

# Digital Knowledge Management Capabilities and Innovative Performance of Small and Medium Enterprises in Owerri Metropolis

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## ABSTRACT

The study examined the effect of digital knowledge management capabilities on innovative performance of Small and Medium Enterprises (SMEs) in Owerri Metropolis. The study specifically sought to find out the effect of digital knowledge acquisition on product innovation, the effect of digital knowledge sharing on process innovation and the effect of digital knowledge application on service innovation in SMEs. The study adopted survey research approach and primary data were collected from owners, managers and senior staff of selected SMEs in Owerri Metropolis. The population of the study consisted of 1,250 respondents. Using Taro Yamane formula, the sample size for the study was 303 respondents. Multi-stage sampling approach was used where in the first stage, SMEs in Owerri Metropolis were purposively selected while in the second stage, owners, managers and senior staff of selected SMEs were simply randomly sampled. The questionnaire was structured and data collected were presented using descriptive statistics of frequency distribution, percentage, mean and standard deviation. Pearson Product Moment Correlation was used to test the hypotheses at 0.05 level of significance using Statistical Package for Social Sciences (SPSS) version 27. The study found out that digital knowledge acquisition has significant effect on product innovation of SMEs in Owerri Metropolis. The study also found out that digital knowledge sharing has significant effect on process innovation of SMEs. Furthermore, the study found out that digital knowledge application has significant effect on service innovation of SMEs. The study concluded that digital knowledge management capabilities significantly improve innovative performance and enhance competitiveness of SMEs in fast changing business environment. The study recommended that SMEs should invest in digital technologies, in collaborative communication platforms and in learning organization systems to strengthen their digital knowledge acquisition, sharing and application systems to sustain innovation and competitiveness.

**Keywords:** Digitalization, Knowledge, Acquisition, Sharing, Application, Innovation, Performance, Competitiveness, Sustainability, SMEs.

## INTRODUCTION

The digitalization of business operations has greatly changed the way in which small and medium enterprises (SMEs) work with organizational knowledge for gaining better innovative performance and competitive sustainability. Digital Knowledge Management capabilities are now part of the organizational assets that enable it to create, share and use knowledge to innovate and grow. De-Bem et al. (2022) confirmed that digital transformation increases the efficiency of innovation, as it integrates technologies, and Alvarenga et al. (2020)

stated that digital knowledge management increases the adaptability of organizations and their reaction to operations. Besides, Ramakrishna et al. (2024–2025) noted that ICT boosts the knowledge practices within the organizations and their operational efficiency, while Durst et al. (2023) found that organizations that are better equipped with digital knowledge capabilities tend to be more successful than those less equipped in terms of innovation and productivity. Furthermore, Hussien (2020) found that enhancing the knowledge management of SMEs has a significant impact in promoting the sustainability and performance of the organization.

Innovation and improving product innovation among SMEs has become vital where digital knowledge acquisition has become more and more relevant. Tadesse (2020) stated that good knowledge acquisition makes innovation capability to be enhanced by providing better access to strategic knowledge and organizational learning. Similarly, Jemal and Zewdie (2021) noted that companies that have effective Knowledge acquisition systems tend to exhibit excellent innovation and performance results. In addition, Temtime and Jimma (2020) confirmed that information technology facilities positively affect product improvement and the effectiveness of product innovation, and Amare (2014) highlighted that strategic knowledge acquisition that enhances organizational competitiveness. Likewise, Alsarayreh (2021) mentioned that technology-based knowledge systems have a significant impact on the enhancement of knowledge retention and organizational continuity. Despite this, in developing economies, poor digital infrastructure and lack of technological investment remain an impediment to creating innovative capacity among SMEs.

The sharing and application of knowledge in the digital world are also vital for the innovation of processes and services in SMEs. Fullwood et al. (2019) stated that knowledge sharing can facilitate organizational learning and innovation through the sharing of knowledge and interaction among the employees. Daud and Yusoff (2022) also stated that good knowledge sharing cultures boost operational performance and the efficiency of innovation, while Asiimwe and Barigayomwe (2024) noted that digital knowledge sharing enhances employee effectiveness and organizational coordination. Ayetigbo et al. (2023) and Azaki and Rivett (2022) also highlighted the fact that knowledge-sharing systems that are effective enhance productivity, institutional effectiveness and process continuity. In addition, Belay et al. (2021) found that the adoption of knowledge management technologies contributes to the enhancement of organizational innovation and decision making effectiveness, while Shabeer and Mahmood (2025), Gates (2024), Okochi and Ateke (2020), Adeola and Evans (2020), Alam and Shaikh (2023), Adekunle and Gbadebo (2024), Afolabi and Ojo (2020), and Faradillah et al. (2023) associated digital knowledge capability with service quality, innovation, competitiveness, and organizational growth. Tremendous as all these are, SMEs in Owerri Metropolis have received scanty empirical focus, leaving conceptual and contextual gaps this study hopes to be able to bridge.

