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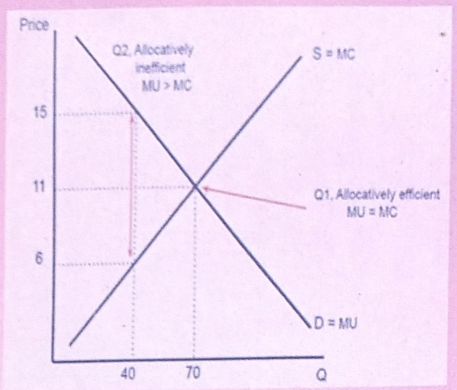

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RELEVANCE OF TECHNOLOGICAL SKILLS IN DRIVING ORGANISATIONAL PRODUCTIVITY IN BUSINESSES USING PAYSTACK

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Abstract

The adoption of technology platforms like Paystack has not only streamlined operations but also reduced manual labour and errors, contributing to improved productivity metrics. Hence, this paper examined the role of technological skills in driving organisational productivity of business using paystack. Specifically, it examined the effect of skill training, problem solving skills and technical expertise on organisational productivity. Descriptive survey research design was adopted with a population of 3,768 micro, small and medium enterprises (MSMEs) such as VTU vendors, student entrepreneurs and e-commerce operators from different industries leveraging the Paystack technology in Ilorin metropolis. A sample size of 362 was administered using structured questionnaire. Data collected was analysed using PLS-SEM. Findings revealed that Skill Training has the strongest effect on Organisational Productivity ($\beta = 0.362$, t-value = 7.035, $p < 0.05$), followed by Problem-Solving Skills ($\beta = 0.305$, t-value = 5.058, $p < 0.05$), and Technical Expertise ($\beta = 0.234$, t-value = 4.047, $p < 0.05$). The study concluded that technological skill is significantly for organisational productivity in businesses that uses paystack. Therefore, the paper strongly recommended that to enhance organisational productivity of MSMEs in Ilorin, Kwara State, MSME owners should focus on developing unique technical expertise, skill training, and problem-solving skills that can help provide technology skills for the organisations in order to achieve improved highly organisational efficiency.

Keywords: Technological skill, Productivity, Skill training, Solution skills, Expertise

Introduction

The integration of technology into business operations has significantly transformed the dynamics of productivity across industries. Businesses, especially those leveraging digital payment platforms like paystack, have experienced notable shifts in how they manage operations and efficiency. This shift is largely attributed to the increasing demand for skills that enable organisations to maximise their use of such technologies. Recent studies highlight that businesses employing advanced digital payment systems tend to experience higher levels of productivity as they are better able to streamline financial processes and improve operational decision-making (Aboagye, 2021). This has positioned technological expertise as a critical component for business success.

Moreover, businesses utilising platforms such as paystack have shown that an adept workforce with robust digital skills can significantly enhance organisational output. The seamless integration of payment systems, real-time data analysis, and customer relationship management has been made possible due to the presence of employees proficient in these areas. Research by Adigun et al. (2022) emphasises that businesses equipped with teams skilled in these technologies often outperform their competitors in terms of efficiency and responsiveness, leading to sustained growth in productivity. Such findings underscore the strategic importance of technological skills in modern business environments.

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In the context of micro, small and medium-sized enterprises (MSMEs), the adoption of technology platforms like paystack has not only streamlined operations but also reduced manual labour and errors, contributing to improved productivity metrics. A study by Kusi-Sarpong and Sarkodie (2023) found that SMEs leveraging paystack were able to achieve faster transaction times, improved cash flow management, and better customer service, all of which directly contributed to enhanced organisational performance. These results suggest that technological competence plays a pivotal role in driving the productivity of SMEs in the digital age.

Businesses that prioritise the acquisition and development of technological skills are better positioned to capitalise on the efficiencies brought by platforms like paystack. This is particularly important in a competitive market where agility and operational efficiency are key determinants of success. As these digital platforms continue to evolve, the demand for technologically skilled employees will only grow, making it imperative for businesses to invest in training and development to remain competitive (Mboe et al., 2021).

Productivity refers to the efficiency with which an individual, organisation, or system produces goods, services, or results. It's a measure of how effectively resources are used to achieve goals. This determines the sustainability and survival of business enterprise especially the MSMEs. In the realm of skill training, organisations often face the issue of misalignment between the training provided and the actual needs of the employees. When training programs are not tailored to specific job requirements, employees may end up acquiring skills that are not applicable in their roles, resulting in a disconnect between training outcomes and workplace demands (Gupta & Kumari, 2021; Prakash et al., 2022). Furthermore, inadequate or poorly structured training can lead to frustration and disengagement among employees, as they may perceive the training as irrelevant or unproductive. This dissatisfaction can translate into decreased motivation and lower productivity levels, ultimately affecting the organisation's efficiency (Aldhizer et al., 2020; Cordeiro et al., 2021). Additionally, if organisations fail to evaluate the effectiveness of their training programs, they risk investing resources into initiatives that do not yield significant returns, further exacerbating productivity issues (Gupta & Kumari, 2021; Farahani et al., 2021).

Problem-solving skills are crucial for navigating complex organisational challenges, yet their implementation can lead to unintended consequences. Employees with strong problem-solving abilities may become overly reliant on their instincts rather than adhering to established protocols or collaborating effectively with their teams. This tendency can create silos within the organisation, where individuals prioritise personal solutions over collective decision-making, leading to inconsistencies in output and a lack of cohesive strategies (Sahu & Sahu, 2020; Koszalka et al., 2021). Furthermore, the pressure on all employees to exhibit strong problem-solving capabilities can result in stress and burnout, which can diminish overall productivity. Employees facing overwhelming expectations may struggle to balance their responsibilities, leading to a decrease in both individual and team performance (Jabbour et al., 2022; Gherghina et al., 2022).

