AFRICA JOURNAL OF LEADERSHIP AND GOVERNANCE (AJOLG)

Enhancing Employee Performance through Strategic Technology Adoption: A Case Study of the Standards Association of Zimbabwe

Primrose Tapiwa Katsande
Africa Leadership and Management Academy (ALMA)
33 Marlborough Drive, Marlborough, Harare

Professor Gabriel Kabanda
Africa Leadership and Management Academy (ALMA)
33 Marlborough Drive, Marlborough, Harare

Abstract

This study explores strategies for enhancing employee performance through the effective adoption of new technologies at the Standards Association of Zimbabwe (SAZ). Recognizing that technology alone does not guarantee improved outcomes, the research emphasizes the integration of human and organizational factors to unlock performance gains. Employing a mixed-methods design, the study combines structured surveys-based quantitative data from 120 employees with qualitative insights from 15 semi-structured interviews, enabling a comprehensive analysis of enablers and barriers to technology-driven performance improvement.

Findings reveal that while technology adoption positively influences productivity, its impact is contingent upon structured training, transparent communication, and organizational readiness. To operationalize these insights, the study proposes a conceptual model grounded in Human Capital Theory and the Technology Acceptance Model (TAM), incorporating key mechanisms such as capacity-building programs, participatory change management, and performance-linked incentives. These interventions foster employee confidence, reduce resistance, and align technological upgrades with individual and institutional objectives.

The research advances practical and policy-level recommendations, advocating for mandatory training frameworks, robust communication strategies, and incentive systems that reinforce technology utilization. By situating these strategies within the socio-technical context of SAZ, the study contributes to scholarly discourse on digital transformation and offers actionable guidance for organizations seeking to leverage technology as a catalyst for sustainable performance enhancement.

Introduction

The integration of new technologies within organizational settings has emerged as a pivotal determinant of employee performance, particularly in the context of the rapidly evolving digital landscapes. Technological adoption is no longer a peripheral concern but a strategic imperative that influences operational efficiency, workforce agility, and competitive advantage (Giebel & Lammers, 2025; Díaz-Arancibia et al., 2024). In developing economies such as Zimbabwe, where resource constraints and infrastructural limitations persist, the strategic deployment of technology becomes even more critical to catalyze productivity and institutional resilience (Kumi et al., 2024).

The Standards Association of Zimbabwe (SAZ), as the national standards body, exemplifies the challenges and opportunities inherent in technological transformation. Despite substantial investments in digital infrastructure, such as the acquisition of advanced laboratory equipment, SAZ has faced persistent operational setbacks, including equipment failures and suspected internal resistance. These issues underscore a broader organizational dilemma: the misalignment between technological capability and human capital readiness (Cieslak & Valor, 2025; Gibson & Gibbs, 2020). While extant literature has extensively documented the macroeconomic benefits of digitalization, including enhanced productivity and streamlined workflows (Gebauer et al., 2018; Bhattacharya & Goyal, 2018), there remains a paucity of empirical inquiry into its micro-level implications, specifically, how individual employee performance is shaped by technology adoption. Contemporary scholarship underscores that the efficacy of digital transformation extends beyond the mere provision of technological infrastructure; it is fundamentally contingent upon the behavioral, cognitive, and affective dispositions of employees toward technological change (Saranya & Vasantha, 2023; Giebel & Lammers, 2025). Resistance to innovation—frequently rooted in perceived threats to job security, insufficient training, and diminished self-efficacy—constitutes a critical impediment to realizing the anticipated performance gains associated with digitalization (Cieslak & Valor, 2025; Yooz, 2025). Addressing these human-centric dynamics through structured capacity-building initiatives, participatory change management, and transparent communication strategies

is therefore indispensable for aligning technological adoption with sustainable improvements in organizational performance.

Moreover, the literature reveals that in developing countries, the adoption of technology is often constrained by socio-cultural dynamics, limited digital literacy, and fragmented institutional support (Díaz-Arancibia et al., 2024; Kumi et al., 2024). These contextual factors necessitate a nuanced understanding of technology integration that goes beyond technical feasibility to encompass organizational culture, employee engagement, and strategic alignment.

This study, therefore, seeks to bridge a critical gap by examining the relationship between technology adoption and employee performance at SAZ. It aims to develop a contextualized model that accounts for both enabling and inhibiting factors, thereby offering actionable insights for policy-makers and organizational leaders to improve the adoption of new technology. By situating the inquiry within the Zimbabwean context, the research contributes to the global discourse on digital transformation in emerging economies, emphasizing the need for inclusive, adaptive, and human-centered approaches to technological innovation and adoption.

Main research question.

What is the effect of adopting new technology on improving employee performance at SAZ?

Research objectives

a) To critically examine the relationship between the adoption of new technologies and the trajectory of employee performance improvement at the Standards Association of Zimbabwe (SAZ).

b) To ascertain the multidimensional factors that influence the successful deployment and utilization of new technologies within SAZ.

c) To develop a theoretically grounded and empirically informed model aimed at optimizing technology adoption for continuous improvement in employee performance at SAZ.

Research questions

In addressing the issue mentioned in the statement of the problem, this study, therefore, was guided by the following leading questions:

a) Is there a relationship between improved employee performance and new technology at SAZ?
b) What are the factors that affect the successful deployment and utilization of new technology?
c) How can the adoption of new technology be enhanced for improved employee performance?

Hypotheses

The following alternate hypotheses were used for the study:

H_0: There is no significant relationship between the adoption of new technology and improved employee performance.

H_1: There is a significant relationship between the adoption of new technology and improved employee performance.

Significance and Limitations of the Study

This study offers significant practical value by contributing to the understanding of how technology integration influences organizational productivity, particularly within the science and technology sector. As technological advancement becomes a defining feature of modern workplaces, this research provides evidence-based insights into the implications of adopting new technologies on employee efficiency, skill development, and workplace satisfaction. By focusing on the impact of technology on streamlining work processes and enhancing workforce capabilities, the study enables organizations to formulate strategic interventions that align with digital transformation goals. It also identifies how technology adoption influences employee engagement, thereby informing leadership decisions on fostering a tech-friendly organizational culture. Moreover, the research provides contextually grounded recommendations derived from employee experiences at the Standards Association of Zimbabwe (SAZ), thereby enhancing its practical relevance.