In this context, the major aim of this study is to investigate the effect of digital knowledge management capabilities on innovative performance of SMEs in Owerri Metropolis. The study aims to:

1. examine the effect of digital knowledge acquisition on product innovation of small and medium enterprises in Owerri Metropolis;
2. Identify the effect of digital knowledge sharing on process innovation of the small and medium enterprises in Owerri Metropolis; and
3. assess the effect of digital knowledge application on service innovation of small and medium enterprises in Owerri Metropolis.

## METHODOLOGY

The survey research design was used for gathering quantitative data for this study. The small and medium enterprises (SMEs) surveyed in this study were in Owerri Metropolis which consists of three Local Government Areas that are: Owerri Municipal, Owerri North and Owerri West Local Government Areas (LGA) of Imo State, Nigeria. The target population included 1,250 owners, managers and top management staff from registered SMEs in the manufacturing, hospitality and ICT, trading and service delivery sectors. The sample size was calculated as 303 respondents at 5% level of significance with the Taro Yamane formula. A multi-stage sampling

technique was used, where purposive sampling was done to identify SMEs using digital technologies, followed by simple random sampling technique.

A structured questionnaire has been designed with a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1) to gather primary data and the secondary data were gathered from journals, textbooks, conference papers and internet materials. This questionnaire included demographic characteristics, variables of digital knowledge acquisition, digital knowledge sharing, digital knowledge application, product innovation, process innovation, and service innovation. Validity technique (face and content) and reliability technique (Cronbach Alpha technique) were used to verify the validity and reliability of the instruments. Descriptive statistics (frequency distribution, percentage, mean score, and standard deviation) were used in analyzing the data obtained and simple linear regression analysis was used to test the hypotheses at a 0.05 level of significance using SPSS version 27.

### Data Analysis and Presentation

The distribution and retrieval of questionnaires from the respondents for the study are shown in table 1. Three hundred and three (303) copies of questionnaire were sent for to selected respondents in SMEs in Owerri Metropolis. Of the 274 copies of these questionnaires, 274 (90.4%) were returned and completed correctly, and 29 (9.6%) were not returned or filled out incorrectly and were not used in the analysis.

The demographic analysis data showed that the number of male respondents was 158 respondents (57.7%) and it was female respondents that 116 respondents (42.3%). The age distribution indicated that the age group 26-35 (108 respondents, 49.4%) had the maximum frequency followed by the age group 36-45 (73 respondents, 26.6%).

The respondents in the age group 18-25 years were 52 (19.0%) and the respondents over 46 years of age were 41 (15.0%). With regards to educational qualification, HND/B.Sc. category of respondents had the highest number of 119 persons (43.4%), followed by OND/NCE (25.9%).

The responses of the post graduate educated respondents were 46 (16.8 %) and the SSCE/WAEC educates were 38 (13.9 %). In addition, senior staff had the highest proportion of respondents with 89 (32.5%) followed by managers with 81 (29.6%) and owners and other staff with 67 (24.5%) and 37 (13.5%) respectively. Furthermore, 96 respondents (35.0%) had 6–10 years of working experience, followed by 30.7% having 1–5 years and 20.8% having 11–15 years and 13.5% having 16 years of working experience.

Table 1: Digital Knowledge Acquisition

| Statement                                                                           | SD | D  | N  | A   | SA  | Total |
|-------------------------------------------------------------------------------------|----|----|----|-----|-----|-------|
| Our organization uses digital platforms to obtain market information regularly.     | 15 | 11 | 23 | 93  | 132 | 274   |
| Employees acquire relevant business knowledge through online learning systems.      | 14 | 13 | 25 | 98  | 124 | 274   |
| The organization utilizes internet resources for product development ideas.         | 10 | 10 | 21 | 105 | 128 | 274   |
| Customer feedback obtained digitally contributes to organizational decision-making. | 11 | 12 | 19 | 107 | 125 | 274   |
| Digital technologies help the organization identify new business opportunities.     | 14 | 14 | 20 | 98  | 128 | 274   |