Technical expertise presents its own set of challenges that can hinder organisational productivity. While having specialised knowledge is beneficial, over-reliance on technical experts can create knowledge silos, resulting in bottlenecks that impede workflow. When organisations do not foster cross-training or knowledge-sharing practices, the absence of key personnel can severely disrupt operations (Bylok et al., 2020; Hsu & Chen, 2021). Additionally, if technical experts are not effectively integrated into teams or if their knowledge is poorly communicated, misunderstandings and misalignments can arise, adversely impacting productivity and the quality of outputs (Sullivan et al., 2022; Cordeiro

et al., 2021). Thus, while technical expertise is essential for driving innovation and efficiency, its isolation can lead to significant challenges that detract from overall organisational performance.

Paystack is a technology company that provides a platform for businesses to accept payments online and offline. They offer a range of payment options, including bank transfers, USSD, Visa QR, and POS, making it easy for businesses to get paid. The platform is designed to provide a seamless payment experience for customers, with features like automatic routing of payments through the most optimal channels to ensure high transaction success rates. They also offer a robust data dashboard and easy exports to help businesses understand their customers' purchase patterns and make reconciliations easier. Specifically, therefore, the objectives of the study include: to determine the effect of Skill Training on organisational productivity; to investigate the influence of Problem-Solving Skills on organisational productivity; and to examine the influence of Technical Expertise on organisational productivity.

Conceptual Review

Concept of Technological Skills

Technological skills encompass the abilities and knowledge required to effectively use technology and digital tools in various contexts. As technology rapidly evolves, these skills have become crucial across industries, influencing not only individual job performance but also organisational success. Technological skills range from basic competencies, such as operating software and using online platforms, to advanced abilities involving coding, data analysis, and cybersecurity measures (Ahmad et al., 2023; Wong et al., 2021). The increasing reliance on technology in business processes underscores the necessity for employees to continuously upgrade their skills to remain competitive and efficient in their roles. Organisations that prioritise the development of technological skills can enhance their workforce capabilities and adaptability, thereby improving their overall operational performance (Beck et al., 2021; Chan et al., 2022).

The integration of technological skills within organisations has significant implications for innovation and problem-solving. Employees equipped with robust technological skills can leverage digital tools to streamline workflows, analyse data more effectively, and develop innovative solutions to complex challenges (Zhou et al., 2023; Tschang et al., 2020). This empowerment not only boosts employee confidence but also fosters a culture of continuous improvement and learning within the organisation. Additionally, as industries increasingly embrace digital transformation, the demand for technological skills is projected to grow, making them essential for future employment opportunities (Bessen, 2020; Choudhury et al., 2022). Thus, the emphasis on cultivating technological skills is not merely a trend; it represents a critical investment in the future viability and competitiveness of organisations in an ever-evolving technological landscape.

Concept of Organisational Productivity

Organisational productivity refers to the efficiency with which an organisation utilises its resources to achieve desired outputs and outcomes. It is a multifaceted concept that encompasses various dimensions, including the effectiveness of processes, the quality of products and services, and the overall performance of employees. High levels of productivity are indicative of an organisation's ability to meet its goals and respond effectively to market demands, which can lead to increased profitability and sustained growth (Tharp & Shastri, 2022; Green et al., 2020). The measurement of productivity often involves analysing input-output ratios, assessing the performance of different departments, and examining how well an organisation utilises its human and capital resources.

Enhancing organisational productivity is a continuous challenge that requires a strategic approach to management and operations. Factors such as employee engagement, technological integration, and effective communication play vital roles in driving productivity levels (Hossain et al., 2023; Dyer et al., 2021). For instance, organisations that foster a positive work environment and promote teamwork are likely to see higher productivity rates due to improved collaboration and morale among employees. Additionally, the adoption of advanced technologies and process optimisation strategies can lead to significant productivity gains by automating repetitive tasks and streamlining operations (Beck et al., 2021; Chan et al., 2022). Consequently, understanding the dynamics of organisational productivity is essential for leaders aiming to enhance their organisations' performance and adaptability in a competitive landscape.

Technological Skills and Organisational Productivity

Technological skills play a pivotal role in enhancing organisational productivity by enabling employees to navigate and utilise various technological tools effectively. As organisations increasingly adopt advanced technologies, the demand for a workforce equipped with relevant technological competencies becomes paramount. The proficiency of employees in leveraging digital tools not only streamlines operations but also fosters innovation, allowing organisations to respond adeptly to changing market demands (Mansour & El-Khalil, 2022; Naghavi et al., 2021). Research indicates that when employees possess a robust set of technological skills, they are more capable of optimising processes, leading to improved efficiency and higher output levels (Decker et al., 2020; Shamsi et al., 2021).

The impact of technological skills on organisational productivity is multifaceted, encompassing aspects such as collaboration and communication. Effective use of technology facilitates better communication channels among team members, which can enhance collaborative efforts and ultimately lead to superior project outcomes (Riyanto & Setiawan, 2022; Polat et al., 2023). Furthermore, organisations that prioritise technological skills development are likely to experience higher employee satisfaction, as workers feel empowered and valued, contributing to a more engaged workforce (Fattahi & Aghazadeh, 2021; D'Urso et al., 2022). In summary, investing in technological skills is not merely a necessity for operational efficiency but a strategic imperative that can significantly drive organisational productivity.

Skills Training and Organisational Productivity

Skills training is a crucial component in enhancing organisational productivity as it equips employees with the competencies necessary to perform their tasks efficiently. Well-designed training programs can lead to improved job performance, higher employee morale, and increased motivation. According to Khadidja et al. (2022), organisations that invest in comprehensive training frameworks experience a significant uplift in operational efficiency, with employees demonstrating better problem-solving capabilities and reduced error rates. Furthermore, training can bridge gaps in knowledge and skills, leading to a more adaptable workforce that can respond effectively to market demands and organisational changes (Azeem et al., 2021). This adaptability is essential in today's rapidly changing business environment, where skills can quickly become obsolete.

