem-solving, and the generation of novel ideas or approaches within the organizational context |

#### **2.4 Proposed Research Conceptual Framework**

The JCM emphasizes job autonomy, which aligns with SDT's need for autonomy. Employees with job autonomy are more likely to experience intrinsic motivation and job satisfaction, which leads to better performance. SDT and JCM highlight the significance of autonomy in driving intrinsic motivation and well-being. Employee-centric technology, when employed effectively, could improve job autonomy by

providing employees with more control over their work processes, schedules, and decision-making. For example, flexible work arrangements enabled by technology may allow employees to have more autonomy over when and where they work. The theories suggest that people are motivated when they feel competent in their tasks. Employee-centric technology could contribute to employees' sense of competence by providing them with tools and resources that would facilitate task completion, skill development, and sharing of knowledge. For example, training modules accessible through technology platforms could benefit employees by helping them improve their skills and feel more competent in their roles. Drawing upon the synthesis of the two theories and the refinement of the conceptual framework, the researcher presents the following conceptual framework for the study (Refer to Figure 4.1).



## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.0 Introduction

This chapter outlines the research methodology, encompassing the research paradigm and design, population, sample, sampling procedure, and the research instruments employed. Additionally, it delves into the techniques utilized for data collection and analysis.

#### 3.1 Research Paradigm and Design

The study employed a positivist research paradigm or philosophical approach which emphasizes the use of empirical evidence and scientific methods to understand the social world (Park, Konge & Artino Jr, 2020). The study used an explanatory type of research with a cross-sectional survey research design which has been employed by recent studies (Gulzar et al., 2024; Jose & Kuriakose, 2024; Martzoukou, 2024; Poikkeus et al., 2018). This approach aims to not only describe a phenomenon but also to explain the relationships between variables or factors within a specific context. It involves hypothesis testing, data analysis, and interpretation to elucidate the underlying mechanisms driving observed relationships.

##### 3.1.1 Rationale for the Design

The rationale for employing an explanatory type of research with a cross-sectional survey research design for investigating the role of job autonomy and employee-centric technology in shaping employee performance within organizational contexts can be based on several factors

- An explanatory research type allows for exploring and explaining causal relationships between variables. This study focuses on understanding how job

autonomy and employee-centric technology impact employee performance. Using an explanatory approach, the study can examine the extent to which these factors are associated with different dimensions of employee performance, such as productivity, job satisfaction, and innovative behaviour.

- The study has specific hypotheses and research questions regarding the relationships between job autonomy, employee-centric technology, and employee performance. An explanatory type of research enables testing of these hypotheses empirically using quantitative data collected through a cross-sectional survey. By testing hypotheses, the study can provide evidence-based insights into the role of job autonomy and employee-centric technology in shaping employee performance.
- Cross-sectional survey research designs can provide insights into the relationships between variables across diverse organizational contexts. By collecting data from a representative sample of organizations and employees, the study can enhance the generalizability of its findings and contribute to a broader understanding of the role of job autonomy and employee-centric technology in shaping employee performance.

### **3.2 Population of the Study**

The study focuses on organizations as the primary unit of analysis. The population includes various types of organizations across different industries, sectors, and sizes. These organisations range from small startups to large multinational corporations and may operate in diverse fields such as technology, healthcare, finance, manufacturing, or services. Within the selected organizations, the population comprises employees who are actively engaged in work activities within the organizational context. This includes employees at different levels of the organisational hierarchy, from frontline

staff to middle managers to senior executives, as well as employees with varying job roles, responsibilities, and functions.

### **3.3 Sample and Sampling Procedure**

The study sample was selected from a diverse range of industries, sectors, organizational sizes, and geographic locations to ensure comprehensive coverage and generalizability of the findings. A sampling frame was developed using publicly available databases, organisational directories and professional networks based on the accessibility and relevance of the data sources. Stratified random sampling was employed the organisation by grouping the organisation into homogeneous subgroups or strata based on relevant characteristics such as industry sector, organisational size and geographical location. Permission was sought, and a list of employees was requested from the management of the selected organisations. Key stakeholders within organisations, such as human resources managers or department heads, were contacted to distribute consent forms to eligible employees. The study employed a simple random sampling procedure to select seven hundred and seventy-six (776) participants for the study based on the elible employee list collected from the management of the selected organisations using the SPSS random number generator function.