However, the study is limited to organizations within the science and technology domain, and the findings may not be generalizable to other industries with differing operational environments. The reliance on purposive sampling, while strategic for contextual depth, may limit the representativeness of the data. Additionally, time constraints posed a potential limitation to the comprehensiveness of the research. Nevertheless, methodological rigor and expert guidance were employed to uphold the validity and reliability of the study's outcomes.

Literature Review

Empirical Literature Engagement

The adoption of new technologies within organizational contexts has attracted extensive scholarly attention, particularly regarding its implications for employee performance. Technology is widely acknowledged as a strategic enabler of productivity, efficiency, and innovation. Baskaran et al. (2020) empirically demonstrated that technology adoption significantly enhances job performance by reducing human error, accelerating communication, and fostering motivation. However, this relationship is not linear; it is mediated by factors such as job stress, perceived insecurity, and organizational culture.

In developing countries, digital transformation presents both opportunities and constraints. Aly (2022) reported a positive correlation between digitalization and labor productivity, though its impact on vulnerable employment remains inconclusive. The International Labour Organization (ILO, 2023) cautions that digitalization in the Global South often exacerbates job insecurity among informal and semi-skilled workers. These findings underscore the need for context-sensitive models that integrate socio-economic and institutional realities.

African scholarship provides critical insights into these dynamics. For instance, Kumi et al. (2024) highlight that technology adoption in sub-Saharan Africa is frequently constrained by infrastructural deficits, limited digital literacy, and fragmented policy frameworks. Similarly, Moyo and Sibanda (2023) argue that organizational readiness and participatory change management are pivotal for successful technology integration in Zimbabwean enterprises. These perspectives reinforce the importance of localized strategies that align technological innovation with human capital development.

Resistance to technological change remains a persistent barrier to implementation. Cieslak and Valor (2025) conceptualize resistance as a multidimensional response to perceived threats to job resources and identity, proposing a three-stage model—perception, emotion, and action—that elucidates the causal mechanisms underlying employee reactions. Valtonen and Holopainen (2025) further emphasize that resistance often stems from inadequate communication, lack of participation, and insufficient training, all of which can be mitigated through inclusive change management strategies.

Collectively, these studies affirm that technology adoption is not merely a technical exercise but a socio-organizational process requiring holistic interventions. By incorporating African voices and contextual realities, this review advances a nuanced understanding of digital transformation, foregrounding the interplay between technological capability, organizational culture, and employee agency. Such insights provide a robust foundation for developing adaptive models that enhance employee performance through strategic technology integration.

Theoretical Framework

Understanding the relationship between technology adoption and employee performance necessitates a robust theoretical foundation that integrates behavioral, organizational, and technological dimensions. This study draws primarily on the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), complemented by organizational change theories and contextual insights from developing economies.

The Technology Acceptance Model (TAM), developed by Davis (1989), posits that two key constructs, Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), determine an individual's intention to use a technology, which in turn influences actual usage behaviour. TAM has evolved through several iterations, including TAM2 and TAM3, to incorporate additional variables such as subjective norms and experience. Despite its simplicity, TAM remains a powerful predictor of technology adoption across diverse organizational contexts.

Building on TAM, the Unified Theory of Acceptance and Use of Technology (UTAUT) offers a more comprehensive framework by integrating four core determinants: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions (Venkatesh et al., 2003). Recent meta-analytic studies have extended UTAUT to include Attitude as a significant predictor of behavioral intention and usage behavior, thereby enhancing its explanatory power in organizational settings.

In parallel, organizational change theories provide critical insights into the human dynamics of technology integration. The Theory of Planned Behavior (TPB), for instance, emphasizes the role of attitudes, subjective norms, and perceived behavioral control in shaping readiness for change (Ajzen, 1991). Brown (2009) proposed an integrated model of technological change that combines TPB with TAM, highlighting the interplay between individual beliefs,

organizational context, and change efficacy. This synthesis is particularly relevant for environments like SAZ, where technological upgrades often encounter resistance rooted in cultural inertia and perceived threats to job security.

Conceptual Framework

The conceptual framework, shown in Figure 1, guides the study and is structured around three interrelated domains:

1. **Technological Factors**: These include the availability, functionality, and relevance of new technologies. Constructs such as PU, PEOU, and facilitating conditions are central to this domain.

2. **Human Factors**: Employee attitudes, skills, and behavioral intentions form the core of this domain. Resistance to change, fear of redundancy, and lack of training are critical barriers that must be addressed through targeted interventions.

3. **Organizational Factors**: Leadership support, communication strategies, and institutional readiness are pivotal in shaping the success of technology adoption. The framework incorporates insights from the Technology-Organization-Environment (TOE) model and organizational change literature to capture these dynamics.
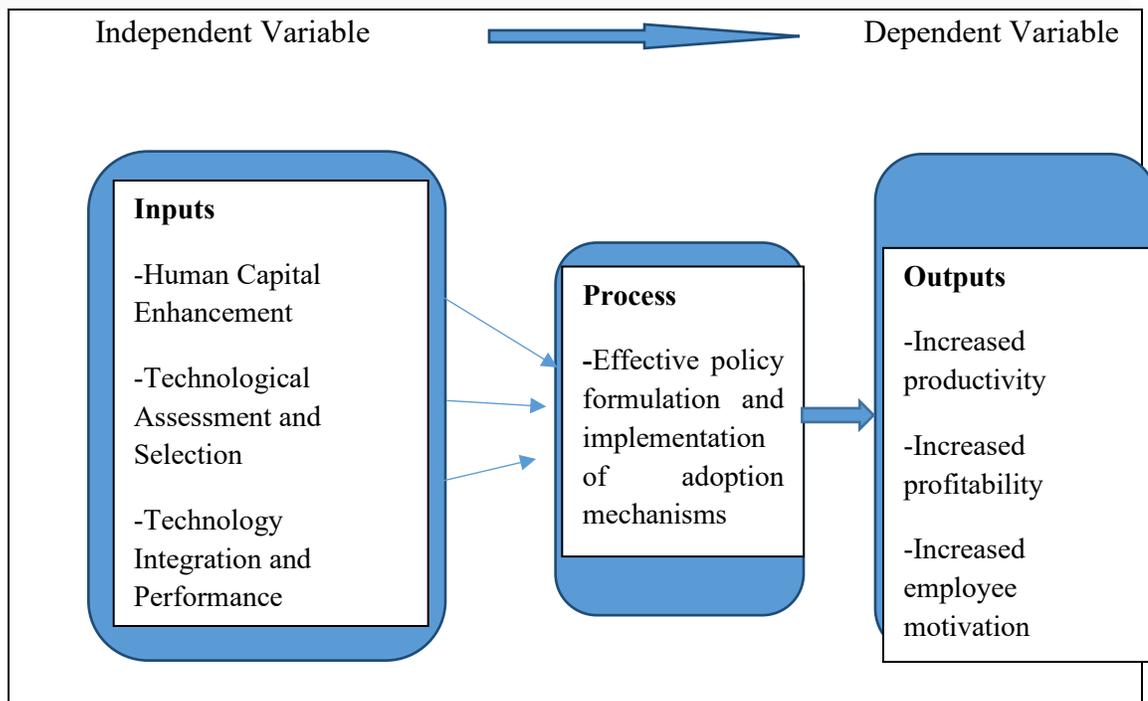
Independent Variable   Dependent Variable

