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Information Systems Capability and Corporate Ambidexterity of SMES in Rivers State, Nigeria

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ABSTRACT: *This study investigates the relationship between information systems competency and corporate ambidexterity among small and medium-sized firms (SMEs) in Rivers State, Nigeria. Information systems competence was operationalised using two dimensions: IT infrastructure flexibility and information management capability, whilst corporate ambidexterity was assessed using exploratory and exploitative ambidexterity. The study used a cross sectional research design with a structured questionnaire. The accessible populations comprise of 398 managerial staff of SMEs within River State. A sample of 196 was drawn using Krejcie and Morgan 1970 table. The hypotheses were tested using Spearman's Rank Correlation at a 95.5% confidence level. The study found a strong and significant positive link between IT infrastructure flexibility and both exploratory and exploitative ambidexterity. Similarly, information management capability was discovered to be positively and significantly related to exploratory and exploitative ambidexterity. The study shows that improving information systems capability considerably increases SMEs' dual capacity to pursue new possibilities while leveraging existing resources. It recommends strategic investments in flexible IT infrastructure and robust information management systems to boost Nigerian SMEs' creativity, efficiency, and long-term competitiveness.*

Keywords: Information Systems Capability, IT Infrastructure Flexibility, Information Management Capability, Corporate Ambidexterity, Exploratory Ambidexterity, Exploitative Ambidexterity

Introduction

Corporate ambidexterity allows SMEs to concurrently engage in exploratory innovation by recognising and experimenting with new options, while also pursuing exploitative improvement by refining existing products and operations. This dual strategy is particularly essential in Nigeria's unstable and competitive business landscape. A recent study by Tian et al. (2021) shown that ambidexterity markedly improves innovation performance in SMEs by enabling them to adapt to dynamic market demands while enhancing current capabilities. In Nigeria, where innovation is crucial for survival amidst infrastructural and economic difficulties, SMEs that develop capabilities for both exploration and exploitation are more likely to stay flexible and competitive.

Ambidexterity considerably enhances organisational performance and resilience. By amalgamating exploitative efficiency with exploratory flexibility, SMEs can enhance internal operations management while remaining adaptable to environmental fluctuations. A study published in the Journal of Global Operations and Strategic Sourcing (2022) indicates that SMEs employing ambidextrous strategies exhibit enhanced market responsiveness, process efficiency, and strategic agility. This is vital in Nigeria, where economic volatility, regulatory unpredictability, and restricted access to capital necessitate that enterprises exhibit resilience, maintaining stability while adopting innovation. Consequently, ambidextrous SMEs are more apt to endure disruptions and capitalise on emerging possibilities.

Moreover, staff engagement and learning are enhanced in ambidextrous SMEs. A study conducted by Ajayi, et al. (2017) in Nigeria revealed that organisations promoting both operational efficiency and innovative thinking among employees had elevated levels of employee ambidexterity. This subsequently resulted in enhanced job satisfaction, contributions to innovation, and organisational dedication. By fostering a work climate in which exploration and exploitation coexist, Nigerian SMEs may fully harness their human capital, a vital competitive advantage in areas where employee skills and agility are essential for innovation and service delivery.

Ambidexterity enhances a robust business mindset and export expansion. It enables SMEs to be proactive, undertake calculated risks, and perpetually innovate—qualities essential for entering new markets and maintaining growth. Isichei et al. (2022) discovered that ambidextrous leadership and organisational structure markedly enhanced export performance in Nigerian SMEs by fostering trust, flexibility, and an orientation towards innovation. Nigerian SMEs aiming to expand beyond local markets must strategically balance the utilisation of internal capabilities with the pursuit of international prospects. Consequently, ambidexterity functions not only as a catalyst for performance enhancement but also as a conduit for sustainable growth in the contemporary interconnected economy.

In a time where digital innovation dictates competitive advantage, small and medium-sized firms (SMEs) in Nigeria, especially in Rivers State, must re-evaluate their utilisation of technology for sustainability and expansion. In the increasingly dynamic and technology-driven Nigerian business scene, organisational ambidexterity—the ability to concurrently use existing resources and explore new opportunities—has become a crucial approach (Tushman & O'Reilly, 1996). Small and medium-sized enterprises that

develop and implement robust information systems capabilities are more inclined to demonstrate agility in both standard operations and innovation.

Nonetheless, despite increasing global academic interest, the precise relationship between information systems capacity and company ambidexterity remains inadequately investigated within the Nigerian SME environment. Information systems capability denotes an organization's proficiency in acquiring, deploying, and managing IT resources in alignment with strategic objectives and promoting innovation. Empirical research indicates that IT capability promotes ambidextrous behaviour in SMEs by facilitating process optimisation and real-time reaction to market fluctuations (Soto-Acosta et al. 2018). A recent study in Asia shown that IS competence substantially impacts organisational ambidexterity, which subsequently affects company resilience and performance (Nguyen et al., 2023). These findings present a persuasive justification for investigating analogous interactions in Nigerian SMEs, which function within a unique institutional and infrastructural context.