|                                                                                             |           |           |            |            |            |      |
|---------------------------------------------------------------------------------------------|-----------|-----------|------------|------------|------------|------|
| The organization frequently updates its knowledge base through digital information sources. | 14        | 12        | 24         | 99         | 125        | 274  |
| <b>Total</b>                                                                                | <b>78</b> | <b>72</b> | <b>132</b> | <b>600</b> | <b>762</b> | 1644 |
| <b>Average</b>                                                                              | <b>13</b> | <b>12</b> | <b>22</b>  | <b>100</b> | <b>127</b> | 274  |
| <b>Percentage (%)</b>                                                                       | <b>5</b>  | <b>4</b>  | <b>8</b>   | <b>36</b>  | <b>46</b>  | 100  |

**Source:** Field Survey, 2026

Table 1 showed that the general opinion of the respondents in Owerri metropolis was positive about the active participation of SMEs in the acquisition of digital knowledge on digital platforms, online learning systems, internet and customer feedback system.

The high percentage of responses in the “Agree” and “Strongly Agree” categories suggest that the respondents had a strong view that digital learning is important for the organization to increase its learning, strategic decisions, and access to market information.

Therefore, the results indicate that the digital learning of knowledge has a significant impact on product innovation and competitiveness of SMEs.

Table 2: Digital Knowledge Sharing

| <b>Statement</b>                                                                        | <b>SD</b> | <b>D</b>  | <b>N</b>   | <b>A</b>   | <b>SA</b>  | <b>Total</b> |
|-----------------------------------------------------------------------------------------|-----------|-----------|------------|------------|------------|--------------|
| Employees in the organization regularly share work-related information digitally.       | 7         | 15        | 28         | 101        | 123        | 274          |
| Digital communication platforms enhance collaboration among employees.                  | 6         | 12        | 24         | 109        | 123        | 274          |
| The organization encourages online sharing of innovative ideas among staff.             | 9         | 14        | 26         | 102        | 123        | 274          |
| Knowledge sharing through digital systems improves operational efficiency.              | 5         | 11        | 25         | 108        | 125        | 274          |
| Employees easily access organizational information through digital platforms.           | 8         | 13        | 22         | 104        | 127        | 274          |
| The organization uses collaborative technologies to support teamwork and communication. | 7         | 13        | 25         | 106        | 123        | 274          |
| <b>Total</b>                                                                            | <b>42</b> | <b>78</b> | <b>150</b> | <b>630</b> | <b>744</b> | 1644         |
| <b>Average</b>                                                                          | <b>7</b>  | <b>13</b> | <b>25</b>  | <b>105</b> | <b>124</b> | 274          |
| <b>Percentage (%)</b>                                                                   | <b>3</b>  | <b>5</b>  | <b>9</b>   | <b>38</b>  | <b>45</b>  | 100          |

**Source:** Field Survey, 2026

Table 2 revealed that respondents were very confident that the digital knowledge sharing practices solve the problems of collaboration and teamwork, operational coordination and information sharing in SMEs. Responses were clustered within the positive response categories, indicating that digital communication systems and

collaboration technologies are increasingly important in the communication between organizations and the learning together.

Table 3: Digital Knowledge Application

| Statement                                                                         | SD        | D         | N          | A          | SA         | Total       |
|-----------------------------------------------------------------------------------|-----------|-----------|------------|------------|------------|-------------|
| The organization applies acquired digital knowledge to improve service delivery.  | 5         | 10        | 20         | 112        | 127        | 274         |
| Employees utilize digital knowledge in solving operational problems.              | 6         | 12        | 24         | 108        | 124        | 274         |
| Digital knowledge application enhances customer satisfaction in the organization. | 7         | 11        | 21         | 105        | 130        | 274         |
| The organization uses digital information to improve strategic decision-making.   | 8         | 13        | 25         | 102        | 126        | 274         |
| Employees effectively apply technological knowledge in their daily activities.    | 6         | 14        | 23         | 107        | 124        | 274         |
| Application of digital knowledge has improved organizational productivity.        | 4         | 12        | 25         | 108        | 125        | 274         |
| <b>Total</b>                                                                      | <b>36</b> | <b>72</b> | <b>138</b> | <b>642</b> | <b>756</b> | <b>1644</b> |
| <b>Average</b>                                                                    | <b>6</b>  | <b>12</b> | <b>23</b>  | <b>107</b> | <b>126</b> | <b>274</b>  |
| <b>Percentage (%)</b>                                                             | <b>2</b>  | <b>4</b>  | <b>8</b>   | <b>39</b>  | <b>46</b>  | <b>100</b>  |

**Source:** Field Survey, 2026

Table 3 showed that the respondents had a general belief that digital knowledge application is an important factor that contributes to the improvement of services, customer satisfaction, solving operational problems, and productivity of an organization.

