

Research Article

Change Management and Technological Innovation Among Small and Medium Enterprises in Enugu State

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Abstract

The study examined the influence of change management on the adoption of new digital technologies among small and medium enterprises in Enugu state. The two objectives of the study were to; assess the influence of managerial flexibility on the adoption rate of digital technologies among small and medium enterprises in Enugu state; and examine the influence of employee training on the usage of digital technologies among small and medium enterprises in Enugu state. The study adopted a descriptive survey research design. Purposive sampling technique was used in the selection of 10 SMEs incorporated in the study, while convenience sampling technique was used in selecting respondents for the study. The sampling size comprises of 85 SME managers and 210 employees. Structured questionnaire was the instrument used for data collection, while Z-test is the statistical technique used in data analysis. Findings revealed that; managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State, $Z(95, n = 85), 3.511 < 5.617 = p. < 0.05$; and that employee training influences the usage of digital technologies among small and medium enterprises in Enugu state, $Z(95, n = 201), 4.127 < 5.601 = p. < 0.05$. The study then recommended managerial flexibility should be encouraged among SMEs and the implementation of continuous employee training programs among SMEs in Enugu state.

Keywords

Change Management, Managerial Flexibility, Technological Innovation, Digital Technology

1. Introduction

In recent years, the global business landscape has undergone significant transformations driven by rapid technological advancements and shifts in consumer expectations. These changes necessitate that organizations, particularly Small and Medium Enterprises (SMEs), adapt their operations and strategies to remain competitive. Change management, defined as the structured approach to transitioning individuals, teams, and organizations from a current state to a desired future state [11], plays a critical role in facilitating this adaptation process. For SMEs in Nigeria, particularly in Enugu

State, understanding and implementing effective change management strategies is crucial for successfully integrating technological innovations into their operations.

The importance of technological innovation for SMEs cannot be overstated. Technological advancements have been shown to enhance productivity, improve operational efficiency, and foster competitiveness among businesses [17]. For SMEs, which often face resource constraints, leveraging technology can lead to significant improvements in service delivery and customer satisfaction. The integration of tech-

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Received: 26 February 2025; **Accepted:** 13 March 2025; **Published:** 31 March 2025



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nology enables SMEs to automate processes, streamline operations, and adopt data-driven decision-making practices, ultimately contributing to their growth and sustainability [21].

In Enugu State, SMEs play a vital role in the economy, contributing significantly to employment and income generation. According to the National Bureau of Statistics [18], SMEs account for over 90% of businesses in Nigeria, providing approximately 60% of employment opportunities. However, despite their critical role, many SMEs in Enugu State face challenges in adopting and implementing technological innovations. These challenges often stem from a lack of resources, insufficient technological infrastructure, and limited access to training and support [3].

Moreover, the COVID-19 pandemic has further underscored the necessity for SMEs to embrace change and innovate technologically. The pandemic forced many businesses to pivot their operations to remain viable, leading to a surge in the adoption of digital tools and platforms [4]. However, the extent to which SMEs in Enugu State have effectively managed this change and integrated technology into their business models remains an area of concern. This situation highlights the need for a comprehensive understanding of the relationship between change management and technological innovation, specifically within the context of SMEs in Enugu State.

Existing literature indicates that successful change management is essential for the effective adoption of technological innovations. Studies have shown that organizations that employ structured change management approaches are more likely to achieve successful technology implementation and realize its associated benefits [14, 7]. However, there is a paucity of research focusing specifically on SMEs in Nigeria, particularly in Enugu State, which presents an opportunity to explore this critical relationship in greater depth.

In light of the aforementioned factors, this study aims to investigate the dynamics of change management and technological innovation among SMEs in Enugu State.

1.1. Statement of Problem

In Enugu State, Small and Medium Enterprises (SMEs) are increasingly recognizing the importance of adopting digital technologies to enhance their operational efficiency and competitiveness. However, the actual rate of adoption and effective usage of these technologies remains inconsistent across the sector. Two critical factors influencing this phenomenon are managerial flexibility and employee training.

Managerial flexibility refers to the ability of leadership to adapt strategies and operations in response to changing market conditions and technological advancements. Many SMEs face rigid management structures that can stifle innovation and slow down the adoption of new digital tools. This lack of flexibility can impede an organization's ability to respond to technological changes, thereby affecting the overall adoption rate of digital technologies.

Additionally, employee training is crucial for ensuring that

staff members are equipped with the necessary skills to utilize these technologies effectively. Without proper training, employees may struggle to leverage digital tools, leading to underutilization or even resistance to new systems. Many SMEs in Enugu State often underinvest in employee training due to financial constraints or a lack of awareness regarding its importance in facilitating technology adoption.

