

Information Technology Governance and Innovation in Small and Medium Enterprises in Lagos State, Nigeria

¹Babalola Yemisi Tomilola, ²Omenka Johnson Chuku & ³Alegbeleye Gabriel Oluwabunmi

^{1,2&3}*Department of Information Resources Management
Babcock University, Ilishan-Remo Ogun State, Nigeria*

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Abstract

Innovation is pivotal to the success and sustainability of any enterprise, particularly in a changing business environment. This study investigated Information Technology (IT) governance as a factor influencing innovation in Small and Medium Enterprises (SMEs) in Lagos State, Nigeria. The survey research design was used in this study. The population for the study is nine thousand three hundred and ninety-five (9,395) SMEs in Lagos State, Nigeria. A sample size of 384 was determined using Taro Yamane's formula. Simple random sampling technique was used to select the SMEs. The questionnaire was employed as the research instrument for data collection. The data collected was analyzed using Statistical Package for Social Science version 25. The data collected was analyzed using descriptive and inferential statistics. The findings revealed that the level of innovation in SMEs was high on a scale of 4. The findings further revealed that IT governance influenced innovation in SMEs in Lagos State, Nigeria. The study concluded that IT governance is a crucial factor that enhanced innovation. However, the study recommended that managers should endeavour to sustain the high level of innovation in SMEs in Lagos State, Nigeria.

Keywords: *Information Technology (IT) governance, Lagos State, Small and Medium Enterprises (SMEs), SMEs innovation*

Corresponding Author: Babalola Yemisi Tomilola

Background to the Study

Innovation is essential for businesses to survive and grow, as it involves the introduction of new products, processes, markets and resources to boost market value. Innovation can be defined as an outcome, process or mindset and can be divided into four categories: product innovation, process innovation, organizational innovation and marketing innovation (Khan, 2018; Organization for Economic Co-operation and Development (OECD), 2018). Nigeria has faced socio-economic hiccups, including slow industry growth, high unemployment, poverty, and poor service delivery. Small and Medium Enterprises (SMEs) in Nigeria must innovate to survive global competition and produce new and enhanced products to stay competitive.

Information Technology (IT) plays a pivotal role in innovation, given that hardly any product innovation, service innovation or process innovation can succeed without being enabled by IT. IT is essential for SMEs to succeed in the 21st century thereby reducing costs, improving service delivery, accessing new business opportunities and expanding internationally. Concerns about businesses' dependence on IT and how to manage its complexity have increased due to the growing use of IT in everyday operations. Governments have established new regulations and corporate management practices to verify the authenticity of information in organizations. Management practices created to deal with the increasing complexity of governing and managing IT are well-known as IT governance (Borja, Kim, Yoon & Hwang, 2018).

IT governance is an important part of corporate governance, involving decision-making and accountability rights to encourage desirable behaviors in SMEs (Huygh & De Haes, 2016), but little is known about how it influences innovation in SMEs in Nigeria. SMEs in Nigeria face challenges of innovation due to power shortage, lack of capital, poor management skills, inadequate information, and corruption. Lack of innovation has remained a major challenge limiting SMEs in achieving increased sales volume and other performance indices. IT governance can influence innovation.

Recent studies on the topic of board IT governance and innovation have a particular focus on the American, Chinese, and, more recently, Taiwanese contexts (Ruiqi, et al., 2017; Kuo, Wang & Yeh, 2018), while in Nigeria, not much information is known about the topic. Hence, it may be worthwhile to investigate empirically how IT governance influence innovation in SMEs in Nigeria.

Objective of the Study

The main objective of this study is to investigate the influence of IT governance on innovation in SMEs in Nigeria. The specific objectives are to:

1. ascertain the level of innovation in SMEs in Lagos State, Nigeria;
2. understand the IT governance practices in SMEs in Lagos State, Nigeria;
3. ascertain the influence of IT governance on innovation in SMEs in Lagos State, Nigeria;
4. identify the challenges facing innovation in SMEs in Nigeria.

Research Questions

1. What is the level of innovation in SMEs in Lagos State, Nigeria?
2. What are the IT governance practices prevalent in SMEs in Lagos State, Nigeria?
3. What are the challenges facing innovation in SMEs in Lagos State, Nigeria?

