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EMERGING CUSTOMER-CENTERED COMPETENCIES OF INFORMATION PROCESSING SPECIALISTS FOR EFFECTIVE PERFORMANCE IN SMALL AND MEDIUM ENTERPRISES IN NIGERIA

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Abstract
This study examined emerging customer-centered competencies of information processing specialists for performance in Small and Medium Enterprises (SMEs) in Enugu State, Nigeria. One research question and two null hypotheses guided the study. A descriptive survey research design was adopted. The population comprised 1,800 information processing specialists in registered SMEs in Enugu State, from which a sample of 180 respondents was selected using stratified proportionate random sampling based on gender (104 males and 76 females). Data were collected using a structured questionnaire titled Emerging Customer-centered Competencies of Information Processing Specialists for Effective Performance Questionnaire (CICCIPSEPQ), which contained two sections: A and B. Section A covered demographic variables such as gender and years of experience, while Section B contained seven items structured on a 5-point rating scale. The instrument was validated by three experts, and its reliability was established using Cronbach Alpha, yielding a coefficient of 0.82. Of the 180 copies administered, 171 (95%) were retrieved and used for analysis. Data were analyzed using mean and standard deviation, while independent t-test and One-Way Analysis of Variance (ANOVA) were used to test the null hypotheses at 0.05 level of significance. Findings revealed that cognitive innovative customer-centered competencies are highly required of information processing specialists for effective performance in SMEs in Enugu State. The study also showed that there was no significant difference in the mean ratings of male and female respondents regarding the competencies required. The study concluded that customer-centered competencies are highly essential for effective performance of information processing specialists in SMEs, and that these competencies are similarly perceived across gender. It was recommended that SMEs in Enugu State should promote customer-centered training programmes for information processing specialists, focusing on digital communication, customer relationship management (CRM), and feedback analysis to enhance service delivery and customer satisfaction.

Keywords: *Customer-centered competencies, information processing specialists, Small and Medium Enterprises (SMEs), performance, cognitive innovative competencies.*

Introduction

Small and Medium Enterprises (SMEs) are widely recognized as vital drivers of economic growth, employment generation, poverty reduction, and entrepreneurship development across the world. In Nigeria, SMEs constitute a substantial proportion of business establishments and contribute significantly to national development through job creation and wealth generation. As noted by Ndukwe (2019), SMEs account for a considerable percentage of businesses in the country and provide employment opportunities for a large segment of the population. Despite these contributions, many SMEs continue to experience high failure rates due to challenges such as inadequate funding, poor infrastructure, weak management practices, shortage of skilled personnel, and ineffective information management systems (Karabatak & Ozturk, 2020; Ahmadu & Ahmadu, 2021). Consequently, organizations increasingly seek strategies that can improve efficiency, sustainability, and competitiveness in a rapidly changing business environment.

In recent years, the contemporary business environment has undergone tremendous transformation as a result of technological advancement and increasing customer expectations. Consequently, information has become an indispensable organizational resource for planning, decision-making, and achieving competitive advantage. As Oliveira et al (2019) observed, information serves as a critical tool for organizational growth and development because it enhances decision-making and supports innovation. In this regard, information processing specialists occupy a strategic position in SMEs because they are responsible for collecting, organizing, preserving, and making information accessible for effective organizational operations. Furthermore, these specialists support organizational activities through efficient information handling, records management, and dissemination of relevant information needed for operational effectiveness.

However, the rapidly evolving nature of business operations and customer demands has significantly expanded the expectations placed on information processing specialists. Beyond technical expertise, they are now expected to possess broader competencies that enable them to adapt to changing organizational and customer needs. Competencies refer to the knowledge, skills, attitudes, and abilities necessary for effective performance in a given profession. In support of this view, Opara (2026) emphasized that modern information processing specialists require competencies such as communication skills, information literacy, technological knowledge, analytical thinking, problem-solving abilities, and customer service competencies to function effectively in the digital era.

More importantly, emerging customer-centered competencies have become increasingly relevant to the performance and sustainability of SMEs. Customer-centered competencies involve the ability of professionals to identify, understand, and respond effectively to customers' needs and expectations while simultaneously supporting organizational goals and long-term growth. According to Bartley et al (2017), customer-focused competencies enable organizations to maintain strong relationships with customers and sustain profitability in highly competitive markets. Similarly, Mokhtar (2023) maintained that organizations and their personnel must adopt customer-oriented approaches that prioritize customer experiences and responsiveness to changing demands.