Given these challenges, it is essential to evaluate the influence of managerial flexibility on the adoption rate of digital technologies and to examine how employee training impacts the effective usage of these technologies among SMEs in Enugu State. Addressing these issues can provide insights into how to foster a more conducive environment for digital transformation in the SME sector, ultimately contributing to their growth and sustainability in an increasingly digital economy.

1.2. Objectives

The main objective of the study is to examine of the influence of change management on the adoption of new technologies among small and medium enterprises in Enugu state. Other specific objectives are to;

1. Assess the influence of managerial flexibility on the adoption rate of digital technologies among small and medium enterprises in Enugu State
2. Examine the influence of employee training on the usage of digital technologies among small and medium enterprises in Enugu State

1.3. Research Questions

These questions provided direction to the study;

1. Will managerial flexibility influence the adoption rate of digital technologies among small and medium enterprises in Enugu State?
2. Will employee training influence the usage of digital technologies among small and medium enterprises in Enugu State?

1.4. Hypotheses

These hypotheses were tested in the course of the study

1. Managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State
2. Employee training influences the usage of digital technologies among small and medium enterprises in Enugu state.

2. Literature Review

2.1. Conceptual Review

This section discussed the variables that were incorporated

in the study.

2.1.1. Change Management

Change management in this study can be defined as a structured approach that guides individuals, teams, and organizations in transitioning from a current state to a desired future state. It encompasses the processes, tools, and techniques used to manage the people side of change, ensuring that changes are smoothly and successfully implemented to achieve lasting benefits. Effective change management addresses the psychological and organizational aspects of change, recognizing that employees' acceptance and engagement are crucial for successful transformation [11, 14]. Change management involves several key components, including understanding the change process, communicating effectively, training and supporting employees, and measuring the impact of change initiatives. By systematically managing change, organizations can minimize resistance, reduce risks, and enhance the overall effectiveness of change efforts [7].

2.1.2. Technological Innovation

Technological innovation in this study, refers to the development and application of new or significantly improved technologies, processes, products, or services that enhance organizational performance, efficiency, and competitiveness. It encompasses various forms of innovation, including incremental improvements to existing technologies as well as radical innovations that disrupt traditional practices and markets [29]. Technological innovation plays a crucial role in driving economic growth and enhancing productivity, enabling organizations to meet changing consumer demands, streamline operations, and differentiate themselves in competitive markets [22]. For Small and Medium Enterprises (SMEs), adopting technological innovations can lead to improved business processes, better customer engagement, and increased market share [15].

2.1.3. Managerial Flexibility

Managerial flexibility in this study, can be conceptualized as the ability of an organization's leadership to adapt strategies, processes, and operations in response to changing internal and external conditions. It encompasses the capacity to make swift decisions, reallocate resources, and pivot business strategies to navigate uncertainties and seize emerging opportunities [30]. This flexibility is crucial in today's dynamic business environment, where organizations face rapid technological advancements, market fluctuations, and evolving customer preferences. In practice, managerial flexibility involves fostering a culture of agility and responsiveness within the organization. It enables managers to identify and respond to changes more effectively, ensuring that the organization remains competitive and resilient in the face of challenges [5]. Organizations that cultivate managerial flexibility are better positioned to innovate, implement change, and achieve

long-term success.

2.1.4. Employee Training

Employee training in this study refers to a systematic process designed to enhance the skills, knowledge, and competencies of employees to improve their performance in their current roles and prepare them for future responsibilities. It encompasses various activities, including workshops, seminars, online courses, and on-the-job training, aimed at equipping employees with the necessary tools to meet organizational goals and adapt to changes in the workplace [19]. Effective employee training programs contribute not only to individual development but also to overall organizational performance by increasing productivity, improving employee satisfaction, and reducing turnover rates [27]. As organizations face rapid technological advancements and evolving market demands, continuous employee training becomes critical for fostering a skilled and adaptable workforce capable of driving innovation and maintaining competitive advantage [28].

2.2. Lewin's Change Management Theory

This theory, developed by social psychologist Kurt Lewin in 1947, is widely recognized for its simplicity and effectiveness in explaining how organizations can successfully implement change. The theory is built around three distinct stages: Unfreezing, Changing (or Moving), and Refreezing, which collectively provide a framework for understanding the process of organizational change [16].

The first stage of Lewin's model, *Unfreezing*, involves preparing an organization to accept that change is necessary. This step is critical in SMEs, particularly in the context of technological innovation, where resistance to new technologies can be a significant barrier. For change to occur, SMEs need to recognize the need for new technologies to remain competitive and sustain growth. This stage involves breaking down the existing status quo and addressing the factors that contribute to employee or managerial resistance to new technology [6]. For SMEs, this may involve highlighting the inefficiencies of current systems or demonstrating the potential benefits of technological adoption. The unfreezing process also entails educating and training employees to prepare them for the new changes. In SMEs, this is particularly important as employees may fear that technological innovations could replace their roles or require new skills that they do not possess [11]. Therefore, a key aspect of unfreezing is alleviating fears, communicating the need for change, and creating a sense of urgency around adopting new digital technologies.