Research Hypothesis

Considering the objectives of the study and the research interest, the following hypothesis has been postulated for the study and was tested at 0.05 significance level.

H01: IT governance has no significant influence on innovation in SMEs in Lagos State, Nigeria.

Review of Related Literature

Innovation

Innovation refers to the implementation of new ideas that would in turn create value. Innovation is an increasingly important element of globalization and competitiveness. As globalization and international competition intensifies, technology becomes more central to firms' performance within the domestic and international market (Ukpabio, Oyebisi & Siyanbola, 2019). The innovation of firms may be affected by both internal and external factors. External factors are basically associated with a firm's interaction with its external environment such as other firms, suppliers or buyers. Internal factors include, for instance, a firm's inherited capacities, such as skills, accumulated experience and prior related knowledge of its workforce, organizational structure, communication network, R&D efforts, as well as the ability to respond appropriately to the intrinsic motivation of its employees (Shi & Wu, 2017).

Small and Medium Enterprises (SMEs) are recognised as agents of economic growth and employment generation in both developed and developing nations. OECD (2018) posited that innovation is crucial in determining productivity and long-term growth. In the same vein, Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and National Bureau of Statistics (NBS) (2017) emphasized the transformational role of SMEs in industrializing both developed and developing economies across the globe. They stressed that SMEs significantly contribute toward advancing innovations in products and process. In fact, SMEDAN and NBS (2017) realized that SMEs present a vital platform for boosting technical, technological and entrepreneurial capacities amongst critical segments of the populace. They are best described as the powerhouse of any economy, contributing significantly to its development, job creation and export, amongst others.

IT Governance

IT governance is a part of the wider concept of corporate governance, which emphasises the effective management and use of technology to accomplish business performance. IT governance is generally denoted as a subsection of corporate governance. Effective IT governance stimulates and influences the workforce in technology usage and warrants compliance with the business vision, norms, and beliefs (Gavilanes-Molina, & Merchán-

Rodríguez, 2022). The domain of IT governance relates to the systemic optimisation of the IT portfolio to ensure it delivers maximum value and manages the risks that may arise from IT investments. The IT Governance Institute (ITGI) recognises IT governance as an accountability of the board of directors and senior management and it defines IT governance as an integral part of enterprise governance and consists of the leadership and organisational structures and processes that ensure that the organisation's IT sustains and extends the organisation's strategies and objectives (IT Governance Institute ITGI, 2003).

In light of globalisation, competition and market convergence, SMEs are under increasing pressure to stay profitable, and are therefore in dire need of a system that ensures that IT investments, which are considerably high, deliver the expected value to keep the enterprise in business. Common challenges and barriers for IT governance adoption in SMEs include centralized structure, where decisions on IT investments are often made by the business owner who has limited IT knowledge, preventing them from seeing the importance of allocating sufficient budget and appropriately investing in IT. Without IT governance, IT expenditures tend to occur on an ad hoc basis making many SMEs more reliant on costly outsourcing. These challenges make it harder to fully analyze and understand the value of IT to SME business success (Olutoyin & Flowerday, 2016).

Empirical Review

Borja, Kim Yoon and Hwang (2018) examined the relationship among effective IT governance, IT governance relevant knowledge and how they influence innovation product and process. The study used survey research design to evaluate 215 valid surveys that were collected from members of the respective local chapters located in Bogotá – Colombia. The study found that ITG has a positive and significant influence on innovation product and process, especially when ITG experience is high, but when ITG experience is low, its effect is perceived as negative. Nicome (2020) conducted a mixed-methods case study to examine the role of IT governance in encouraging or hindering innovation at a Midwestern, regional university in the US. A mixed-methods case study was the chosen design for this study. The study used a survey instrument and interviews to gather primary data. The study found that there was a significant relationship between IT governance and innovation.

Héroux and Fortin (2018) surveyed the moderating role of IT-business alignment in the relationship between IT governance, IT competence, and innovation in Canadian organizations. The survey design was adopted for the study. They found that highly developed IT governance structures and greater executive management IT-related functional experience can drive innovation.

