# THE IMPACT OF INTELLECTUAL CAPITAL ON THE PERFORMANCE OF SMES IN KADUNA STATE

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**Abstract**
*SMEs face many challenges in Nigeria that have stopped them from achieving higher results. Many factors have been identified contributing to this premature death of SMEs. Key among them is inability of SMEs to recognize that intellectual capital is a critical force that drives economic growth. The main objective of the study is to examine the impact of intellectual capital on the performance of SMEs. The population of this study comprises of Small and Medium Enterprises (SMEs) that are located and operated within Kaduna State. Kaduna State has one thousand three hundred and twenty-nine (1,329) SMEs. The study adopted a cross sectional survey design which involved collecting data from the phenomenon at the time of the study and allowed conclusions to be drawn, the study employed partial least squares (PLS) 2 path modeling for data analysis. The findings of the study revealed that there is significant relationship between technological, customer capital and spiritual capital and SMEs performance. The study recommended that the importance of the technological capital should not be undermined and the mechanism, through which technological capital flows should be developed, maintained and improved, firms should consider improvement of strategies with regard to customer resources of the firms through improvement of customer service of the firms and more attention should be given to the spiritual capital side of the intellectual capital.*

**Keywords:** Intellectual Capital, SMEs performance, technological capital, customer capital and spiritual capital.

## Introduction

The performance of SMEs is an important area of study to most researchers because the important role played by small and medium enterprises (SMEs) in economic and social development of many countries has continued to grow in recent decades. SMEs contribute to economic growth, job creation and global competitiveness of the Nigeria economy (Yusliza, 2020). The contribution of SMEs has manifested and shown that they are major components of the Nigerian economy (Alrowwad, 2020).

In china, SMEs provide around 80 percent of urban employment, contribute 50 percent of tax revenue, account for 60 percent of GDP in China (Amit & Schoemaker, 2017). SMEs contribute 75 percent of *Germany's Gross Domestic Product* (*GDP)* (Atinc & Babin, 2015). SMEs play a vital role in the economy of the United States, they produced 46 percent of the private nonfarm GDP (Burt, 2017). SMEs contribute 45 percent to the Indian Gross Domestic Product, around 6.11 percent of the manufacturing GDP and 24.63 percent of Service sector (Childe, 2016).

In addition, in Ghana SMEs provide about 85 percent of manufacturing employment, and contribute 70 percent to the Ghanaian GDP (Collis & Montgomery, 2017). According to the South Africa Ministry of Trade and Industry, (2017) SMEs account for 60 percent of employment, they contribute 52 percent to 57 percent to GDP of South Africa, there are some 2.8 million diverse SMEs in South Africa. In Seychelles SMEs represent about 65 percent of businesses, largely within the private sector, and contribute about 49 percent of Seychelles Gross Domestic Product (GDP) (AlQershi, 2020).

However, in Nigeria, the statistical report by Small and Medium Enterprises Development Association of Nigeria and National Bureau of Statistics revealed that SMEs contribute 46.41 percent to the GDP and 30 percent employment ratio (Abraham, 2015) which shows that SMEs are not performing in Nigeria when compare to other developed and developing countries of the world (Yadiati, 2019). They have contributed just a small percentage of the GDP unlike the other emerging economies in the world (Yadiati, 2019).

Despite the establishment Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) in 2003, to facilitate the promotion and development of the Small and Medium Enterprises (SMEs) sector in an efficient and sustainable manner (Chinomona & Mofokeng, 2015). SMEs have not been able to perform the expected vital and vibrant role in bringing about economic growth and development of the country.

SMEs face many challenges in Nigeria that have stopped them from achieving higher results (Gnanzou, 2015). Several research on intangible capital and the efficiency of SMEs have been carried out (e.g; Kanaan, 2020; Khalique, 2018; Abraham, 2015; Ali & Shakib, 2014; Allard, 2016). However, as recommended by Kanaan, (2020), there is a lack of studies on how employee engagement has moderated the current company intangible tools to boost SME efficiency.

Empirical studies have been conducted on intellectual capital and performance of SMEs (Amit & Schoemaker, 2017). Most of the study does not consider the dimensions of intellectual capital (Ariff, Islam & Vanzijl, 2016; Anderson, 2017). Incorporating the dimension of intellectual capital (e.g., human, relational and structural capital) is a significant gap this study will cover.