The second stage is the *Changing or Moving* stage, which represents the transition phase where the organization begins to implement the change. In the context of technological innovation among SMEs, this stage involves the actual integration of new technologies into business processes. According to Lewin's theory, this stage requires proper plan-

ning and management to ensure that the changes are implemented smoothly and employees are provided with the necessary support [9]. For SMEs, the changing stage could involve several activities, such as the installation of new digital tools, adoption of cloud computing systems, or the introduction of automation technologies into their operations. Employee training plays a critical role in this phase, as successful technological innovation requires that employees are adequately equipped to use the new systems [14]. SMEs often face challenges during this stage due to limited resources and the technical expertise needed to implement advanced technological solutions. Therefore, partnering with external consultants or engaging in capacity-building initiatives may be necessary to support the technological change process.

The final stage of Lewin's theory is *Refreezing stage*, which involves solidifying the changes and ensuring that they become part of the organization's culture and day-to-day operations. For technological innovations to have lasting impacts, SMEs must ensure that the new systems are fully integrated, and that employees have accepted and adopted the changes [6]. This stage often involves institutionalizing the new technologies by embedding them into company policies, standard operating procedures, and long-term strategic plans. In this stage, ongoing monitoring and support are critical to ensure that the organization does not revert to old practices. SMEs must continue to provide training and development opportunities to help employees refine their skills and stay updated with the evolving technological landscape. Continuous feedback mechanisms, such as performance assessments and employee feedback loops, are also important in identifying areas that may need further improvement or adjustment [11].

Lewin's change management theory is particularly relevant to SMEs undergoing technological innovation for several reasons. First, SMEs often have fewer resources and are more vulnerable to disruptions than larger firms, making effective change management essential for success [8]. The structured approach provided by Lewin's model helps SMEs navigate the complexities of adopting new technologies in a systematic manner. Second, the unfreezing stage aligns with the need for SMEs to overcome resistance to change, which is a common issue when implementing new technologies. By addressing the psychological and emotional barriers that employees may face, SMEs can foster a culture that is more open to innovation and continuous improvement [14]. The changing and refreezing stages ensure that technological innovations are not only adopted but also fully embedded within the organization's operations, which is critical for long-term sustainability and competitiveness. Finally, Lewin's model emphasizes the importance of involving employees throughout the change process, ensuring that they are not only passive recipients of new technologies but active participants in their implementation. This approach can help SMEs build a more agile and adaptive workforce capable of responding to future techno-

logical advancements and market changes.

In conclusion, Lewin's Change Management Theory provides a solid theoretical foundation for understanding how SMEs can successfully navigate the challenges of technological innovation. The three-stage model offers practical steps for preparing organizations for change, implementing new technologies, and ensuring that these innovations become part of the organizational fabric. By applying this theory, SMEs in Enugu State can better manage the complexities associated with technological adoption and enhance their competitiveness in an increasingly digital economy.

2.3. Empirical Review

2.3.1. Managerial Flexibility and the Adoption Rate of Digital Technologies Among Small and Medium Enterprises

Nwachukwu and Agwu [20] explored how managerial flexibility influenced the adoption of mobile and internet technologies in Nigerian SMEs. The study found that managers with flexible attitudes towards change and innovation were more likely to integrate mobile banking, e-commerce platforms, and digital marketing tools into their business processes. Furthermore, flexible managers tended to foster a work environment that encouraged creativity and experimentation, which facilitated the faster uptake of these technologies. The researchers concluded that managerial flexibility is a critical factor in ensuring that SMEs can keep pace with digital trends and remain competitive in Nigeria's fast-evolving market.

Also, in a study focused on Lagos-based SMEs, Adeola and Ezenwafor [1] investigated the role of managerial flexibility in fostering digital technology adoption. The research highlighted that firms with flexible management practices were more open to experimenting with digital tools like cloud computing, mobile applications, and social media marketing. The authors emphasized that flexible managers were more likely to encourage a culture of continuous learning and experimentation, allowing their enterprises to stay competitive. The study also noted that a lack of managerial flexibility could hinder the adoption of crucial technologies, slowing innovation and market responsiveness.

Furthermore, Ogunleye and Ayodele [23] examined the relationship between managerial flexibility and the adoption of digital technologies among SMEs in Nigeria. The study revealed that SMEs with more adaptable and flexible management structures were significantly more likely to adopt new technologies. The researchers argued that managers who demonstrated a willingness to adjust business models, shift resources, and take calculated risks were better positioned to integrate digital solutions into their operations. The study concluded that managerial flexibility positively correlates with higher adoption rates of digital technologies, particularly in response to the challenges of the dynamic Nigerian busi-

ness environment.