Theoretical Framework

The Resource-Based View (RBV) is the underlying basis of this research work. Barney (1991) established the Resource-Based View (RBV), also known as Resource-Based Theory (RBT), which is a managerial framework for identifying the strategic resources an organization might utilize to gain a long-term competitive advantage. RBV directs managerial attention toward internal resources in order to identify assets, capabilities, and competencies that have competitive advantages.

Methodology

The study adopted the survey research design. The target population for this study were the proprietors/managers of the SMEs that was selected out of a population of 9,395 SMEs in Lagos State. 384 samples were selected from the population for the purpose of this study using Taro Yamane formula. Simple random sampling method was adopted to select the respondents. A well-structured questionnaire was used to obtain data for this study. Data collected were analyzed using simple percentage and frequency tables, and finally, regression with the aid of Statistical Product and Service Solutions (SPSS) was used in order to test the stated hypotheses. The methods used for testing hypotheses were simple and multiple regression analysis done at 0.05 significant levels. The data collected were analysed using descriptive and inferential statistics.

Results

Research Question One: What is the level of innovation in SMEs in Lagos State, Nigeria?

Table 1: Innovation in SMEs

Innovation	High (4)	Moderate (3)	Low (2)	Very low (1)	Mean	Std.
Product innovation						
Use of latest technological innovations in our new products/services is	212 (66.7%)	89 (28.0%)	15 (4.7%)	2 (0.6%)	3.57	0.654
The level of newness (novelty) of our firm's new products/services is	205 (64.5%)	101 (31.8%)	10 (3.1%)	2 (0.6%)	3.60	0.684
The number of new products/services our firm has introduced to the market is	199 (62.6%)	104 (32.7%)	9 (2.8%)	6 (1.9%)	3.56	0.646
The unique advantages of our firm's product portfolio over competitors are	195 (61.3%)	104 (32.7%)	14 (4.4%)	5 (1.6%)	3.54	0.658
The use of new technology that permits quantum leaps (big jumps) in business performance is	197 (61.9%)	93 (29.2%)	26 (8.2%)	2 (0.6%)	3.53	0.672
					3.50	0.618
Organisational innovation						
<i>The level to which our organization renews the ...</i>						
in-firm management information system and information sharing practice is	193 (60.7%)	116 (36.5%)	9 (2.8%)	0	3.58	0.549
organizational structure to facilitate strategic partnerships and long-term business collaborations is	188 (59.1%)	126 (39.6%)	3 (0.9%)	1 (0.3%)	3.58	0.532
routines, procedures and processes employed to execute firm activities in an innovative manner is	165 (51.9%)	141 (44.3%)	11 (3.5%)	1 (0.3%)	3.48	0.582
organization structure to facilitate teamwork is	171 (53.8%)	125 (39.3%)	15 (4.7%)	7 (2.2%)	3.45	0.689
organization structure to facilitate coordination between different functions such as marketing and manufacturing is	169 (53.1%)	119 (37.4%)	21 (6.6%)	9 (2.8%)	3.41	0.738
					3.28	0.842
Process innovation						
Use of technologies that have impact on or cause significant changes in the whole industry are	173 (54.4%)	119 (37.4%)	17 (5.3%)	9 (2.8%)	3.43	0.724
The rate of change in our processes, techniques and technology is	172 (54.1%)	108 (34.0%)	30 (9.4%)	8 (2.5%)	3.40	0.762
Technological competitiveness of our business is	161 (50.6%)	106 (33.3%)	22 (6.9%)	29 (9.1%)	3.25	0.937
The speed with which we adopt the latest technological innovations in our business processes is	142 (44.7%)	120 (37.7%)	35 (11.0%)	21 (6.6%)	3.20	0.884
Updatedness or novelty of the technology used in our processes is	127 (39.9%)	127 (39.9%)	40 (12.6%)	24 (7.5%)	3.12	0.903
					3.25	0.846
Marketing innovation						
<i>The level to which our organization renews the ...</i>						
design of the current and/or new products through changes such as in appearance, packaging shape and volume without changing their basic technical and functional features is	180 (56.6%)	111 (34.9%)	19 (6.0%)	8 (2.5%)	3.46	0.721
general marketing management activities is	170 (53.5%)	116 (36.5%)	21 (6.6%)	11 (3.5%)	3.40	0.762
product promotion techniques employed for the promotion of the current and/or new products is	138 (43.4%)	127 (39.9%)	22 (6.9%)	31 (9.7%)	3.17	0.931
distribution channels without changing the logistics processes related to the delivery of the product is	128 (40.3%)	132 (41.5%)	35 (11.0%)	23 (7.2%)	3.15	0.885
product pricing techniques employed for the pricing of the current and/or new products is	124 (39.0%)	121 (38.1%)	46 (14.5%)	27 (8.5%)	3.08	0.933
Grand Mean					3.40	0.740

