



INNOVATIVENESS AND COMPETITIVE ADVANTAGE OF SMALL AND MEDIUM-SIZE ENTERPRISES IN KOGI STATE, NIGERIA

Akeem Tunde Nafiu, Danlami Joseph Aduku, Napoleon Ukwubile Abah
Prince Abubakar Audu University, Nigeria
E-mail: tundenafiu01@gmail.com

Abstract

This study focused on link innovativeness and Competitive Advantage (CA) of Small and Medium-size Enterprise (SMEs). The study examined the effect of Value Capture Innovation (VCI) on the CA, as well as the effect of VPI on the CA of SMEs in Kogi State. The survey research design was adopted. 255 SMEs were surveyed, but 219 owners/managers eventually became active participants. Multi-stage random sampling technique was adopted. The reliability results showed VCI ($\alpha=0.917$); and VPI ($\alpha=0.776$). Multiple Regression analysis was used for testing hypotheses. Descriptive statistics aggregated and characterized the data in a straightforward and clear manner. Finding showed that VCI has significant effect on the CA of SMEs in Kogi State, and that (Value Proposition Innovation (VPI) has significant effect on CA of SMEs. The study concluded that SMEs need to possess innovation capabilities so as to enhance reasonable position in the competitive business environment. The study recommended that SME owners should increase their commitment to VCI so as to achieve sustainable CA for their enterprises, and that SME owners should invest in VPI to create effective medium route towards the achievement of sustainable CA of their enterprises.

Keywords: innovative activity, competitive advantage, value capture innovation, value proposition innovation, new customer relationships

Introduction

From the global perspective, innovation is paramount for Small and Medium Enterprises (SMEs) to cope with the competition dynamics engineered by the COVID-19 epidemic. The epidemic also unveils the potential for innovation to business ventures that have adequate resources. Adam and Alarifi (2021) expressed that innovation practice of SMEs is inevitable to confront the challenge posed by COVID-19 epidemic in the global business environment. Hervás-Oliver et al. (2021) expressed that there is evidence that Europe has benefited from SMEs' innovativeness. The atmosphere for innovation fosters business competition. SMEs that adopt innovation have the chance to increase value propositions. In order for SMEs to flourish with its value creation promise in Africa, it must be supported to be innovative. Innovation is sometimes connected with altering or creating new things out of existing ones. Some small enterprises may have neglected the idea of innovation. Among other African countries, Ndesaulwa and Kikula (2016) posited that the flexibility and capacity of SMEs for swift and effective integration of ideas has made them more innovative than larger enterprises.

In Nigeria, SMEs account for 46.31% of the National Gross Domestic Product, 6.21% of gross export, 96.9% and 87.9% of employment (Small & Medium Enterprises Development Agency of Nigeria [SMEDAN], 2021). There is a need for increased innovation by SMEs in Nigeria. Studies (Ajayi & Morton, 2015; Baita & Adhama, 2020) posited that increasing innovativeness of SMEs is required to transform the economy of Nigeria. Kogi State also needs to

support the SME sector. This is because increasing number of innovative SMEs will not only bring about intense CA but economic benefit for Kogi State in Nigeria. Jeje (2022) posited that sustainable SMEs can drive economic growth. The idea of innovation is well recognized by SMEs in Kogi State and has caught the interest of both the academic and business communities. The areas of focus are how innovation can be used to spur performance and the CA of firms.

In the SME sector of Kogi State, CA seems to be an issue of concern. SMEs are battling with competitive pressure with limited capacity today. The broad understanding of the phenomenon blamed the competitive pressure facing SMEs on the global economic shake up (due to COVID-19) and the Russian-Ukraine war. It is evident that these two upsurges are inimical to the progress of the global economy, and SMEs have been wallowing within the constraint with less foresight on how to utilize innovations in Kogi State. Academic researchers have focused on this issue and have centered it on the idea of innovation capability. Today, innovations require a shift from the traditional approach to modern and contingent demand. The traditional approach gives credence to innovations from the perspective of product, process, and channels. The contingent approach to innovations opened to SMEs mirrors value capture, value proposition, and value creation. Clauss (2016) was of the position that VCI is centered on new processes, new technology and new capabilities. The traditional way only sees an element of VCI (which is process innovation). Clauss (2016) also argued that VPI can manifest considering New Customer Relationships (NCR), new channels, new customers and markets and new offerings, and that value creation innovation can be achieved through new cost structures and new revenue models.