Despite the extensive global study on IT and innovation, limited studies concentrate on the Nigerian SME sector. The research of Daraojimba et al. (2023) confirms that SMEs possessing robust IT capabilities exhibit improved innovation performance and competitiveness. A study conducted by Naidoo and Hoque (2018) demonstrated that IT skill is a crucial catalyst for innovation in African SMEs, underscoring the importance of digital investment in emerging countries. Nevertheless, scant academic focus has been directed towards the translation of these IT resources into ambidextrous capacities within resource-constrained contexts such as Rivers State, marked by infrastructural deficiencies and regulatory uncertainty. This study examines the correlation between information systems competency and corporate ambidexterity in SMEs located in Rivers State, Nigeria. Rooted in the dynamic capabilities framework, the research examines how aspects of information systems capability—technological infrastructure, managerial expertise, and system alignment—impact the exploitative and explorative behaviours of small and medium-sized enterprises (SMEs). This research addresses a regional deficiency and offers evidence-based insights to assist SME practitioners, policymakers (e.g., SMEDAN), and donors in enhancing digital resilience and competitive adaptability among SMEs in a significant economic region of Nigeria.

Statement of the Problem

Despite their substantial contribution to economic development, small and medium-sized firms (SMEs) in Rivers State, Nigeria, have challenges in attaining corporate ambidexterity, the capacity to balance and integrate exploitative and exploratory strategies. A significant number of SMEs in the region prioritise daily operational survival, exhibiting limited strategic innovation or market diversification. Consequently, they infrequently innovate new goods, penetrate new markets, or provide resources for process enhancements. Isichei et al. (2022) highlighted that Nigerian SMEs demonstrate insufficient organisational ambidexterity attributable to constrained management vision, suboptimal use of digital tools, and inadequate strategic flexibility. This disparity restricts their ability to maintain resilience in a fluctuating commercial landscape and hinders long-term growth and competitiveness.

The result of inadequate organisational ambidexterity is that SMEs become susceptible to environmental disruptions and market fluctuations. In the absence of inquiry, they are unable to innovate or react proactively to shifts in consumer tastes or technical advancements. Conversely, disregarding exploitation results in inefficiency and misallocation of resources in their primary business operations. Tian et al. (2021) assert that companies without of ambidextrous capabilities frequently encounter stagnation, customer loss, and a diminishing competitive advantage. In a turbulent Nigerian economy characterised by regulatory volatility and infrastructural deficiencies, the lack of ambidexterity leaves SMEs inflexible and reactive, heightening their risk of failure.

Furthermore, inadequate ambidexterity constrains SMEs' capacity to internationalise or expand operations. Ambidextrous organisations are more inclined to demonstrate entrepreneurial orientation, undertake digital transformation, and enter export markets (Isichei et al., 2022). Nevertheless, the majority of SMEs in Rivers State remain predominantly domestic, exhibiting limited innovation output and insufficient adaptation to digital transformation. Ajayi et al. (2017) observed that the failure to reconcile operational efficiency with innovative exploration diminishes employee engagement, hampers internal learning processes, and constrains long-term success. Consequently, SMEs forfeit prospects for expansion, collaboration, and technological integration.

Despite several governmental and private sector initiatives, such as capacity-building programs by Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), Bank of Industry (BOI) support, and Nigeria Incentive-Based Risk Sharing System for Agricultural Lending's (NIRSAL) digitisation efforts—corporate ambidexterity in SMEs continues to be deficient. These programs frequently emphasise financial access or generic entrepreneurship training, neglecting the fundamental competencies that facilitate strategic adaptation. Moreover, research indicates that numerous SMEs are deficient in the technology infrastructure and digital skills required to maintain ambidextrous behaviours (Nguyen et al., 2023). Notwithstanding the increasing recognition of the significance of innovation and adaptation, SMEs persist in their failure to align strategic IT utilisation with operational objectives.

This study aims to investigate the function of information systems competence as a crucial facilitator of corporate ambidexterity in SMEs to tackle this ongoing issue. Information systems competence, which includes technological infrastructure, IT management expertise, and strategy alignment, has been demonstrated to enhance both exploitative efficiency and explorative innovation (Soto-

Acosta et al., 2018). Utilising information system capabilities, SMEs can improve real-time decision-making, streamline internal procedures, and create new products or marketing strategies. This study will offer empirical insights into how information systems competence might assist SMEs in Rivers State in attaining ambidexterity, hence enhancing their resilience, competitiveness, and sustainable growth.