### **3.4 Sample Size Determination**

Selecting the appropriate sample size is crucial when conducting research, as it can significantly impact the reliability and generalisability of study findings (Arya, Antonisamy, & Kumar, 2012). While different researchers may hold differing opinions on the optimal approach, it is generally advisable to aim for a large sample size. For populations of 10,000 or more, Alreck and Settle (1985) suggested a sample

size ranging from 200 to 1000 participants. Gorsuch (1983) and Kline (1979) proposed a minimum sample size of 100, whereas Guilford (1954) recommended a minimum of 200 participants. Additionally, Cattell (1978) advocated for a minimum sample size of 250 for factor analysis. Moreover, the '10 times rule of thumb' was also applied to determine the sample size. According to this rule, in statistical analyses, the sample size should be at least 10 times larger than the number of variables being examined. Following these guidelines, this study opted for a sample size of 776 participants.

### **3.5 Development and Measurement of Instruments**

The questionnaire items, whose reliability and validity have been previously tested, were selected from previous empirical studies to measure participants' responses in the study. That is, employee-centric technology (Goodhue & Thompson, 1995; Kim et al., 2010), job autonomy (Dysvik & Kuvaas, 2011; Hackman & Oldham, 1980; Spreitzer, 1995), increased productivity (Farooq & Sultana, 2022), enhanced job satisfaction (Min, Kim & Agrusa, 2023) and simultaneous innovation behaviour (Scott & Bruce, 1994). The survey questionnaire comprises five constructs and 20 observed variables. A five-point Likert scale was employed for the observed items.

### **3.6 Common Method Bias**

Participants were included in the study voluntarily to mitigate the risk of Common Method Bias (Podsakoff, 2003). Additionally, Harman's one-factor test was conducted to examine Common Method Bias (Harman, 1976). Results showed that 47.6% of the variance was attributed to the first factor, falling below the 50% threshold. Hence, the responded data are not influenced by Common Method Bias (Fuller et al., 2016). Additionally, to mitigate the issue of Common Method Bias, a t-

test was conducted to assess if there was a statistically significant disparity between the initial and subsequent responses of participants from various manufacturing industries (Armstrong & Overton, 1977). The analysis revealed no statistically significant difference between the results ( $p$ -values = 0.232 for the first response and  $p = 0.223$  for the second response of the participants).

### **3.7 Data analysis technique**

In this study, SmartPLS v4 software was utilized to apply Partial Least Squares Structural Equation Modeling (PLS-SEM), a statistical technique used to analyze respondents' data. PLS-SEM finds application in various fields, including business (Guenther et al., 2023; Hair Jr et al., 2014; Sarstedt et al., 2014), social science (Dash & Paul, 2021; Magno, Cassia & Ringle, 2022), and information systems (Hair et al., 2017). Researchers often opt for PLS-SEM when dealing with intricate models or when prediction is the primary objective of the study (Hai et al., 2019). Besides offering flexibility in model specification, this technique remains robust in scenarios where distributional assumptions are not met (Memon et al., 2021). In this study, consistent PLS-SEM algorithms were employed to ensure robust standard error, supplemented by 5,000 bootstrap samples for standard error computation

### **3.8 Reliability and Validity Test**

The questionnaire items were administered to 52 employees across various levels and sample groups. Modifications and refinements to the instrument were made based on feedback received during the pilot phase. Additionally, the survey questionnaire was reviewed by five experts, scholars, and researchers to gather further feedback. Furthermore, to ensure the reliability of the study instruments, both construct reliability and composite reliability (CR) were assessed (Chau, 1999; Hancock &

Mueller, 2001). As shown in Table 3.1, Cronbach's Alpha values ranged from 0.861 to 0.964, surpassing the recommended threshold of 0.70 (Nunally & Bernstein, 1978). Additionally, convergent validity was assessed by testing the Average Variance Extracted (AVE) values. All the construct demonstrated AVE values surpassing the recommended threshold of 0.50 (Henseler et al., 2016). Specifically, the AVE ranged from 0.543 to 0.845.