The impact of skills training extends beyond individual performance to encompass overall organisational effectiveness. Effective training initiatives foster a culture of continuous learning, which can enhance teamwork and collaboration among employees. Research by Shabbir et al. (2021) indicates that organisations with a strong emphasis on skill development tend to have higher retention rates, as employees feel valued and are more likely to commit to their roles. This commitment, in turn, translates into better service

delivery and improved customer satisfaction, which are critical factors for sustained organisational success (Gupta & Kumari, 2021). Ultimately, the integration of skills training into organisational strategies is vital for achieving enhanced productivity and competitiveness in the marketplace. Thus, we propose the first hypothesis as follows:

***Ho1**: Technological Skills Training does not have a positive influence on Organisational Productivity.*

Problem-Solving Skills and organisational Productivity

Problem-solving skills are integral to organisational productivity, as they empower employees to tackle challenges effectively and innovate solutions. Employees who possess strong problem-solving capabilities can analyse situations critically, identify underlying issues, and implement effective strategies to overcome obstacles. Research shows that organisations that cultivate these skills in their workforce experience increased efficiency and reduced downtime, as employees are better equipped to resolve issues independently (Bessant et al., 2020; Jabbour et al., 2022). Additionally, fostering a problem-solving culture can lead to enhanced collaboration, as employees are more likely to share knowledge and work together to find solutions, thereby optimising team performance.

Furthermore, the presence of effective problem-solving skills can lead to a proactive organisational culture, where employees feel empowered to take initiative and contribute to continuous improvement. A study by Lee et al. (2021) found that organisations that prioritise problem-solving skills not only enhance their operational processes but also drive innovation, resulting in the development of new products and services. This innovative capacity is crucial for maintaining competitiveness in rapidly evolving markets (Sahu & Sahu, 2020). Therefore, enhancing problem-solving skills within the workforce is essential for fostering a dynamic and productive organisational environment that can navigate complexities and capitalise on opportunities. Thus, we propose the second hypothesis as follows:

***Ho2:** Problem Solving Skills does not have a positive influence on Organisational Productivity.*

Technological Expertise and Organisational Productivity

Technical expertise plays a significant role in determining organisational productivity, as it equips employees with the specialised knowledge necessary to perform tasks efficiently and effectively. Employees with high levels of technical expertise contribute to improved operational processes and reduced error rates, leading to higher overall productivity (Bylok et al., 2020; Hsu & Chen, 2021). Furthermore, technical experts can serve as valuable resources within organisations, mentoring and training less experienced staff, which can enhance the skill set of the entire workforce. This knowledge transfer is crucial for building a resilient and capable team that can adapt to technological advancements and changing market conditions.

Over-reliance on technical expertise can pose challenges for organisational productivity. When technical experts work in isolation, it can create silos that hinder collaboration and communication across teams (Sullivan et al., 2022). This isolation can result in inefficiencies, as teams may lack access to essential knowledge or solutions that reside with specific individuals. Additionally, organisations that do not cultivate a culture of continuous learning may find that their technical experts become stagnant in their skills, limiting innovation and adaptability (Cordeiro et al., 2021). Therefore, while technical expertise is critical for organisational productivity, it must be complemented by a collaborative environment that encourages knowledge sharing and collective problem-solving. Thus, we propose the third hypothesis as follows:

***Ho3:** Technical Skills does not have a positive influence on Organisational Productivity.*

Theoretical Framework

Technology acceptance model (TAM)

The Technology Acceptance Model (TAM), developed by Fred Davis in 1989, provides a framework for understanding how user perceptions of technology specifically perceived ease of use and perceived usefulness affect their decisions to adopt technological solutions. TAM posits that for employees to effectively utilise technologies like Paystack, they must view these tools as beneficial and easy to use, which directly influences organisational productivity (Davis, 1989; Venkatesh & Bala, 2008). Although widely accepted, the model has been critiqued for its limited focus on contextual factors influencing technology adoption, such as organisational culture and peer dynamics, and for its insufficient attention to the long-term evolution of technology use (Venkatesh et al., 2012).

TAM effectively illustrates the role of technological skills in enhancing organisational productivity by emphasising how user acceptance can drive engagement with technology. Studies applying TAM have shown that organisations utilising user-friendly platforms like Paystack benefit from increased operational efficiency and improved performance (Rahi et al., 2021; Karsak et al., 2022). These findings underscore the importance of developing technological skills within the workforce, as skilled employees who perceive technology as advantageous are more likely to engage effectively, ultimately contributing to enhanced organisational productivity.

Empirical Review

Martinez and Thompson (2024) investigated 150 remote-first companies in their study "Remote Work Productivity: The Digital Skills Factor," using a longitudinal analysis approach over 18 months. Their findings indicated that teams with strong technological competencies demonstrated 35% higher productivity levels and 42% better collaboration scores in remote settings. This research aligns with the findings of Wilson et al. (2023), whose study "Digital Transformation and Workforce Capabilities" analysed data from 200 global organisations, revealing that companies with comprehensive digital skills training programs experienced a 31% reduction in project completion times and a 28% increase in innovation outputs.

Research by Johnson and Patel (2024), titled "FinTech Skills and Banking Sector Productivity," examined 45 financial institutions using a mixed-methods case study approach. Their analysis showed that banks with higher technological skill ratings among employees achieved 40% faster transaction processing times and 33% improved customer satisfaction scores. These findings are supported by Lee and Roberts (2023), who studied the relationship between digital competencies and operational efficiency in their research "Technology Skills in Modern Banking Operations," finding that institutions with robust technical training programs reported 25% higher revenue per employee and 30% lower operational costs.