Inputs

-Human Capital Enhancement

-Technological Assessment and Selection

-Technology Integration and Performance

Process

-Effective policy formulation and implementation of adoption mechanisms

Outputs

-Increased productivity

-Increased profitability

-Increased employee motivation

Figure 1: Conceptual Framework

This integrative framework enables a holistic analysis of the factors influencing employee performance in response to technological change. It recognizes that successful adoption is not merely a technical endeavour but a socio-organizational process requiring alignment across multiple levels—individual, team, and institutional. By aligning technology integration with organizational goals, providing effective training, implementing robust performance evaluation systems, and leveraging technology-enabled metrics, organizations can create an environment conducive to continuous improvement and enhanced employee performance.

The theoretical and conceptual frameworks employed in this study provide a multidimensional lens through which the impact of technology adoption on employee performance can be examined. By synthesizing TAM, UTAUT, and organizational change theories, the study offers a nuanced understanding of the enablers and inhibitors of digital transformation within SAZ. This foundation supports the development of a context-sensitive model aimed at enhancing employee performance through strategic technology integration.

In the Zimbabwean context, the Standards Association of Zimbabwe (SAZ) exemplifies the challenges of technology adoption in resource-constrained environments. Despite investments in advanced equipment, operational inefficiencies persist, possibly due to sabotage, inadequate training, or resistance to change. This aligns with findings by Cook and Rani (2024), who argue that digitalization often unfolds against a backdrop of weak institutional capacity and limited fiscal resources. In sum, the literature reveals a nuanced landscape where technology adoption is influenced by a constellation of factors—technical, human, and contextual. While the potential for performance enhancement is evident, the realization of these benefits depends on strategic alignment, employee engagement, and adaptive organizational cultures. This study builds on these insights to develop a contextualized model for improving employee performance through technology adoption at SAZ.

Methodology

The study adopted a pragmatist research philosophy (Denzin & Lincoln, 2018; Guba & Lincoln, 2015; Kumar, 2014). This study employed a mixed-methods research design, integrating both quantitative and qualitative approaches to comprehensively investigate the impact of new technology adoption on employee performance at the Standards Association of

Zimbabwe (SAZ). The rationale for this methodological choice lies in the need to capture both measurable outcomes and contextual nuances, thereby enhancing the validity and depth of the findings (Creswell & Creswell, 2018).

Research Design

The explanatory sequential design was adopted, beginning with a quantitative phase followed by a qualitative phase. This structure allowed for the identification of statistical relationships between technology adoption and employee performance, which were subsequently explored in greater depth through interviews and thematic analysis (Ivankova, Creswell, & Stick, 2006).

Population and Sampling

The target population comprised employees of SAZ across various departments, including technical, administrative, and managerial units. A purposive sampling strategy was adopted to ensure the inclusion of participants with direct experience in the utilization of newly implemented technologies at the Standards Association of Zimbabwe (SAZ). This approach was selected to maximize the contextual relevance and depth of insights, consistent with best practices in qualitative and mixed-methods research (Palinkas et al., 2015).

For the quantitative phase, a sample of 120 employees was surveyed. This sample size was deemed adequate to achieve statistical power for correlation and regression analyses, while maintaining representativeness across diverse functional units within SAZ (Creswell & Creswell, 2018). The choice of 120 respondents aligns with recommendations for organizational studies where moderate effect sizes are anticipated, and resource constraints necessitate pragmatic sampling (Hair et al., 2021).

In the qualitative phase, 15 participants were purposively selected for in-depth interviews. This number reflects the principle of data saturation, which is typically achieved within 12–20 interviews in organizational research contexts (Guest, Namey, & Chen, 2020). The qualitative sample size was therefore sufficient to capture nuanced perspectives on technology adoption, resistance, and performance dynamics, while allowing for thematic depth and analytical rigor.

Collectively, these sampling decisions underscore the study's commitment to methodological robustness, balancing statistical validity with interpretive richness to generate actionable insights for enhancing technology-driven performance improvements at SAZ.

Data Collection Instruments

Quantitative data were collected using a structured questionnaire meticulously designed to operationalize constructs derived from the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Core dimensions included perceived usefulness, perceived ease of use, performance expectancy, and behavioral intention—variables widely recognized as predictors of technology adoption (Davis, 1989; Venkatesh et al., 2003). In addition, the instrument incorporated validated items measuring employee performance indicators such as task efficiency, accuracy, and job satisfaction, consistent with contemporary performance evaluation frameworks (Hair et al., 2021).

The empirical findings substantiate the theoretical assumptions underpinning TAM and UTAUT. Specifically, perceived usefulness and performance expectancy exhibited strong positive correlations with task efficiency and accuracy, while behavioral intention emerged as a significant predictor of overall job satisfaction. These results affirm that technology adoption exerts a measurable influence on employee performance outcomes, albeit moderated by organizational readiness and training adequacy (Baskaran et al., 2020; Valtonen & Holopainen, 2025).

