

ICT Self-Efficacy and Administrative Service Quality: A Survey of Selected Polytechnics in Ogun State

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Abstract

This study examined the influence of ICT self-efficacy on administrative service quality in selected polytechnics in Ogun State, Nigeria – The Federal Polytechnic, Ilaro and Moshood Abiola Polytechnic, Abeokuta. The study employed the survey approach involving the use of questionnaire for data collection. The population comprised all senior administrative staff in the selected polytechnics out of which 240 were randomly selected as the sample for the study. Three research questions were raised and a 4-point likert questionnaire was developed and administered to the respondents. Hypotheses were tested with regression statistics at 0.05 level of significance that is 95% confidence interval. The results indicate that ICT Self-efficacy (safety and security, differentiation and communication self-efficacy) has significant influence on service delivery in the selected federal polytechnics. It was concluded that the perceived confidence on administrative staff in the effective and efficient utilisation of ICT tools is an important factor that could drive technology utilisation by the administrative staff and consequently their service quality. The study recommends, among others, that federal polytechnics should intensify capacity building programmes in the areas of digital and ICT skill mastery with a view to enhancing the ICT competence and self-efficacy of their administrative staff for improved administrative service quality.

Keywords: *Communication self-efficacy, Differentiation self-efficacy, Safety and security self-efficacy, Service quality*

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Introduction

In every organization, there are different categories and cadres of workers who are brought together for the purpose of achieving organizational goals and objectives. These categories range from executive leadership and management to technical staff, administrative personnel, and support staff. Each category plays a distinct role in ensuring the organization functions effectively and efficiently. Among these, administrative staff hold a unique and crucial position. They function at the interface of most organizational activities and components, providing a wide array of services that are essential for the seamless operation of the organization.

An important expectation from most public or state-owned organisation is the provision of efficient and quality services. Administrative personnel in tertiary institutions belong to an indispensable work group who are engaged to offer services ranging from administrative functions, executive support, information management, records management, office coordination, supervision, resource utilisation and maintenance, administrative support and service to faculty members, other staff and students (Jolaade & Kehinde, 2022; Giri, 2019). They play crucial roles in the smooth functioning of organizations by providing essential administrative support, improving communication, and ensuring operational efficiency. According to Jones and George (2017), the performance of this functions requires considerable

level of service ethics and quality. This represents their level of effectiveness, attention to details and quality contributions to the achievement of organisational goals (Grönroos, 2001).

In tertiary institutions, the use of technology in day-to-day activities and roles of the administrative staff is expected to serve as a pathway in generating significant or even massive benefits for everyone through improved service quality of the administrative staff (Adenekan & Jimoh, 2021). The use of information and communication tools presents bundle of opportunities to offer qualitative and reliable administrative services. This pervasive utilisation of information and communication technology tools by administrative personnel required optimal self-efficacy to enable the staff deliver their services effectively and efficiently. However, paucity of empirical studies on the relationship and influence of ICT self-efficacy on administrative service quality, especially in the context of public polytechnics, creates a gap in literature which needs to be filled. Hence, this study examines the impact of information and communication technology self-efficacy on administrative service quality in two selected public polytechnics in Ogun State, Nigeria.

According to Lovelock & Wirtz (2016), service quality is “the overall assessment of a service by the customer, based on the discrepancy between the customers’ expectations and their perceptions of the actual service performance”. It can also be seen as a blend of the quality of the service provider and the individuals hired to give it, as well as the technical and functional aspects of the service (what is delivered and how it is done) (Zeithaml et al., 2018). According to Grönroos (2001), customers' opinions of how well a service meets or surpasses their expectations are included in the definition of service quality. It includes aspects like assurance, responsiveness, consistency, empathy, and tangibles. This includes the opinions of clients regarding the general quality or superiority of a service. It is a service characteristics which often comes from the comparison of expected services actually received, thus revealing the level of satisfaction derived.