Aim and Objectives of the Study

The aim of this study is to examine the relationship between information systems capability and corporate ambidexterity of SMEs in River State, River State. The specific objectives are to;

i. Examine the relationship between IT infrastructure flexibility and exploratory ambidexterity of the SMEs in River State.
ii. Determine the relationship between IT infrastructure flexibility and exploitative ambidexterity of the SMEs in River State.
iii. Examine the relationship between information management capability and exploratory ambidexterity of the SMEs in River State.
iv. Determine the relationship between information management capability and exploitative ambidexterity of the SMEs in River State.

Research Questions

The following research questions were given in the study;

i. What is the relationship between IT infrastructure flexibility and exploratory ambidexterity of the SMEs in River State?
ii. How does IT infrastructure flexibility relate to exploitative ambidexterity of the SMEs in River State?
iii. How does information management capability relate to exploratory ambidexterity of the SMEs in River State?
iv. What is the nature of relationship between information management capability and exploitative ambidexterity of the SMEs in River State?

Research Hypotheses

The following research hypotheses were stated and tested in this study;

H_{01}: There is no significant relationship between IT infrastructure flexibility and exploratory ambidexterity of the SMEs in River State

H_{02}: There is no significant relationship between IT infrastructure flexibility and exploitative ambidexterity of the SMEs in River State

H_{03}: There is no significant relationship between information management capability and exploratory ambidexterity of the SMEs in River State

H_{04}: There is no significant relationship between information management capability and exploitative ambidexterity of the SMEs in River State.

Conceptual Framework

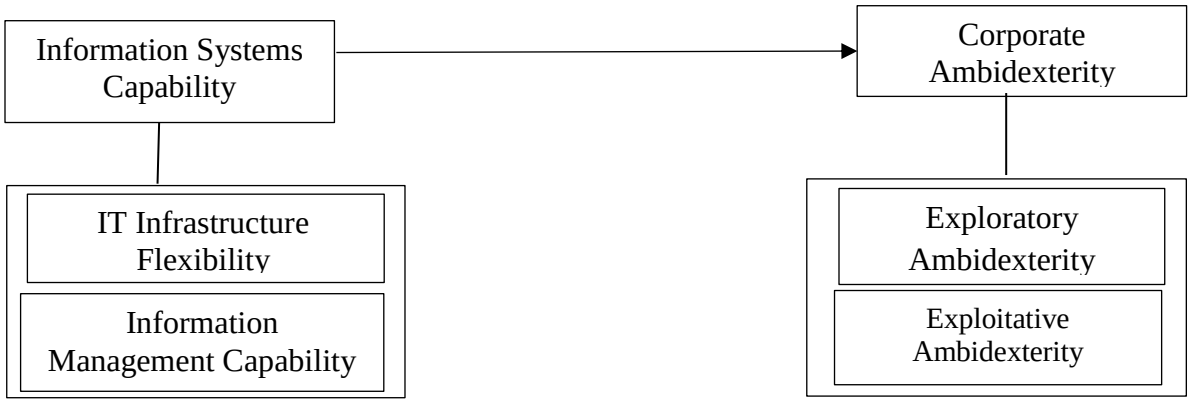

Figure 1: A conceptual model showing the relationship between Information systems capability and Corporate ambidexterity. **Source**: Adapted from Teece (2007); Gibson & Birkinshaw (2004); Chen, Wang and Sun (2021).

Information Systems Capability

Information systems capability (ISC) refers to an organization's ability to deploy, integrate, and reconfigure IT-related resources—such as infrastructure, human IT skills, and relationship assets—to support business processes and strategic goals. For small and medium-sized enterprises (SMEs), ISC enables improved decision-making, operational efficiency, and innovation by ensuring that technology investments align with changing business needs (Gonzalez-Varona et al., 2024). In Nigeria's dynamic economic

environment, where SMEs must constantly respond to market volatility and regulatory pressures, ISC plays a vital role in enabling digital resilience and growth. It facilitates real-time information sharing, enhances agility, and supports data-driven strategies, all of which are critical for survival and competitiveness.

Moreover, ISC empowers SMEs to develop both **explorative** and **exploitative** capabilities, thereby fostering corporate ambidexterity. Through flexible IT infrastructure and robust information management systems, businesses can explore new product markets while refining existing operations. For example, a Nigerian SME with high IT integration can rapidly prototype digital services for new customer segments, while using analytics to optimize supply chains. According to van de Wetering et al. (2021), information systems capability has a direct positive impact on a firm's dynamic capabilities and performance outcomes, especially when aligned with strategic business needs. Therefore, building and leveraging ISC is not only a technological necessity but a strategic imperative for SMEs aiming to thrive in volatile markets like Rivers State.