Empirical studies on intellectual capital and corporate performance have presented two conflicting strands that yield inconsistent and inconclusive research findings. One strand looks at the isolated effect of intellectual capital components on corporate performance. Khalique, (2018) surveyed 81 multinational organizations in the United States on the relationship between intellectual capital (trademark application) and performance. They found a positive and significant relationship between intellectual capital and corporate performance. The population of the study was biased as it included only companies that had been listed on Forbes Magazine “Most International 100 American Manufacturing service. Furthermore, the use of trademark application as the only component of intellectual capital, contradicts. Allard, (2016) assertion that intellectual capital consists of human capital, social capital and organizational capital. In addition, the study did not examine the other forms of intellectual capital such as technological capital, customer capital and spiritual capital.

## LITERATURE` REVIEW

This chapter discusses related literature on constructs or variables under study. The chapter review relevant and related literature on past empirical studies, journals, articles and papers presented at seminars on the topic of discussion.

SME performance is the ability of SMEs to achieve their objectives using resources effectively and efficiently. Chae, (2015), defines the performance of SMEs as the organization's capacity to achieve its objectives and objectives. SMEs Performance is the sum of the achievements of SME businesses (Curitiba, 2017). Among other management theorists, Kwon (2015) points out that there is no consensus on success metrics for small and medium-sized companies as academics make the concept practical based in the subject area. They agreed to Czeglédi, (2016), who suggests that there is a lack of agreement on the term since the concept is related to the general well-being of a number of small and medium-sized businesses, varying from financial viability, production levels to demand levels. Intellectual capital is perceived to be a set of intangibles consisting of wealth, expertise and competencies that improve productivity and enhance the production of value (Yadiati, 2019).

The study was underpinned by the RBV (Resource-Based View) and Knowledge-Based View (KBV). These two theories were chosen because of the fact that both knowledge and non-knowledge assets determine performance.

Dierickx & Cool, (2016) used a questionnaire to survey Malaysian companies in order to assess the organizational performance relationship between intellectual capital. Intellectual capital has an effect on organizational efficiency, the study found. The analysis mainly looked at big businesses and overlooked small and medium scale businesses that lead to economic growth, employment creation and the overall competitiveness of the economy as a whole.

A comparative research on SMEs operating in Malaysia and Pakistan was conducted by Erevelles, (2016) and the study found that intellectual capital has a major effect on SME output in both countries. Fukuyama, (2017) conducted a study with 39 insurance companies chosen as the sample in Iran and revealed that intellectual capital added value and its components have a major positive relationship with the profitability of companies. The research focused on Malaysia and Pakistan, with the study neglecting SMEs from other countries. The research also centered exclusively on insurance firms, neglecting other sub-sectors of SMEs.

## RESEARCH METHODOLOGY

This chapter discuss research design, population, the methods of data collections and method of data analysis.

Using a self-administered questionnaire that involved collection of data in different form for the study, the study adopted the survey design and allowed conclusions to be drawn. The survey was thus the appropriate and needed research design in this work, consistent with positivist approach. For analysis, the sample architecture was considered acceptable because it effective dataset at one point in time over multiple respondents. In addition, the architecture gave the researcher a chance to quantitatively capture population characteristics and evaluate hypotheses.

The entire population of this study comprises of Small` and Medium` Scale `Enterprises (SMEs) operating within Kaduna State. Kaduna State has one thousand three hundred

and twenty-nine (1,329) SMEs (KADCCIMA, 2018), with a range of activities including agriculture, arts facilities, business services, automobile, chemical services, electrical services, engineering, food, furniture firms, financial services, healthcare services, retail lawyers, manufacturing, marketing and advertisement, pharmacy, plastic goods, real estate, printing services, trade, transportation and textiles and fabrics.

The sample size drawn using Krejcie and Morgan is 302. The study adopted Salkind's view of adjusting the sample size, as is widely seen in survey studies, in order to minimize the non-response rate Hair, Hult, Ringle, Sarstedt, (2017). According to this opinion, the sample size should be raised by 40 per cent to 50 per cent to cover the risk of lost questionnaires. The 50 percent of the 302 is 151, and thus the sample size is 453. Therefore, 453 survey instruments have been allocated to randomly selected small` and 1medium-sized 1enterprises as in state Kaduna. The present thesis employs simple random sampling technique.