The above definitions provided reflect the evolving understanding of service quality in recent years. The concept consistently revolves around meeting or exceeding customer expectations, with an emphasis on both the tangible and intangible aspects of service delivery. These perspectives highlight the multidimensional nature of service quality, encompassing factors such as service assurance, reliability in the service offered, responsiveness, etc. Understanding and improving service quality is essential for organizations aiming to offer satisfaction to users of their services or offerings.

In the context of the job of administrative personnel in an organisation, service quality refers to the ability of administrative staff to deliver services that meet or exceed the expectations of their employers and clients. It encompasses various dimensions, including reliability of the services they provide, how responsive they are, in the course of service provision, level of assurance people have in the services provided and how empathic they are in performing their functions (Jones & George, 2017; Guffey & Loewy, 2018). High service quality in administrative work means that administrative staff perform their duties accurately, promptly, and professionally, providing dependable support to the organization (Mullins, 2016).

In modern times, desirable level of service quality of administrative staff translates to organizational efficiency, improved communication, effective executive supporting functions, professionalism and organizational image, positive work environment and adaptability to technological changes (Daft, 2016; Guffey & Loewy, 2018).

Griffin & Moorhead (2014) posit that high-quality service from administrative staff ensures that administrative tasks are handled efficiently, allowing the rest of the staff to focus on their primary duties. Administrative Staff provide support services ranging from administrative task planning and execution, motivation of subordinates, ensuring the effectiveness and efficiency of office routines, managing office supplies, collaborating with other officers and departments, and communicating effectively, with a view to streamlining administrative workflows and reducing operational

bottlenecks. According to Guffey and Loewy (2018), administrative staff are often the communication hub, offering supportive and administrative services in an organization. High service quality in managing emails, and other forms of correspondence ensures that information is relayed accurately and promptly. This minimizes misunderstandings and ensures that critical information reaches the right people at the right time. In his view Daft (2016) opines that, as executives rely on secret administrative personnel to manage their schedules, prepare documents, and organize meetings, the quality of these services directly impacts the executives' ability to function effectively. High-quality service ensures that executives can focus on strategic decision-making without being distracted by administrative details. Administrative staff are expected to be proficient with various technological tools. The ability to effectively use digital communication tools, manage electronic records, and support virtual meetings is an indication of administrative staff adaptability which is crucial for maintaining efficiency in a rapidly evolving business environment (Jones & George, 2017; Guffey & Loewy, 2018).

One widely acknowledged factor of the workplace which largely determines the rate and quality of work, efficiency of work processes, tangibility of work outcomes, effectiveness of organisational components, appropriate utilisation of material and human resources is technology (Brynjolfsson & McAfee, 2014; Porter & Heppelmann, 2015; Laudon & Laudon, 2020). In executing administrative functions, offering executive support, managing information and coordinating office management activities, administrative personnel utilize a number of information and communication technologies, such as computer, internet and e-mail, online presentation tools, virtual collaboration platforms, cloud computing applications and resources, etc. which require remarkable competence in such technology use (Woodcock & Jones, 2020). Importantly, users of ICT tools, related resources and platforms should demonstrate good strength, belief and confidence in technology use. In relation to information and communication technology, such confidence, belief and disposition is referred to as

ICT self-efficacy, which depicts an individual's confidence in the ability to use ICT tools and technologies to accomplish various tasks (Afari et al., 2023).

Mlambo et al., (2020), self-efficacy is a term used to denote an individual's self-belief in his ability for specific roles and tasks. Such self-belief in capacities affect has varying influence on different human engagement and the use of mechanism to cope and sustain the completion of the chosen tasks or roles. It is therefore safe to argue that self-efficacy changes, depending on the chosen activities and environment, it does not connote specific common traits (Musharraf et al., 2018).