Decision Rule: 1.0-1.74 = Very low; 1.75-2.49 = Low; 2.50-3.24 = Moderate; 3.25-4.0 = High

The result of Table 1 indicated a high level of innovation in SMEs in Lagos State Nigeria ($x = 3.40$, $SD = 0.740$), on a Likert-type scale of 4. This high level of innovation in SMEs could be as a result of the young workforce noted in the demographic analysis. The standard deviation of 0.740 meaning that the responses were varied around the mean response. It suggests that the responses were varied among the participants. Innovation was measured by four indicators which are product innovation, process innovation, organizational innovation and marketing innovation. Further, details from the analysis depict that product innovation ($x = 3.57$) ranked highest among the indicators of innovation, followed by organizational innovation ($x = 3.50$), then process innovation ($x = 3.28$), and the least marketing innovation ($x = 3.25$) all measured on a 4-point Likert-type scale. The inference of this analysis is that all the different innovations are present in the SMEs but product innovation is the most common. This result could suggest that SMEs in Lagos State use the latest technological innovations in their products or services.

Research Question Two: What is the IT governance practices prevalent in SMEs in Lagos State Nigeria?

Table 2: IT governance in SMEs in Lagos State, Nigeria

IT Governance	Strongly agree (4)	Agree (3)	Disagree (2)	Strongly disagree (1)	Mean	Std.
Structures					3.51	0.617
There is a senior executive (or manager) who is in charge of IT.	184 (57.9%)	110 (34.6%)	16 (5.0%)	8 (2.5%)	3.48	0.709
<i>The senior executive or manager responsible for IT...</i>						
provides strategic direction to IT projects.	198 (62.3%)	110 (34.6%)	10 (3.1%)	0	3.59	0.553
coordinates IT practices.	192 (60.4%)	116 (36.5%)	9 (2.8%)	1 (0.3%)	3.57	0.567
actively participates in the organization's IT decision-making processes.	186 (58.5%)	113 (35.5%)	18 (5.7%)	1 (0.3%)	3.52	0.619
understands the business and the IT objectives.	176 (55.3%)	132 (41.5%)	9 (2.8%)	1 (0.3%)	3.52	0.571
is involved in implementing the IT strategies / policies.	176 (55.3%)	128 (40.3%)	13 (4.1%)	1 (0.3%)	3.51	0.593
makes IT investment decisions based on business needs.	170 (53.5%)	133 (41.8%)	12 (3.8%)	3 (0.9%)	3.48	0.619
formulates the IT strategies / policies of the business.	172 (54.1%)	121 (38.1%)	18 (5.7%)	7 (2.2%)	3.44	0.702
Processes					3.44	0.607
A formal planning process is used to define and update the IT strategy.	178 (56.0%)	129 (40.6%)	10 (3.1%)	1 (0.3%)	3.52	0.576
There are regular self-assessments or independent assurance activities on the governance and control over IT.	180 (56.6%)	124 (39.0%)	12 (3.8%)	2 (0.6%)	3.52	0.603
IT budgets are used to control and report on IT activities / investments.	175 (55.0%)	131 (41.2%)	12 (3.8%)	0	3.51	0.571
There are IT performance measures (e. g. organization contribution, user orientation, operational excellence or future orientation).	176 (55.3%)	127 (39.9%)	15 (4.7%)	0	3.51	0.588
The organization regularly engages outside agencies to test its security systems or to conduct IT security audits.	186 (58.5%)	112 (35.2%)	15 (4.7%)	5 (1.6%)	3.51	0.663
The COSO (Committee of Sponsoring Organizations) or ERM (Enterprise Risk management) framework for internal control is used to govern IT.	135 (42.5%)	160 (50.3%)	21 (6.6%)	2 (0.6%)	3.35	0.630
An IT governance and control framework (such as CoBit, TOE) is used to govern IT.	126 (39.6%)	172 (54.1%)	17 (5.3%)	3 (0.9%)	3.32	0.619
There are formal agreements between business and IT service about IT development projects or IT operations.	111 (34.9%)	182 (57.2%)	24 (7.5%)	1 (0.3%)	3.27	0.606
					3.37	0.808
Relational mechanisms						
The IT manager ensures that the vision for IT's role is clearly understood by managers throughout the organization.	212 (66.7%)	90 (28.3%)	12 (3.8%)	4 (1.3%)	3.60	0.626
Business people are trained about IT or IT people are trained about business.	211 (66.4%)	88 (27.7%)	13 (4.1%)	6 (1.9%)	3.58	0.663
There is job-rotation i.e. IT staff working in the business units and business people working in IT.	203 (63.8%)	94 (29.6%)	11 (3.5%)	10 (3.1%)	3.54	0.713
The IT manager articulates a vision for IT's role in the organization.	186 (58.5%)	118 (37.1%)	10 (3.1%)	4 (1.3%)	3.53	0.624
Systems such as Intranet are used to share and distribute knowledge about the IT governance framework, responsibilities, tasks, etc.	160 (50.3%)	106 (33.3%)	19 (6.0%)	33 (10.4%)	3.24	0.962
Business / administrative managers act as go-between for business and IT.	136 (42.8%)	133 (41.8%)	21 (6.6%)	28 (8.8%)	3.19	0.902
Senior business and IT management informally discuss activities of the organization and IT's role.	133 (41.8%)	128 (40.3%)	31 (9.7%)	26 (8.2%)	3.16	0.906
The senior executive contributes to the formulation of business goals	163 (51.3%)	68 (21.4%)	49 (15.4%)	38 (11.9%)	3.12	1.065
Grand Mean					3.44	0.677