The overwhelming positive response indicates that organizations use the digital knowledge they have acquired effectively in operational management, service provision and decision making activities.

Table 4: Product Innovation

| Statement                                                                      | SD | D  | N  | A   | SA  | Total |
|--------------------------------------------------------------------------------|----|----|----|-----|-----|-------|
| The organization frequently introduces improved products into the market.      | 10 | 14 | 22 | 110 | 118 | 274   |
| Product quality has improved significantly in recent years.                    | 11 | 14 | 24 | 106 | 119 | 274   |
| The organization develops products that satisfy changing customer needs.       | 8  | 17 | 23 | 108 | 118 | 274   |
| Innovative ideas contribute to product development in the organization.        | 10 | 18 | 21 | 104 | 121 | 274   |
| The organization adopts modern technologies in product design and development. | 9  | 18 | 25 | 101 | 121 | 274   |

|                                                                          |           |           |            |            |            |             |
|--------------------------------------------------------------------------|-----------|-----------|------------|------------|------------|-------------|
| Product innovation has enhanced the competitiveness of the organization. | 12        | 15        | 23         | 107        | 117        | 274         |
| <b>Total</b>                                                             | <b>60</b> | <b>96</b> | <b>138</b> | <b>636</b> | <b>714</b> | <b>1644</b> |
| <b>Average</b>                                                           | <b>10</b> | <b>16</b> | <b>23</b>  | <b>106</b> | <b>119</b> | <b>274</b>  |
| <b>Percentage (%)</b>                                                    | <b>4</b>  | <b>6</b>  | <b>8</b>   | <b>39</b>  | <b>43</b>  | <b>100</b>  |

**Source:** Field Survey, 2026

Based on Table 4, respondents strongly agreed that the innovation of products can greatly improve the competitiveness of an organization, customer satisfaction, and product quality improvement in SMEs.

Table 5: Process Innovation

| <b>Statement</b>                                                                    | <b>SD</b> | <b>D</b>  | <b>N</b>   | <b>A</b>   | <b>SA</b>  | <b>Total</b> |
|-------------------------------------------------------------------------------------|-----------|-----------|------------|------------|------------|--------------|
| The organization frequently improves its operational procedures.                    | 10        | 15        | 24         | 99         | 126        | 274          |
| Digital systems have enhanced workflow efficiency in the organization.              | 9         | 15        | 23         | 109        | 118        | 274          |
| The organization adopts innovative methods to improve operational performance.      | 8         | 17        | 25         | 97         | 127        | 274          |
| Communication technologies have improved coordination among employees.              | 9         | 12        | 23         | 107        | 123        | 274          |
| Process improvements have reduced operational delays in the organization.           | 10        | 18        | 22         | 98         | 126        | 274          |
| The organization regularly updates its operational processes to improve efficiency. | 8         | 13        | 21         | 108        | 124        | 274          |
| <b>Total</b>                                                                        | <b>54</b> | <b>90</b> | <b>138</b> | <b>618</b> | <b>744</b> | <b>1644</b>  |
| <b>Average</b>                                                                      | <b>9</b>  | <b>15</b> | <b>23</b>  | <b>103</b> | <b>124</b> | <b>274</b>   |
| <b>Percentage (%)</b>                                                               | <b>3</b>  | <b>5</b>  | <b>8</b>   | <b>38</b>  | <b>45</b>  | <b>100</b>   |

**Source:** Field Survey, 2026

Likewise, Table 5 presented that the process innovation has a positive effect on the coordination of work flows, operational efficiency and organizational productivity.

Table 6: Service Innovation

| <b>Statement</b>                                                                 | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> | <b>Total</b> |
|----------------------------------------------------------------------------------|-----------|----------|----------|----------|-----------|--------------|
| The organization continuously improves its service delivery methods.             | 5         | 11       | 22       | 108      | 128       | 274          |
| Digital technologies have enhanced customer service quality in the organization. | 6         | 12       | 23       | 106      | 127       | 274          |
| The organization introduces innovative approaches to satisfy customers.          | 7         | 13       | 21       | 105      | 128       | 274          |