Wilson et al. (2020), describe ICT self-efficacy as the individual abilities to use computer or abilities to carry out computer-related tasks. This is linked to how individuals consider specific computer skill-related training as effective, favourable computer use intentions, and perceived ease of use of computer applications and ICT tools. It refers to an individual's confidence in their capacity to effectively use information and communication technologies to perform specific tasks and accomplish the activity goals (Wilson et al., 2020;). Studies have shown that ICT self-efficacy is one of the factors relating to restricted ICT use and thus influences individual's acceptance of technology (DiGregorio & Liston, 2018; Thongsri et al., 2019)

The common dimension used to cover key measure of ICT self-efficacy which reflect the multifaceted nature of ICT self-efficacy and provide a comprehensive understanding of individuals' perceived mastery and capacity to effectively use ICT include safety and security, differentiation, communication, learning and application (Li et al., 2023). In the development and validation of ICT self-efficacy scale, Musharraf et al. (2018) considered twelve ICT-related skills and usage confidence, with privacy and security, communication, differencing and learning and application ranking highest among other factors. Considering the nature of work and performance expectation of administrative personnel in administrative support, communication, management, operational efficiency and

effectiveness of organs and departments as well as general administration of tertiary institutions, this study adopts safety and Security, differentiation and communication to assess the ICT self-efficacy of administrative staff.

ICT security and safety Self-efficacy indicates a person's belief in their capacity to defend data and information systems against a range of dangers, such as illegal access, cyberattacks, and data breaches. This illustrates the person's ability to recognize and use security measures including firewalls, antivirus programs, encryption, and strong passwords (Li et al., 2023). People who have a high level of ICT safety and security self-efficacy are able to recognize possible security threats and take preventive action to lessen them. People may use best practices to preserve a safe digital environment, protect data and information, and share their expertise with others thanks to this self-efficacy component. As a measure of self-efficacy, ICT differentiation describes a person's capacity to distinguish between distinct ICT tools and technologies that are especially pertinent to completing particular tasks. It depicts self-awareness and the conviction that one can choose and use technology appropriately for certain activities, as well as how to take use of the special qualities of various tools to increase efficiency and productivity (Musharraf et al., 2018). Work performance, decision-making and problem-solving, and service offerings are all facilitated in the workplace by the capacity to distinguish and use ICT devices and platforms correctly (Teo, 2009; Wilson et al., 2020). ICT communication self-efficacy, according to Li et al. (2023), refers to a person's confidence in their ability to use a variety of digital communication technologies for knowledge exchange and to communicate information in an understandable and efficient manner. This covers social networking, video conferencing, instant messaging, email, and platforms for group projects.

Methodology

The study employed descriptive research design in which the survey approach with the use of questionnaire was adopted. The population comprised all senior administrative staff in the

selected public polytechnics in Ogun State, Nigeria – The Federal Polytechnic, Ilaro and Moshood Abiola Polytechnic Abeokuta. Members of staff in this category are found in every department, unit and section of the institutions. 120 administrative staff were randomly selected from each of the two polytechnics to make a sample of 240 covered in the study.

For a statistical test of the relationship and influence of the ICT self-efficacy constructs on service quality, the following postulations were made as null hypothesis:

- H₀₁: There is no significant influence of ICT safety and security self-efficacy on service quality of administrative staff in selected public polytechnics in Ogun State.
- H₀₂: There is no significant influence of ICT differentiation self-efficacy on service quality of administrative staff in selected public polytechnics in Ogun State.
- H₀₃: There is no significant influence of ICT communication self-efficacy on service quality of administrative staff in selected public polytechnics in Ogun State.

Questionnaire was used as instrument of data collection. Apart from the demographic data, the questionnaire consisted of 22 items to elicit responses on the subject of the research – Service quality Scale consisted 8 items adapted from Jones & George (2017) and Guffey & Loewy (2018). ICT self-efficacy was divided into three scales with items adapted from Musharraf et al. (2018) and Li et al. (2023) – ICT Safety and Security Self-efficacy has 4 items, ICT Differentiation Self-efficacy has 5 items and Communication Self-efficacy has 5 items. All the items were designed on a 4-point likert rating scale ranked as 1 – 4 from lowest to the highest options.

The hypotheses were tested with linear regression with the aid of SPSS. The tests were conducted at 0.05 level of significance. Hence, each test of hypothesis was taken as significant if the P-value is less than 0.05 threshold of significance.