**Table 3.1 Summary Results of Exploratory Factor Analysis**

| <b>Constructs</b>           | <b>Factor Loadings</b> | <b>Cronbach's alpha</b> | <b>Composite reliability</b> | <b>Average variance extracted</b> |
|-----------------------------|------------------------|-------------------------|------------------------------|-----------------------------------|
| Employee-Centric Technology |                        | 0.955                   | 0.955                        | 0.841                             |
| ECT1                        | 0.927                  |                         |                              |                                   |
| ECT2                        | 0.918                  |                         |                              |                                   |
| ECT3                        | 0.904                  |                         |                              |                                   |
| ECT4                        | 0.918                  |                         |                              |                                   |
| Job Autonomy                |                        | 0.861                   | 0.860                        | 0.543                             |
| JA1                         | 0.837                  |                         |                              |                                   |
| JA2                         | 0.716                  |                         |                              |                                   |
| JA3                         | 0.670                  |                         |                              |                                   |
| JA4                         | 0.754                  |                         |                              |                                   |
| JA5                         | 0.697                  |                         |                              |                                   |
| Increased Productivity      |                        | 0.956                   | 0.957                        | 0.845                             |
| IP1                         | 0.931                  |                         |                              |                                   |
| IP2                         | 0.945                  |                         |                              |                                   |
| IP3                         | 0.887                  |                         |                              |                                   |
| IP4                         | 0.912                  |                         |                              |                                   |
| Enhanced Job Satisfaction   |                        | 0.964                   | 0.964                        | 0.841                             |



|                                |       |       |       |       |
|--------------------------------|-------|-------|-------|-------|
| EJS2                           | 0.836 |       |       |       |
| EJS3                           | 0.871 |       |       |       |
| EJS4                           | 0.768 |       |       |       |
| EJS5                           | 0.818 |       |       |       |
| Simulated Innovation Behaviour |       | 0.903 | 0.905 | 0.759 |
| SIB1                           | 0.877 |       |       |       |
| SIB2                           | 0.899 |       |       |       |
| SIB3                           | 0.836 |       |       |       |

---

Note: ECT = Employee-Centric Technology, JA = Job Autonomy, IP = Increased Productivity, EJS = Enhanced Job Satisfaction, GP = Simulated Innovation Behaviour and Out = factor loading less than 0.6

Tables 3.2 and 3.4 display the Fornell Larcker and HTMT ratios, utilized to assess discriminant validity. These methods are recommended and utilized by several researchers (Ampofo et al., 2023; Lotfi et al., 2023; Radomir & Moisescu, 2020; Voorhees et al., 2016). For achieving discriminant validity, it is imperative that the square root of the AVE for each construct exceeds the correlation between the constructs in the study (Fornell & Larcker, 1981), and HTMT values should not exceed 0.85 (Henseler et al., 2016). However, in Table 3.2, the highest HTMT value is 0.81, surpassing the threshold of 0.85. Additionally, in Table 3.3, the square root of the AVE ranges from 0.737 to 0.939, which exceeds the correlation between the constructs.

**Table 3.2 Heterotrait-monotrait ratio (HTMT) - Matrix**

| Construct | ECT   | EJS   | IP    | JA    | SIB |
|-----------|-------|-------|-------|-------|-----|
| ECT       | -     |       |       |       |     |
| EJS       | 0.784 | -     |       |       |     |
| IP        | 0.640 | 0.764 | -     |       |     |
| JA        | 0.724 | 0.806 | 0.535 | -     |     |
| SIB       | 0.550 | 0.707 | 0.555 | 0.663 | -   |

**Table 3.3 Fornell-Larcker criterion**

| Construct | ECT          | EJS          | IP           | JA           | SIB          |
|-----------|--------------|--------------|--------------|--------------|--------------|
| ECT       | <b>0.939</b> |              |              |              |              |
| EJS       | 0.783        | <b>0.917</b> |              |              |              |
| IP        | 0.641        | 0.824        | <b>0.919</b> |              |              |
| JA        | 0.732        | 0.716        | 0.553        | <b>0.737</b> |              |
| SIB       | 0.551        | 0.869        | 0.556        | 0.661        | <b>0.871</b> |