IT Infrastructure Flexibility

IT infrastructure flexibility refers to an organization's ability to rapidly scale, reconfigure, and integrate its hardware, networks, cloud services, and software in response to shifting business conditions (Gonzalez-Varona et al., 2024). This adaptability enables firms to deploy new digital tools, support remote operations, and respond to external disruptions with minimal downtime. In SMEs, especially within emerging economies, such malleable infrastructures minimize legacy constraints while supporting innovation and growth initiatives (Gonzalez-Varona et al., 2024). Flexible IT infrastructure is particularly valuable in volatile environments such as Rivers State, Nigeria. It allows SMEs to embrace digital transformation incrementally—adopting cloud-based applications, mobile platforms, and external APIs—without massive capital expenditure. As a dynamic capability, it enhances both exploitative processes (through streamlined operations) and exploratory initiatives (via rapid technology experimentation) to foster corporate ambidexterity (van de Wetering et al., 2021).

Information Management Capability

Information management capability encompasses a firm's ability to systematically collect, process, store, analyze, and disseminate data across the organization using structured knowledge systems and analytics tools (Abdel-Rahman Tawil et al., 2023). This capability ensures that decision-making is informed by timely and accurate insights, helping organizations to learn from performance metrics and market feedback. In SMEs, robust information management bridges internal silos and supports cross-functional coordination. In the context of digital maturity, information management capability is a critical enabler of ambidexterity: it allows firms to refine existing operations (through predictive analytics and process benchmarking) while exploring new avenues (by identifying market trends and customer needs). Abdel-Rahman Tawil et al. (2023) found that SMEs leveraging data science and analytics experienced notable gains in productivity and innovation, demonstrating the impact of information-driven decision-making on strategic flexibility.

Corporate Ambidexterity

Corporate ambidexterity is the firm's ability to simultaneously engage in exploratory activities—such as innovation, experimentation, and entering new markets—and exploitative activities—such as improving existing operations, products, and services (Boronat-Navarro et al., 2021). For SMEs, especially in emerging economies like Nigeria, ambidexterity is crucial for long-term success, as it allows them to remain competitive while adapting to rapidly changing customer demands and technological advancements. Ambidextrous organizations can both manage current business efficiency and invest in future opportunities—creating a balance that supports sustainable growth.

In Nigeria, where economic and technological landscapes are evolving rapidly, SMEs that master ambidexterity outperform those that remain rigidly focused on either exploration or exploitation. For instance, SMEs in Rivers State involved in oil-related services or agriculture may exploit local knowledge and distribution networks while exploring digital platforms or green technologies. As Jehlička et al. (2022) point out, SMEs that adopt ambidextrous strategies are more resilient in times of crisis and uncertainty. However, achieving ambidexterity is resource-intensive and requires supportive capabilities—such as information systems—to coordinate and monitor both strategic directions. Therefore, integrating IT and building organizational learning capacity are key enablers of effective ambidexterity in small business contexts.

Exploratory Ambidexterity

Exploratory ambidexterity involves an SME's capacity to pursue innovation, risk-taking, and experimentation in developing new products, services, or markets (Boronat-Navarro et al., 2021). It emphasizes external learning, open-minded strategies, and adaptive orientation. For SMEs in highly competitive or fast-changing environments, embracing exploratory behaviors helps them differentiate and anticipate emerging demand. During crises such as the COVID-19 downturn, SMEs that maintained exploratory ambidexterity demonstrated greater performance stability and agility. A study among Russian SMEs revealed that balancing exploration with exploitation reduced variability in outcomes and enhanced resilience under technological uncertainty (Jehlička et al., 2022. This underscores how exploratory capability supports long-term survival in turbulent contexts.

Exploitative Ambidexterity

Exploitative ambidexterity refers to an SME's focus on refining and optimizing its current capabilities, routines, and processes—seeking efficiency, consistency, and incremental enhancement (Boronat-Navarro et al., 2021). It involves standardized workflows, operational discipline, and quality control, ensuring reliable performance and customer satisfaction. Empirical evidence from a meta-analysis of SMEs shows that both exploration and exploitation individually support firm performance—and that ambidexterity delivers superior results (Junni et al., 2020. When SMEs maintain exploitative efficiency while simultaneously innovating, they achieve balanced growth without sacrificing operational stability—an especially critical blend for firms operating in unstable environments like Lagos or Rivers State.