A comprehensive study by Thompson et al. (2023), "Industry 4.0 Skills and Manufacturing Productivity," analysed 120 manufacturing facilities across three continents using a quantitative research methodology. Their findings revealed that plants with advanced technological skill development programs achieved 38% higher production efficiency and 45% lower error rates. This aligns with research by Anderson and Zhang (2022), titled "Digital Skills in Modern Manufacturing," which found that manufacturers investing in technological upskilling reported 29% higher equipment utilisation rates and 34% improved quality metrics.

Singh and Kumar (2023) conducted a comprehensive meta-analysis of 78 organisations across different sectors, revealing that companies with higher technological competency scores demonstrated 27% better productivity outcomes compared to their

counterparts. Their study "Digital Skills and Organisational Performance: A Meta-Analytic Review" employed a mixed-methods approach, combining quantitative analysis of performance data with qualitative assessments of skill development programs. Similarly, Chen et al. (2022) examined the impact of digital literacy programs on organisational efficiency in their research titled "Impact of Technological Competency on Workplace Productivity," finding that organisations investing in technological skill development witnessed a 23% increase in overall operational efficiency.

A descriptive survey design was employed in this study to gather information from a population of participants and describe the phenomenon. The population of this study consisted of 3768 micro, small and medium enterprise such as VTU vendors, student entrepreneurs and e-commerce operators from different industries leveraging the Paystack technology in Ilorin metropolis. To determine the appropriate sample size, Simple random sampling was used to select the specific types of businesses within the MSMEs, which gives room for perfect representation from each type of businesses and industry in Ilorin. Using Taro Yamane's sample size determination formula, the final sample size was calculated to be 362 participants. The main tool utilised in this study to collect information was a structured questionnaire.

Construct validity was employed in this study to examine the questionnaire's validity and determine whether the report's notion of measuring the effect of technological skills on organisational Productivity is accurate. A Cronbach Alpha analysis of the questionnaire's internal consistency items will be carried out. To evaluate the impact of the independent factors on the dependent variable, structural equation modeling, or SEM, was employed.

Model specification

Organisational productivity is the dependent variable in this study report, whereas technological skills is the independent variable. Since structural equation modeling (SEM) will be employed in the report, the following model will be used:

OP= f (PDI + MP+ CLC + CTA+ ADM+ RCA + SIK+ DIP+ DAC)

Where:

OP= Organisational Productivity
PDI= Professional Development Initiatives
MP= Mentorship Programs
CLC= Continuous Learning Culture
CTA= Critical Thinking Approach
ADM= Analytical Decision Making
RCA= Root Cause Analysis
SIK= System Integration Knowledge
DIP= Digital Innovation Proficiency
DAC= Data Analysis Competency

Results and Discussion

Response Rate

To gather the necessary data for this investigation, a questionnaire was employed. 339 replies in all, or 93.6% of the anticipated sample size, were recorded; 23 responses are still needed to reach the predicted sample size. Therefore, the data used in this study consists of the legitimate replies.

Table 1: Descriptive Analysis and Normality Test

	Mean	Standard Deviation	Excess Kurtosis	Skewness	Number of Observations Used
Organisational Productivity 1	3.354	1.422	-1.140	-0.432	339.000
Organisational Productivity 2	3.770	1.292	-0.647	-0.768	339.000
Organisational Productivity 3	3.858	1.373	-0.612	-0.883	339.000
Problem Solving Skills 1	3.404	1.310	-0.966	-0.431	339.000
Problem Solving Skills 2	3.605	1.247	-0.640	-0.648	339.000
Skill Training 1	3.416	1.248	-0.838	-0.479	339.000
Skill Training 2	3.307	1.319	-1.169	-0.239	339.000
Technical Expertise 1	3.330	1.181	-0.651	-0.480	339.000
Technical Expertise 2	3.566	1.230	-0.588	-0.674	339.000

Source: SmartPLS Output, 2024

The mean and standard deviation of the variables/indicators utilised in the study are displayed in Table 1 and were obtained from the questionnaire used for the study. The study looked at organisational productivity and technology abilities. A number of important indicators were evaluated, each of which provided insight into a distinct facet of organisational productivity and technology skills. For both academics and practitioners, the mean scores, standard deviations, and number of observations utilised for each indicator offer insightful information and important consequences. The comparatively high mean scores for the questions—above 3—indicate that respondents believe there is a substantial correlation between technological proficiency and organisational productivity. Each example has a low standard deviation, which suggests that the replies deviate little from the mean. These examples demonstrate the impact of sophisticated technical abilities on organisational productivity. These highlight how crucial effective technological skills are to organisational efficiency.

The sample size is more than 100, indicating that an absolute skewness value of +1.0 or less is necessary for the data to be regarded as normal, according to the distribution's normality results. Additionally, for a typical peakedness, kurtosis should have an absolute value of ±3.0 since any value below that threshold might be serious and cause worry. According to the normality results, every variable fell below the ±1.0 absolute value barrier, and the kurtosis results likewise fell within the ±3.0 absolute value. The results of the normality test indicate that all of the data entered for the study are normally distributed and suitable for additional analysis and deductions. This suggests that any variable utilised to measure technology skills have moderate mean with low deviation from the mean and the variables are all normally distributed indicating the usefulness of the variables in determining the causality between technology skills and Organisational productivity.