The values in the diagonal represent the square roots of AVE

### 3.9 Predictive Relevance of the Model

$Q^2$  measures the predictive relevance of a model. Furthermore, it assesses the predictive relevance of endogenous constructs.  $Q^2$  values above 0 indicate predictive relevance (Janadari et al., 2016). The  $Q^2$  values reported in Table 3.9 range from 0.360 to 0.665, indicating a strong degree of predictive relevance (Hair et al., 2013). Additionally,  $R^2$  was employed to gauge the predictive power of the model, explaining 80.7%, 44.8%, and 44.8% of the variance in enhanced job satisfaction, increased productivity, and simulated innovation behaviour, respectively. According

to Cohen (1988), an  $R^2$  value above 26% is considered significant. Therefore, the  $R^2$  values presented in Table 3.4 suggest a strong predictive power.

**Table 3.4 Coefficient of determination and Stone-Geisser's index**

| <b>Endogenous Constructs</b> | <b>Stone-Geisser's (<math>Q^2</math>)</b> | <b>Coefficient of determination</b> |
|------------------------------|---|-------------------------------------|
| EJS                          | 0.665                                     | 0.807                               |
| IP                           | 0.399                                     | 0.448                               |
| SIB                          | 0.360                                     | 0.448                               |

### 3.10 Structural Model Fitness

The model's fitness was evaluated utilizing standardized root mean square residual (SRMR) values, both saturated and estimated. Henseler et al. (2016) set a benchmark of less than 0.08 for acceptable model fitness. The SRMR values for the saturated and estimated models were 0.071 and 0.076, respectively, indicating a satisfactory overall model fitness. Additionally, both the geodesic discrepancy ( $d_G$ ) and the unweighted least squares discrepancy ( $d_{ULS}$ ) for the saturated model were less than those of the estimated model, aligning with Henseler's (2017) recommendations for model fit (see Table 3.5). Moreover, the Normed Fit Index (NFI), which ideally ranges between 0 and 1, demonstrated values close to 1, indicating a good fit (Bentler & Bonett, 1980).

**Table 3.5: Model Fit**

|            | <b>Saturated model</b> | <b>Estimated model</b> |
|------------|------------------------|------------------------|
| SRMR       | 0.071                  | 0.076                  |
| d_ ULS     | 1.375                  | 2.197                  |
| d_ G       | 0.577                  | 0.653                  |
| Chi-square | 2587.877               | 2776.265               |
| NFI        | 0.840                  | 0.829                  |



## CHAPTER FOUR

### FINDINGS AND DISCUSSION

#### 4.0 Introduction

This chapter provides a discussion of the research questions and the results of the study. The findings of the study are discussed in two sections:

- Participant demographic information
- Finding and discussion associated with the research questions

#### 4.1 Participants Demography

Table 4.1 reports the results of the respondents' demographic characteristics. The respondents are 45.4% (n = 352) males and 54.6% (n = 424) females. Most respondents, 28.4% and 27.3% are in the age group of 24 -29 and 30 - 35 years groups respectively. More so, 14.7%, 20.6% and 9.0% are in the 18 - 23, 36 - 41 and above 41 groups in turn. Further, 37.4%, 30.4% and 32.2% of the employees were selected from institutions, manufacturing industries and hospitality industries respectively.

**Table 4.1 Summary statistics of participants' demographics**

| Categories               | Frequency (n) | Percentage (%) |
|--------------------------|---------------|----------------|
| Gender                   |               |                |
| Male                     | 352           | 45.4           |
| Female                   | 424           | 54.6           |
| Age (years)              |               |                |
| 18 – 23                  | 114           | 14.7           |
| 24 – 29                  | 220           | 28.4           |
| 30 – 35                  | 212           | 27.3           |
| 36 – 41                  | 160           | 20.6           |
| Above 41                 | 70            | 9.0            |
| Type of Organisation     |               |                |
| Institutions             | 290           | 37.4           |
| Manufacturing Industries | 236           | 30.4           |
| Hospitality Industries   | 250           | 32.2           |