In both scales, the five-point Likert - type scale was used, with-1-representing-"strongly-disagree," 2-representing-"disagree," 3-representing- "neutral," 4 representing "agree," and 5 representing- "strongly-agree." For Intellectual Capital, the instrument consisted of 14 elements measured on the 5-point Likert scale introduced by Juliana, for Intellectual Capital (2014). Learning orientation consists of 14 items estimated from Pinar & Hakan in the 5 Point Likert Scale (2016). Employee participation consists of 15 items measured in Peace and Mohammed's 5 Point Likert Scale adopted (2014) and success of SMEs consists of 10 items measured in Choudhury's 5 Point Likert Scale adopted (2010).

This research will use version SPSS 20.0 of the Statistical Kit for Social Science (SPSS) for data coding, data screening, outliers classification and care, missing values detection and substitution, longitudinal data measurements such as mean, standard deviation frequency distribution and other preliminary studies. Similarly, for data processing using Smart PLS Version 3.0 statistical tools, the thesis will use Partial-Least-Square-Structural-Equations-Modeling- (PLS-SEM). -In-two phases, a PLS-model-is usually-analyzed-and-interpreted- (Hair, *et al*., 2017); -the-measurements-model and-the hypothesis test structural models.

## RESULTS AND DISCUSSIONS

Data collected in from field are presented, analyzed and interpreted in this chapter. The data were analyzed using SPSS and Smart PLS-SEM. SPSS-were-used-in-the preliminary-analysis-of-the-data and-PLS--SEM for-the-major analysis-of-the-study. The response rate is presented and analyzed in this chapter. The chapter also included the descriptions of respondents in terms of ethnicity, age, job experience and level of education.

Table 1

*Response- Rate- of-the-Questionnaire*

| **Detail** | **Copies/-rate-** |
|---|---|
| Questionnaire-Distributed | 453 |
| Questionnaire-Returned | 426 |
| Questionnaire not Returned | 27 |
| Invalid | 18 |
| Usable Questionnaire | 408 |
| Response Rate | 0.901 |

| | |
|---|---|
| Valid Response Rate | 90.1% |

Table 1 includes a description of the number of questionnaires issued, the number of questionnaires returned and the answer rate. Respondents received a total of 453 questionnaires, 426 questionnaires were retrieved and the response rate was 94.0 per cent. In a further assessment of the returned questionnaires, it was found that 27 were invalid due to insufficient filling and identification of outliers, taking the overall correct answer rate to 90.1%. This rate is reasonably high, and so the researcher and assistants have made considerable attempts to ensure that participants respond to and return questionnaires. The number of questions returned and available stood at 408.

**Test of Hypotheses**

The section presents the test of hypothesis.