Problem Statement

Based on the critical situation facing the economy of Nigeria today, it is clear that SMEs have failed in the intellectual manipulation of contingent innovations approach. This failure can be attributed to the competitive pressure affecting the CA of SMEs in the competitive environment of Kogi State. There is a wide research gap relative to how VCI, VPI and value creation innovation can be utilized by SMEs in the pursuit of CA in Kogi State. Howell et al. (2018) argued that value creation and value capturing remain big challenges in the subject of innovation. Nafula (2017) advocated the need for SMEs to be proactive such that their competitiveness can be sustained overtime. The notion that innovation is a unique and strategic tool for pursuing performance or CA has persisted over time despite being controversial. Studies (Aziz & Samad, 2016; Boachie-Mensah & Acquah, 2015; Ferreira et al., 2018; Nafiu et al., 2020; Onileowo et al., 2021; Ukpabio et al., 2018) have been able to establish that there is a linear relationship between innovations and CA. There is a research oversight on the relevance of constructs and sub-constructs of innovations as exposed by Clauss (2016); as these have explanatory potential on the nature of the CA.

Research Questions

The study raised some questions as follows:

- i. What is the effect of VCI on the CA of SMEs?
- ii. To what extent has VPI affected the CA of SMEs?

Research Focus

The study's major aim was to clarify how innovation and the CA of SMEs are related. The study specifically:

- i. Examined the effect of VCI on the CA of SMEs.
- ii. Investigated the effect of VPI on the CA of SMEs.

Literature Review

The concept innovation has gained a wide x-ray. This is why the concept has received different perspectives. The most important is the pervasiveness of innovation in organizational life within the context of the business environment. Mulibana and Rena (2021) expressed that innovation has been acknowledged as a catalyst that raises the chances of small enterprises becoming sustainable. According to Kahn (2018), the term "innovation" is now used by enterprises in their mission, vision, and goal statements. This is based on the understanding that innovation is a constant thing that must be integral of the mission, vision, and objectives of any enterprises. Innovation must be viewed as a process as well as an end effect. The process perspective is a function of technological innovation. Technological innovation often drives product and process innovation. The end effect perspective reflects the customer-centrism. It relies on how values can be proposed, created, and captured. Enterprises that limit innovation to process or end effect will fail in their efforts. Enterprises that concentrate on end effect will eliminate the process, which may culminate into irrational optimization of resources and effort duplication. Kahn (2018) posited that enterprises that are focused on processes frequently develop bureaucracies that make it too difficult to achieve results. It is essential to have a balanced perspective that takes both the process and the end effect into account. Martínez-Román and Romero (2017) added that the interconnections between technological innovation (product and process innovation) and those originating from the administrative system demonstrate the complexity and multidimensional nature of innovation (organizational innovation and marketing innovation).

VCI and Competitive Advantage

VCI is one that is pivoting to success in the marketplace. In marketing literature, the customer's decision to purchase products/service is influenced by the market offering's value (Chesbrough et al., 2018). VCI is the way of obtaining an economic or non-economic return from value creation. According to the value-in-use perspective, value capture is the practice of obtaining a portion of the value generated by some other actor at the time of resource usage. As a result, value capture in this situation is focused on participating in the value creation of other actors (Chesbrough et al., 2018). It also refers to obtaining resources in exchange for those that are given to another actor. Value capture defines how value propositions are converted into revenues (Clauss, 2016). It is the practice of bargaining a mutual resource exchange at the moment of a swap (Chesbrough et al., 2018).