More so, Ibrahim and Abdulrahman [12] investigated the moderating role of managerial flexibility in the relationship between financial constraints and technology adoption in SMEs in Northern Nigeria. Their findings demonstrated that SMEs with flexible managers were better able to navigate financial challenges by leveraging alternative financing options such as fintech solutions. This flexibility enabled them to adopt digital technologies despite limited access to traditional funding sources. The study suggested that managerial flexibility acts as a buffer against external financial pressures, allowing SMEs to prioritize and adopt digital innovations critical to business survival.

And, Olawale and Garba [26] explored how managerial decision-making flexibility affects the adoption rate of Industry 4.0 technologies among Nigerian SMEs. Their study found that flexible managerial approaches—such as empowering employees to make tech-related decisions and allowing decentralized decision-making—resulted in faster adoption of advanced technologies like artificial intelligence (AI) and data analytics. The research indicated that rigid decision-making structures created bottlenecks that delayed digital transformation efforts, whereas flexible management enabled quicker adaptation and implementation of digital innovations.

2.3.2. Employee Training and Usage of Digital Technologies Among Small and Medium Enterprises

Ibrahim and Abdullahi [13] conducted a study to assess the role of employee training in the implementation of digital technologies in SMEs in northern Nigeria. The study focused on the introduction of digital inventory and supply chain management tools. The researchers found that employee training positively influenced the effective implementation and use of these technologies, leading to more accurate inventory tracking and better management of supply chains. The study highlighted that without adequate training, many employees struggled to utilize the digital tools, leading to errors and inefficiencies.

Also, Adewoye and Akanbi [2] conducted a study to evaluate the impact of employee training on the usage of digital technologies in SMEs in southwestern Nigeria. Their findings indicated that training programs significantly enhance employees' ability to effectively use digital tools such as cloud computing, mobile applications, and e-commerce platforms. The study highlighted that SMEs that invested in regular and structured training programs observed higher adoption and usage rates of digital technologies, which in turn improved operational efficiency and customer service delivery. The authors concluded that employee training is a critical driver of digital technology adoption in SMEs.

Furthermore, Okoye and Ude [25] investigated the impact of employee training on the adoption of financial technology (fintech) solutions among Nigerian SMEs. The study found

that SMEs that provided training on fintech platforms like mobile banking, online payments, and digital wallets observed an increase in employee usage of these technologies for daily transactions. Employees trained on fintech solutions were better equipped to handle digital transactions and serve customers more efficiently. The study concluded that structured training on fintech tools directly influences the usage and adoption of these technologies in Nigerian SMEs.

In addition, Eze and Chinedu [10] explored how training and development initiatives influence employees' usage of enterprise resource planning (ERP) systems in SMEs in Nigeria. Their research revealed that SMEs that provided specific training tailored to the needs of ERP systems experienced smoother implementation and usage of the technology. Employees who received hands-on, practical training showed improved proficiency in using ERP solutions for managing finances, inventory, and customer data. The study suggested that inadequate training creates significant barriers to effective use, resulting in underutilization of digital technologies in many Nigerian SMEs.

And, Ogunyemi and Ojo [24] conducted research on the influence of employee digital literacy training on the use of online marketing tools in Nigerian SMEs. The study showed that employees who received training on digital marketing platforms like social media and email marketing exhibited higher competency in utilizing these tools to reach customers and drive sales. Moreover, SMEs that prioritized ongoing training in digital marketing saw increased online engagement and growth in sales. The research concluded that digital literacy training is essential for maximizing the use of online marketing technologies in SMEs.

2.4. Summary of Empirical Review

The findings from these studies consistently demonstrate that managerial flexibility plays a critical role in the adoption of digital technologies among Nigerian SMEs. Managers who exhibit adaptability, openness to change, and a willingness to invest in technological advancements create a conducive environment for digital transformation. Conversely, rigid management structures tend to inhibit technology adoption, thereby limiting the potential for innovation and competitiveness. These studies underscore the importance of fostering managerial flexibility to enhance the technological capabilities of SMEs in Nigeria, positioning them for sustainable growth in the digital economy.

Also, the studies highlighted underscore the importance of employee training in the successful adoption and usage of digital technologies among SMEs in Nigeria. Adequate and targeted training programs equip employees with the skills needed to utilize digital tools, whether in areas such as marketing, financial technology, or enterprise resource planning. These findings consistently suggest that SMEs that invest in regular training initiatives experience smoother digital transitions, better technology usage, and overall improvements in

operational efficiency. This reinforces the need for SMEs in Nigeria to prioritize employee training as a core part of their digital transformation strategies.

3. Methodology

3.1. Research Design

The research design adopted in this study was descriptive survey research design. The research design is best suited for this study because it permits the collection of original data and described the conditions as they existed in their natural setting. It studies the opinions, attitude, behaviours and beliefs of persons on the problems of this study.