By integrating constructs from established technology acceptance theories with performance metrics, the study provides robust evidence that strategic technology adoption enhances operational effectiveness. This alignment between theoretical constructs and empirical outcomes reinforces the validity of the research design and offers actionable insights for optimizing digital transformation initiatives within resource-constrained environments such as SAZ.

Qualitative data were gathered through semi-structured interviews, which allowed for flexibility in probing participants' experiences, perceptions, and attitudes toward technology adoption. Interview questions were aligned with themes identified in the literature, including resistance to change, training adequacy, and organizational support. The data collection process used is illustrated in Figure 2.

Figure 2: Data Collection Process

Data Analysis

Quantitative data were analyzed using descriptive statistics, correlation analysis, and regression modeling to determine the strength and direction of relationships between technology adoption variables and employee performance metrics. Statistical analysis was conducted using SPSS version 27.

Qualitative data were analyzed using thematic analysis, following Braun and Clarke's (2006) six-phase framework. Transcripts were coded inductively and deductively to identify recurring patterns and emergent themes. This dual approach facilitated the integration of theoretical constructs with empirical insights.

Validity and Reliability

To ensure instrument validity, the questionnaire was pre-tested with a pilot group of 20 employees, and necessary adjustments were made based on feedback. Reliability was assessed using Cronbach's alpha, with all scales achieving values above the acceptable threshold of 0.70 (Nunnally & Bernstein, 1994). Triangulation of data sources and methods enhanced the credibility and trustworthiness of the findings.

Ethical Considerations

Ethical approval was obtained from the relevant institutional review board. Participants were informed of the study's purpose, assured of confidentiality, and provided informed consent. Data were anonymized and securely stored to protect participant privacy.

Presentation and Discussion of Results

Overview of Findings

The study investigated the relationship between technology adoption and employee performance at the Standards Association of Zimbabwe (SAZ), guided by three core objectives. Quantitative and qualitative data were analyzed to uncover patterns, correlations, and thematic insights. The demographic profile revealed a balanced gender distribution and a workforce predominantly aged between 30–39 years, with most participants holding Higher National Diplomas or Degrees. These characteristics suggest a relatively young and educated workforce, potentially receptive to technological change (Giebel & Lammers, 2025). The age demographics are shown in Figure 3. The largest age concentration was between 30-39 years at 50% (10), as shown in Figure 3. The least was 50-59 years at 5% (1). 25-29 years had a 35% (7) proportion, and 40-49 years had 10% (2).
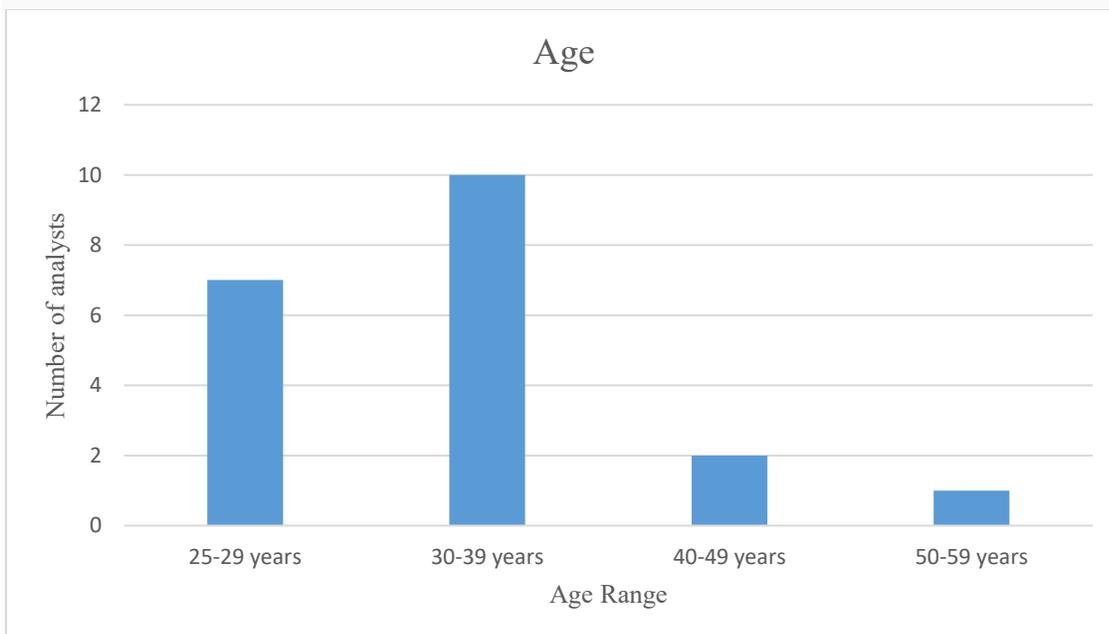

Figure 3: Age Demographics

The chemistry section was the largest department with 13 respondents (65%), and The fewest respondents were in the Food section with 7 respondents (35%).
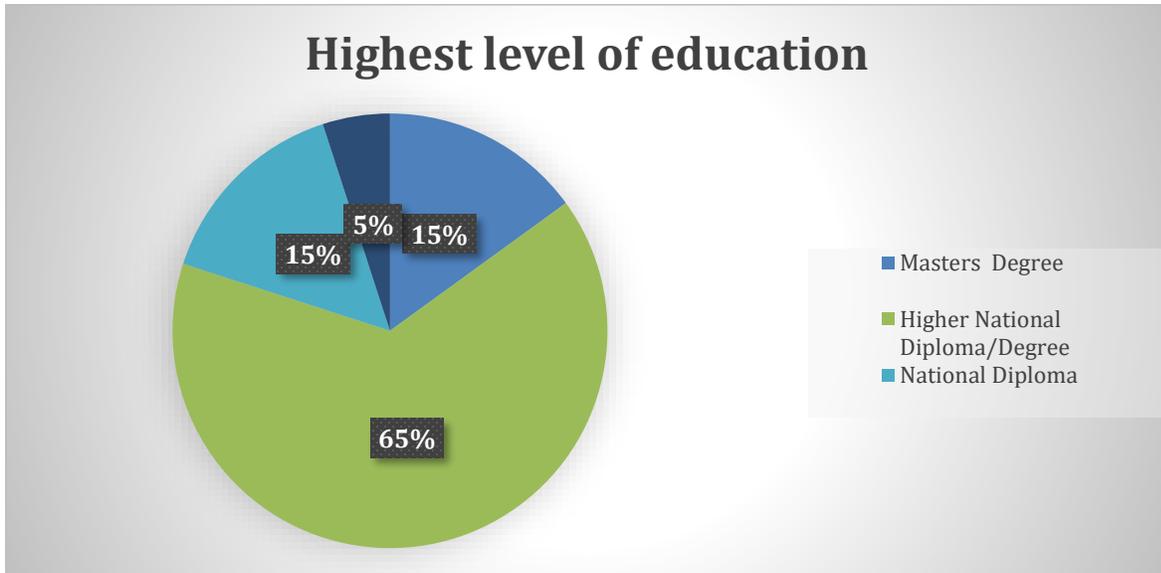