Decision Rule: 1.0-1.74 = Strongly disagree; 1.75-2.49 = Disagree; 2.50-3.24 = Agree; 3.25-4.0 = Strongly agree

Table 2 shows the result of IT governance in SMEs in Lagos State Nigeria and revealed that IT governance is strongly prevalent in SMEs in Lagos State, Nigeria with an average mean score of ($x = 3.44$, $SD = 0.677$), on a Likert-type scale of 4. The standard deviation of 0.677 also implies that the responses were varied among the participants. This result suggests that IT governance is important for SMEs just as it is for larger organizations. This could be considered true as SMEs also are critically dependent on IT. One interesting finding in Table 2 is that majority of the SMEs agreed that there is a senior executive/manager who is in charge of IT. The result additionally revealed that structural mechanism (structures) was predominant ($x = 3.51$), followed by procedural mechanism (processes) ($x = 3.44$), while relational mechanisms ($x = 3.37$) was the least ranked. This result suggests that IT governance structure and processes are two important components of IT governance, and this could further mean that they can be more efficient in SMEs than relational mechanisms if implemented adequately in SMEs.

Research Question Three: What are the challenges facing innovation in SMEs in Lagos State Nigeria?

Table 3: Challenges facing innovation in SMEs

Challenges	Yes		No	
	N	%	N	%
Knowledge challenges				
Management failure to promote creativity	157	49.4	161	50.6
Lack of long-term vision by management	156	49.1	162	50.9
Lack of qualified personnel	151	47.5	167	52.5
Lack of innovative ideas	123	38.7	195	61.3
Resource challenges				
Limited financial resources	245	77.0	73	23.0
Difficulty in accessing loans	224	70.4	94	29.6
Lack of adequate business managerial training	195	61.3	123	38.7
Lack of adequate space to run the business	156	49.1	162	50.9
Technological challenges				
High cost of technology	245	77.0	73	23.0
Risk of the business data being hacked or stolen from the company computer	211	66.4	107	33.6
Rapidly changing technology making it difficult to keep up and use	207	65.1	111	34.9
Lack of skills to use the technology	156	49.1	162	50.9
Legal and Policy challenges				
High taxes, government revenue and lack of government support.	274	86.2	44	13.8
Corrupt syndicates that hinder development and growth for all businesses	252	79.2	66	20.8
Too many business regulations and poor economic policies that do not support business growth	247	77.7	71	22.3
Lack of information in patenting and copyrights	200	62.9	118	37.1
Environmental challenges				
Fluctuations in market prices	269	84.6	49	15.4
Market competition	261	82.1	57	17.9
Investors fear of investing because of the political and economic atmosphere	258	81.1	60	18.9
Lack of business networks	179	56.3	139	43.7