Business performance and a competitive edge may not always follow from undertaking business in nascent markets. Enterprises are challenged to use VCI in order to successfully achieve CA. In the form of high-quality products, SMEs can come up with a business model that drives how "value" is captured. There is a need for a business model that targets persistent innovation (Adrodegari & Saccani, 2017; Foss & Saebi, 2017; Sjödin et al., 2019; Raddats et al., 2019). Suggestable imperative business models for SMEs are New Cost Structures and New Revenue Models. In respect of this, CA can be assured for SMEs. This informs the need for SMEs to take advantage of VCI for a change in their competitive status in Kogi State. Sequel to this, a hypothesis was drawn that:

H₁ VCI has a significant effect on the CA of SMEs.

VPI and Competitive Advantage

The value proposition is a concept that practitioners regularly apply (Terho et al., 2012). The value that business guarantees to provide to customers when they decide to purchase its goods is referred to as a value proposition. The whole marketing plan of an enterprise includes a value proposition. Consumers are introduced to an enterprise's brand through the value proposi-

tion, which explains to them what the firm stands for, how it functions, and why it merits their business.

The VPI approach entails activities including generating ideas for product value propositions, confirming those ideas, putting those ideas into practice, and subsequently making the product available to customers on the market. Determining an exact value proposition, or the advantages a product is supposed to offer to its customers in order to raise customer value, is the most crucial task. These advantages ought to be verified in the sense that none of the underlying assumptions regarding the product value proposition ought to be just presumptions rather than something that those potential customers actually need. Thus, VPI is inevitable practice for SMEs in Kogi State. It is perceived that it is a rationale practice that positions enterprises under a competitive climate. VPI must therefore be the target at NCR, new channels, new customers and markets, and new offerings to enable SMEs to achieve sustainable CAs in Kogi State. Based on this, it was necessary to draw hypothesis that:

H₂ VPI has a significant effect on the CA of SMEs.

Theoretical Review

The theory of innovation was propounded by Joseph Schumpeter. The theory is a component of Endogenous Growth Models (EGM) that are centered on innovation (Schumpeter, 1934). The theory outlines how innovation and entrepreneurship contribute to economic progress. The idea works under the presumption that markets are constantly changing. Entrepreneur is a driver within the economy that explains underlying changes and growths in a dynamic environment (Raymond & St-Pierre, 2010). The entrepreneur is "an instrument of innovation and a fulcrum of change," (Schumpeter, 1934). He asserts that innovation and entrepreneurship are crucial for success in a dynamic society. Nafula (2017) and Nafiu et al. (2020) argued that entrepreneurship is ultimately concerned about innovation and that the role of entrepreneurs is to implement novel configurations of factors of production that result in rapid and substantial change, which serves as the foundation for economic progress.

According to Schumpeter, innovation is essential for economic growth and can take many different forms, such as "the introduction of a new product or the rectification of the old product; the usage of unique production techniques; the launch of new markets; the adoption of new sources of supply or raw materials; and the creation of a brand-new industry structure" (Schumpeter, 1934). Thus, entrepreneurs use innovation as a particular instrument to open doors for a new good or service. The goal of innovation is to develop new procedures or goods that provide the business owner with a CA over rivals.

Innovation is the justification for increased business earnings and investments. According to Schumpeter, innovation includes new ways of doing things, consolidating methods or procedures to create varying products as well as services, using resources that already exist, and utilizing new technology (Schumpeter, 1954). This study's assessment of the crucial role of innovation in any competitive situation is informed by theory. Entrepreneurial innovation is crucial in value creation. The idea also guides research on the different sorts of innovation that can be employed to provide value (Schumpeter, 1934). Innovation is the cornerstone of CA. Distanont and Khongmalai (2020) established that innovation is critical to the achievement of CA.

Research Methodology

The survey research design was adopted. The research design provided a framework or plan of action for this study. The research design addressed the pressing problem of innovation in SMEs in Kogi State. This design supported the collection and analysis of quantitative data related to SME owners during their participation. The study's population was people who were owners of SMEs and could describe the issue around innovation and innovation capacity. The

population was taken from manufacturing, accommodation & food services, and education sectors. The population of the registered SMEs in Kogi State was 12,517. It consisted of 12,078 small enterprises and 439 medium enterprises. Thus, this study only concentrated on the registered SMEs in Kogi State. For this study, a sample was selected using multi-stage sampling technique. This was achieved by dividing the population into groups (small and medium). The study also considered the hierarchical structure of natural clusters within the population. The respondents were selected on common characteristics. The SME sector was strictly surveyed. The selected SMEs were from manufacturing, accommodation & food services, and education sectors.