3.2. Area of the Study

The study was carried out in among SMEs situated in Enugu Metropolis. SMEs in this study refer to small business

enterprises with small workforce size, between 2 to 50 employees.

3.3. Instrument for Data Collection

Data were sourced from both primary and secondary sources. The primary data was sourced through the use of five-response, Likert-typed, structured questionnaires. Questions were formulated to measure, the influence of change management on adoption of technological innovations among small and medium enterprises in Enugu state. Also, data were sourced from secondary sources like journals, text books, online resources that reviewed the variable of interest; change management and technological innovation.

3.4. Population of the Study

Managers and employees of selected small and medium enterprises situated in Enugu metropolis, which totaled 295 comprised the population of interest in this study.

Table 1. Distribution of Members of selected SMEs in Enugu State.

S/N	Trade	Number of Managers	No. of Employees
1	Chic & Classy Boutique	5	12
2	Taste & Bite Bakery	7	23
3	Techy World	6	14
4	Greenleaf Organic Market	18	46
5	Emmy Global	17	31
6	Enugu Print Shop	6	17
7	City Laundry Services	4	9
8	Jewelers' Den	5	13
9	Iykotech Electronics	4	16
10	Emerald Auto Repairs	13	29
	Total	85	210

3.5. Sampling Technique

The study adopted purposive sampling technique in selecting the SMEs incorporated in the study based on usage of digital technology services and tools in their daily business activities. While convenient sampling technique was adopted in sampling all the respondents incorporated in the study.

3.6. Reliability of Test Instrument

A pilot study was adopted in order to check for the validity

and reliability of the questionnaire formulated. 10 SMEs founders were conveniently drawn from the Ebonyi state, for the pilot test of the questionnaire and a Cronbach Alpha of $\alpha = .83$ was gotten, thus affirming the internal consistency of the questions contained in the questionnaire.

3.7. Validity of Test Instrument

The face and content validity of the instrument was used by giving out the copies of the questionnaires to experts in the field of Research in Management Science to confirm the authenticity of the items contained in the questionnaire, in the

measurement of the intended variables.

3.8. Method of Data Analyses

Data from the questionnaire were analyzed with the aid of SPSS version 23. Data from the questionnaire were analyzed using mean and standard deviation. For the 5-point Likert scale questions, the strongly agreed (SA), agreed (A) Neutral (N) Disagree (D) and strongly disagree (SD). Z- Test statistics was adopted in the test of hypotheses.

3.9. Decision Rule

H_0 will be accepted if the significance level is less than $p < .05$.

4. Results

4.1. Data Analysis

Hypothesis 1: Managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State.

Table 2. Table of Mean and Standard Deviation of Responses on Hypothesis 1.

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
1. I encourage experimentation with new digital technologies in my business.	85	2.63	1.210	1	5
2. I am open to adjusting business models to integrate new digital tools.	85	3.51	1.322	1	5
3. My leadership style is flexible in reallocating resources to support digital technology adoption.	85	3.42	1.106	1	5
4. Managerial support in my organization has positively influenced the adoption of digital technologies.	85	3.09	1.315	1	5
5. I make decisions that facilitate a smooth transition to digital solutions in the business.	85	3.71	1.021	1	5

The above table shows the mean and standard deviation distribution of responses on whether managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State. The mean result ranges from $[M = 2.63 > 3.71]$, which shows an even distribution of responses among respondents, same with the standard deviation result $[SD = 1.02 > 1.32]$, which shows normal distribution in their responses. Therefore, there is consistency in the pattern of responses.

Table 3. Z-test analysis of responses on whether managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State.

	I encourage experimentation with new digital technologies in my business	I am open to adjusting business models to integrate new digital tools	My leadership style is flexible in reallocating resources to support digital technology adoption	Managerial support in my organization has positively influenced the adoption of digital technologies.	I make decisions that facilitate a smooth transition to digital solutions in the business
N	85	85	85	85	85
Uniform Parameters ^{a,b}	Minimum	1	1	1	1
	Maximum	5	5	5	5
Most Extreme Differences	Absolute	.140	.165	.273	.283
	Positive	.108	.117	.062	.145
	Negative	-.179	-.173	-.291	-.261

	I encourage experimentation with new digital technologies in my business	I am open to adjusting business models to integrate new digital tools	My leadership style is flexible in reallocating resources to support digital technology adoption	Managerial support in my organization has positively influenced the adoption of digital technologies.	I make decisions that facilitate a smooth transition to digital solutions in the business
Kolmogorov-Smirnov Z	3.511	3.602	5.617	4.119	3.621
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

With Kolmogorov-Smirnon Z – value ranges from $3.511 < 5.617$ and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State.

Furthermore, comparing the calculated Z- value ranges from $3.511 < 5.617$ against the critical Z- value

of .000(2-tailed test at 95percent level of confidence) the null hypothesis was rejected. Thus the alternative hypothesis which states that managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu state, was accepted.