Theoretical Framework

Dynamic Capabilities Theory (DCT)

The Dynamic Capabilities Theory highlights the strategic importance of organisational capabilities, including information systems capability, in improving a firm's capacity to identify opportunities and threats, capitalise on opportunities, and reorganise assets to maintain competitiveness (Teece, 2007). Within the framework of SMEs in Rivers State, dynamic capabilities empower enterprises to utilise digital technologies and information systems to explore new markets and optimise existing operations—these twin processes characterise corporate ambidexterity. Adaptable IT infrastructure and resilient information management systems facilitate decision-making, foster innovation, and enhance operational efficiency. This corresponds with empirical findings indicating that organisations possessing robust dynamic skills are more likely to attain sustained competitive advantage and superior performance (Mikalef et al., 2020). Consequently, DCT offers a robust theoretical framework for analysing the role of IS capabilities in reconciling exploration and exploitation inside SMEs. Dynamic Capabilities Theory (DCT) formulated by Teece, Pisano, and Shuen in 1997. This theory is extensively employed to elucidate how organisations develop, integrate, and reconfigure internal and external competencies to respond to swiftly evolving surroundings. This is especially relevant for SMEs in unstable economies such as Nigeria, where companies must continually adjust to technological upheavals, regulatory changes, and market unpredictability.

Empirical Review

Nguyen, Ngo, and Ruël (2023) examined the impact of IT capabilities on organisational ambidexterity, resilience, and performance in Vietnamese SMEs. The research examined 247 SMEs and utilised PLS-SEM to analyse the interactions between constructs. Research indicated that strong IT capabilities—encompassing infrastructure, digital competencies, and IT-enabled services—substantially foster both inquisitive and exploitative behaviours, therefore improving organisational resilience and performance. The research substantiates that IT competence functions as a dynamic competency enabling business ambidexterity in turbulent environments.

Hanoum et al. (2025) examined SMEs in Indonesian Technoparks to evaluate the impact of organisational ambidexterity, in conjunction with e-business adoption and entrepreneurial orientation (EO), on performance. Survey data were obtained from small and medium-sized enterprise owners in technology parks, and the model was evaluated using quantitative structural equation modelling techniques. The findings indicated that ambidexterity augments entrepreneurial orientation, which subsequently amplifies the influence of e-business on the performance of small and medium-sized enterprises. This suggests that ambidexterity is most efficacious when combined with digital tools and strategic direction.

Linnenluecke et al. (2020) investigated a substantial sample of 2,765 manufacturing SMEs around Europe to comprehend how ambidexterity competence and strategic consistency support organisational resilience during crises. The authors discovered that SMEs adept at balancing exploration and exploitation, while sustaining a consistent strategic orientation, exhibited markedly greater resilience during crises through the use of regression and resilience modelling. This highlights the significance of ambidexterity for the survival of SMEs during external shocks.

Musami, Saleh, and Yahi (2024) investigated the impact of technological capability on the growth of SMEs in North East Nigeria. A stratified random sample of 400 SMEs was surveyed from a population of approximately 4 million registered SMEs using structured questions. Multiple regression research indicated that technological capabilities, including IT, R&D, and operational technology utilisation, significantly positively influenced SME growth. Technological capability accounted for significant variation in competitive performance, indicating that improving IT and innovation competencies directly facilitates business growth (Musami et al., 2024).

Methodology

The cross-sectional survey was used in this study. The accessible populations comprise of 398 managerial staff of SMEs within River State. A sample of 196 was drawn using Krejcie and Morgan 1970 table. The primary data was obtained using a well-structured questionnaire. The independent variable, information systems capability, was operationalized using two dimensions: IT infrastructure flexibility and information management capability. Each of these constructs was measured using a set of five items. Five items were used in measuring IT infrastructure flexibility (e.g., "Our IT infrastructure can be easily reconfigured to meet changing business needs"). Likewise, five items were used in measuring information management capability (e.g., "We analyze

information to support strategic decision-making"). On the other hand, the criterion variable, corporate ambidexterity, was measured using exploratory ambidexterity and exploitative ambidexterity. Five items were used to measure exploratory ambidexterity (e.g., "We experiment with new ideas and approaches in our operations"). Five items were also used to measure exploitative ambidexterity (e.g., "We focus on improving the efficiency of our existing operations").Face and content validity were used to determine the validity of the instrument used in this investigation. The reliability was determined using Cronbach's Alpha. The Cronbach's Alpha reliability level of 0.7 was used in the investigation. Values above 7.0 are considered composite reliable. Spearman's rank correlation analyses were used for the analysis.

Results and Discussion

196 questionnaires were distributed, but only 188(95.9%) copies were returned, and this constitute the valid questionnaire. The hypotheses test is undertaken at a 95.5% confidence interval and the decision rule is stated below.