## 4.2 Findings of the study

### 4.3.1 Path Analysis

As displayed in Table 4.2 and Figure 4.1, Hypothesis H1a, H1b and H1c have supported: job autonomy has a significant and positive impact on increased productivity ( $\beta = 0.194$ ,  $t = 3.226$ ,  $p < 0.001$ ), enhanced job satisfaction ( $\beta = 0.650$ ,  $t = 11.721$ ,  $p < 0.000$ ) and simultaneous innovation behaviour ( $\beta = 0.554$ ,  $t = 8.201$ ,  $p < 0.000$ ). More so, Hypothesis H2a, H2b and H2c have supported: Employee-centric technology has a significant and positive impact on increased productivity ( $\beta = 0.398$ ,  $t = 6.292$ ,  $p < 0.00$ ), enhanced job satisfaction ( $\beta = 0.252$ ,  $t = 4.386$ ,  $p < 0.000$ ) and simultaneous innovation behaviour ( $\beta = 0.170$ ,  $t = 2.543$ ,  $p < 0.011$ ).

From Table 4.3, Hypothesis H3a and H3b were supported: interaction between job autonomy and employee-centric technology has a significant and positive impact on increased productivity ( $\beta = 0.133$ ,  $t = 4.281$ ,  $p < 0.000$ ), and enhanced job satisfaction ( $\beta = 0.070$ ,  $t = 3.146$ ,  $p < 0.002$ ). However, H3c was not supported, thus interaction between job autonomy and employee-centric technology has no significant and positive impact on simultaneous innovation behaviour ( $\beta = 0.036$ ,  $t = 1.210$ ,  $p > 0.226$ ).