|                                                                                         |           |           |            |            |            |             |
|-----------------------------------------------------------------------------------------|-----------|-----------|------------|------------|------------|-------------|
| Customers receive faster and more efficient services through digital systems.           | 5         | 10        | 24         | 109        | 126        | 274         |
| Service innovation has improved customer satisfaction in the organization.              | 6         | 14        | 22         | 106        | 126        | 274         |
| The organization utilizes technology to improve customer engagement and responsiveness. | 7         | 12        | 20         | 108        | 127        | 274         |
| <b>Total</b>                                                                            | <b>36</b> | <b>72</b> | <b>132</b> | <b>642</b> | <b>762</b> | <b>1644</b> |
| <b>Average</b>                                                                          | <b>6</b>  | <b>12</b> | <b>22</b>  | <b>107</b> | <b>127</b> | <b>274</b>  |
| <b>Percentage (%)</b>                                                                   | <b>2</b>  | <b>4</b>  | <b>8</b>   | <b>39</b>  | <b>46</b>  | <b>100</b>  |

**Source:** Field Survey, 2026

Table 6 demonstrated that service innovation has a positive effect on customer satisfaction, service quality and organizational responsiveness. The results of the three tables show that the majority of the respondents are still positive, meaning that innovative performance is still crucial for the competitiveness and sustainability of the SMEs in Owerri Metropolis.

### Test of Hypothesis

#### Test of Hypothesis One

H<sub>01</sub>: Digital knowledge acquisition has no significant effect on product innovation of small and medium enterprises in Owerri Metropolis.

H<sub>11</sub>: Digital knowledge acquisition has a significant effect on product innovation of small and medium enterprises in Owerri Metropolis.

Table 7: Descriptive Statistics on Hypothesis One

|                               | Mean   | Std. Deviation | N   |
|-------------------------------|--------|----------------|-----|
| Digital Knowledge Acquisition | 4.1533 | 1.06141        | 274 |
| Product Innovation            | 4.1241 | 1.03383        | 274 |

Table 8: Correlations on Hypothesis One

|                               |                     | Digital Knowledge Acquisition | Product Innovation |
|-------------------------------|---------------------|-------------------------------|--------------------|
| Digital Knowledge Acquisition | Pearson Correlation | 1                             | .977**             |
|                               | Sig. (2-tailed)     |                               | .000               |
|                               | N                   | 274                           | 274                |
| Product Innovation            | Pearson Correlation | .977**                        | 1                  |
|                               | Sig. (2-tailed)     | .000                          |                    |

|                                                              |   |     |     |
|--------------------------------------------------------------|---|-----|-----|
|                                                              | N | 274 | 274 |
| **. Correlation is significant at the 0.01 level (2-tailed). |   |     |     |

It was found that there was a very strong positive correlation between digital knowledge acquisition and product innovation among the SMEs in Owerri Metropolis of the Imo State of Nigeria under hypothesis one. The level of correlation between the two variables was very high with the correlation coefficient value given and the significance value was less than 0.05 level of significance. This means that digital knowledge acquisition has an impact and leads to better product innovation because of better access to market information, technological knowledge, and strategic business intelligence. The descriptive statistics also revealed that the respondents strongly admitted the relevance of the acquisition of digital knowledge to enhance the product development and competitiveness of the organization. Thus, the null hypothesis is declined, and alternative hypothesis is accepted hence proving that digital knowledge acquisition has a significant influence on product innovation of SMEs in Owerri Metropolis.

### Test of Hypothesis Two

H<sub>02</sub>: Digital knowledge sharing has no significant influence on process innovation of small and medium enterprises in Owerri Metropolis.

H<sub>12</sub>: Digital knowledge sharing has a significant influence on process innovation of small and medium enterprises in Owerri Metropolis.

Table 9: Descriptive Statistics on Hypothesis

|                           | Mean   | Std. Deviation | N   |
|---------------------------|--------|----------------|-----|
| Digital Knowledge Sharing | 4.1898 | .96482         | 274 |
| Process Innovation        | 4.1606 | 1.01443        | 274 |

Table 10: Correlations on Hypothesis

|                                                              |                     | Digital Knowledge Sharing | Process Innovation |
|--------------------------------------------------------------|---------------------|---------------------------|--------------------|
| Digital Knowledge Sharing                                    | Pearson Correlation | 1                         | .987**             |
|                                                              | Sig. (2-tailed)     |                           | .000               |
|                                                              | N                   | 274                       | 274                |
| Process Innovation                                           | Pearson Correlation | .987**                    | 1                  |
|                                                              | Sig. (2-tailed)     | .000                      |                    |
|                                                              | N                   | 274                       | 274                |
| **. Correlation is significant at the 0.01 level (2-tailed). |                     |                           |                    |