Where $P < 0.05$ = Reject the null hypotheses

Where $P > 0.05$ = Accept the null hypotheses

Table 1: Correlations between IT infrastructure Flexibility and Dimensions of Corporate Ambidexterity

			IT Infrastructure Flexibility	Exploratory Ambidexterity	Exploitative Ambidexterity
Spearman's Rho	IT Infrastructure Flexibility	Correlation Coefficient	1.000	.865**	.835**
		Sig. (2-tailed)	.	.000	.000
		N	188	188	188
	Exploratory Ambidexterity	Correlation Coefficient	.865**	1.000	.785**
		Sig. (2-tailed)	.000	.	.000
		N	188	188	188
	Exploitative Ambidexterity	Correlation Coefficient	.835**	.785**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	188	188	188

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

Source: SPSS Output, 2025.

IT infrastructure flexibility and Exploratory ambidexterity: As shown in Table 1, the Spearman's rho value is **0.**865 (p = 0.000), which is less than the significance threshold of 0.05. The coefficient of determination (r^2) is **0.7**48, indicating that approximately 74.8 % of the variation in exploratory ambidexterity can be explained by IT infrastructure flexibility. Based on these results, the null hypothesis (Ho_1) is rejected, and the alternative hypothesis (Ha_1) is accepted. This indicates a significant and positive relationship between IT infrastructure flexibility and exploratory ambidexterity.

IT infrastructure flexibility and Exploitative ambidexterity: Table 1 reveals a Spearman's rho value of **0.**835 (p = 0.000), which is also below the alpha level of 0.05. The r^2 value of 0.697 suggests that 69.7% of the variance in exploitative ambidexterity is attributable to IT infrastructure flexibility. Consequently, the null hypothesis (Ho_2) is rejected in favour of the alternative hypothesis. This confirms **a strong and positive relationship** between IT infrastructure flexibility and exploitative ambidexterity.

Table 2: Correlations between Information Management Capability and The Dimension of Corporate Ambidexterity

			Information Management Capability	Exploratory Ambidexterity	Exploitative Ambidexterity
Spearman's rho	Information Management Capability	Correlation Coefficient	1.000	.825**	.815**
		Sig. (2-tailed)	.	.000	.000
		N	188	188	188
	Exploratory Ambidexterity	Correlation Coefficient	.825**	1.000	.765**
		Sig. (2-tailed)	.000	.	.000
		N	188	188	188
		Correlation Coefficient	.815**	.765**	1.000

Exploitative Ambidexterity	Sig. (2-tailed)	.000	.000	.
	N	188	188	188

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

Source: SPSS Output, 2025.

Information management capability and Exploratory ambidexterity: According to Column Five of Table 2, the Spearman's rho value is **0.**825 (p = 0.000), which is below the significance level of 0.05. The coefficient of determination (r^2) is 0.681, indicating that 68.1% of the variation in exploratory ambidexterity is explained by information management capability. Given this result, the null hypothesis (Ho_3) is rejected, and the alternative hypothesis (Ha_3) is accepted. This demonstrates **a** strong and significant positive relationship between information management capability and exploratory ambidexterity.

Information management capability and Exploitative ambidexterity: As shown in Column Six of Table 2, the Spearman's rho value is 0.815 (p = 0.000), which is less than the 0.05 significance level. The r^2 value is 0.664 indicating that information management capability accounts for 66.4% of the variation in exploitative ambidexterity. Based on this evidence, the null hypothesis (Ho_4) is rejected in favour of the alternative hypothesis. This suggests that there is a highly significant and positive relationship between information management capability and exploitative ambidexterity.

Discussion of Findings

This study's findings offer strong empirical evidence for the significant influence of information systems competence, operationalized by IT infrastructure flexibility and information management capability, on corporate ambidexterity in SMEs in Rivers State, Nigeria. The relationship between IT infrastructure flexibility and both aspects of business ambidexterity (exploratory and exploitative) was identified as robust and beneficial. The Spearman's rho values of 0.865 for exploratory ambidexterity and 0.835 for exploitative ambidexterity (both at p = 0.000) indicate that SMEs with more adaptable IT infrastructures are more effectively equipped to simultaneously seek innovation and efficiency. These findings corroborate the claim by Chen et al. (2022) that a flexible IT infrastructure augments organisations' dynamic capacities, allowing them to identify and capitalise on market possibilities while effectively utilising current competencies.

The substantial association between information management capability and ambidexterity, 0.825 for exploratory and 0.815 for exploitative (both at p = 0.000). This underscores the critical importance of strategic information management in SME performance. The elevated coefficient of determination for both associations indicates that companies proficient in gathering, analysing, and disseminating information are more equipped to pursue innovative methods while enhancing existing processes. This discovery corroborates the perspective of Osakwe et al. (2021), who determined that SMEs equipped with sophisticated information management systems are more proficient in cultivating ambidextrous qualities that guarantee sustained survival and competitiveness.