Furthermore, information processing specialists in SMEs are expected to possess competencies that support customer satisfaction and organizational effectiveness. Barak (2018) explained that the ability to provide timely, relevant, and accurate information represents a critical component of effective customer service and significantly influences customer retention. Likewise, Bongos (2019) argued that prompt responses to customer inquiries and proper management of customer information enhance customer loyalty and improve organizational performance. Supporting this position, Daramola (2015) observed that customer satisfaction not only strengthens customer loyalty but also reduces competitive pressure and improves organizational reputation.

Similarly, customer-focused competencies have become increasingly intertwined with cognitive and innovative abilities in modern workplaces. Cognitive innovative competencies refer to the capacity to generate ideas, solve problems, adapt to changing situations, and apply analytical reasoning to workplace challenges. Innovative competency is a combination of skills, knowledge, attitudes, and personal characteristics that facilitate creativity and problem-solving. Therefore, information processing specialists require cognitive innovative competencies such as critical thinking, communication skills, analytical reasoning, creativity, and problem-solving abilities to effectively satisfy customer needs and improve organizational performance.

Nevertheless, the absence of these competencies poses significant challenges to the effective operation of SMEs. Ajayi and Olatokun (2022) reported that many information processing specialists still rely heavily on routine administrative functions with limited capacity for analytical reasoning and innovative thinking. Similarly, inadequate cognitive innovative competencies among information personnel often result in poor information interpretation and weak decision-support systems. Furthermore, the increasing digital transformation of businesses requires workers who can continuously learn and adapt to emerging technologies and changing workplace realities (World Economic Forum, 2020). Without these competencies, information processing specialists may struggle to effectively adopt technological innovations and respond to dynamic customer expectations.

Empirical evidence has also highlighted the importance of customer-centered competencies in organizational performance. For instance, Khoo (2015) found that communication, critical thinking,

teamwork, information literacy, and customer relations were essential competencies for information professionals. Similarly, Odine (2021) revealed that the use of modern technologies and positive customer relations significantly enhanced business performance. In the same vein, Abdulkarim (2023) reported that poor customer care, inadequate training, and low technological competencies negatively affected SME performance. These findings collectively suggest that customer-centered and innovative competencies are critical requirements for information processing specialists in modern organizations.

Information processing specialists in SMEs include male and female personnel, which may influence their competencies. Brown (2018) noted that males are more analytical while females are more intuitive, while Dakare (2019) observed differences in how both genders conceptualize issues. Levy and Murnane (2023) also found that gender may influence performance ratings of information professionals. Similarly, work experience may affect customer-focused competency levels, as Okrah and Irene (2023) reported significant effects of experience on cognitive innovative competencies, although Okafor and Ile (2023) found no significant difference. Additionally, years of working experience could moderate cognitive innovative customer-focused competencies required of information processing specialists for effective performance of SMEs. Information processing specialists with above 10 years working experience could differ significantly with those with 6-10 years, and 1-5 years' experience with regards to cognitive innovative customer-focused competencies required of them. In the same vein, those with 6-10 years' experience may differ with their counterpart with 1-5 years' experience. This could be attributed to differences in professional training and development opportunities, practical exposure, knowledge sharing as well as job responsibilities and autonomy. Supporting this argument, Okrah and Irene (2023) reported that work experience significantly influenced competencies possessed by office personnel. However, Okafor and Ile (2023) found no significant difference in respondents' perceptions regarding competencies required of information managers. Given these contrasting views and the growing need for effective information management and customer satisfaction within SMEs, it becomes necessary to investigate the emerging customer-centered competencies required of information processing specialists for performance in SMEs in Enugu State, Nigeria.

Statement of the Problem

Small and Medium Enterprises (SMEs) are widely regarded as the backbone of the Nigerian economy due to their contributions to employment generation, wealth creation, and economic development. In today's digital business environment, the success and sustainability of SMEs increasingly depend on information processing specialists who can effectively manage information and maintain quality customer relations for improved organizational performance. Consequently, emerging customer-centered competencies such as communication skills, empathy, innovative thinking, active listening, adaptability, and problem-solving have become essential for effective performance in SMEs.

Despite the importance of these competencies, SMEs in Nigeria continue to face challenges associated with poor customer relations, weak information management practices, and low organizational performance. The researcher is particularly worried that some information processing specialists still operate mainly at a routine technical or clerical level with limited customer-centered and innovative capabilities required in a competitive business environment. Such deficiencies may affect their ability to understand customer needs, provide quality service, and support organizational growth. If this situation is not addressed, information processing specialists may continue to exhibit gaps in customer-centered competencies, leading to poor customer satisfaction, weak decision-making, reduced competitiveness, and low productivity among SMEs in Enugu State. It is against this concern that this study seeks to determine the emerging customer-centered competencies of information processing specialists for performance in Small and Medium Enterprises in Enugu State, Nigeria.