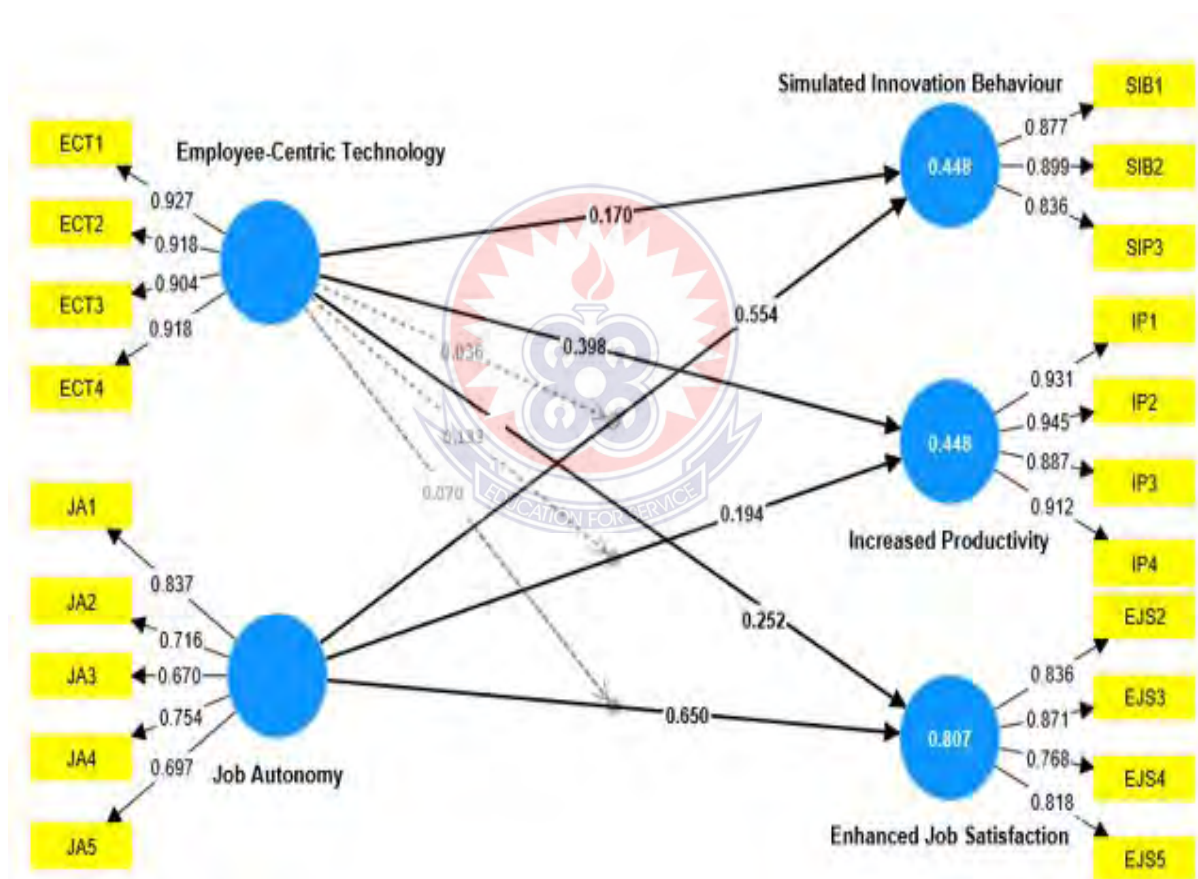
**Table 4.2: Path Coefficients**

| <b>Hypothesis</b> | <b>Relationship</b>   | <b>Standardized paths (<math>\beta</math>)</b> | <b>t-statistics</b> | <b>p-values</b> | <b>Decision</b> |
|-------------------|-----------------------|--|---------------------|-----------------|-----------------|
| H1b               | JA $\rightarrow$ IP   | 0.194  | 3.226               | 0.001           | Supported       |
| H1b               | JA $\rightarrow$ EJS  | 0.650  | 11.721              | 0.000           | Supported       |
| H1c               | JA $\rightarrow$ SIB  | 0.554  | 8.201               | 0.000           | Supported       |
| H2a               | ECT $\rightarrow$ IP  | 0.398  | 6.292               | 0.000           | Supported       |
| H2b               | ECT $\rightarrow$ EJS | 0.252  | 4.386               | 0.000           | Supported       |
| H2c               | ECT $\rightarrow$ SIB | 0.170  | 2.543               | 0.011           | Supported       |

Note: JA= job autonomy, IP = increased productivity, EJS = enhanced job satisfaction and SIB = simultaneous Innovation behaviour

**Table 4.3: Moderating effects**

| Hypothesis | Relationship               | Standardized paths ( $\beta$ ) | t-statistics | p-values | Decision      |
|------------|----------------------------|--------------------------------|--------------|----------|---------------|
| H3a        | JA x ECT $\rightarrow$ IP  | 0.133                          | 4.281        | 0.000    | Supported     |
| H3b        | JA x ECT $\rightarrow$ EJA | 0.070                          | 3.146        | 0.002    | Supported     |
| H3c        | JA x ECT $\rightarrow$ SIB | 0.036                          | 1.210        | 0.226    | Not Supported |



**Figure 4.1 Path Analysis**

#### 4.4 Discussion of the findings

The findings indicate that job autonomy has a significant and positive impact on increased productivity, enhanced job satisfaction, and simultaneous innovation behaviour. In support of this finding, Park and Searcy (2012) concluded in their study



that job autonomy is related to employees' organizational commitment. Thus, employees are more likely to be engaged and motivated when they are allowed to make decisions and take charge of their work processes. Furthermore, Lopes, Lagoa, and Calapez (2014) report that job satisfaction is most negatively affected by work pressure without increased work autonomy. Again, Tam, Watanabe and Hai (2022) indicate that work autonomy positively and significantly contributes to labour productivity in the field of construction. To the best of our knowledge, it appears that no study has examined the influence of job autonomy on simultaneous innovation behaviour. Moreover, previous studies that have investigated job autonomy have often limited their scope to specific contexts without considering the broader perspective of organisations. Additionally, the finding reveals that employee-centric technology significantly and positively influences productivity, enhanced job satisfaction, and simultaneous innovation behaviour. This finding is novel in existing literature and practices, as previous individual studies focused on one or two of these factors but did not comprehensively consider all three together. Furthermore, the findings indicated that the interaction between job autonomy and employee-centric technology has a significant and positive impact on increased productivity and enhanced job satisfaction, aspects that have not been extensively explored together in existing literature. With the increasing integration of technology into the workplace and evolving expectations regarding job roles and autonomy, the study addresses a timely and relevant topic, offering fresh insights and implications for both research and practice

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.0 Introduction

This chapter presents a summary of the study, key findings, and conclusions. It also concludes the study with managerial and policy implications. Limitations and recommendations for further studies are also included in this chapter.