Furthermore, the capacity of SMEs to attain corporate ambidexterity—reconciling innovation with operational efficiency—is essential in the current turbulent and competitive business environment. The results align with Mu et al. (2020), who identified ambidexterity as a crucial factor influencing SME adaptation and market responsiveness, particularly in emerging nations. This study demonstrates that the significant variance in both exploratory and exploitative ambidexterity attributed to information systems capacity characteristics indicates that digital transformation, propelled by IT flexibility and data capability, is essential for the strategic survival of SMEs.

The study's findings affirm that IT infrastructure flexibility and information management competency are essential facilitators of corporate ambidexterity in SMEs within Rivers State. By investing in flexible IT systems and improving data management capabilities, SMEs are more effectively equipped to pursue new opportunities while leveraging existing strengths. These findings enhance the existing literature on SME digitalisation and strategic alignment, underscoring the necessity for proactive investment in digital infrastructure and information governance policies as catalysts for sustained business performance.

Conclusion

This study investigated the correlation between information systems capability—specifically IT infrastructure flexibility and information management capability—and corporate ambidexterity—characterized by exploratory and exploitative ambidexterity—within small and medium-sized enterprises (SMEs) in Rivers State, Nigeria. The results indicate that both aspects of information systems capability considerably and positively affect the dual capacities of exploration and exploitation, which are essential for maintaining competitiveness in dynamic situations.

The results highlight that adaptable IT infrastructures allow SMEs to rapidly adjust to technological shifts and market requirements, promoting innovation and agility. Concurrently, efficient information management improves decision-making and strategic alignment, enabling companies to leverage both new opportunities and established skills. These talents jointly enhance the ambidextrous potential of SMEs, allowing them to reconcile innovation with operational efficiency.

Notwithstanding continuous initiatives, including digitisation assistance from organisations like SMEDAN, BOI, and NIRSAL, numerous SMEs in Nigeria continue to have difficulties in utilising digital resources for strategic benefit. This study adds to the increasing empirical evidence that achieving organisational ambidexterity depends on developing resilient, flexible, and well-integrated information systems. In summary, SMEs in Nigeria, especially in Rivers State, must prioritise investments in IT adaptability and information management to succeed in a swiftly changing business environment. Policymakers, support institutions, and SME proprietors must collaborate to enhance digital infrastructure, data literacy, and technology resilience as essential catalysts for sustainable growth and ambidexterity within the SME sector.

Recommendation

i. SMEs in Rivers State should invest in scalable and reconfigurable IT infrastructure that facilitates experimentation and innovation. Cloud computing solutions, modular software, and flexible platforms empower companies to rapidly react to market changes and experiment with new business models without incurring substantial expenses. Government and support institutions must to offer subsidised access to digital tools and training to enhance the technical adaptability and innovative potential of SMEs.

ii. SMEs should synchronise their IT infrastructure with standardised processes that facilitate data integration and resource optimisation to improve operational efficiency and utilise current resources. Investing in automation technology and enterprise resource planning (ERP) solutions can allow companies to utilise existing skills more effectively. Policymakers should establish digital support initiatives aimed at productivity-enhancing technologies for small and medium-sized enterprises.

iii. Small and medium-sized enterprises should establish comprehensive information management systems that enable data-driven decision-making and foster innovation. Creating centralised data repositories, deploying business intelligence technologies, and promoting data-sharing practices can improve their capacity to investigate new markets and products. Stakeholders ought to advocate for digital literacy initiatives centred on analytics and the strategic utilisation of information for SME proprietors and managers.

iv. SMEs should establish information systems that monitor, archive, and evaluate operational performance to enhance exploitative ambidexterity. Instruments such as customer relationship management (CRM) and workflow management systems can assist SMEs in optimising their current offerings and improving customer satisfaction. Public-private partnerships can facilitate these activities by providing technical advice services and cost-effective digital solutions customised for small enterprises.

References

Abdel-Rahman Tawil, A., Mohamed, M., Schmoor, X., Vlachos, K., & Haidar, D. (2023). Trends and challenges towards an effective data-driven decision making in UK SMEs: Case studies and lessons learnt from *the analysis of 85 SMEs. arXiv.* https://doi.org/10.48550/arXiv.2305.15454

Ajayi, O. M., Odusanya, K., & Morton, S. (2017). Stimulating employee ambidexterity and employee engagement in SMEs. *Management Decision*, *55*(4), 662–680. https://doi.org/10.1108/MD-02-2016-0107

Boronat-Navarro, M., Jakhar, S. K., Donbesuur, F., & Mankgele, N. (2021). Balancing exploration and exploitation: Ambidexterity in SMEs for sustainable competitive advantage. *South African Journal of Business Management, 52*(1), 1–12. https://doi.org/10.4102/sajbm.v52i1.2372