In the case of hypothesis 2, the results revealed that there was a positive relationship between digital knowledge sharing and process innovation in SMEs in Owerri Metropolis with a very high degree of positive correlation. The correlation coefficient showed a very high association between the variables and the value of the significance

was below 0.05 level of significance. The findings indicate that the effective sharing of digital knowledge makes a great contribution to the coordination of workflows, organizational efficiency and organizational learning in SMEs. The descriptive statistics showed that collaborative communication systems and digital interaction are seen as very important in the process of process innovation and operational effectiveness. Therefore, the alternative hypothesis was accepted and the null hypothesis was rejected, this means that digital knowledge sharing has a significant influence on process innovation of SMEs in Owerri Metropolis.

### Test of Hypothesis Three

H<sub>03</sub>: Digital knowledge application has no significant effect on service innovation of small and medium enterprises in Owerri Metropolis.

H<sub>13</sub>: Digital knowledge application has a significant effect on service innovation of small and medium enterprises in Owerri Metropolis.

Table 11: Descriptive Statistics on Hypothesis Three

|                               | Mean   | Std. Deviation | N   |
|-------------------------------|--------|----------------|-----|
| Digital Knowledge Application | 4.2226 | .93256         | 274 |
| Service Innovation            | 4.2299 | .93078         | 274 |

Table 12: Correlations on Hypothesis Three

|                                                              |                     | Digital Knowledge Application | Service Innovation |
|--------------------------------------------------------------|---------------------|-------------------------------|--------------------|
| Digital Knowledge Application                                | Pearson Correlation | 1                             | .996 <sup>**</sup> |
|                                                              | Sig. (2-tailed)     |                               | .000               |
|                                                              | N                   | 274                           | 274                |
| Service Innovation                                           | Pearson Correlation | .996 <sup>**</sup>            | 1                  |
|                                                              | Sig. (2-tailed)     | .000                          |                    |
|                                                              | N                   | 274                           | 274                |
| **. Correlation is significant at the 0.01 level (2-tailed). |                     |                               |                    |

The results showed that there was a very strong positive correlation between digital knowledge application and service innovation in SMEs in Owerri Metropolis for hypothesis three. There was a very high value of correlation among the two variables and the value of significance was less than 0.05 level of significance. This implies that the use of digital knowledge is significantly enhancing the quality of services, satisfaction levels of the customers and the responsiveness of the organizations. The descriptive statistics also illustrated that the respondents had a high level of perception of digital knowledge application as an important driving force of innovative service delivery and organization productivity. So, the null hypothesis is rejected and the alternative hypothesis was accepted which means digital knowledge application has a significant impact on service innovation of SMEs in Owerri Metropolis.

## DISCUSSION OF FINDINGS

The results of the first hypothesis showed that there is a significant impact of digital knowledge acquisition on product innovation of SMEs in Owerri metropolis. This finding is supported by the study of Tadesse (2020),

Jemal and Zewdie (2021), and Temtime and Jimma (2020) who showed that acquiring digital knowledge and technological information effectively enhances innovation capability, product development, and organization competitiveness. The result also confirms the work of Amare (2014) who suggests that strategic knowledge acquisition improves the adaptability and market performance of an organization.

The results of hypothesis two revealed that digital knowledge sharing has a positive impact on process innovation of SMEs in Owerri Metropolis. The present finding agrees with those of Fullwood et al. (2019), Daud and Yusoff (2022), and Asiimwe and Barigayomwe (2024) which suggested that good knowledge-sharing systems enhance organizational learning, workflow coordination, operational efficiency and innovation performance. The study further supported the findings of Ayetigbo et al. (2023) in their research where they asserted that collaborative digital communication platforms promote productivity in employees and enhance effectiveness of organizations.

On the third hypothesis, digital knowledge application has significant impact on service innovation among SMEs in Owerri Metropolis. This finding is in line with findings of other studies such as those of Belay et al. (2021), Gates (2024) and Shabeer and Mahmood (2025). These studies noted that effective application of digital knowledge can enhance service quality, customer satisfaction, organizational responsiveness and productivity. The finding also supports the studies of Okochi and Ateke (2020) who noted that innovative organizational practices can influence customer-oriented performance and service effectiveness among organizations.