Using a formula, a stratified sample of 255 SMEs was randomly chosen under the assumptions of a 1% sampling error and 99% reliability. The study assumed sampling error of 1% or 0.01, 99% reliability, probability level is 2.58 and standard value at 1%. Then the sample size was computed as:

- Where n = sample size
- p = Population proportion
- Se= Sampling error (0.01)
- Z= Standard value-2.58 @ 1% probability level with 0.99 reliability
- N = Population Total (12,517)
- N= 254.6149659279326 (255 approximately)

The researchers collected primary data by carrying out survey. The instrument used was a well-designed questionnaire. It was used to collect the primary data. The constructs were measured using the Likert scale. Data were also collected in relationship to the determinants of innovative capability and the CA of SMEs in Kogi State. The Cronbach Coefficient alpha was utilized to determine the reliability of the instrument. Zikmund et al. (2010) deem a coefficient of 0.70 and higher to have reliability coefficient, which is the most often used estimate of a multiple-item scale's reliability.

Table 1
Reliability of Innovation

| S/N | Constructs | Cronbach's Alpha | No. of Items |
|-----|------------------------------|------------------|--------------|
| 1 | Value capture innovation | .917 | 4 |
| 2 | Value Proposition Innovation | .776 | 4 |

Source: Field Survey (2020)

Table 1 shows the reliability of innovation capability. The constructs such as VCI and VPI proxy are the innovation of SMEs. The results show that the first construct has 0.917; and the second 0.776. Following the critical point of 0.70 by Zikmund et al. (2010), the results of the constructs show strong reliability. A frequency distribution table was used to show and analyze the obtained data. Multiple regressions were utilized to test the hypotheses. In a specific form, the study's models were stated below:

$$CAS = \beta_0 + \beta_1 NSS + \beta_2 NRM + \epsilon \dots \dots \dots 1$$

- Where X= The independent variable
- NSS = New Cost Structures
- NRM = New Revenue Models
- CAS= Competitive Advantage (dependent variable)
- β = independent variable coefficients

e = Error margin

$$CAS = \beta_0 + \beta_1NCR + \beta_2NCS + \beta_3NCM + \beta_4NEO + \epsilon \dots\dots\dots 2$$

Where X= The independent variable

NCR = New Customer Relationship

NCS = New Channels

NCM = New Customers and Markets

NEO= New Offerings

CAS= Competitive Advantage (dependent variable)

β = independent variable coefficients

e = Error margin

Research Results

The data gathered were subjected to analysis. This includes the analyses of both demographic characteristics and salient variables. The tables below show the results of the analyses.

Table 2
Questionnaire Administration

| Questionnaires | Frequency | Percentage |
|----------------|-----------|------------|
| Administered | 255 | 100 |
| Retrieved | 219 | 85.88 |
| Un-retrieved | 36 | 14.12 |

Table 2 shows that out of the administered questionnaires; only 219 copies (85.88%) were retrieved; and 36 copies (14.12%) were not retrieved. Thus, subsequent analyses were based on the data retrieved from the 219 copies.

Table 3
Demography of Respondents

| Variables | Categories | Frequencies | Percentage |
|------------------------|--------------------|-------------|------------|
| Gender | Single | 198 | 90.4 |
| | Married | 21 | 9.6 |
| | Total | 219 | 100.0 |
| Age | < 20 Years | 49 | 22.4 |
| | 21-25 Years | 98 | 44.7 |
| | 26- 30 Years | 72 | 32.9 |
| | Total | 219 | 100.0 |
| Marital status | Single | 198 | 90.4 |
| | Married | 21 | 9.6 |
| | Total | 219 | 100.0 |
| Academic qualification | PSLC | 71 | 32.4 |
| | SSCE | 98 | 44.7 |
| | OND/NCE | 49 | 22.4 |
| | HND/B.Sc and above | 1 | .5 |
| | Total | 219 | 100.0 |

| | | | |
|---------------------|----------------|-----|-------|
| Business experience | 5 to 10 years | 168 | 76.7 |
| | 11 to 15 years | 51 | 23.3 |
| Total | | 219 | 100.0 |

Table 3 shows that 123 respondents (56.2%) were male, and 96 respondents (43.8%) were female. The result shows that the majority of SME owners were male.