Hypothesis 2: Employee training influences the usage of digital technologies among small and medium enterprises in Enugu state.

Table 4. Mean and Standard Deviation of Responses on Hypothesis 2.

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
1. I have received adequate training to effectively use digital tools in my workplace.	210	3.21	1.219	1	5
2. Employee training programs in my SME have improved my ability to use digital technologies.	210	2.43	1.012	1	5
3. Training provided by my organization has increased my confidence in utilizing digital technologies.	210	3.01	1.125	1	5
4. The training I received on digital technologies is sufficient to handle daily tasks effectively.	210	2.35	1.006	1	5
5. My SME regularly updates employee training to keep up with advancements in digital technologies.	210	3.16	1.014	1	5

Table 5. Z-test analysis of responses on whether employee training influences the usage of digital technologies among small and medium enterprises in Enugu state.

		I have received adequate training to effectively use digital tools in my workplace	Employee training programs in my SME have improved my ability to use digital technologies	Training provided by my organization has increased my confidence in utilizing digital technologies.	The training I received on digital technologies is sufficient to handle daily tasks effectively	My SME regularly updates employee training to keep up with advancements in digital technologies.
N		210	210	210	210	210
Uniform	Minimum	1	1	1	1	1
Parame-	Maximum	5	5	5	5	5

		I have received adequate training to effectively use digital tools in my workplace	Employee training programs in my SME have improved my ability to use digital technologies	Training provided by my organization has increased my confidence in utilizing digital technologies.	The training I received on digital technologies is sufficient to handle daily tasks effectively	My SME regularly updates employee training to keep up with advancements in digital technologies.
ters ^{a,b}						
Most	Absolute	.246	.357	.275	.269	.310
Extreme	Positive	.211	.348	.193	.213	.186
Differences	Negative	-.209	-.165	-.245	-.071	-.310
Kolmogorov-Smirnov Z		4.127	5.235	4.610	4.112	5.601
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000

Table 4 shows the mean and standard deviation distribution of responses on whether employee training influences the usage of digital technologies among small and medium enterprises in Enugu state. The mean result ranges from $[M = 2.35 > 3.21]$, which shows an even distribution of responses among respondents, same with the standard deviation result $[SD = 1.00 > 1.22]$, which shows slight deviations in their responses. Therefore, there is consistency in the pattern of responses.

With Kolmogorov-Smirnon Z – value ranges from $4.127 < 5.601$ and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms the assertion of the most of the respondents that employee training influences the usage of digital technologies among small and medium enterprises in Enugu state.

Furthermore, comparing the calculated Z- value ranges from $4.127 < 5.601$ against the critical Z- value of .000(2-tailed test at 95percent level of confidence) the null hypothesis was rejected. Thus the alternative hypothesis which states that employee training influences the usage of digital technologies among small and medium enterprises in Enugu state was accepted.

4.2. Discussion

The study examined the influence of change management on the adoption of technological innovation among small and medium enterprises in Enugu state.

The first hypothesis which states that managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State, was accepted $Z (95, n = 85), 3.511 < 5.617 = p. < 0.05]$. This finding implies that most managers and owners of small and medium enterprises in Enugu state adopt flexible leadership style in the management of their business operations. Hence, they are open to technological changes in their business environment,

and equally integrate these changes in their business model. This finding confirmed Nwachukwu and Agwu [20] study, which revealed that managers with flexible attitudes towards change and innovation were more likely to integrate mobile banking, e-commerce platforms, and digital marketing tools into their business processes. It also validated Adeola and Ezenwafor [1] finding that firms with flexible management practices were more open to experimenting with digital tools like cloud computing, mobile applications, and social media marketing. The finding equally correlated with Ogunleye and Ayodele [23] finding, which revealed that SMEs with more adaptable and flexible management structures were significantly more likely to adopt new technologies. And Ibrahim and Abdulrahman [12] finding, which demonstrated that SMEs with flexible managers were better able to navigate financial challenges by leveraging alternative financing options such as fintech solutions. It further confirmed Olawale and Garba [26] finding, which evinced that flexible managerial approaches—such as empowering employees to make tech-related decisions and allowing decentralized decision-making—resulted in faster adoption of advanced technologies like artificial intelligence (AI) and data analytics. Hence, managerial flexibility is essential for adoption of technological innovation in an enterprise.