#### 5.1 Summary of the study

This study seeks to address this gap by investigating the role of job autonomy and employee-centric technology in shaping employee performance within organisational contexts. Specifically, the objectives of this research are to examine the:

1. Impact of job autonomy and employee-centric technology on various dimensions of employee performance (increased productivity, job satisfaction, and innovative behaviour among employees)?
2. Impact of employee-centric technology on various dimensions of employee performance (increased productivity, job satisfaction, and innovative behaviour among employees)?
3. Interaction effect of job autonomy and employee-centric technology on employee performance (increased productivity, job satisfaction, and innovative behaviours among employees)?

The study employs Self-Determination Theory (SDT) and the Job Characteristics Model (JCM) as a theoretical basis for the study. More so, the study uses a positivist research paradigm or philosophical approach and an explanatory type of research with a cross-sectional survey research design. The population includes various types of organizations across different industries, sectors, and sizes. These organisations range from small startups to large multinational corporations and may operate in diverse

fields such as technology, healthcare, finance, manufacturing, or services. Within the selected organizations, the population comprises employees who are actively engaged in work activities within the organizational context. Stratified random sampling was employed to select the organisations by grouping the organisation into homogeneous subgroups or strata based on relevant characteristics such as industry sector, organisational size and geographical location. The study further employed a simple random sampling procedure to select 776 participants for the study based on the eligible employee list collected from the management of the selected organisations using the SPSS random number generator function. In this study, the SmartPLS v4 software was utilized to employ Partial Least Squares Structural Equation Modeling (PLS-SEM), a statistical technique used for analyzing the data provided by the respondents.

## **5.2 Main findings of the study**

1. Job autonomy has a significant and positive impact on increased productivity, enhanced job satisfaction and simultaneous innovation behaviour
2. Employees-centric technology has a significant and positive impact on increased productivity, enhanced job satisfaction and simultaneous innovation behaviour.
3. The interaction between job autonomy and employee-centric technology has a significant and positive impact on increased productivity and enhanced job satisfaction. However, the interaction has no significant and positive impact on simultaneous innovation behaviour.

### **5.3 Conclusions**

In conclusion, this research has shed light on the intricate interplay between job autonomy, employee-centric technology, and employee performance. Through the investigation, the study has uncovered significant insights into how these factors influence one another within the workplace environment. The findings of the study underscore the importance of fostering job autonomy as a means of empowering employees to take ownership of their tasks and decisions, thereby enhancing their performance outcomes. Additionally, the study has highlighted the pivotal role of employee-centric technology in facilitating efficient workflow processes and improving job satisfaction, ultimately contributing to overall performance levels.

#### **5.3.1 Managerial and policy implication**

The findings suggested that job autonomy positively impacts increased productivity, enhanced job satisfaction, and innovation behaviour have several managerial and policy implications. First, managers should recognise the importance of job autonomy in enhancing employee productivity, satisfaction, and innovation. Therefore, policies and practices should be implemented to foster a culture that values and promotes autonomy in the workplace. Secondly, organizations should provide training and development opportunities to employees to enhance their skills and abilities to effectively manage autonomy which should include courses on time management, decision-making, and problem-solving to help employees make the most of their autonomy. Thirdly, managers should adopt a leadership style that supports and empowers employees to exercise autonomy in their work, which should involve delegating authority, providing guidance and support rather than micromanaging and creating opportunities for employees to take ownership of their projects and decisions. Lastly, organisations should review and update their human resources policies to

support job autonomy initiatives, including revising job descriptions to include autonomy-related responsibilities and clarifying expectations around decision-making authority.

Other findings reported that enhanced concentric technology has a significant and positive impact on increased productivity, enhanced job satisfaction, and simultaneous innovation behavior. Organisations should consider investing in and adopting enhanced concentric technology to improve productivity, job satisfaction, and innovation behavior. This may involve upgrading existing technology infrastructure or implementing new technology solutions that enable greater autonomy, efficiency, and creativity in the workplace. More so, managers should provide adequate training and support to employees to ensure they can effectively utilize and leverage enhanced concentric technology. Employees may need assistance adjusting to and optimising the advantages of concentric technological tools, which may include workshops, training courses, and continuous support services. Policymakers must implement policies and initiatives that encourage the adoption and use of enhanced concentric technology in the workplace. For example, financial incentives and tax breaks should be offered to companies upgrading their technology, as well as incentives for innovation in technology development and research.