### Summary of Findings

The following major findings were made in this study:

1. The findings showed that digital knowledge acquisition has significant influence on the product innovation of SMEs in Owerri metropolis.
2. The factors of digital knowledge sharing have a significant impact on the process innovation of small and medium enterprises (SMEs) in Owerri metropolis.
3. Digital knowledge application has significant effect on service innovation of small and medium enterprises in Owerri metropolis.

### CONCLUSION

The study looked at the effect of digital knowledge management capabilities on the innovative performance of small and medium enterprises (SMEs) in Owerri Metropolis under the sub dimensions of digital knowledge acquisition, digital knowledge sharing and digital knowledge application on product innovation, process innovation and service innovation respectively. The study found that the digital knowledge management capabilities had a significant impact on SME innovative performance in the study area. The results showed that SMEs that successfully use online sources, digital information sources, and technological systems to learn about digital knowledge are likely to achieve better product innovation and organization competitiveness. Likewise, it revealed that digital knowledge sharing has a substantial positive impact on process innovation, which consists of four components: collaboration, organization learning, workflow coordination and operational efficiency. In addition, the results confirmed that the use of digital knowledge application has a great impact on service innovation in terms of customer satisfaction, service quality, organizational response and operational efficiency.

The impact of these results is significant because it has been shown that the digital competence in knowledge management has become a crucial strategic asset to maintain innovation and competitiveness in today's business contexts. The study is of significance because it created empirical relationship between digital knowledge acquisition and product innovation, digital knowledge sharing and process innovation, and digital knowledge application and service innovation among the SMEs in Owerri Metropolis. The results also corroborate the assumptions of the Knowledge Based View theory, Dynamic Capability Theory and the Organizational Learning Theory that underline the strategic role of knowledge resources, technological adaptability and ongoing learning for sustaining organizational performance and innovation.

Although the study was a valuable one, some weaknesses were noted. The study centered primarily on the study of SMEs in Owerri Metropolis, while quantitative data were relied upon heavily in the collection process, the use of questionnaires was done. Thus, the conclusions drawn may not necessarily be extended to all SMEs in Nigeria. In this regard, future research should be more geographically broadened and employ mixed research method to yield more empirical results that could give a wider perspective on the issues of digital knowledge management and innovative performance in SMEs.

Finally, the research found that the SMEs that are able to acquire, share and apply digital knowledge at an effective level are more likely to become sustainable innovators, perform better in the organizations, and gain a competitive advantage in dynamic business environments.

## RECOMMENDATIONS

Based on the results of the study, the following recommendations were made:

1. SMEs in Owerri Metropolis should invest in establishing digital systems for knowledge acquisition online, cloud, internet enabled research platforms and digital learning systems to enhance their product innovation, creativity and organizational competitiveness.
2. SME management should promote the use of collaborative technologies, communication systems, and organisational learning platforms to facilitate effective digital knowledge transfer, which can enhance process innovation, workflow coordination and operational efficiency.
3. SMEs should encourage the use of digital knowledge acquired in practice in decision-making, customer service delivery and/or in the management of their operations in order to increase: service innovation; customer satisfaction; organizational responsiveness.

## REFERENCES

1. Adekunle, A. O., & Gbadebo, A. D. (2024). Employee motivation and performance across small and medium-scale enterprises in Nigeria. *International Journal of Professional Business Review*, 9(11), 1–13. <https://doi.org/10.26668/businessreview/2024.v9i11.e5105>
2. Adeola, O., & Evans, O. (2020). ICT, infrastructure, and tourism development in Africa. *Tourism Economics*, 26(1), 97–114. <https://doi.org/10.1177/1354816619827712>
3. Afolabi, A., & Ojo, S. I. (2020). Evaluating employee motivation on the performance of small and medium enterprises (SMEs) of the private sector in Nigeria. *International Journal of Small Business and Entrepreneurship Research*, 8(4), 34–47.
4. Alam, M. A., & Shaikh, M. A. H. (2023). Impact of some selected determinants on SMEs performance: A study on Jhenaidah district of Bangladesh. *Archives of Business Research*, 11(9), 92–108. <https://doi.org/10.14738/abr.119.15425>
5. Alsarayreh, S. (2021). The impact of technology on knowledge retention: A systematic review. *International Journal of Information Technology and Language Studies*, 5, 38–46.
6. Alvarenga, A., Matos, F., Godina, R., & Matias, J. C. O. (2020). Digital transformation and knowledge management in the public sector. *Sustainability*, 12(14), Article 5824. <https://doi.org/10.3390/su12145824>
7. Amare, M. (2014). Formulating knowledge management strategy for public organizations: The case of the Federal Documents Authentication and Registration Office (Master's thesis, Addis Ababa University). <http://etd.aau.edu.et/handle/123456789/14698>
8. Asiimwe, D., & Barigayomwe, R. (2024). Knowledge management practices and employee performance at DFCU Bank in Uganda. *International Journal of Advanced Research*, 7(1), 1–11. <https://doi.org/10.37284/ijar.7.1.1676>
9. Ayetigbo, O. A., Ibrahim, G. M., Adegbola, E. A., Salam, O., & Ayetigbo, O. F. (2023). Knowledge management and employees' performance: A study of employees of National Open University of Nigeria. *Nigerian Journal of Management Sciences*, 24(2B), 286–294.