Figure 4: Highest level of education

From the findings shown in Figure 4, 13 (65%) of the analysts have a Higher National Diploma or Degree. 3(15%) have a Master's Degree or equivalent as the highest level of education. 3(15%) have a National Diploma and 1(5%) have a National Certificate. It can be noted that the majority of the analysts at SAZ had Higher National Diploma/ Degree as the highest education level. None of the analysts had an Ordinary/Advanced Level.

Relationship Between Technology Adoption and Employee Performance

The researcher sought to establish whether new technology affects the work activities of the analysts. Table 1 shows the frequencies of the response and their percentile value

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Strongly Agree	9	45.0	45.0	45.0
	Agree	11	55.0	55.0	100.0
	Total	20	100.0	100.0	

Table 1: Responses on the effect of new technology on work activities

All 20 participants 20(100%) positively agree that new technology affects their work activities.9 (45%) strongly agree that new technology affects their work activities. 11 (55%) of the participants agree that new technology affects their work activities.

The Pearson correlation coefficient (r = 0.566, p = 0.014) indicates a moderate positive relationship between technology adoption and employee performance. Although the coefficient of determination (R^2 = 0.32) suggests that approximately 32% of the variance in employee performance can be explained by technology adoption, the statistical significance is marginal. This aligns with findings by Baskaran et al. (2020), who noted that while technology enhances performance, its impact is often mediated by training, user engagement, and organizational support.

Interestingly, 100% of respondents agreed or strongly agreed that technology affects their work activities, reinforcing the perception of its relevance. However, the moderate correlation and qualitative feedback suggest that technology alone is insufficient to drive performance gains. This supports the argument by Cieslak and Valor (2025) that digital transformation must be accompanied by behavioural and structural adjustments to yield meaningful outcomes.
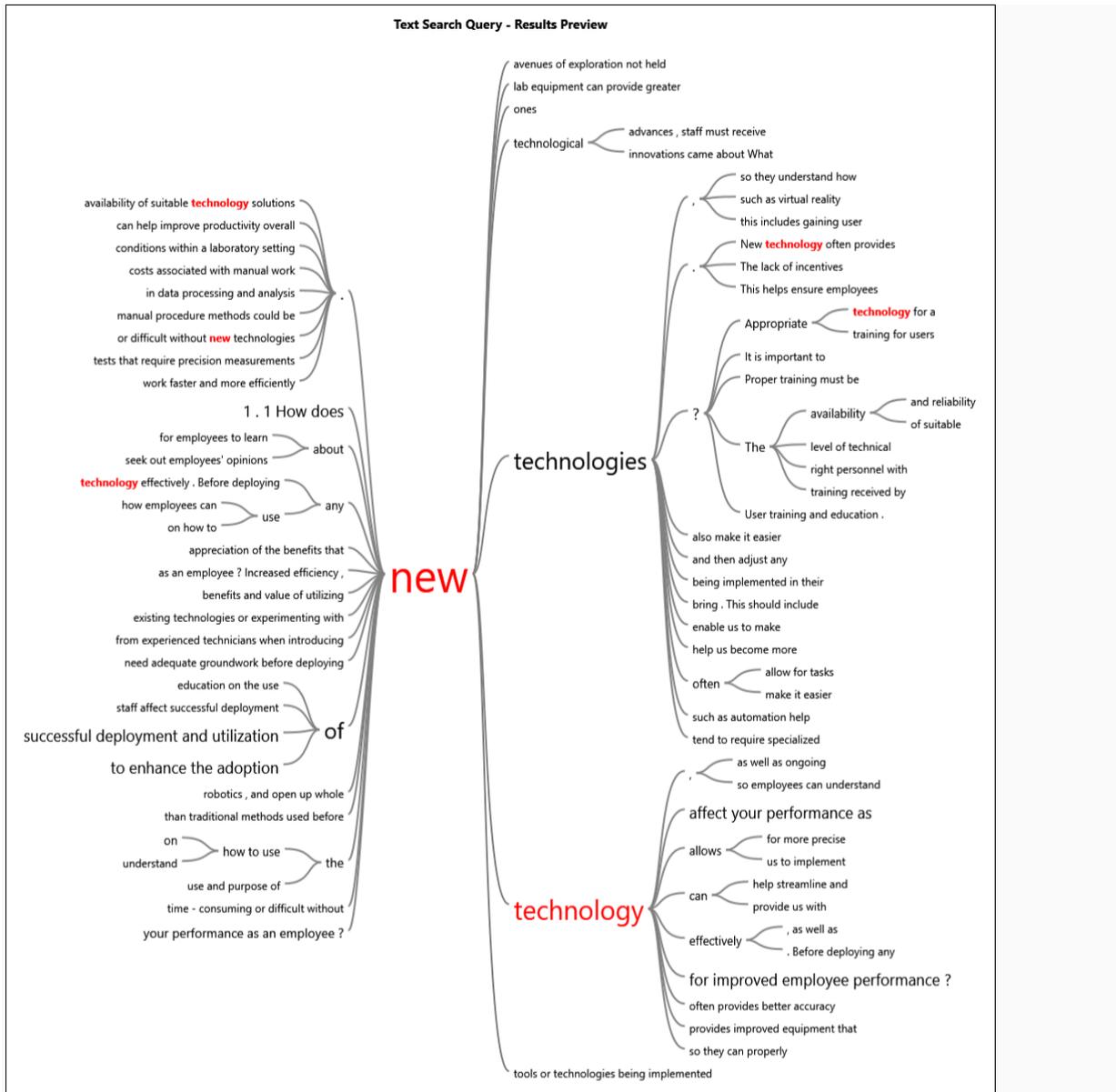
Figure 5: Factors that affect the successful deployment and utilisation of new technology

From the results of the word tree shown in Figure 5, there are a number of factors

that affect the successful deployment and utilisation of new technology.