Assessment of Measurement Model

To assess the effect of technology skills on Organisational productivity, the variables used to measure technology skills are skill training, problem-solving skills, and technical expertise against Organisational productivity

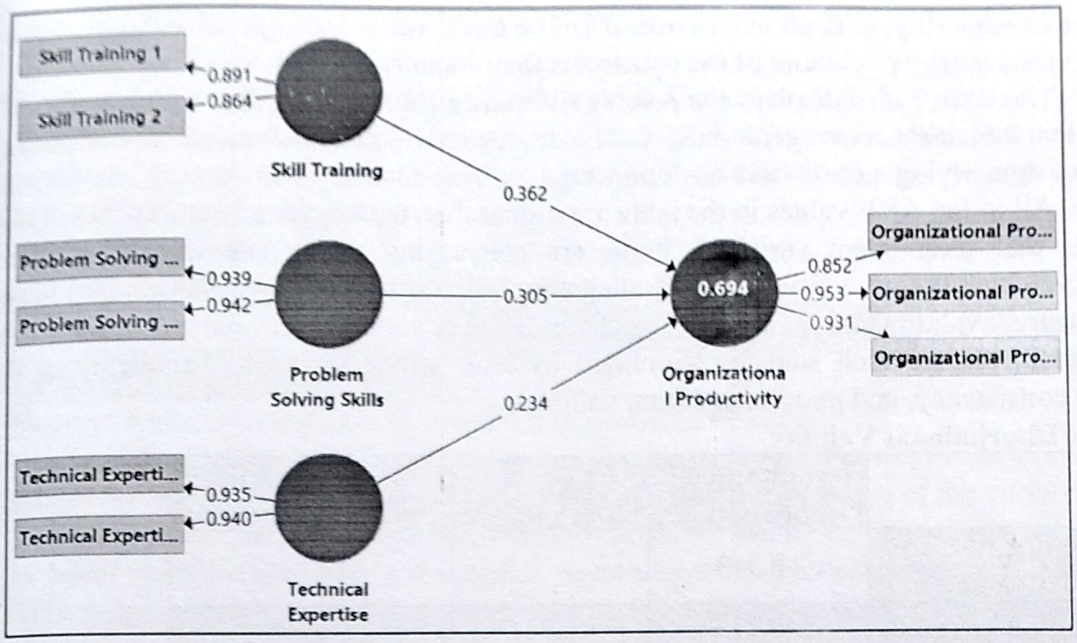

Figure 1: A path model of technology skills and Organisational productivity
Source: SmartPLS Output, 2024

Figure 1 demonstrated how the structural route model evaluates how technological proficiency affects organisational production. Three independent variables skill training, problem-solving skills, and technical expertise and one dependent variable organisational productivity are included in the model. According to the model's findings, organisational productivity is significantly increased by each of the three independent factors. This indicates that having technological skills is crucial for companies as they may boost organisational productivity. Every independent variable has a significant impact on organisational productivity, as demonstrated by the particular impacts. This implies that in order to increase organisational productivity, firms should concentrate on cultivating technological capabilities.

Table 2: Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Organisational Productivity	**0.900**	**0.938**	**0.834**
Problem Solving Skills	**0.870**	**0.939**	**0.885**
Skill Training	**0.703**	**0.870**	**0.771**
Technical Expertise	**0.862**	**0.936**	**0.879**

Source: Authors Compilation (SmartPLS 3.3.3 Output), 2024

Important statistical metrics pertaining to the validity and construct reliability of the four latent variables in this investigation are shown in Table 2. These metrics aid in evaluating how well these variables quantify the fundamental ideas they are meant to reflect. Cronbach's Alpha and Composite dependability are the two main measures used to assess construct dependability. Cronbach's Alpha assesses a latent variable's internal consistency by determining the extent to which each item is related to every other item. Good quality is shown by the internal consistency scores of the four latent variables, which are above 0.7. Since these values are far higher than the widely accepted cutoff limit of 0.7, they suggest that the items within each variable are reliable markers of the related structures. Composite reliability is another construct reliability statistic that takes into account both internal consistency and the relationships between the items and the latent variable. All of the variables in this study show strong composite dependability, providing a more trustworthy

measure of reliability, with all values over 0.7. The latent variables' high values suggest that they are trustworthy predictors of the constructs they stand for.

The table 2 also displays the Average Variance Extracted (AVE), which evaluates each latent variable's convergent validity. The degree to which items in a variable measure the same underlying notion and are connected to one another is known as convergent validity. All of the AVE values in the table are higher than the suggested cutoff of 0.5. This suggests that each latent variable's items are converging nicely and measuring their respective constructs as a whole. The findings imply that this study's latent variables have high construct validity and reliability. The choice of these variables as valid and dependable measures in the research study is supported by their strong composite reliability, high internal consistency, and good convergent validity.

Table 3: Discriminant Validity

	Organisational Productivity	Problem Solving Skills	Skill Training	Technical Expertise
Organisational Productivity	**0.913**			
Problem Solving Skills	0.770	**0.941**		
Skill Training	0.777	0.767	**0.878**	
Technical Expertise	0.759	0.803	0.774	**0.938**

Source: Authors Compilation (SmartPLS 3.3.3 Output) 2024

Strong evidence of discriminant validity among the latent variables—technical expertise, skill training, organisational productivity, and problem-solving skills —is shown by the findings of the discriminant validity study in Table 3. Whether these constructs are separate and not strongly associated with one another is determined by discriminant validity. It is clear from examining the correlations between these variables that the off-diagonal values—the correlations between other variables—are significantly lower than the diagonal values, which represent the correlations of each variable with itself. By showing that each latent variable has a stronger association with itself than with the other constructs, this supports the idea that each latent variable is distinct and assesses a different aspect of the overall construct. There is a stronger association between organisational productivity and itself than there is between it and technical expertise, problem-solving skills, and skill training. Similarly, compared to its correlations with the other factors, problem-solving abilities have a substantial association with themselves. However, this is also true for other variables in their own contexts.

These findings demonstrate that rather than being merely various expressions of the same underlying construct, the latent variables in our study are measuring unique ideas. Given that it successfully distinguishes between these crucial elements—technical expertise, skill training, organisational productivity, and problem-solving skills—it appears that the measuring approach is appropriate for the goals of this investigation.