The second hypothesis which states that employee training influences the usage of digital technologies among small and medium enterprises in Enugu state, was equally accepted $Z (95, n = 201), 4.127 < 5.601 = p. < 0.05]$. This implies that adequate training on the use of digital tools, such as computer system, retail management system, point-of-sales (POS) machine and other relevant digital devices and software used for business transactions can improve employees' knowledge about usage and functionalities of these digital devices, which will lead to operational efficiency and enhanced productivity. This finding validated Ibrahim and Abdullahi [13] study, which found out that employee training positively influenced the effective implementation and use of these technologies. It

equally confirmed Adewoye and Akanbi [2] training programs significantly enhance employees' ability to effectively use digital tools such as cloud computing, mobile applications, and e-commerce platforms. The finding further correlated with Okoye and Ude [25] finding which evinced that SMEs that provided training on fintech platforms like mobile banking, online payments, and digital wallets observed an increase in employee usage of these technologies for daily transactions. It confirmed Eze and Chinedu [10] finding, which revealed that specific training tailored to the needs of ERP systems experienced smoother implementation and usage of the technology. And Ogunyemi and Ojo [24] study, which showed that employees who received training on digital marketing platforms like social media and email marketing exhibited higher competency in utilizing these tools to reach customers and drive sales. Hence, employee training is essential in comprehending the usage and functionality of digital technologies by the employees. This knowledge will enhance their operational efficiency and competence in running the daily business activities of the enterprise.

In conclusion, the study has empirically proven that change management plays a critical role in adoption of technological innovation among small and medium enterprises, as equally confirmed by Lewin's [16] theory.

Summary of Finding

The study found out that;

- i. Managerial flexibility influences the adoption rate of digital technologies among small and medium enterprises in Enugu State, $Z(95, n = 85), 3.511 < 5.617 = p. < 0.05$.
- ii. Employee training influences the usage of digital technologies among small and medium enterprises in Enugu state, $Z(95, n = 201), 4.127 < 5.601 = p. < 0.05$.

Conclusion

The findings of the study provide significant evidence that change management has an influence on the adoption of technological innovation among small and medium enterprises (SMEs) in Enugu State.

First, the statistical results demonstrate that managerial flexibility has a positive and significant influence on the adoption rate of digital technologies in SMEs. This suggests that managers who exhibit openness and adaptability towards change facilitate faster integration of digital solutions within their businesses.

Secondly, the findings also show that employee training significantly influences the usage of digital technologies in SMEs. When employees receive adequate training, they are better equipped to utilize digital tools, improving their efficiency and effectiveness in daily operations.

Overall, the study concludes that both flexible management practices and robust employee training programs are essential for driving digital transformation within SMEs in Enugu State.

Recommendations

Based on the findings of the study, two key recommendations can be made:

1. *Encourage Managerial Flexibility in SMEs:* SMEs in

Enugu State should foster a management culture that promotes flexibility and openness to change. Managers should be trained and encouraged to explore innovative digital solutions, adjust business strategies as necessary, and allocate resources to support the adoption of new technologies. This will enable SMEs to stay competitive in a rapidly evolving digital landscape.

2. *Implement Continuous Employee Training Programs:* SMEs should invest in regular and targeted training programs for employees to enhance their digital competencies. Continuous training will ensure that employees are up to date with the latest digital tools and technologies, thereby improving productivity and fostering the effective use of digital systems across business operations.

Contribution to Knowledge

1. *Expanded Understanding of Managerial Flexibility and Digital Technology Adoption:* This study adds to the body of knowledge by highlighting the critical role of managerial flexibility in driving the adoption of digital technologies among SMEs. It provides statistical evidence that adaptable management practices significantly enhance the ability of SMEs to integrate and utilize digital tools, especially in developing economies like Nigeria.
2. *Insight into the Role of Employee Training in Digital Technology Usage:* The study contributes valuable insights into how structured employee training programs directly influence the effective usage of digital technologies. It emphasizes the importance of continuous learning and skill development in ensuring that employees can fully leverage digital innovations, which is essential for SMEs' growth and competitiveness in the digital era.

Abbreviations

ERP	Enterprise Resource Planning
SME	Small and Medium Enterprises
OECD	Organization for Economic Cooperation and Development

Author Contributions

Kenneth Omeke is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

References

- [1] Adeola, A., & Ezenwafor, J. I. (2019). The impact of managerial flexibility on digital technology adoption among small and medium-sized enterprises in Lagos, Nigeria. *African Journal of Entrepreneurship*, 8(2), 102-120.

