

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/376001656>

# Minimizing Smes Problems in Nigeria for Economy Sustainability Using Quantitative Technique

Article · August 2023

DOI: 10.59890/ijefbs.v1i1.286

---

CITATION

1

READS

27

7 authors, including:



[Kehinde Segun](#)

24 PUBLICATIONS 22 CITATIONS

SEE PROFILE



## Minimizing Smes Problems in Nigeria for Economy Sustainability Using Quantitative Technique

Segun Kehinde Isaac<sup>1\*</sup>, Chinonye Moses<sup>2</sup>, Borishade Taiye<sup>3</sup>, Michael Chikodi Agarana<sup>3</sup>, Fejro Edewor<sup>4</sup>, Dele-Dada Moyosoluwa<sup>5</sup>, Obembe Nifemi<sup>6</sup>

<sup>1</sup>Department of Business Management

<sup>2</sup>Departement of Mathematics

<sup>3</sup>Departement of Policy and Strategic Studies

Covenant University, Nigeria

**Corresponding Author:** Segun Kehinde Isaac [segun.kehindepgs@stu.cu.edu.ng](mailto:segun.kehindepgs@stu.cu.edu.ng)

### ARTICLE INFO

*Keywords:* SMEs, Quantitative Technique, Economy Sustainability

*Received :* 6, June

*Revised :* 11, July

*Accepted:* 17, August

©2023 Isaac, Moses, Taiye, Agarana, Edewor, Moyosoluwa, Nifemi : This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/).



### ABSTRACT

Small and medium scale Enterprises (SMEs) are vital to the economic development and growth of every developing economy. As SMEs strive to boost the Nigerian economy, they are faced with multiple internal and external challenges. This study proposes a simple method of minimizing those internal and external problems faced by SMEs using Quantitative techniques. It was discovered that the proposed approach significantly minimizes SMEs problems in Nigeria for economy sustainability. This study recommends for government to innovate their policies in order to complement an ever evolving economy.

## **INTRODUCTION AND LITERATURE REVIEW**

Studies in recent times have established the fact that Small and Medium Scale Enterprises (SMEs) are keys to the growth and development of economies. SMEs provide the cornerstones on which any country's economic growth and stability rests [5]. Small and Medium-scale enterprises (SMEs) are the result of continuous human innovation and creativity, which serves as the running engine through which the economy survives. They contribute immensely to the development of entrepreneurial skills amongst the population, employment generation, poverty elevation, structural transformation of rural areas, industrial spread, amongst others and therefore there is a need for these to be promoted and protected. Small and Medium scale Enterprises as described by the Central Bank of Nigeria CBN are companies that have a staff strength of less than 300 people and/or turnover of less than N100 million. Studies by the PWC show that 96% of Nigerian-owned businesses belong in this category. In OECD countries, SMEs account for over 95% of firms, 60-70% of employment and 55% of Gross Domestic Products (GDP) (OECD, 2006) [2]. OECD further reports that in developing countries, SMEs represents more than 90% of all firms and such firms contribute significantly to GDP. There are various ways through which SMEs contribute to the economy. SMEs have been known to stimulate indigenous entrepreneurship, provide employment to a greater number of people, mobilize and utilize domestic savings and generate inputs for large-scale production [6].

In Nigeria, SMEs are involved in almost all the sectors in the economy, and being in these various sectors comes with challenges that hinder them from performing effectively. Despite the catalogue of challenges identified by previous researchers, SMEs remain key drivers and enablers of economic growth and development. However, there seems to be a dearth of literature that seeks to explore how the challenges faced by SMEs can be minimized, hence the purpose of this study. This study therefore compliments previous research in closing up the literature gap by exploring ways if minimizing SMEs challenges in Nigeria.

The Small and Medium industries Enterprises Investment Scheme (SMIEIS) defines SME as any enterprises with a maximum asset based of N200 million excluding land and working capital and with a number of staff employed not less than 10 or more than 300[7]. After Nigeria's independence from the British colonial rule in 1960, SMEs were radically promoted by the Federal Government as a means of reducing the incidence of poverty and unemployment in the country with the adoption of several economic reform programs like the establishment of the Nigerian Industrial Development Bank in 1962 with a special unit that focused on SMEs financial requirements, the Small Scale Industries Credit Scheme, the World Bank SME I Loan Scheme and the World Bank SME II Loan Scheme in the 80s and 90s. More recent programs like the establishment of the Bank of Industry to provide credit facilities to SMEs at an interest rate of 10 percent, the Small and Medium Enterprises Credit Guarantee Scheme in 2010, the Central Bank of Nigeria's Real Sector Support Facility in 2014 and finally the establishment of the Entrepreneurship Development Centers in various parts of the country, were aimed to develop strong SMEs that can compete globally and contribute to the national growth and development. The