Research Question

The following research question guided the study;

1. What is the cognitive innovative customer-focused competencies required of information processing specialists for effective performances of SMEs in Enugu State?

Research Hypothesis

The following null hypothesis was tested at 0.05 level of significance;

$H0_1$: Male and female information processing specialists do not differ significantly in their mean ratings on cognitive innovative customer-focused competencies required for effective performance of SMEs in Enugu State.

$H0_2$: There is no significant difference in the mean rating of information processing specialists on cognitive innovative customer focused competencies required for effective performance of SMEs in Enugu State based on years of working experience (1-5, 6-10, above 10 years).

Methods

Descriptive survey research design was adopted for this study. This study was carried in Enugu State, Nigeria. The population of the study comprised 1,800 information processing specialists in registered SMEs in Enugu State. The sample size of 180 information processing specialists was selected using stratified proportionate random sampling techniques. In the study, stratification was based on gender. Total of 104 male and 76 female information processing specialists were selected**.** The instrument for data collection was a structured questionnaire titled, "Emerging Customer-centered Competencies of Information Processing Specialists for Effective Performance Questionnaire (CICCIPSEPQ)" The questionnaire was made up of two sections; A and B. Section A contained the demographic variable of the respondents such as gender and years of experience. Section B contained seven (7) items structured on 5-point rating scale of Very Highly Required (VHR), Highly Required (HR), Moderately Required (MR), Lowly Required (LR) and Not Required (NR).

The instrument for data collection was subjected to face validation by three expert judgments**.** The reliability of the instrument was established trial-testing and Cronbach Alpha statistics was used to test the internal consistency of the instrument, which yielded the reliability coefficients of 0.82. Copies of the instrument were administered to the respondents by the researcher with the help of four research assistants, resident in the study area. Of the 180 copies of questionnaire distributed, 171 representing 95% were retrieved and found usable for data analysis. Data collected were analyzed using descriptive statistics of mean and standard deviation. The mean score was used to answer the research questions while standard deviation was used to determine how homogeneous or heterogeneous the respondents' opinions. The null hypothesis was tested using independent t-test and One-way Analysis of Variance (ANOVA) at 0.05 level of significance. The decision rule was to accept a null hypothesis where the p-value is greater than or equal to the alpha level of 0.05 ($p > 0.05$). The null hypothesis is to be rejected where the p-value is less than the alpha level ($p < 0.05$).

Result

Presentation of Research Question and hypothesis

Research Question 1: What is the cognitive innovative customer-focused competencies required of information processing specialists for effective performances of SMEs in Enugu State?

Table 1

Mean ratings and standard deviation of respondents on cognitive innovative customer-focused competencies required of information processing specialists for effective performance of SMEs

N = 171

S/N	Cognitive Innovative Customer Focused Competencies	$\overline{X}$	SD	Remarks
1.	Skills to satisfy the set of beliefs in putting customers' interest first and still not excluding those of all other stakeholders.	4.50	0.70	Very Highly Required

2.	Knowledge of how to retain a customer in business by assisting him/her with the needed information promptly.	4.19	0.69	Highly Required
3.	Ability to show concerns with customers' needs, wants and expectations in past, present, future and strong commitment to understand and satisfy them in a proactive manner for long-term growth in information provisions.	3.66	0.71	Highly Required
4.	Developing a good and strong relationship with customers.	4.47	0.69	Highly Required
5.	Skills of customer's satisfaction.	4.43	0.70	Highly Required
6.	Ability to show loyalty and praise to customers.	4.54	0.72	Very Highly Required
7.	Ability to display freedom to make decisions and act independently to delight a customer in business.	3.64	0.68	Highly Required
	Cluster Mean	**4.20**		**Highly Required**

Table 1 shows that cognitive innovative customer-focused competencies listed in items 1 and 5 with mean scores of 4.50 and 4.54 are very highly required of information processing specialists for effective performance of SMEs while the remaining five items with mean scores ranging from 3.64 to 4.47 are rated highly required. The cluster mean score of 4.20 shows that on the whole, cognitive innovative customer-focused competencies are highly required of information processing specialists for effective performance of SMEs in Enugu State. The standard deviation shows that there was homogeneity in respondents' responses.

Hypothesis 1: Male and female information processing specialists do not differ significantly in their mean ratings on cognitive innovative customer-focused competencies required for effective performance of SMEs in Enugu State.