Source: Researcher's Field Survey, 2023

Table 3 shows the result of challenges of innovation in SMEs in Lagos State, Nigeria. The result reveals that there are many obstacles inhibiting innovation in SMEs in Lagos State, Nigeria. The findings revealed the challenges of innovation in the study and found that high taxes, government revenue and lack of government support 86.2% was the number one challenge barring innovation in SMEs. Other challenges include fluctuations in market prices 84.6%, market competition 82.1%, investors fear of investing because of the political and economic atmosphere 81.1%, corrupt syndicates that hinder development and growth for all

businesses 79.2%, too many business regulations and poor economic policies that do not support business growth 77.7%, limited financial resources 77.0%, high cost of technology 77.0%, and difficulty in accessing loans 70.4% inter lieu. However, the findings show that SMEs have qualified personnel who have innovative ideas and skills to use this technology. This is proven by the finding which shows that lack of innovative ideas 38.7%, lack of qualified personnel 47.5% and lack of skills to use technology 49.1% are not challenges impeding innovation in SMEs.

Hypothesis One: IT governance has no significant influence on innovation in SMEs in Lagos State, Nigeria

Table 4: Simple linear regression analysis of IT governance and innovation

Predictors	B	Std. Error	Beta (β)	T	P	R ²	Adj. R ²	F	ANOVA (Sig.)
(Constant)	0.458	0.119		3.545	.000				
IT Governance	0.855	0.037	.790	22.924	.000	0.624	0.623	525.497	0.000

Dependent Variable: Innovation
 Predictor: (Constant), IT Governance
 R = 0.790
 DF (F-Statistic) = 1, 317
 DF (T-Statistic) = 316

Source: Researcher's Field Survey, 2023

Linear regression was used to test hypothesis one. The data for IT governance and innovation in SMEs were generated by computing scores of responses of all items for each of the variable. The results of the analysis are presented in Table 4 These results show that IT governance has a positive and significant influence on innovation in SMEs in Lagos State Nigeria ($R^2 = 0.624$, $\beta = 0.257$, $t(316) = 22.924$, $p < 0.05$). The *t-value* of 22.924 affirms that the regression coefficient for IT governance is statistically significant. The correlation coefficient or *R* of 79.0% indicates that IT governance has a positive relationship with innovation in SMEs. The regression further reveals that the coefficient of determination, also called the R squared, is 62.4% ($R^2 = 0.624$). This implies that IT governance explains 62.4% of the variations in innovation in SMEs. This also implies that the other variables not studied in this research contributed to 37.6% of the variability in innovation in SMEs.

The regression coefficient of IT governance was 0.855, which implies that an increase in IT governance by one unit leads to an increase in innovation in SMEs by 0.855 units (85.5%). This result showed that IT governance is a significant predictor of innovation in Lagos State, Nigeria. Therefore, the null hypothesis (H_0) which states that IT governance has no significant influence on innovation in SMEs in Lagos State Nigeria was rejected. The hypothesis is therefore restated as: IT governance has a significant influence on innovation in SMEs in Lagos State, Nigeria. This result suggests that better and enhanced IT governance in SMEs leads to a higher level of innovation in SMEs in Lagos State Nigeria.