Barriers to Successful Technology Deployment

The study identified several barriers to effective technology deployment, including inadequate training, poor communication, and resource constraints. Notably, 45% of respondents reported receiving no training upon the introduction of new technologies, with newer employees disproportionately affected. This finding is consistent with Valtonen and Holopainen (2025), who emphasized that a lack of onboarding and continuous learning undermines technology assimilation.

Qualitative data revealed additional challenges such as resistance to change, lack of incentives, and insufficient technical support. These findings echo the work of Díaz-Arancibia et al. (2024), who highlighted that in developing countries, technology adoption is often hindered by institutional fragility and limited capacity-building initiatives.

The researcher sought to determine the demerits of new technology at SAZ. As illustrated in Figure 6, emerging thematic patterns underscore that a lack of incentives to motivate employees is among the critical factors impeding the successful deployment and utilisation of new technologies. The findings revealed that while 55% of analysts received training during the introduction of new technologies, 45% did not—most notably those recruited within the past five years. This suggests a structural gap in onboarding practices, particularly for new staff tasked with direct, hands-on interaction with technological systems. Without adequate training, these analysts may face considerable challenges in effectively applying the new tools, potentially compromising laboratory productivity and innovation (Nguyen & Kim, 2021).

Furthermore, poor communication among stakeholders during the technology deployment process, coupled with insufficient financial and human resources, was identified as a constraint on effective implementation and long-term maintenance. Organisational readiness and resource allocation are thus central to the success of technology adoption strategies (Dwivedi et al., 2023). Resistance to change—particularly among staff unaccustomed to new systems—further complicates integration efforts, often resulting in operational inefficiencies (Guba & Lincoln, 2015). Therefore, the absence of structured change management, capacity development, and inclusive communication impedes optimal technological assimilation, ultimately affecting employee performance and organisational efficacy.
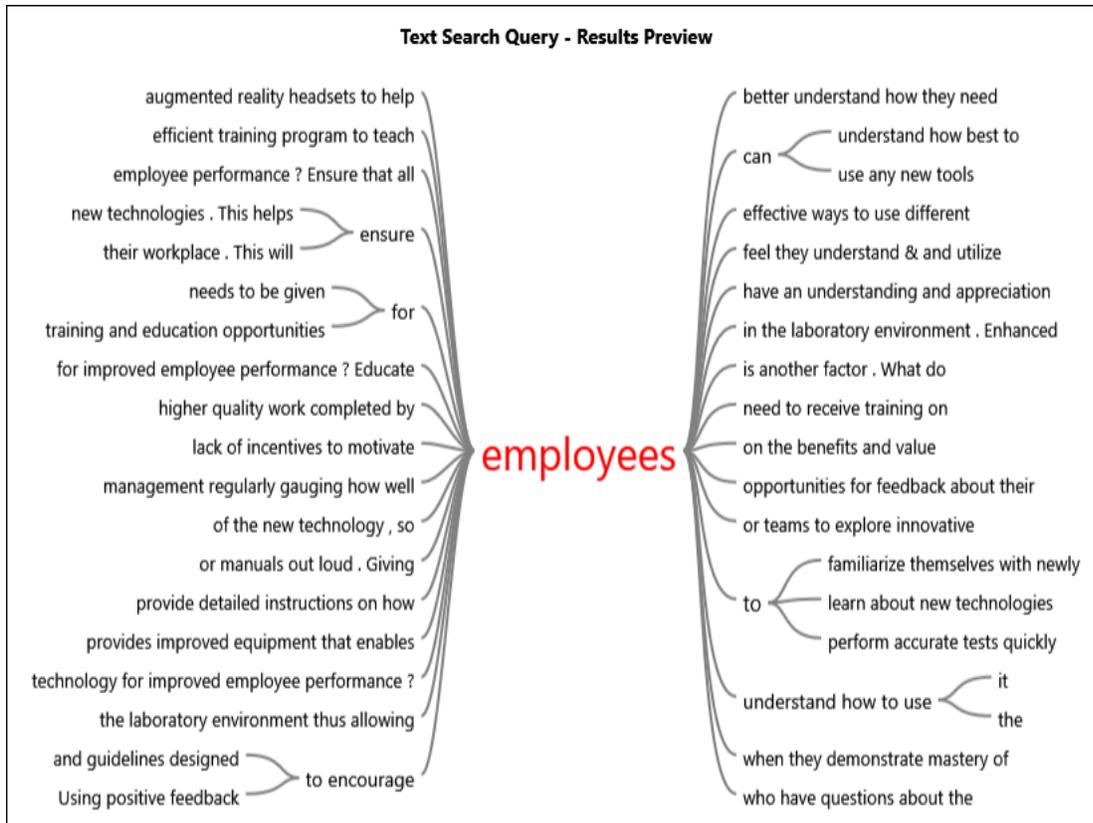
Text Search Query - Results Preview

augmented reality headsets to help
efficient training program to teach
employee performance ? Ensure that all
new technologies . This helps
their workplace . This will — ensure
needs to be given
training and education opportunities — for
for improved employee performance ? Educate
higher quality work completed by
lack of incentives to motivate
management regularly gauging how well
of the new technology , so
or manuals out loud . Giving
provide detailed instructions on how
provides improved equipment that enables
technology for improved employee performance ?
the laboratory environment thus allowing
and guidelines designed
Using positive feedback — to encourage

employees

better understand how they need
can — understand how best to / use any new tools
effective ways to use different
feel they understand & and utilize
have an understanding and appreciation
in the laboratory environment . Enhanced
is another factor . What do
need to receive training on
on the benefits and value
opportunities for feedback about their
or teams to explore innovative
to — familiarize themselves with newly / learn about new technologies / perform accurate tests quickly
understand how to use — it / the
when they demonstrate mastery of
who have questions about the

Figure 6: Demerits of new technology

Enhancing Technology Adoption for Improved Performance

The researcher aimed to develop a theoretically grounded and empirically informed model to facilitate the effective adoption of new technology, with the overarching goal of enhancing employee performance and organisational productivity. Respondents identified several enablers for successful technology adoption, including structured training programs, clear communication strategies, performance incentives, and managerial support. Over 70% emphasized the importance of training, underscoring its role in bridging the gap between technological potential and actual performance outcomes. This aligns with the Technology Acceptance Model (Davis, 1989) and UTAUT (Venkatesh et al., 2003), which posit that perceived ease of use and performance expectancy are critical to adoption.