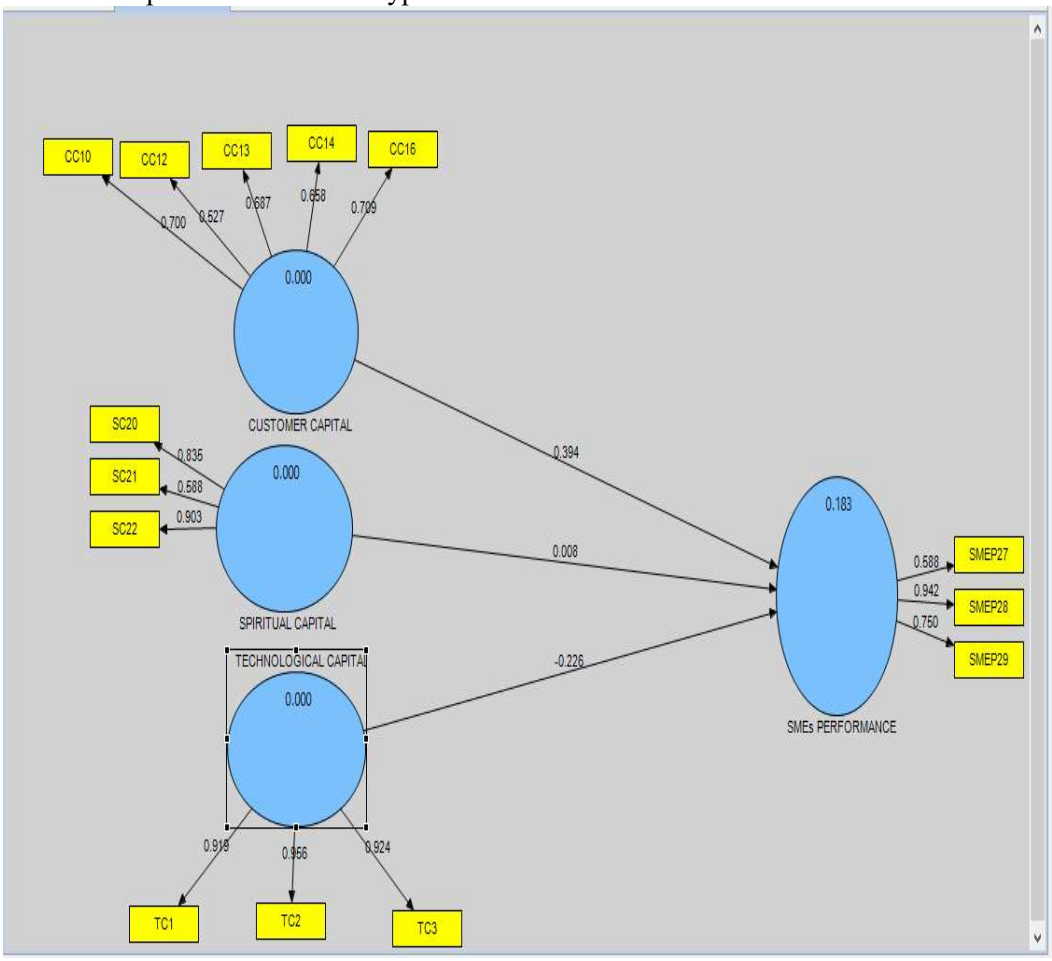



Table 2

| Hypotheses | Relationship | Beta Value | Standard error | T Stat | p-value | Decision |
|---|---|---|---|---|---|---|
| $H_1$ | TC | 0.176 | 0.071 | 3.145 | 0.00 | Rejected |
| $H_2$ | CC | 0.567 | 0.081 | 5.231 | 0.00 | Rejected |
| $H_3$ | SC | 0.412 | 0.093 | 5.916 | 0.00 | Rejected |

| | |
|---|---|
| $R^2$ | 0.499 |

From Table 2, it can be seen that for the first hypothesis which state that there is no significant relationship between technological capital and SMEs performance (β = 0.176, t-value = 3.145, p-value < 0.00). This means a unit increase in Technological capital will lead to 18% increase in SMEs performance. Thus, the first hypothesis (H1) which state that there is no significant relationship between technological capital and SMEs performance is rejected.

For the second hypothesis which state that there is no significant relationship between customer capital and SMEs performance (β = 0.567 and t- value = 0.5231, p-value <0.00). This means as customer capital increase SMEs performance also increases. Hence, hypothesis two ($H_2$), which state that there is no significant relationship between customer capital and SMEs performance is rejected.

For the third hypothesis which state that there is no significant relationship between spiritual capital and SMEs performance (β = 0.412, t-value = 5.916 p value <.00). This shows that increase in spiritual capital will lead to 41% increase in SMEs performance.

**Summary of Findings**

Intellectual capital has been discovered to have significant positives effect on SMEs performance. This suggest that the more employees develop their capabilities and competence, the higher the performance of the SMEs. This finding is clearly consistent with the result of Hennessey & Amabile, (2017). Intellectual capital is recognized as an important factor for small and medium-sized enterprises. The success of SMEs is greatly affected by the knowledge, experience and skills of owners and employees. This explains the results of this study.

The research demonstrates how intellectual capital enhances the efficiency of SMEs (Mitroff & Denton, 2017). In addition to adapting more rapidly to business developments, SMEs with higher intellectual capital are often more creative in terms of refining and separating existing goods or creating new ones, so businesses with highly developed intellectual capital are more likely to do well. Companies generate sustainable competitive advantage by human capital and thereby conquer the target markets and boost efficiency (Porte, 2017).