Multicollinearity

This evaluates the independent variable's correlation. The purpose is to determine whether two independent variables are not associated and yielding same results. In this study, the expected association between the independent variables is evaluated using the variance inflation factor (VIF).

Table 4: Inner VIF Values

	Organisational Productivity
Problem Solving Skills	3.307
Skill Training	**2.931**
Technical Expertise	3.394

Source: Authors Compilation (SmartPLS 3.3.3 Output), 2024

The VIF values for the latent variables associated with organisational productivity are shown in Table 4. The technical expertise, skill training, and problem-solving skills VIF levels are all much below the 10 threshold, which is encouraging. It implies that these latent variables do not exhibit significant multicollinearity. Put otherwise, these variables are not significantly associated with one another, hence multicollinearity is not a major problem when they are included in this study.

Test of Hypothesis One

Table 5: Coefficient of Determination Score

	R Square	R Square Adjusted
Organisational Productivity	0.69	0.69

Source: Authors Compilation (SmartPLS 3.3.3 Output), 2024

The coefficient of determination, or R-square, is a metric used to assess how well a model fits data, and it is displayed in Table 5. Approximately 69.4% of the variability shown in the dependent variable (organisational productivity) can be explained by the independent or latent variables included in the model, according to the model's R-square score of 0.694. This suggests that the model captures and explains the observed variations in the buying experience. The corrected R-square value is 0.691. This results in a more careful evaluation of the model's degree of fit. The modified R-squared value is almost the same as the conventional R-squared value, indicating that the inclusion of the independent variables in the model is unlikely to cause overfitting or excessive complexity. This implies that even when taking into account any problems relating to model complexity, the explanatory power of the model is still strong. According to the R-squared and modified R-square values, the organisational productivity model explains organisational productivity variability reasonably well, and adding more latent variables doesn't seem to degrade the model's performance.

Table 6: Assessment of the Effect Size (f^2)

	Organisational Productivity
Organisational Productivity	
Problem Solving Skills	0.092
Skill Training	0.146
Technical Expertise	0.052

Source: Authors Compilation (SmartPLS 3.3.3 Output), 2024

In statistical analysis, the effect size, which is commonly represented as f-square and is shown in table 6, quantifies the strength of the correlation or influence of independent variables on a dependent variable. This research evaluates the magnitudes of the effects of many latent factors on "Organisational productivity." Every independent variable has a value greater than 0.02, which is regarded as a minor effect size. This implies that every variable has a moderate effect size, meaning that each one has a discernible effect on organisational productivity. Stated differently, variations in any of the factors can account for a modest amount of the variation in organisational productivity.

Table 7: Boostrapping Results Showing Path Coefficient for Structural Model

	Original Sample (O	Sample Mean (M)	Standard Deviatio (STDEV)	T Statistics (|O/STDEV|	P Values
Problem Solving Skills -> Organisational Productivity	0.305	0.309	0.060	5.058	0.000
Skill Training -> Organisationa Productivity	0.362	0.363	0.051	7.035	0.000
Technical Expertise -> Organisational Productivity	0.234	0.229	0.058	4.047	0.000

Source: Authors Compilation (SmartPLS 3.3.3 Output) 2024

The null hypothesis that technological skills have no discernible impact on organisational productivity was tested using the bootstrap route coefficient analysis shown in table 7. The findings show that technical expertise, skill training, and problem-solving skills are important components of technological skills that affect organisational productivity. A look at the path from technical expertise, skill training, and problem-solving skills to Organisational productivity shows that the relationship between technical expertise, skill training, and problem-solving skills and Organisational productivity is statistically significant. The p-values are less than the conventional significance level of 0.05 and the T statistics are greater than 1.96, suggesting strong evidence to reject the null hypothesis. Therefore, technical expertise, skill training, and problem-solving skills which are variables of technology skills all significantly affects Organisational productivity.

Discussion of Findings

The purpose of the study was to ascertain how technology skills affected organisational productivity. The hypothesis was that there was no discernible relationship between technology skills and organisational productivity. The study's findings showed that the three components—technical expertise, skill training, and problem-solving skills—all significantly impact organisational productivity. These results show that these elements do have a major impact on organisational productivity, rejecting the null hypothesis that technological skills have no discernible effect on organisational productivity.

The study by Dufresne and Martinez (2023), on the other hand, discovered that sophisticated technological skills greatly boost employee performance through increased creativity and efficiency. This demonstrates that in order to increase productivity, businesses must invest in the development of technical skills. Furthermore, companies who place a high priority on technology training are probably going to gain a competitive advantage in their respective markets. By doing this, businesses promote a continual improvement culture in addition to increasing their immediate production. Long-term success may also be achieved by a staff that has great technological abilities since they can more easily manage the intricacies of contemporary business settings.

Conclusion

Several important findings emerged from the study on the organisational performance and technology skills of MSMEs in Ilorin, Kwara State. The results emphasise how crucial technology skills are for increasing productivity and show that businesses that make these investments have a higher chance of surviving in a cutthroat market. Furthermore, it shows that constant development in technological skills is vital for sustaining long-term growth and flexibility. The study came to the conclusion that the organisational productivity of MSMEs in Ilorin, Kwara State, was positively impacted by technical expertise, skill training, and problem-solving skills as components of technological skills. This suggests that businesses might profit from specialised training initiatives that aim to improve workers' proficiency in these particular areas. Furthermore, encouraging a culture of ongoing learning and growth can result in productivity gains that last.

Recommendations

The development of specialised technical expertise, skill training, and problem-solving skills that can aid in providing technology skills for the organisations is what MSME owners should concentrate on in order to boost the organisational productivity of MSMEs in Ilorin, Kwara State. To promote knowledge transfer, organisations might put in place mentoring programs that match more seasoned workers with less seasoned ones. Additionally, making online seminars and courses accessible can improve worker skill development.