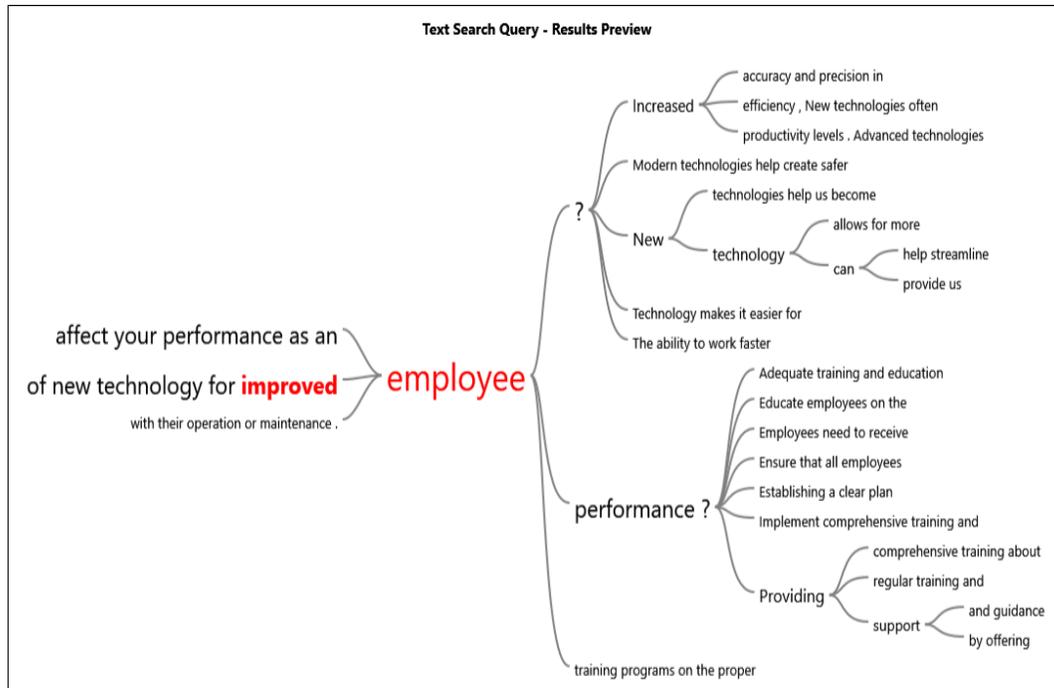The themes and patterns shown in Figure 7 indicate frequencies of the responses.

Figure 7: Factors that enhance the adoption of new technology

From the results shown in Figure 7, it can be noted that several factors were raised on enhancing the adoption of new technology for improved employee performance. The study culminated in the development of a conceptual model integrating elements from Human Capital Theory and TAM, including:

- Training
- Change Management
- Communication
- Incentives
- Performance Metrics
- Technology Readiness Assessment

These components collectively foster improved employee performance, increased productivity, and enhanced organizational profitability. The model reflects recent calls for holistic frameworks that address both technological and human dimensions of digital transformation (Kumi et al., 2024).

The purpose of this study was to develop a conceptual model aimed at enhancing employee performance through the effective adoption of new technology. To achieve this objective, the researcher employed a mixed-methods research design, integrating both quantitative and qualitative approaches to comprehensively explore the impact of technology adoption on employee performance. The qualitative strand involved semi-structured interviews with employees and managers to capture nuanced insights into their experiences, perceptions, and challenges related to technological integration in the workplace. Thematic analysis was applied to the qualitative data to identify emergent patterns and underlying themes, following the guidelines articulated by Creswell and Plano Clark (2014).

In parallel, the quantitative strand utilised structured questionnaires to assess the relationship between key variables, particularly focusing on the influence of new technologies on various dimensions of employee performance. To ensure methodological rigour and enhance the validity and reliability of the findings, triangulation was achieved by synthesising data from both interviews and survey instruments (Bell, Bryman, & Harley, 2019). Based on the empirical evidence generated, the study culminated in a set of context-specific recommendations designed to guide organisations in optimising the adoption of new technologies as a lever for improved employee productivity and performance.

Findings

The findings affirm that while technology adoption positively influences employee performance, its effectiveness is contingent upon complementary organizational practices. Training, communication, and strategic alignment are indispensable for translating technological investments into performance gains. The study contributes to the literature by contextualizing these dynamics within a developing country setting, offering a nuanced understanding of the socio-technical interplay in digital transformation.

Based on the empirical findings, the researcher identified several critical enablers for the successful adoption of new technology to improve employee performance. Key among these were the establishment of clear organisational objectives, open and transparent communication between management and employees regarding procedural or operational changes, the provision of appropriate incentives, and the allocation of sufficient time for employees to adapt to technological transitions. These elements align with extant literature emphasising the importance

of participatory change management in enhancing technological integration (Venkatesh & Davis, 2000; Ajzen, 1991).

Furthermore, the availability of technical resources, including skilled support personnel and requisite infrastructure, alongside demonstrable managerial commitment to both the implementation and ongoing maintenance of technological tools, emerged as pivotal. Employees' comprehension of the personal and professional benefits associated with adopting new technology also influenced uptake rates—a finding consistent with the Technology Acceptance Model (TAM) and its emphasis on perceived usefulness and ease of use (Davis, 1989). The research underscores that effective communication strategies, reinforced by success metrics such as increased productivity or cost efficiency, further catalyse adoption.