Chibuike Daraojimba, C., Haaland, M., & Kozludzhova, E. (2023). Financial management information designs and product innovations sustainability in developing economy—Using ambidexterity model. *International Journal of Research and Innovation in Social Science*. reddit.com+14Emerald+14gphjournal.org+14RSIS International+1RSIS International+1

Daraojimba, C., Haaland, M., & Kozludzhova, E. (2023). Financial management information designs and product innovations sustainability in developing economy—Using ambidexterity model. *International Journal of Research and Innovation in Social Science (IJRISS)*, *7*(6), 1872–1880. https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-7-issue-6/1872-1880.pdf

Emerald Insight. (2022). Exploitation, exploration and ambidextrous strategies of SMEs in accelerating organisational effectiveness. *Journal of Global Operations and Strategic Sourcing*. https://doi.org/10.1108/JGOSS-08-2022-0090

Gonzalez-Varona, J. M., Lopez-Paredes, A., Poza, D., & Acebes, F. (2024). Building and development of an organizational competence for digital transformation in SMEs. *Annals of Operations Research*. https://doi.org/10.1007/s10479-024-05267-3

Hanoum, S., Palalic, R., Durman, T. Y., & Shubbak, M. (2025). Enhancing SME performance through e-business: the interplay of ambidexterity and entrepreneurial orientation in technology parks. *Journal of Innovation and Entrepreneurship, 14*(72). https://doi.org/10.1186/s13731-025-00556-y

Information technology capabilities and organizational ambidexterity facilitating organizational resilience and firm performance of SMEs. (2023). *Asia Pacific Management Review, 28*(4), 544–555. ScienceDirect

Isichei, E. E., Aminu, A. A., Chukwu, B. I., Ike, N. M., Agbaeze, K. E., & Anthony, I. (2022). Linking ambidextrous leadership and small and medium scale enterprises export performance. *South African Journal of Business Management, 53*(1), a2791. https://doi.org/10.4102/sajbm.v53i1.2791

Jehlička, P., Vorlíček, J., & Škapa, R. (2022). Does striking a balance pay off? Implications of innovative ambidexterity for SMEs during the COVID-19 crisis. *Journal of Entrepreneurship in Emerging Economies*. https://doi.org/10.1108/JEEE-05-2022-0139

Junni, P., et al. (2020). Too small to do it all. Implications of exploration, exploitation, and ambidexterity with SME performance. *Journal of Business Research, 132*, 653–665. https://doi.org/10.1016/j.jbusres.2020.10.018

Linnenluecke, M. K., et al. (2020). What explains the resilience of SMEs? Ambidexterity capability and strategic consistency. *Long Range Planning, 53*(6), 101947. https://doi.org/10.1016/j.lrp.2019.101947

Mikalef, P., Krogstie, J., Pappas, I. O., & Giannakos, M. (2020). Investigating the effects of big data analytics capabilities on firm performance: The mediating role of dynamic capabilities. *Information & Management, 57*(2), 103169. https://doi.org/10.1016/j.im.2019.05.003

Musami, A. B., Saleh, A. A., & Yahi, M. (2024). Effect of distinctive competences and technological capabilities on SME growth in North-East Nigeria. *Nigerian Academy of Management Journal, 19*(1), 62–72. Retrieved from https://namj.tamn-ng.org

Naidoo, I. P., & Hoque, M. (2018). Impact of information technology on innovation in determining firm performance. *African Journal of Science, Technology, Innovation and Development, 10*(6), 643–653. https://doi.org/10.1080/20421338.2018.1507033

Nguyen, T. H., Ngo, L. V., & Ruël, H. (2023). Information technology capabilities and organizational ambidexterity facilitating organizational resilience and firm performance of SMEs. *Asia Pacific Management Review, 28*(4), 544–555. https://doi.org/10.1016/j.apmrv.2023.03.004

Soto-Acosta, P., Popa, S., & Martinez-Conesa, I. (2018). Information technology, knowledge management and environmental dynamism as drivers of innovation ambidexterity: A study in SMEs. *Journal of Knowledge Management, 22*(4), 824–849. https://doi.org/10.1108/JKM-10-2017-0448

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and micro foundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350. https://doi.org/10.1002/smj.640

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Tian, H., Dogbe, C. S. K., Pomegbe, W. W. K., Sarsah, S. A., & Otoo, C. O. A. (2021). Organizational learning ambidexterity and openness, as determinants of SMEs' innovation performance. *European Journal of Innovation Management, 24*(2), 414–438. https://doi.org/10.1108/EJIM-05-2019-0140

Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review, 38*(4), 8–30. https://doi.org/10.2307/41165852

van de Wetering, R., Mikalef, P., & Pateli, A. (2021). Strategic alignment between IT flexibility and dynamic capabilities: An empirical investigation. *International Journal of Information Management, 58*, Article 102276. https://doi.org/10.1016/j.ijinfomgt.2020.102276