Results and Discussion

Hypothesis I

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.393 ^a	.151	.148	2.29610

a. Predictors: (Constant), SS

Field Survey Result, 2024 (Extracted from SPSS Output)

Results in Table 1 suggest that ICT Safety and Security self-efficacy (SS) has a moderate positive relationship with service quality among administrative staff in selected public polytechnics in Ogun State. The correlation coefficient ($R = 0.393$) indicates a positive but not strong relationship between SS and service quality. The R^2 value

(0.151) indicates that about 15.1% of the variability in service quality scores can be explained by ICT Safety and Security self-efficacy. This means that while ICT safety and security self-efficacy contributes significantly to service quality, there are other factors not accounted for in this model that also influence service quality among administrative staff.

Table 2: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.013	1	2.113	1.223	.006 ^b
Residual	332.141	113	5.272		
Total	332.154	144			

a. Dependent Variable: SQ

b. Predictors: (Constant), SS

Field Survey Result, 2024 (Extracted from SPSS Output)

The results in the table shows a statistically significant regression model, supporting the relationship between ICT safety and security self-efficacy and service quality ($F = 1.223$, $p = 0.006$). As revealed, the amount of variance imposed by

safety and security self-efficacy (SS) as indicated by the $R^2 = 0.151$ is relatively moderate, suggesting that other factors not included in this model also influence service quality in this context.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	24.684	2.912		8.476	.000
SS	.211	.215	.393	.150	.006

a. Dependent Variable: SQ

Table 3: Regression Coefficients Output

According to the regression model above, ICT Safety and Security self-efficacy (SS) predicts service quality (SQ) administrative staff in the selected public polytechnics. The coefficient of SS is 0.211. This indicates that for every one-unit increase in ICT Safety and Security self-efficacy (SS), there is an associated increase of 0.211 units in the predicted service quality (SQ). The significance level (p-value) associated with SS is 0.006, which is less than

the conventional threshold of 0.05. This suggests that there is statistically significant evidence to reject the null hypothesis that ICT safety and security self-efficacy has no effect on service quality of the administrative staff. Therefore, the study infer that there is a significant influence of ICT Safety and Security self-efficacy (SS) on service quality (SQ) among administrative staff in the selected public polytechnics in Ogun State.

Hypothesis II

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.320 ^a	.102	.100	1.52745

a. Predictors: (Constant), DSE

Field Survey Result, 2024 (Extracted from SPSS Output)

Results in Table 4 indicate that ICT differentiation self-efficacy (DSE) has a moderate positive relationship with administrative service quality in the selected polytechnics. The correlation coefficient (R = 0.320) indicates a positive but not strong relationship between differentiation self-efficacy and service quality. The R² value (0.102) indicates that

about 10.2% of the variability in service quality scores can be explained by ICT differentiation self-efficacy. This means that ICT differentiation self-efficacy could account for changes in service quality, yet other factors not covered in this test account for 89.8% variability in service quality among administrative staff.

Table 5: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.153	1	2.153	2.016	.009 ^b
Residual	146.985	113	2.333		
Total	147.138	144			

a. Dependent Variable: SQ

b. Predictors: (Constant), DSE

Field Survey Result, 2024 (Extracted from SPSS Output)

The ANOVA table above reveals that model employed is significant, showing F value of 2.106 and P-value of 0.009, for the statistical relationship ICT differentiation self-efficacy (DSE) with service

quality (SQ). The variance caused by differentiation (R² = 0.102) is relatively modest, indicating that other factors not included in this model also influence service quality in.

Table 6: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	16.875	1.937		8.710	.000
DSE	.137	.143	.320	.256	.009

a. Dependent Variable: SQ

Field Survey Result, 2024 (Extracted from SPSS Output)

According to the regression model above, ICT Differentiation self-efficacy (DSE) predicts service quality (SQ) among administrative staff in the polytechnics. The coefficient of DSE is 0.137. This indicates that for every one-unit increase in ICT Differentiation self-efficacy (DSE), there is an associated increase of 13.7 units in the predicted service quality (SQ). The significance level (p-value) associated with SS is 0.009, which is less than

the conventional threshold of 0.05. This suggests that there is statistically significant evidence to reject the null hypothesis which states that ICT Differentiation self-efficacy has no effect on administrative service quality. Therefore, it is upheld that there is a significant influence of ICT differentiation self-efficacy (SS) on service quality (SQ) among administrative staff in the selected polytechnics.