This study reveals that interaction between job autonomy and employee-centric technology has a significant and positive impact on increased productivity. Management should actively promote the adoption and integration of employee-centric technology into their workflows by investing in user-friendly tools and platforms that enhance employees' ability to perform their tasks autonomously while also providing the necessary support and training for effective utilisation. More so,

policymakers should consider developing policies that support the integration of job autonomy and employee-centric technology in workplaces which could focus on incentivizing the organisations to invest in concentric-technology upgrades and training programs, as well as creating regulations that promote a healthy balance between autonomy and accountability. Again, to ensure the successful implementation of both job autonomy and employee-centric technology, organisations should offer comprehensive training and support programs. Furthermore, policymakers should consider developing policies that support the integration of job autonomy and Employee-centric technology in workplaces. This may involve incentivizing organizations to invest in technology upgrades and training programs, as well as creating regulations that promote a healthy balance between autonomy and accountability. The interaction between job autonomy and employee-centric technology can enhance productivity and employee satisfaction among employees if these managerial and policy implications are taken into consideration. This could benefit individual employees and the organisations to have a competitive advantage.

#### **5.4 Limitations and recommendations for further studies**

The relationship between employee-centric technology, job autonomy, and employee performance may be impacted by unaccounted-for confounding variables. A future study could control for additional factors, such as organizational culture and leadership style. More so, depending on the organizational or cultural context of the study, the findings may not apply to other settings or industries. Future research could examine how contextual factors affect job autonomy, employee-centric technology, and employee performance. Despite, these likely limitations, across the spectrum of disciplines, explanation research methods contribute to the advancement of

knowledge, inform decision-making, and facilitate problem-solving, contributing to an understanding of phenomena and encouraging evidence-based practices.



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## APPENDIX A

### RESEARCH INSTRUMENT – SURVEY QUESTIONNAIRE

#### Instructions

Thank you for taking the time to complete this questionnaire. Please answer each question to the best of your knowledge. Your thoughtful and truthful responses will be greatly appreciated. Data will be used for research purposes only. Your responses will be kept completely **confidential**. Please read the following statements and kindly provide the information required. Please, tick [  ] the option that best reflects how you associate with each of the following statements.

#### PART 1 – Background Information

1. Gender [  ] Female [  ] Male
2. Age [  ] 18 - 23 [  ] 24 - 29 [  ] 30 - 35 [  ] 36 - 41 [  ] 41 Above
3. Type of Organisation  
 Institutions [  ] Manufacturing Industries [  ] Hospitality Industries

| Constructs                  | Observed Variable   |
|-----------------------------|---|
| Job Autonomy                |   |
| JA1                         | I have significant autonomy in determining how I do my job                      |
| JA2                         | I can decide on my own how to go about doing my work                            |
| JA3                         | I have considerable opportunity for independence and freedom in how I do my job |
| JA4                         | The job allows me to make my own decisions about how to schedule my work        |
| JA 5                        | The job allows me to make a lot of decisions on my own                          |
| Employee-centric technology |   |

|                                   |  |
|-----------------------------------|--|
| ECT1                              | The organisation's technology environment meets my needs and has a large, positive impact on my effectiveness and productivity in my job |
| ECT2                              | The information systems and services in my organisation are an important and valuable aid to me in the performance of my job             |
| ECT3                              | The technology I use in my organisation helps me deal with unexpected situations.  |
| ECT4                              | The technology assigned to my work is appropriate to my job  |
| ECT5                              | The technology is available when needed  |
| Increased Productivity            |  |
| IP1                               | I have a high work performance   |
| IP2                               | I accomplish tasks quickly and efficiently   |
| IP 3                              | I set a high standard of task accomplishment   |
| IP4                               | I achieve a high standard of task accomplishment   |
| Enhanced Job Satisfaction         |  |
| SE1                               | All in all, I am satisfied with my job.  |
| SE2                               | In general, I like working at my organization  |
| SE3                               | When I get up in the morning, I feel like going to work.   |
| SE4                               | I am enthusiastic about my job.  |
| SE5                               | I am proud of the work that I do.  |
| Simultaneous Innovation Behaviour |  |
| SIB1                              | This employee can explore new service skills and methods in their work.  |
| SIB2                              | This employee communicates his or her ideas and new ideas to others.   |
| SIB3                              | This employee will make appropriate plans and schedules for the implementation of his ideas  |

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