## CONCLUSION AND RECOMMENDATIONS

**Conclusion**

Based on the tested hypotheses, it shows that there is significant relationship between technological capital and SMEs performance, there is significant relationship between customer capital and SMEs performance and there is no significant relationship between spiritual capital and SMEs performance. These results are strongly supported by Porte, (2017) who also indicates that there is a relationship between intellectual capital and the performance of an organization. Thus, this provide clear indication that the intellectual capital mechanism such as human capital, relational capital, structural capital, technological capital, customer capita and spiritual capital has significant impact on firm performance. As such, intellectual capital is increasingly acceptable as important factor for sustainable corporate advantages. The results underlined the important of intellectual capital especially for technological capital, customer capital and spiritual capital. Therefore, intellectual capital can be recognized as one of the important indicator that has a significant impact towards firms' performance.

**Recommendations**

The following recommendations are made to the respective stakeholders on the basis of the results of this research.

The following recommendations are made to the respective stakeholders on the basis of the results of this research.

1. Overall, this analysis demonstrates the significant influence of intellectual capital on the performance of small and medium-sized businesses. Owners/managers SMEs will have to develop technical, conceptual skills and interpersonal expertise to effectively manage, plan, control and organize the enterprise resulting, in improve performance.
2. By encouraging their staff to learn, managers should enhance their learning orientation. The orientation of learning is chiefly the responsibility of senior management. Employees will create a closer relationship with SMEs by expressing their ideas and will also understand for what purpose the SMEs act as a whole. The learning orientation must come along with a shared vision from the senior management. As it will enhance the learning orientation of employees, which will improve the performance of SMEs.
3. The SMEs should show a technical high level of dedication to its workers. Developing an integrated and comprehensive performance management system that will capture employee engagement should be prepared by organizations. Training and development programs should be practice to enable staff to possess the skills and knowledge for current work and for the next higher job as well.

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## Appendix

Sample Size Determination Formula

| *N* | *S* | *N* | *S* | *N* | *S* |
|---|---|---|---|---|---|
| 10 | 10 | 220 | 140 | 1200 | 291 |
| 15 | 14 | 230 | 144 | 1300 | 297 |
| 20 | 19 | 240 | 148 | 1400 | 302 |
| 25 | 24 | 250 | 152 | 1500 | 306 |
| 30 | 28 | 260 | 155 | 1600 | 310 |
| 35 | 32 | 270 | 159 | 1700 | 313 |
| 40 | 36 | 280 | 162 | 1800 | 317 |
| 45 | 40 | 290 | 165 | 1900 | 320 |
| 50 | 44 | 300 | 169 | 2000 | 322 |
| 55 | 48 | 320 | 175 | 2200 | 327 |
| 60 | 52 | 340 | 181 | 2400 | 331 |
| 65 | 56 | 360 | 186 | 2600 | 335 |
| 70 | 59 | 380 | 191 | 2800 | 338 |
| 75 | 63 | 400 | 196 | 3000 | 341 |
| 80 | 66 | 420 | 201 | 3500 | 346 |
| 85 | 70 | 440 | 205 | 4000 | 351 |
| 90 | 73 | 460 | 210 | 4500 | 354 |
| 95 | 76 | 480 | 214 | 5000 | 357 |
| 100 | 80 | 500 | 217 | 6000 | 361 |
| 110 | 86 | 550 | 226 | 7000 | 364 |
| 120 | 92 | 600 | 234 | 8000 | 367 |
| 130 | 97 | 650 | 242 | 9000 | 368 |
| 140 | 103 | 700 | 248 | 10000 | 370 |
| 150 | 108 | 750 | 254 | 15000 | 375 |
| 160 | 113 | 800 | 260 | 20000 | 377 |
| 170 | 118 | 850 | 265 | 30000 | 379 |
| 180 | 123 | 900 | 269 | 40000 | 380 |
| 190 | 127 | 950 | 274 | 50000 | 381 |
| 200 | 132 | 1000 | 278 | 75000 | 382 |
| 210 | 136 | 1100 | 285 | 1000000 | 384 |

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970