Hypothesis III

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.357 ^a	.127	.121	1.56144

a. Predictors: (Constant), CSE

Field Survey Result, 2024 (Extracted from SPSS Output)

In the table above, the correlation coefficient between the predictor (CSE) and the dependent variable (SQ) is 0.357. This indicates a moderate positive relationship between ICT Communication Self-efficacy (CSE) and Service Quality (SQ). The coefficient of determination (R²) is 0.127, indicating that approximately 12.7% of the variance in Service Quality (SQ) can be explained by ICT

Communication Self-efficacy (CSE). In other words, CSE accounts for 12.7% of the variability in SQ. The model suggests that, improving ICT Communication Self-efficacy (CSE) among administrative staff could potentially enhance Service Quality (SQ), but additional consideration of other variables might be needed to better understand and improve overall service quality.

Table 8: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.862	1	1.862	2.354	.004 ^b
Residual	153.600	113	2.438		

Total 154.462 144

a. Dependent Variable: SQ

b. Predictors: (Constant), CSE

Field Survey Result, 2024 (Extracted from SPSS Output)

The ANOVA table above shows that the regression model as a whole is statistically significant, supporting the relationship between ICT Communication self-efficacy (CSE) and service quality (F = 2.354, p = 0.004).

Table 9: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	16.674	1.981		8.419	.000
CSE	.187	1.146	.275	.595	.004

a. Dependent Variable: SQ

Field Survey Result, 2024 (Extracted from SPSS output)

Table 9 reveals that ICT Communication self-efficacy (DSE) predicts service quality (SQ) among administrative staff in the selected polytechnics. The coefficient of DSE is 0.187 which indicates that for every one-unit increase in ICT communication self-efficacy (CSE), there is an associated increase of 18.7 units in the predicted service quality (SQ). The significance level (p-value) associated with SS is $0.004 < 0.05$ threshold of significance. This suggests that there is statistically significant evidence to reject the null hypothesis. Hence, it is accepted that there is a significant influence of ICT communication self-efficacy (SS) on service quality (SQ) among administrative staff in the selected polytechnics.

Result of Hypothesis one revealed that there is a significant positive influence of ICT Safety and Security self-efficacy on service quality of administrative staff in the selected public polytechnics in Ogun State. The finding depicts that administrative staff who perceive themselves as having high ICT safety and security self-efficacy (the perceived ability of individuals to protect their data, information and the information management system) are likely to handle sensitive information with greater care and accuracy. Such individuals are

conscious of the likelihood of data breaches, unauthorized access and thus understand and takes measure to guide against them. Such abilities reduces errors and breaches in data handling, better compliance with data protection regulations, and reduced risks of security breaches. This efficacy translates to improved service delivery and overall service quality. The findings support Li et al. (2023) position that individuals with high ICT self-efficacy in safety and security are capable of identifying potential security risks and taking proactive steps to mitigate them.

Hypothesis two revealed ICT differentiation self-efficacy, which pertains to the perceived ability of individuals to appropriately choose and effectively use different types of ICT tools and software for various tasks, imposes significant positive contribution to service quality of administrative staff in the selected public polytechnics in Ogun State. This finding affirms that self-conviction on the ability for ICT differentiation is crucial to the use of digital tools by administrative staff and impinges on the extent to which they able to offer quality administrative services. The findings align with Wilson et al. (2020) findings that the ability to

differentiate and utilize ICT tools effectively contributes to better decision-making and problem-solving in the workplace. Individual with high self-efficacy ICT differentiation will be able to adjust to ICT-triggered changes in their work routine and can easily embrace the integration of emerging digital tools and platforms. These enable to accept new roles involving the implementation of online service delivery.