Table 3 shows that 49 respondents (22.4%) were less than 20 years; 98 respondents (44.7%) were between the ages of 21 to 25; and 72 respondents (32.9%) were between the ages of 26 to 30. The results indicate that the preponderance of respondents—SME owners—were between the ages of 21 and 25.

Table 3 shows that 198 respondents (90.4%) were single; and 21 respondents (9.6%) were married. The responses only favored single and marital status. There was other marital status which did not fall into the categories of the respondents. The result, however, shows that the majority of the respondents are single.

Table 3 shows that 71 respondents (32.4%) held primary-school-leaving-certificate; 98 respondents (44.7%) held secondary-school-certificate; 49 respondents (22.4%) held ordinary national diploma/national certificate; and 1 respondent (0.5%) held a Higher National Diploma/Bachelor of Science certificate.

Table 3 shows that 168 respondents (76.7%) have 5 to 10 years' business experience; and 51 respondents (23.3%) have 11 to 15 years' business experience. The result shows that the majority of the respondents have 5 to 10 years' business experience.

Table 4
Regression Result on VCI and CA

| CAS | Coefficients | SE | t-value | p-value |
|------------|--------------|----------|---------|---------|
| NRM | .4213096 | .0379766 | 11.09 | 0.01 |
| NCS | 1.643617 | .0874623 | 18.79 | 0.01 |
| Cons | -.6463953 | .0951786 | -6.79 | 0.01 |
| F-value | 357.351598 | | | |
| No. of obs | 219 | | | |
| F(2, 216) | 933.44 | | | |
| Prob > F | 0.01 | | | |
| Root MSE | .4142 | | | |
| R-squared | 0.8963 | | | |

In table 4, the R² of 0.8963 unveils how VCI explains the CA of SMEs in Kogi State. The result shows that 89.6% variation in CA of SMEs is explained by VCI. The remaining 10.4% unexplained variation in the CA of SMEs implies that there are more other variables that can be considered for explanation of the variation. The F(2, 216) shows the degrees of freedom (933.44) and Prob> F shows statistically significant regression model (*p-value* < .01). The F-value (357.351598) reveals that the model has a high goodness of fit and contradicts the null hypothesis because the Prob > F is less than 0.01. The root MSE (0.4142) indicates the standard deviation of the error component.

The table presents a linear relationship between new revenue models and CA of SMEs (given that $\beta = 0.4213096$; *p-value* < .01). The table reveals the proportion of the CA of SMEs that changes for 42.1% change in the new revenue models. The coefficient is positive; reveal-

ing that the linear relationship is just significant (at *p-value* less than 0.01) but positive and has *t-value* (11.09). The coefficient (0.4213096) is statistically significant; revealing that new revenue models significantly predict CA of SMEs in Kogi State.

The table presents a linear relationship between new cost structures and CA of SMEs (given that $\beta = 1.643617$; *p-value* < .01). The table reveals the proportion of the CA of SMEs that changes for 164.4% change in the new cost structures. The coefficient is also positive; revealing that the linear relationship is just significant (at *p-value* less than .01) but positive and has *t-value* (18.79). The coefficient (1.643617) is statistically significant; revealing that new cost structures significantly predict CA of SMEs in Kogi State.