Table 2

Summary of t-test analysis of mean ratings of male and female information processing specialists on cognitive innovative customer focused competencies required for effective performance of SMEs

Gender	N	$\bar{X}$	SD	df	t-value	P-value	Decision
Male	101	4.17	0.68				
				169	0.01	0.92	Not Significant
Female	70	4.24	0.71				

Table 2 shows male respondents with $\bar{X}$ = 4.17, SD = 0.68, and female respondents with $\bar{X}$ = 4.24, SD = 0.72. The t-value is 0.01 with 169 degrees of freedom and p-value of 0.92 which is greater than the significant value of 0.05. Since p-value is greater than the alpha level (t (169) = 0.10, p = 0.92), the null hypothesis is therefore accepted. This means that male and female information processing specialists do not differ significantly in their mean ratings on cognitive innovative customer focused competencies required for effective performance of SMEs in Enugu State.

Hypothesis 2: There is no significant difference in the mean ratings of SMEs information processing specialists on cognitive innovative customer focused competencies required for effective performance in Enugu State based on years of working experience (1-5, 6-10, above 10 years).

Table 3

Summary of one-way Analysis of Variance (ANOVA) on the mean ratings of information processing specialists on cognitive innovative customer-focused competencies required for effective performance of SMEs based on years of working experience

Source of Variance	SS	df	MS	F	P-value	Decision
Between Groups	3.86	2	1.93	.52	.60	Not Significant
Within Groups	622.3	158	3.70			
Total	626.190	171				

Table 3 one-way ANOVA result shows F(2,168) = .52, p = .60**,** indicating a very small influence size. Since the p-value is greater than the alpha level of .05 (p = .60 > .05), the null hypothesis is therefore accepted. This means that there is no significant difference in the mean ratings of information processing specialists on cognitive innovative customer focused competencies required for effective performance of SMEs in Enugu State based on years of working experience (1-5, 6-10, above 10 years).

Discussion

Findings of the study revealed that cognitive innovative customer-focused competencies are highly required of information processing specialists for effective performance of SMEs in Enugu State, Nigeria. The findings of the study align with that of Khoo (2015) which revealed that information professionals require customer relation competencies for effective performance in business organizations. Odine (2021) reported that ability to interact with customers in a friendly manner is an importance skills of information professional. In addition, Abdulkarim (2023) disclosed that SMEs' poor performance is as a result of lack of customer care competencies. In the same vein, Grobbelaar et al (2024) posited that active listening and empathy are critical customer-focused competencies that enable information processing specialists to understand the user's true information need, which is often different from the stated query. By showing genuine interest and empathy, the information processing specialists builds a positive impression, significantly increasing the user's willingness to return to the information centre. This, in turn, improves patronage and promotes the image of SMEs. Furthermore, the researcher posits that customer focused competencies such as courtesy and professionalism in all dealings, whether in person, on the phone, or via email enables information processing specialists to build or cultivate a positive image of their organization. This is particularly vital in business environment where SMEs must compete with large scale businesses for customers.

Findings of the study revealed that male and female information processing specialists did not differ significantly in their mean ratings on cognitive innovative customer focused competencies required for effective performance of SMEs in Enugu State, Nigeria. The findings further revealed that there was no significant difference in the mean rating of information processing specialists on cognitive innovative customer focused competencies required for effective performance of SMEs in Enugu State based on years of working experience (1-5, 6-10, above 10 years). The findings with regard to non-significant differences based on gender and years of experience agree with that of Opara (2026) which revealed that gender and years of experience were not significant factors on respondents' mean ratings of the cognitive innovative technical

competencies needed of information processing specialists for effective job performance. The findings of the two null hypotheses underscore the importance of cognitive innovative customer focused competencies to any information processing specialist who wants to succeed as a professional information manager. It could be that information processing specialists in Enugu State SMEs irrespective of their gender and years of working experience possess levels of cognitive innovative customer focused competencies. This may be the reason why they have similar opinions regarding the need for information processing specialists of polytechnics to acquire e-mail records competences.

Conclusion

Based on the findings of the study, it was concluded that cognitive innovative customer-focused competencies are highly required of information processing specialists for effective performance in SMEs in Enugu State. The study further showed that the importance of these competencies is perceived similarly irrespective of gender of information processing specialists.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. SMEs in Enugu State should promote customer-centered training for information processing specialists, focusing on digital communication, customer relationship management (CRM), and feedback analysis to improve service delivery and customer satisfaction.
2. Business education curriculum planners should include courses on customer psychology, digital marketing, and service innovation to equip future specialists with the competencies to understand and meet customer needs in competitive business environments.

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