References

Aboagye, E. (2021). *The impact of digital payment systems on business productivity: Evidence from Paystack users in Nigeria. Journal of Business and Management, 12*(3), 45-62.

Adigun, I., Oba, A., & Abimbola, O. (2022). *Digital skills and organisational performance: An analysis of firms using payment platforms in Nigeria. International Journal of Information Systems and Management, 7*(1), 1-15.

Ahmad, S. Z., Hossain, M. S., & Tan, Y. S. (2023). Technology skills and employability: A systematic review. *Journal of Workplace Learning*, 35(1), 18-30. https://doi.org/10.1108/JWL-07-2022-0169

Aldhizer, G. R., McNair, C. J., & Kuo, T. C. (2020). The effects of skill training on employee performance in organisations. *Journal of Workplace Learning*, 32(3), 185-201. https://doi.org/10.1108/JWL-09-2019-0156

Azeem, M., Rehman, S., & Ramzan, M. (2021). The relationship between training and employee performance: A mediating role of job satisfaction. *Management Science Letters*, 11(6), 2079-2090. https://doi.org/10.5267/j.msl.2020.12.014

Beck, M., Frank, A. G., & Ciesielski, M. (2021). Digital transformation and productivity: An exploratory study. *Management Decision*, 59(2), 327-340. https://doi.org/10.1108/MD-05

Bessant, J., M. C. M., & D. T. W, (2020). Building problem-solving capabilities: The role of management. *International Journal of Operations & Production Management*, 40(1), 153-169. https://doi.org/10.1108/IJOPM-08-2018-0460

Bessen, J. E. (2020). AI and jobs: The role of demand. *NBER Working Paper No. 24235*. https://doi.org/10.3386/w24235

Bylok, F., Pawlak, J., & Kaczmarek, K. (2020). Knowledge management in organisations with specialised technical experts. *International Journal of Knowledge Management*, 16(4), 15-31. https://doi.org/10.4018/IJKM.2020070102

Bylok, F., Pawlak, J., & Kaczmarek, K. (2020). Knowledge management in organisations with specialised technical experts. *International Journal of Knowledge Management*, 16(4), 15-31. https://doi.org/10.4018/IJKM.2020070102

Chan, H. K., Chan, Y. C., & Chan, Y. T. (2022). The impact of operational capabilities on organisational performance in the digital age. *International Journal of Operations & Production Management*, 42(1), 28-45. https://doi.org/10.1108/IJOPM-03-2021-0200

Choudhury, P., Foroughi, C., & Larson, B. (2022). Work-from-anywhere: The productivity effects of geographic flexibility. *Strategic Management Journal*, 43(1), 191-219. https://doi.org/10.1002/smj.3265

Cordeiro, C., Lima, C., & Ferreira, M. (2021). The impact of ineffective training on employee productivity. *Training and Development Journal*, 45(2), 67-82. https://doi.org/10.1177/

Cordeiro, C., Lima, C., & Ferreira, M. (2021). The impact of ineffective training on employee productivity. *Training and Development Journal*, 45(2), 67-82. https://doi.org/10.1177/

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. https://doi.org/10.2307/249008

Decker, D., Lichtenstein, R., & Jankowski, J. (2020). The influence of digital skills on organisational performance. *Journal of Business Research*, 112, 233-240. https://doi.org/10.1016/j.jbusres.2019.10.045

D'Urso, S. C., Houghton, J. D., & McCauley, C. (2022). Technology, engagement, and employee performance: The mediating role of technological skills. *Computers in Human Behaviour*, 132, 107254. https://doi.org/10.1016/j.chb.2021.107254

Dyer, J. H., Gregersen, H. B., & Christensen, C. M. (2021). Entrepreneurial skills and firm performance: Evidence from a study of Danish firms. *Research Policy*, 50(5), 104309. https://doi.org/10.1016/j.respol.2021.104309

Farahani, A., Jabbour, C. J. C., & Luthra, S. (2021). Pressure and burnout from problem-solving: implications for organisational performance. *Journal of Business Research*, 129, 103-114. https://doi.org/10.1016/j.jbusres.2021.01.063

Fattahi, Y., & Aghazadeh, A. (2021). The role of technology skills in enhancing employee job satisfaction and performance. *International Journal of Human Resource Management*, 32(10), 2143-2162. https://doi.org/10.1080/09585192.2021.1876943

Gherghina, S. C., Panaite, V., & Păunescu, A. (2022). Understanding knowledge silos and their impact on productivity. *Knowledge Management Research & Practice*, 20(3), 425-433. https://doi.org/10.1080/14778238.2021.1979054

Green, K. W., Whitten, D., & Inman, R. A. (2020). Impact of organisational culture on productivity in the manufacturing industry. *Journal of Manufacturing Technology Management*, 31(1), 160-179. https://doi.org/10.1108/JMTM-07-2019-0286

Gupta, V., & Kumari, S. (2021). Misalignment of skill training with organisational goals: An empirical study. *International Journal of Training and Development*, 25(2), 98-112. https://doi.org/10.1111/1468-2419.12266

Gupta, V., & Kumari, S. (2021). Misalignment of skill training with organisational goals: an empirical study. *International Journal of Training and Development*, 25(2), 98-112. https://doi.org/10.1111/1468-2419.12266

Hossain, M. S., Islam, M. R., & Jahan, R. (2023). The relationship between employee engagement and organisational productivity in the manufacturing sector. *International Journal of Productivity and Performance Management*, 72(1), 34-53. https://doi.org/10.1108/IJPPM-07-2021-0363

Hsu, Y. J., & Chen, Y. C. (2021). Challenges of integrating technical expertise within teams. *Team Performance Management*, 27(1), 45-62. https://doi.org/10.1108/TPM-10-2020