Table 5
Regression Result on VPI and CA

| CAS | Coefficients | SE | t-value | p-value |
|------------|--------------|------------|---------|---------|
| NCR | .5484779 | .1395746 | 3.93 | .01 |
| NWC | .2173525 | .0999128 | 2.18 | .03 |
| NCM | .445777 | .0805312 | 5.54 | .01 |
| NEW | -.0924052 | .0668347 | -1.38 | .17 |
| Cons | .5918829 | .2074457 | 2.85 | .01 |
| F-value | | 357.351598 | | |
| No. of obs | 219 | | | |
| F(4, 214) | | 64.73 | | |
| Prob > F | | .01 | | |
| Root MSE | | .86928 | | |
| R-squared | | .5475 | | |

Source: Field Survey (2022)

Table 5 shows the R^2 of 0.5475 on the effect of VPI on CA of SMEs in Kogi State. The result shows that 54.8% variation in CA of SMEs is explained by VPI. The remaining 45.2% unexplained variation in the CA of SMEs implies that there are more other variables that can be considered for explanation of the variation. The F(4, 214) shows the degrees of freedom (64.73) and Prob> F shows statistically significant regression model ($p < .01$). The F-value (357.351598) reveals that the model has a high goodness of fit and contradicts the null hypothesis because the Prob > F is less than .01. The root MSE (0.86928) indicates the standard deviation of the error component.

NCR, new channels, new customers and markets, and new offerings are considered as proxies for VPI. The table reveals a significant positive linear connection between NCR and CA of SMEs (given that $\beta = 0.5484779$; *p-value* = .01). That is, a 54.8% mean change in NCR will lead to corresponding change in CA of SMEs. This implies that improved NCR will bring about improved CA for SMEs.

The result shows that new channels have significant positive linear relationship with CA of SMEs (given that $\beta = 0.2173525$; *p-value* < .05). That is, 21.7% change in new channels introduced will result in proportional change in CA of SMEs. This also implies that the CA of SMEs will increase correspondingly, given an increase in new channels.

The result shows that new customers and markets have a significant positive linear relationship with CA of SMEs (given that $\beta = 0.445777$; *p-value* = .01). That is, 44.6% mean change in new customers and markets explains almost proportional change in CA of SMEs. This means that increased new customers and markets lead to increased CA of SMEs.

Given that $\beta = -0.0924052$; p -value $.05$, the result demonstrates a strong negative linear association between new offerings and SMEs' CA. In other words, a 9.2% mean change in new offerings accounts for a nearly proportionate change in SMEs' CA. This means that increased new offerings lead to decreased CA of SMEs.

Discussion

Findings showed that VCI has a significant effect on the CA of SMEs in Kogi State. New cost structures and new revenue models as the components of VCI were estimated against CA of SMEs in Kogi State. Findings revealed that new revenue models significantly relate with CA of SMEs. A few of the new revenue models are Subscription Revenue Model (SRM), Transactional Revenue Model (TRM), Affiliate Revenue Model (ARM) and Ad-Based Revenue Model (ARM). This finding advances the study of Chen et al. (2020) which only found that innovation in business models contributes to the expansion of SMEs. This aligns with the finding of Anwar (2018) that Business Model Innovation significantly enhances SMEs' CA. The finding also revealed that new cost structures significantly correlate with the CA of SMEs. This implies that new cost structures relative to cost savings, price differentiation and price-quantity strategy can give SMEs edges in business competition.

Findings showed that VPI has a significant effect on CA of SMEs. This advances the assertion of Eggert et al. (2018) that customer value proposition is instrumental to the achievement of CA. It is a strategic instrument with multiple facets, irrespective of the value parameters on which the customers' value proposition is extended. It establishes a connection between enterprises and customers. The strategic options of VPI considered for this study are NCR, new channels, new customers and markets and new offerings.

It was found that there is a significant positive linear connection between NCR and CA of SMEs. This suggests that strengthened new customer ties will boost SMEs' CAs. This confirms the position of Soltani and Navimipour (2016) that customer relationship engineers CA. It was found that new channels have a significant positive linear relationship with CA of SMEs. This indicates that, given additional new channels, SMEs' CA will grow accordingly. Adding new distribution channels means that SME owners are consciously trying to increase their enterprises' competitive edge. This advances the finding of Marques and Ferreira (2009); Kuswanto et al. (2012) that new distribution channels impact SMEs' performance. It was found that new customers and markets have a significant positive relationship with CA of SMEs. Growing numbers of new customers and markets result in growing SMEs' CAs. Furthermore, it was found that a strong negative relationship exists between new offerings and SMEs' CA. In other words, more innovative products lead to SMEs having less of a CA.