10. Azaki, J. I., & Rivett, U. (2022). Organisational factors affecting knowledge retention in a public organisation. In *Proceedings of the European Conference on Knowledge Management* (Vol. 2, pp. 1304–1312). Academic Conferences International Limited.
11. Belay, M., Desta, A., Smithson, S., & Meshesha, M. (2021). Investigate knowledge management technology implementation for supporting decision-making in Ethiopian health sectors. *BMC Medical Informatics and Decision Making*, 21(1), Article 146. <https://doi.org/10.1186/s12911-021-01507-8>
12. Daud, S., & Yusoff, W. F. W. (2022). Knowledge management and firm performance in SMEs: The role of social capital as a mediating variable. *Journal of Knowledge Management*, 26(4), 134–150.
13. De-Bem, M. A., Secinaro, S., Calandra, D., & Lanzalonga, F. (2022). Knowledge management and digital transformation for Industry 4.0: A structured literature review. *Knowledge Management Research & Practice*, 20(2), 320–338.
14. Durst, S., Edvardsson, I. R., & Foli, S. (2023). Knowledge management in SMEs: A follow-up literature review. *Journal of Knowledge Management*, 27(11), 25–58.
15. Faradillah, S., Meiryani, M., & Nasir, M. (2023). Inspirational motivation and employee engagement in SMEs. *Journal of Organizational Behavior*, 44(2), 120–135.
16. Fullwood, R., Rowley, J., & McLean, J. (2019). Exploring the factors that influence knowledge sharing between academics. *Journal of Further and Higher Education*, 43(8), 1051–1063. <https://doi.org/10.1080/0309877X.2018.1448928>
17. Gates, A. (2024). Impact of knowledge management on employee performance and satisfaction. *European Journal of Information and Knowledge Management*, 3(3), 1–13. <https://doi.org/10.47941/ejikm.2065>
18. Hussen, J. (2020). The influence of knowledge management practices on organizational performance: The case of Public Service and Human Resource Development Bureau, SNNPR, Ethiopia. *Information and Knowledge Management*, 10(6), 1–12. <https://doi.org/10.7176/IKM/10-6-01>
19. Jemal, S., & Zewdie, S. (2021). Role of knowledge management on organizational performance: Case of Jimma University in Ethiopia. *Journal of International Business and Management*, 4(5), 1–18. <https://doi.org/10.37227/JIBM-2021-05-722>
20. Lawal, L. O., Akpa, V. O., & Esator, G. O. (2025). Knowledge management and employee performance in selected small and medium enterprises in Lagos State, Nigeria. *International Research Journal of Economics and Management Studies (IRJEMS)*, 4(8), 72–80. <https://doi.org/10.56472/25835238/IRJEMS-V4I8P109>
21. Okochi, K., & Ateke, B. W. (2020). Employee empowerment: A strategy for optimizing employee performance. *Nigerian Journal of Business and Social Review*, 11(2), 125–137.
22. Ramakrishna, G., Solomon, B., & Smitha, M. (2024–2025). Knowledge management practices and the performance of public sector organizations: The role of information and communication technology. *Southwest Business and Economics Journal*, 29, 53–69.
23. Shabeer, R. M., & Mahmood, H. (2025). The impact of knowledge management on employee performance in Pakistan's service industry. *Review of Applied Management and Social Sciences*, 8(1), 561–575. <https://doi.org/10.47067/ramss.v8i1.506>
24. Tadesse, D. (2020). The impact of knowledge management towards organization performance. *IOSR Journal of Business and Management*, 22(3), 37–48.
25. Temtime, Y., & Jimma, W. (2020). The impact of information technology facility and knowledge management policy on product improvement for Dire Dawa National and Ture Cement Factories in Ethiopia: A cross-sectional survey method. *Information and Knowledge Management*, 10(7), 28–38. <https://doi.org/10.7176/IKM/10-7-04>