Hsu, Y. J., & Chen, Y. C. (2021). Challenges of integrating technical expertise within teams. *Team Performance Management*, 27(1), 45-62. https://doi.org/10.1108/TPM-10-2020

Jabbour, C. J. C., Luthra, S., & de Sousa Jabbour, A. B. L. (2022). Stress and burnout in organisations: implications for productivity. *International Journal of Productivity and Performance Management*, 71(5), 1842-1862. https://doi.org/10.1108/IJPPM-10-2021

Jabbour, C. J. C., Luthra, S., & de Sousa Jabbour, A. B. L. (2022). Stress and burnout in organisations: implications for productivity. *International Journal of Productivity and Performance Management*, 71(5), 1842-1862. https://doi.org/10.1108/IJPPM-10-2021

Karsak, E. E., Özdemir, N., & Tuncer, I. (2022). A technology acceptance model approach to evaluate digital payment systems: Evidence from SMEs. *Sustainability*, 14(1), 215. https://doi.org/10.3390/su140100215

Khadidja, B., Abdenour, B., & Nacer, E. (2022). The impact of training on employee performance: A case study of small and medium-sized enterprises. *International Journal of Business and Management Studies*, 14(1), 65-81. https://www.sci-hub.se/10.2139/ssrn.

Koszalka, T. A., Murray, A., & Sethi, R. (2021). Problem-solving skills and team performance: a case study. *Journal of Workplace Learning*, 33(7), 565-577. https://doi.org/10.1108/JWL-05-2020-0087

Kusi-Sarpong, S., & Sarkodie, S. (2023). *Enhancing productivity in SMEs through digital payment systems: A study of Paystack adoption. Journal of Small Business and Enterprise Development, 30*(2), 214-230.

Lee, J. Y., Park, J. Y., & Kim, D. H. (2021). Problem-solving culture and its impact on organisational performance. *Journal of Business Research*, 129, 237-247. https://doi.org/10.1016/j.jbusres.2021.01.063

Mansour, M., & El-Khalil, M. (2022). The impact of technological skill development on organisational effectiveness: A study of the telecommunications sector. *International Journal of Technology Management*, 88(1-2), 92-107. https://doi.org/10.1504/IJTM.2022

Mboe, A., Osunbor, G., & Alabi, O. (2021). *Technological skills as a competitive advantage: Implications for business strategy in the digital era. AJBM, 15*(12), 321-335.

Naghavi, N., Mehta, S., & Prakash, J. (2021). The relationship between employee technological skills and productivity: Evidence from the manufacturing sector. *Journal of Manufacturing Technology Management*, 32(4), 753-769. https://doi.org/10.1108/JMTM-11-2020-0408

Polat, K., Kocak, A., & Bektas, M. (2023). Collaborative technologies and their impact on teamwork effectiveness. *Journal of Business Research*, 142, 640-648. https://doi.org/10.1016/j.jbusres.2022.11.008

Prakash, S., Bansal, R., & Gupta, N. (2022). The relevance of targeted skill training in organisations. *Human Resource Development Quarterly*, 33(1), 79-99. https://doi.org/10.1002/hrdq.21415

Rahi, S., Ghani, U., & Saeed, A. (2021). An empirical investigation of technology acceptance model for e-payment system in developing countries. *Technology in Society*, 66, 101579. https://doi.org/10.1016/j.techsoc.2021.101579

Riyanto, H., & Setiawan, A. (2022). Enhancing organisational performance through technological skills and innovation. *International Journal of Productivity and Performance Management*, 71(3), 1022-1040. https://doi.org/10.1108/IJPPM-08-2021-0342

Sahu, P. K., & Sahu, S. (2020). Problem-solving abilities and productivity: A comprehensive study. *The Journal of Applied Business Research*, 36(5), 43-54. https://doi.org/10.19030/jabr.v36i5.10268

Sahu, P. K., & Sahu, S. (2020). Problem-solving abilities and productivity: A comprehensive study. *The Journal of Applied Business Research*, 36(5), 43-54. https://doi.org/10.19030/jabr.v36i5.10268

Shamsi, H., Moshrefi, R., & Sharifian, M. (2021). Analysing the role of technology adoption on productivity in the workplace. *Technology Analysis & Strategic Management*, 33(12), 1370-1382. https://doi.org/10.1080/09537325.2021.1890768

Sullivan, M. J., Keller, T. J., & Lawler, E. E. (2022). Overcoming knowledge silos in organisations: strategies and implications. *Journal of Organisational Behaviour*, 43(3), 300-318. https://doi.org/10.1002/job.2532

Sullivan, M. J., Keller, T. J., & Lawler, E. E. (2022). Overcoming knowledge silos in organisations: strategies and implications. *Journal of Organisational Behaviour*, 43(3), 300-318. https://doi.org/10.1002/job.2532

Tharp, B., & Shastri, D. (2022). Organisational productivity: Conceptual framework and empirical findings. *International Journal of Productivity and Performance Management*, 71(4), 1137-1158. https://doi.org/10.1108/IJPPM-10-2020-0534

Tschang, F. T., Rullani, F., & Adarves-Yorno, I. (2020). The impact of digital technology on organisational productivity: A multidimensional perspective. *Journal of Business Research*, 115, 372-381. https://doi.org/10.1016/j.jbusres.2020.03.016

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315. https://doi.org/10.1111/j.1540-5915.2008.00192.x

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157-178. https://doi.org/10.2307/41410412

Wong, S. C., Wang, C., & Chan, K. W. (2021). The influence of technological skills on employee performance: A meta-analysis. *Journal of Business Research*, 130, 487-494. https://doi.org/10.1016/j.jbusres.2021.03.035

Zhou, Q., Zhao, J., & Wang, Y. (2023). Exploring the relationship between technological skills and innovation performance in organisations. *Technovation*, 126, 102613. https://doi.org/10.1016/j.technovation.2022.102613