Drawing on elements from Human Capital Theory (Becker, 1993) and TAM, the researcher developed a synergistic conceptual model shown in Figure 8. This integrated model incorporates key matrices that reflect both individual and organisational determinants of technology adoption in performance-driven environments.
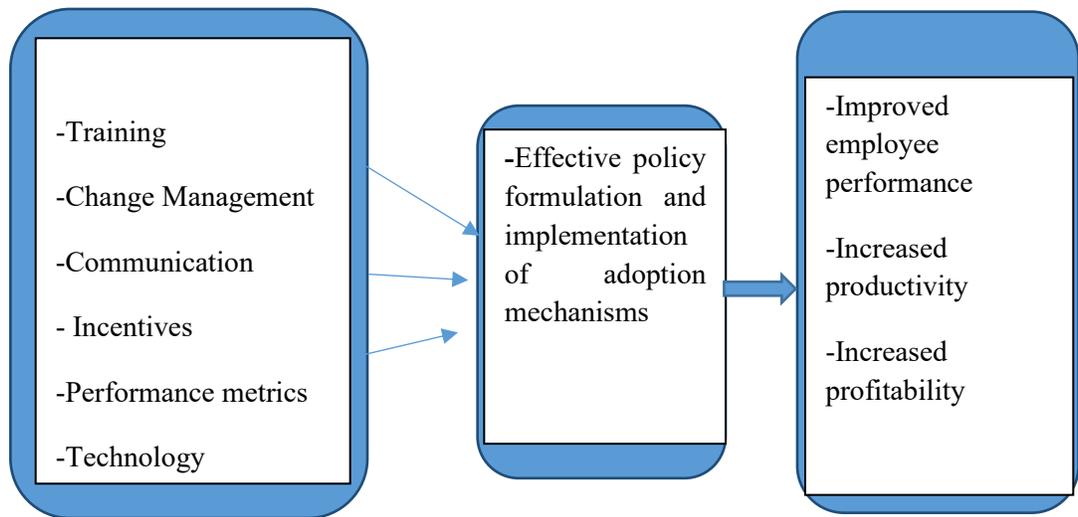
Figure 8: Developed synergistic conceptual model

This study underscores that enhancing the adoption of new technology requires the active involvement of employees through comprehensive training, ongoing technical support, and inclusive engagement strategies, all of which significantly contribute to improved employee performance. As emerging technologies continue to transform organisational processes and national economies, their effective integration is essential for sustainable competitiveness and productivity gains (Venkatesh & Davis, 2000). Organisations that invest in capacity building and support systems foster not only technological readiness but also workforce adaptability and motivation (Becker, 1993). Accordingly, the successful deployment of new technologies is contingent upon coherent policy frameworks that institutionalise structured implementation mechanisms, align technological upgrades with employee development, and reinforce performance-driven cultures (Davis, 1989; Bell, Bryman, & Harley, 2019). Such strategic alignment ensures that technology adoption is not merely a technical shift but a transformative driver of organisational excellence.

Conclusions and Recommendations

Conclusions

This study examined the relationship between the adoption of new technology and employee performance at the Standards Association of Zimbabwe (SAZ), with a focus on identifying enabling and inhibiting factors and proposing a model for enhanced adoption. The findings revealed a moderate positive correlation between technology adoption and employee performance, suggesting that while technology contributes to improved outcomes, its effectiveness is contingent upon several mediating factors, including training, communication, and organizational readiness.

The study confirmed that employees perceive technology as a significant influence on their work activities, yet gaps in training and support mechanisms hinder optimal utilization. These findings align with the Technology Acceptance Model (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003), which emphasize the importance of perceived usefulness, ease of use, and facilitating conditions in shaping user behavior. Moreover, the study supports recent literature that highlights the socio-technical complexity of digital transformation in developing countries (Cieslak & Valor, 2025; Díaz-Arancibia et al., 2024).

The conceptual model developed in this study integrates elements from Human Capital Theory and TAM, emphasizing the importance of training, change management, communication, incentives, performance metrics, and technology readiness. This model provides a practical framework for organizations seeking to enhance employee performance through strategic technology adoption.

Recommendations

1. Institutional Policy and Strategic Alignment

Organizations such as SAZ should develop comprehensive digital transformation policies that align technology investments with human capital development. These policies must prioritize employee engagement, continuous learning, and inclusive decision-making processes. As suggested by Kumi et al. (2024), strategic alignment between technology and workforce capabilities is essential for sustainable performance gains.

2. Mandatory Training and Capacity Building

Training should be institutionalized as a mandatory component of any technology rollout. Tailored training programs should be designed for different employee categories, with a focus on practical application and continuous support. This recommendation is consistent with findings by Valtonen and Holopainen (2025), who argue that training mitigates resistance and enhances user confidence.

3. Incentive Structures and Performance Metrics

To motivate adoption, organizations should implement incentive structures that reward effective use of new technologies. These may include performance-based bonuses, recognition programs, or career advancement opportunities. Performance metrics should be clearly defined and linked to technology usage outcomes, as emphasized in the McKinsey digital transformation framework (McKinsey & Company, 2023).

4. Communication and Change Management

Effective communication strategies are critical to managing resistance and fostering a culture of innovation. Management should proactively communicate the benefits, expectations, and timelines associated with new technologies. Change management frameworks should be adopted to guide the transition process, ensuring that employees are psychologically and operationally prepared.

5. Policy-Level Recommendations for National Innovation Systems

At the national level, policy-makers should invest in digital infrastructure, workforce digital literacy, and institutional capacity-building. Public-private partnerships can be leveraged to support research, training, and technology diffusion across sectors. The government should also consider tax incentives or grants for organizations that demonstrate effective technology integration and workforce development.

Suggestions for Future Research

Future studies should explore the longitudinal impacts of technology adoption on employee performance across different sectors and organizational sizes. Comparative studies between public and private institutions could yield insights into contextual differences in

adoption dynamics. Additionally, research should investigate the role of emerging technologies—such as artificial intelligence and machine learning in reshaping workforce competencies and organizational structures in developing economies.

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