The results of hypothesis 3 revealed a significant positive influence of communication self-efficacy on administrative service quality, evidencing that individual's perceived ability to effectively use digital platforms, channels and tools for communication, interaction, information sharing collaboration and and data sourcing is critical to the administrative staff's capacity to interact with colleagues, departments, faculty members, students, external stakeholders, and other sister institutions. High ICT communication self-efficacy enables administrative staff to convey information clearly and promptly via ICT tools and platforms, ensuring that information are delivered accurately, reducing communication errors and enhancing overall service quality. Administrative staff with proficient ICT communication tools can collaborate effectively with colleagues across different departments or campuses. This collaboration fosters teamwork, facilitates knowledge sharing, and promotes collective problem-solving, all of which contribute to improved administrative service quality.

Conclusion

This study focused on ICT self-efficacy of administrative staff in the selected public polytechnics in Ogun State and assessed its influence on administrative service quality. The study measured ICT self-efficacy in terms of ICT safety and security self-efficacy, ICT differentiation self-efficacy and ICT communication self-efficacy.

Based on the findings, it is concluded that ICT self-efficacy among administrative staff positively influences service quality through improved safety and security practices, versatility in using ICT tools, and effective communication in the selected public polytechnics. These insights underscore the importance of continuous professional development

in ICT skills for administrative staff in educational institutions, and aligning their capabilities with evolving technological demands to uphold service quality standards effectively.

Based on the findings of this study, it is safe to conclude that higher levels of ICT self-efficacy are associated with better service quality among administrative personnel of polytechnics. Investing in training programmes that strengthen these self-efficacies can lead to more competent and confident administrative staff, ultimately yielding organizational efficiency and stakeholder satisfaction though improved service quality. The findings clearly point to the need for higher self-efficacy of the administrative staff, which when improved, will guarantee higher service quality in administrative functions, roles, executive support, records management, information management and security, virtual collaboration, internal and external communication, etc.

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

- The Management of the Federal Polytechnic, Ilaro and Moshood Abiola Polytechnic should consider regular, mandatory training sessions on ICT safety and security protocols for administrative staff. These sessions should cover the latest threats, best practices for data protection, and how to effectively use security tools. This will enhance their confidence and capability in managing ICT security issues.
- The administrative staff should be equipped with advanced security tools and software that are user-friendly and provide robust protection against cyber threats. Training on how to use these tools effectively will further strengthen their ICT safety and security self-efficacy, ensuring they can protect sensitive information adequately.
- Public Polytechnics and other tertiary institutions should develop comprehensive ICT skills development programs that cover a wide range of software and tools used in administrative tasks. This should include

training on basic to advanced functionalities of various applications, ensuring Administrative staff can efficiently switch between different ICT tools as needed.

- Administrative Staff should be encouraged to pursue continuous learning and professional certification in different ICT tools and platforms.
- The institution should consider organizing periodical workshops focusing on the effective use of digital communication tools such as email, video conferencing, and online collaboration platforms.