Discussion of Findings

The findings from this study revealed that there is a high level of innovation in SMEs in Lagos State, Nigeria. This finding is contradictory earlier findings that the level of innovation in Nigeria is low (Uchechukwu, Faga & Obiekwe, 2016; and Dimnwobi, Ekesioboi & Mgbemena, 2016). The study, however, aligns with the findings of Ocampo-Wilches, Naranjo-Valencia and Calderon-Hernandez (2020) who found that innovation is high in companies in Columbia. Examination of the four types of innovation showed that product innovation is the most prevalent type of innovation in SMEs in Lagos State, Nigeria, followed by organizational innovation. Specifically, the factors that contributed to innovation in SMEs were the use of latest technological innovations in products/services and novelty of products/services. This finding affirms the report of Agada, et al. (2021) who reported that the facts that product innovation is predominant in SMEs in Bayelsa State. The findings also lend credence to the study of YuSheng and Ibrahim (2020) that marketing innovation is the least type of innovation in firms in Ghana but disagreed with the study of Mabenge, Ngorora-Madzimure and Makanyeza (2022).

The outcome of this present study revealed that IT governance practices are adopted and implemented in SMEs in Lagos State, Nigeria. This finding is in consonance with the study of in which it was determined that IT governance mechanisms were implemented in SMEs in Canada and Hong Kong (Chau, Ngai, Gerow & Thatcher, 2020; Raymond, Bergeron, Croteau & Uwizeyemungu, 2019). This finding negates the findings that IT governance practices are non-existent in SMEs in Australia (He, Peiris & Meyers, 2019). It also contradicts the findings that majority of SMEs in Malaysia and Slovenia are not using IT governance effectively (Levstek, Hovelja & Pucihar 2018; Tan, Teo & Lai, 2021). Descriptive statistics revealed that there were challenges impeding innovation in SMEs. This study found that the major challenge impeding innovation in SMEs is high taxes, government revenue and lack of government support. In line with this finding is the finding of Mweta and Suwadi (2021) who also established that lack of government support is major barrier to innovation in Malawi. Also, in this study, fluctuations in market price was shown to be a barrier to innovation in SMEs. This finding repudiates the result of Mweta and Suwadi (2021) who disclosed that fluctuations in market prices does not pose much of a challenge to innovation. The outcome of this study disclosed that knowledge challenges were seen not to affect innovation in SMEs, an observation that differs from the finding of Gachara and Munjuri (2018) who discovered that knowledge challenges were seen to affect SMEs the most.

The result of hypothesis one from the linear regression analysis revealed that IT governance significantly influenced innovation in SMEs in Lagos State, Nigeria. This result implies that innovation in SMEs in Lagos State, Nigeria is influenced by a change in IT governance. This finding agreed with previous studies conducted in different contexts and countries like Canada, Colombia, Pakistan, Palestine, Saudi Arabia and USA (Ali et al., 2021; Awwad, 2021; Borja, Kim, Yoon & Hwang, 2018; Hamdan et al., 2019; Nicome, 2020; Rincon, 2019). More so, the study of Heroux and Fortin (2018) established that IT governance had a positive and significant influence on innovation.

Conclusion and Recommendations

The study analysed the influence of IT governance on innovation in SMEs in Lagos State, Nigeria. The result of this study provided both empirical and statistical evidences on the influence of IT governance (structures, processes and relational mechanisms) on innovation (product innovation, process innovation, organizational innovation and marketing innovation) in SMEs in Lagos State, Nigeria. The study found that SMEs in Lagos State, Nigeria are highly innovative. Specifically, product innovation was the most prevalent type of innovation in SMEs. The SMEs adopted and implemented IT governance practices to a high level. The challenges impeding their innovation level were related to legal and policy framework, environment, technology and financial resources. The study concluded that IT governance and IT competence individually and jointly influenced innovation in SMEs in Lagos State, Nigeria.

The study recommends that SMEs should channel resources towards building their marketing innovation. This can be done by carrying out promotional activities, adopting new marketing approaches such as social media and digital marketing, and venturing into new markets even abroad, and this can help enhance competitive advantage of SMEs nationally and globally.

Structure of IT governance was found to be the most adopted practice in SMEs in Lagos State, Nigeria compared with processes and relational mechanisms. However, to achieve effective IT governance, the practice of these three mechanisms is encouraged, thereby increasing the maturity level of IT governance and, consequently, making the SMEs more efficient in the use of IT resources. Most of the challenges were related to legal and policy challenges, environmental challenges, technological challenges and resource challenges. As a result, the government, relevant authorities should review policies and frameworks that will foster innovation as well inspire the SMEs.

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