- [2] Adewoye, J. O., & Akanbi, T. A. (2019). The impact of employee training on the adoption of digital technologies in SMEs in southwestern Nigeria. *Journal of Small Business and Enterprise Development*, 26(4), 522-540.
- [3] Ajayi, S. O., & Osabuohien, E. S. (2021). Barriers to the adoption of technological innovations among SMEs in Nigeria: An analysis of the enablers and inhibitors. *African Journal of Science, Technology, Innovation and Development*, 13(1), 56-68. <https://doi.org/10.1080/20421338.2020.1791912>
- [4] Bana, A. A., Dabo, J. S., & Afoke, O. (2021). Impact of COVID-19 on the adoption of digital technologies by small and medium enterprises in Nigeria. *International Journal of Entrepreneurial Behavior & Research*, 27(4), 896-916. <https://doi.org/10.1108/IJEBR-07-2020-0363>
- [5] Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471-482. <https://doi.org/10.25300/MISQ/2013/37.2.09>
- [6] Burnes, B. (2004). Kurt Lewin and the planned approach to change: A re-appraisal. *Journal of Management Studies*, 41(6), 977-1002. <https://doi.org/10.1111/j.1467-6486.2004.00463.x>
- [7] Burnes, B. (2017). *Managing change* (7th ed.). Pearson Education.
- [8] Cameron, E., & Green, M. (2020). *Making sense of change management: A complete guide to the models, tools, and techniques of organizational change* (6th ed.). Kogan Page.
- [9] Cummings, T. G., & Worley, C. G. (2014). *Organization development and change* (10th ed.). Cengage Learning.
- [10] Eze, S. C., & Chinedu, F. C. (2020). The role of employee training in enhancing the adoption and usage of ERP systems in Nigerian SMEs. *African Journal of Information Systems*, 12(3), 189-205.
- [11] Hiatt, J. M. (2006). *ADKAR: A model for change in business, government, and our community*. Prosci Research.
- [12] Ibrahim, A., & Abdulrahman, R. A. (2020). Managerial flexibility and its moderating role in the adoption of digital technologies among SMEs in Northern Nigeria. *Journal of African Business*, 21(2), 245-263.
- [13] Ibrahim, Y. A., & Abdullahi, M. A. (2018). Employee training and its impact on the implementation of digital technologies in Nigerian SMEs. *Journal of Entrepreneurship and Small Business Management*, 7(2), 102-119.
- [14] Kotter, J. P. (1996). *Leading change*. Harvard Business Review Press.
- [15] Kraus, S., Palmer, C., Kallmuenzer, A., & Sporrer, M. (2021). Digital transformation in SMEs: A systematic literature review and future research agenda. *International Journal of Entrepreneurial Behavior & Research*, 27(3), 528-556. <https://doi.org/10.1108/IJEBR-03-2020-0175>
- [16] Lewin, K. (1947). Frontiers in group dynamics: Concept, method, and reality in social science; equilibrium and social change. *Human Relations*, 1(1), 5-41. <https://doi.org/10.1177/001872674700100103>
- [17] López-Nicolas, C., & Meroño-Cerdan, A. L. (2011). Strategic and operational impacts of information technology on firms' performance. *Information & Management*, 48(3-4), 75-85. <https://doi.org/10.1016/j.im.2011.01.004>
- [18] National Bureau of Statistics (NBS). (2020). *SMEs in Nigeria: A survey of the SMEs sector in Nigeria*. National Bureau of Statistics.
- [19] Noe, R. A. (2017). *Employee training and development* (7th ed.). McGraw-Hill Education.
- [20] Nwachukwu, A. A., & Agwu, P. E. (2018). The role of managerial flexibility in the adoption of mobile and internet technologies by SMEs in Nigeria. *Journal of Information Technology and Economic Development*, 9(2), 34-49.
- [21] OECD. (2019). *SME and entrepreneurship policy in Nigeria*. OECD Publishing. <https://doi.org/10.1787/2cfb1634-en>
- [22] OECD. (2020). *Innovation in SMEs: Insights from the OECD*. OECD Publishing. <https://doi.org/10.1787/8f622a1f-en>
- [23] Ogunleye, O. J., & Ayodele, O. S. (2020). Managerial flexibility and technology adoption in small and medium enterprises in Nigeria. *Journal of Business and Management Research*, 12(3), 45-60.
- [24] Ogunyemi, M. O., & Ojo, S. T. (2021). Digital literacy training and its influence on the use of online marketing tools by SMEs in Nigeria. *Journal of Marketing and Digital Business*, 9(2), 65-82.
- [25] Okoye, P. U., & Ude, E. A. (2020). The impact of training on the adoption of fintech solutions in SMEs in Nigeria. *International Journal of Business Innovation and Research*, 14(3), 264-282.
- [26] Olawale, O. J., & Garba, M. U. (2021). Managerial decision-making flexibility and Industry 4.0 technology adoption in Nigerian SMEs. *International Journal of Business and Management Innovation*, 10(1), 87-102.
- [27] Saks, A. M., & Burke, L. A. (2012). An investigation of training activities and transfer of training in organizations. *International Journal of Training and Development*, 16(2), 103-126. <https://doi.org/10.1111/j.1468-2419.2012.00332.x>
- [28] Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science in the Public Interest*, 14(2), 74-101. <https://doi.org/10.1177/1529100612436661>
- [29] Schilling, M. A. (2021). *Strategic management of technological innovation* (6th ed.). McGraw-Hill Education.
- [30] Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2011). Resource management in a dynamic environment: A model of resource flexibility. *Strategic Management Journal*, 32(2), 139-161. <https://doi.org/10.1002/smj.873>