Conclusions

SMEs need to possess innovation capabilities so as to enhance reasonable position in the competitive business environment. It is no more news that SMEs are key to the economy. Thus, increasing the level of SMEs' innovativeness will certainly contribute to the economy. SMEs can take advantage of varying aspects of VCI, VPI and value creation innovation. The commitment to the aspects is expected to favor both the SMEs and the economy in the long run.

It was empirically ascertained that commitment to VCI can enhance CA of SMEs in Kogi State. New revenue models and cost structures are elements of VCI. The empirical investigation proved that adding new revenue models can increase SMEs' CA. The new revenue models in question are Subscription Revenue Model (SRM), Transactional Revenue Model (TRM), Affiliate Revenue Model (ARM) and Ad-Based Revenue Model (ARM). There is also empirical evidence that adding new cost structures can stimulate increased CA of SMEs. New cost structures in terms of cost reduction, price differentiation, and cost leadership may be able to give SMEs an advantage in the business world.

The value proposition is intended to generate economic reward for the SME owners because it predicts and is structured to satisfy markets that can easily afford new offerings through the use of new channels. There is scientific proof that VPI can affect CA of SMEs. NCR in VPI has been proven to have a positive influence on CA of SMEs. This explicitly converses that building new customer ties is significant for improved SMEs' CAs. New channels can also be instrumental in the achievement of SMEs' CA. The CA of SMEs will increase in line with the advent of new channels. By introducing new distribution channels, SME owners are actively attempting to boost the competitiveness of their enterprises. New customers and markets have a very favorable impact on SMEs' CA. Increasing SMEs' CAs are the outcomes of rising population of new customers and marketplaces. New products have a significant detrimental impact on SMEs' competitive edge.

Recommendations

The study recommends that:

- i. SME owners should increase their commitment to VCI so as to achieve sustainable CA for their enterprises. New revenue models (such as Subscription Revenue Model, Transactional Revenue Model, Affiliate Revenue Model and Ad-Based Revenue Model) and new cost structures (costs saving, price differentiation and cost estimation technique) should be considered by policymakers to facilitate the achievement of CA of SMEs.
- ii. SME owners should invest in VPI to create an effective medium route towards the achievement of sustainable CA of their enterprises. The areas to focus investment are NCR (using customer retention approach) and new offerings that can induce consistent customers' loyalty and patronage.

Contribution to Knowledge

Numerous studies have been conducted with a single research focus. The studies only investigated product, process, organizational and market innovations. This present study is the first to use Ordered Probit Regression to investigate the determinant of innovation capability of SMEs in Kogi State. In fact, the study is the first to have considered VCI, VPI and value creation innovation for research. The study is thus the first to provide empirical evidence on how these areas of innovations can be helpful in sustaining CA.

Declaration of Interest

The authors declare no competing interest.

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Appendix Section A: Demographic Characteristics

| No. | Questions | Responses | |
|-----|------------------------------------|----------------|------|
| | | Gender | Tick |
| 1 | Indicate your gender | Male | |
| | | Female | |
| | | | |
| 2 | What age bracket do you belong to? | Age | Tick |
| | | Below 20 Years | |
| | | 21-25 Years | |
| | | 26- 30 Years | |
| | | 31-35 Years | |
| | | 36- 40 Years | |
| | | 41- 45 Years | |
| | | Above 46 Years | |

| | | | |
|---|----------------------------------|------------------------|-------------|
| 3 | What is your marital status? | Marital status | Tick |
| | | Single | |
| | | Married | |
| | | Widow | |
| | | Separated | |
| | | Divorced | |
| 4 | What is your level of education? | Education | Tick |
| | | Primary School Cert | |
| | | Secondary School Cert | |
| | | OND/NCE | |
| | | HND/B.Sc & above | |
| 5 | Years of business experience | Work Experience | Tick |
| | | 5-10 Year | |
| | | 11-15 Years | |
| | | 16-20 Years | |
| | | 21-26 Years | |
| | | Above 26 Years | |