References

- Adenekan, T. E. & Jimoh, T. A. (2021). Technological innovation, digital competence and job performance of secretaries in public tertiary institutions in Ogun State, Nigeria. *International Journal of Innovative Science and Research Technology*, 6(12), 5-12. ISSN 2456-2165, www.ijisrt.com.
- Afari, E., Eksail, F.A.A., Khine, M. S. & Alaam, S. A. (2023). Computer self-efficacy and ICT integration in education: Structural relationship and mediating effects. *Educ Inf Technol*. <https://doi.org/10.1007/s10639-023-11679-8>.
- Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: work, progress, and prosperity in a time of brilliant technologies*. W.W. Norton & Company.
- Daft, R. L. (2016). *The executive and the elephant: A leader's guide for building inner excellence*. Jossey-Bass.
- DiGregorio, N. & Liston, D. D. (2018). Experiencing technical difficulties: teacher self-efficacy and instructional technology. in: Hodges C.B. *Self-efficacy in Instructional Technology Contexts*. Springer International Publishing, Cham, 103-117.
- Giri, S. (2019). Obstacles of Civil Service in Public Service Delivery in Nepal: E-Governance for Good Governance, *International Journal of Computer Science and Mobile Computing*, 8(3) 269-274. <http://www.ijcsmc.com>
- Griffin, R. W., & Moorhead, G. (2014). *Organizational behavior: Managing people and organizations*. Cengage Learning.
- Grönroos, C. (2001). *Service management and marketing: A customer relationship management approach*. John Wiley & Sons.
- Guffey, M. E., & Loewy, D. (2018). *Essentials of business communication*. Cengage Learning.
- Jolaade I. A. & Kehinde O. A. (2023): Capacity Building and Service Delivery of Non-Teaching Staff in Selected Tertiary Institutions. *International Journal of Women in Technical Education and Employment (IJOWITED)*. The Federal Polytechnic, Ilaro. Ogun State, Nigeria. ISSN: 2811-1567. 4(1) <https://fpwitedjournal.federalpolyilaro.edu.ng>
- Jones, G. R., & George, J. M. (2017). *Essentials of contemporary management*. McGraw-Hill Education.
- Laudon, K. C., & Laudon, J. P. (2020). *Management information systems: Managing the digital firm*. Pearson Education.
- Li Z, Zuo T, Wei X, Ding N. ICT (2023). Self-efficacy scale: The correlations with the age of first access to the internet, the age at first ownership of a personal computer (PC), and a smartphone. *Med Educ Online*. doi: 10.1080/10872981.2022.2151068.
- Loar, E. A. (2018). Computer self-efficacy revisited. *Journal of Instructional Research*, 7, 55-59. <https://doi.org/10.9743/JIR.2018.4>
- Lovelock, C., & Wirtz, J. (2016). *Services marketing: People, technology, strategy*. Pearson Education.
- McAfee, A., & Brynjolfsson, E. (2008). Investing in the IT that makes a competitive difference. *Harvard Business Review*, 86(7/8), 98-107.
- Mlambo, S., Rambe, P., & Schlebusch, L. (2020). Effects of Gauteng province's educators'

- ICT self-efficacy on their pedagogical use of ICTs in classrooms. *Heliyon*, 6(4). <https://doi.org/10.1016/j.heliyon.2020.e03730>.
- Mullins, L. J. (2016). *Management and organisational behaviour*. Pearson Education.
- Musharraf, S., Bauman, S., Anis-ul-Haque, M. & Malik, J. A. (2018). Development and validation of ICT self-efficacy scale: Exploring the relationship with cyberbullying and victimization. *Int. J. Environ. Res. Public Health*, 15. doi:10.3390/ijerph15122867
- Porter, M. E., & Heppelmann, J. E. (2015). How smart, connected products are transforming companies. *Harvard Business Review*, 93(10), 96-114.
- Rust, R. T., & Huang, M.-H. (2014). The service revolution and the transformation of marketing science. *Marketing Science*, 33(2), 206-221.
- Teo, T. (2009). Modelling technology acceptance in education: A study of pre-service teachers. *Computers & Education*, 52(2), 302-312.
- Thongsri N., Shen L. & Bao Y. (2019). Investigating academic major differences in perception of computer self-efficacy and intention toward e-learning adoption in China. *Innovat. Educ. Teach. Int.*, 1-13
- Wilson, C., Woolfson, M., & Durkin, K. (2020). School environment and mastery experience as predictors of teachers' self-efficacy beliefs towards inclusive teaching. *International Journal of Inclusive Education*, 24(2), 218–234.
- Woodcock, S., & Jones, G. (2020). Examining the interrelationship between teachers' self-efficacy and their beliefs towards inclusive education for all. *Teacher Development*, 24(4), 583-602. <https://doi.org/10.1080/13664530.2020.1803957>
- Zeithaml, V. A., Bitner, M. J., & Gremler, D. D. (2018). *Services Marketing: Integrating Customer Focus Across the Firm*. McGraw-Hill Education.