SECTION B: CA

| No. | Questions | Responses | |
|-----|--|-------------------|-------------|
| 37 | The enterprise has edge over other competitors | Options | Tick |
| | | Strongly Agree | |
| | | Agree | |
| | | Neutral | |
| | | Disagree | |
| | | Strongly Disagree | |
| 38 | The enterprise has a good position in the competitive business environment | Options | Tick |
| | | Strongly Agree | |
| | | Agree | |
| | | Neutral | |
| | | Disagree | |
| | | Strongly Disagree | |

SECTION C: DIMENSIONS OF INNOVATION

Rate your degree of agreement with the following Effects of Innovation for your Enterprise
Where 5- strongly agree, 4- Agree, 3- somewhat agree, 2- Disagree, 1- Strongly disagree

VCI

| S/N | | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| | New Revenue Models | | | | | |
| 39 | Recently, we created fresh revenue prospects. | | | | | |
| 40 | To achieve long-term economic success, we increasingly provide interconnected services. | | | | | |
| 41 | We recently added long-term cash flow strategies to supplement or replace one-time transaction income. | | | | | |

| | | | | | | |
|----|--|--|--|--|--|--|
| 42 | We don't count on our current funding streams lasting forever. | | | | | |
| | New Cost Structures | | | | | |
| 43 | We review our price-quantity approach frequently. | | | | | |
| 44 | We look for ways to reduce manufacturing costs on a regular basis. | | | | | |
| 45 | Our manufacturing costs are continuously reviewed and, where necessary, adjusted in accordance with market prices. | | | | | |
| 46 | We frequently take advantage of opportunities brought about by price differential. | | | | | |

VPI

| S/N | | 1 | 2 | 3 | 4 | 5 |
|-----|---|---|---|---|---|---|
| | New Customers and Markets | | | | | |
| 47 | We frequently seize possibilities that develop in emerging or expanding areas. | | | | | |
| 48 | We frequently target brand-new, underserved market niches. | | | | | |
| 49 | We are always looking for new markets and consumer groups for our goods and services. | | | | | |
| | New Channels | | | | | |
| 50 | We frequently use fresh avenues of distribution for our goods and services. | | | | | |
| 51 | Our channels' functions are now more effectively performing owing to ongoing adjustments. | | | | | |
| 52 | Our portfolio of distribution outlets is always changing. | | | | | |
| | NCR | | | | | |
| 53 | By introducing new service options, we work to boost customer retention. | | | | | |
| 54 | To boost customer retention, we prioritize novel and contemporary strategies. | | | | | |
| 55 | We recently made a number of steps to improve our customer relationships. | | | | | |
| | New Offerings | | | | | |
| 56 | We frequently respond to fresh, unmet client demands. | | | | | |
| 57 | Compared to our rivals, our products or services are exceptionally innovative. | | | | | |
| 58 | Customers frequently have needs that our products or services consistently address that competitors have not. | | | | | |

Received: *October 17, 2022* Revised: *October 26, 2022* Accepted: *November 30, 2022*

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Cite as: Nafiu, A. T., Aduku, D. J., & Abah, N. U. (2022). Innovativeness and competitive advantage of small and medium-size enterprises in Kogi state, Nigeria. *Problems of Management in the 21st Century*, 17(1), 63-77. <https://doi.org/10.33225/pmc/22.17.63>

Akeem Tunde Nafiu
(Corresponding author)

PhD, Research Assistant, Centre for Predegree and Diploma Studies,
Prince Abubakar Audu University, Anyigba, Nigeria.
E-mail: tundenafiu01@gmail.com
ORCID: <https://orcid.org/0000-0002-1705-6890>

Danlami Joseph Aduku

Department of Business Administration, Prince Abubakar Audu University,
Ayigba, Kogi State, Nigeria.
E-mail: danlamijosephaduku01@gmail.com
ORCID: <https://orcid.org/0000-0002-8244-5788>

Napoleon Ukwubile Abah

Department of Business Administration, Prince Abubakar Audu University,
Ayigba, Kogi State, Nigeria.