significance of SMEs for growth, productivity and competitiveness of the economies in both developed and developing countries is acknowledged universally, since SMEs bring about substantial local capital formation, contribute to improved living standards and achieve high levels of productivity[7]. Nigeria has an estimated population of seventeen million SMEs, representing over 80% of the total number of firms in Nigeria and employ over 31 million Nigerians or about 75% of the total workforce[3]. Researchers further noted that SME's contribution to the GDP in Nigeria is relatively low as a result of the major constraints in the operating environment. Such constraints include insecurity, corruption and poor infrastructure [2]. These in addition to other internal and external business challenges further expand the difficulty of SMEs in the performance of their economic roles. Similarly, the SMEs sector is worst affected by the economic environment and is the first to be hit by any external shock [5]. This implies that SMEs are weak in terms of business plan, management structure and in decision making [3]. In addition, SMEs are characterized by inability to absorb most uncertainties and risks confronting business organizations. This has direct impact on their performance and therefore weakens their ability to achieve economic sustainability. While the sheer quantity of SMEs springing up in Nigeria is quite encouraging, it is however observed by the UNIDO that only 20% of these SMEs survive beyond 5 years. Which is very unfortunate.

## **METHODOLOGY**

This study aimed to explore the relationship between corporate governance and board conflict management in different contexts and industries. The research methodology adopted for this study is a literature review, which involves collecting, analyzing and synthesizing relevant information from various sources, such as academic journals, books, reports, and websites.

## **RESEARCH RESULT AND DISCUSSION**

### **Problems for Smes in Nigeria and Solutions**

Below are some of the leading causes of high rate of failure among Nigerian small business. The first Four problems are due to internal factors while the other Six are due to external factors.

**Internal Factors:** These are factors that are virtually within the control of the entrepreneurs or business managers

### **Lack of clear succession plan**

Most SMEs in Nigeria are sole proprietorships. It is widely observed that most founders of these businesses fail to put in place a clear plan for the successful running of the business beyond their retirement or demise. Hence most businesses tend to die along with the owner/founder. This can be solved by grooming member(s) of the management or operation team to understudy the proprietor closely with a view to empowering them with requisite skills to run the business in the absence of the owner/founder.

### **Financial literacy/irresponsibility**

Many business owners lack basic knowledge of modern business finance. I.e. record-keeping, stock tacking, how and when to source for funds, how to leverage on assets to obtain loans appropriately, liquidity management, tax policies etc. Domain knowledge of the line of business alone is not sufficient to sustain the long-term viability of an enterprise. Therefore, Business Owners need to take out time to seek adequate knowledge of corporate finance by attending relevant seminars/crash courses.

### **Lack of proper strategic planning**

The two main drivers of entrepreneurship are profit and passion. However important they may be, these factors are very dicey as they often prevent business owners from seeing the bigger picture. The business ecosystem is very diverse and complex. It requires proper strategic planning to hedge against various risks that may come up especially in the long run. It is therefore imperative that entrepreneurs, before starting a business, look beyond the bottom line/profits or the passion they have for it. They make objective observations to access risks and develop a fool-proof strategy and plans to ensure long-term sustainability.

### **Disregard for Essential Services i.e. Insurance/Legal/Professional Services**

[SMEs in Nigeria generally tend to disregard the importance of the aforementioned services which leaves them one unfortunate incident away from complete ruin. A valuable solution to this is that SMEs must understand the significance of essential services such as Insurance, Legal Representation and Professional Services (Audit, Tax, and Business Advisory). They are non-negotiable for any business that seeks to grow and thrive. They offer protection from business risks, fraud and other operational failures that may prove fatal to the business. These are macro-economic or structural factors that are often outside the purview of SME owners/managers.

### **Fluctuation of Forex**

International trade contracts are largely denominated in dollars. Hence, the lack of stability of the Naira makes Nigerian SMEs shortchanged in International trade. This especially affects companies that depend on imported raw materials or wares for further production or re-sale respectively. This cannot be accomplished without playing out the part of connecting supply and demand [1]. One Key way this can be solved is if the CBN devices plans and strategies to keep the Naira stable against the dollar, and banish the double Forex system being operated in the country.

### **Infrastructure**

Nigerian SMEs are still being plagued by poor basic infrastructures, such as power supply, road networks, water supply, and waste disposal. In many cases, business owners often have to carry out capital intensive public projects by themselves in order to have access to these essential amenities. A feasible solution to this is for the Government to put in place an enabling environment for businesses to thrive.

### **Intimidation by Regulatory Authorities**

Another challenge that business owners complain bitterly about is the constant intimidation and extortion by regulatory bodies who sometimes abuse their office to make quick money by extorting business owners, and sometimes inordinately inhibiting the smooth run of their business operations despite not breaking any laws. A strategic solution to this is for the Government to put in place better checks and balances in the formation and operation of regulatory bodies.

### **Bad Policies**

A common feature of the business ecosystem of most developing countries such as Nigeria is unfriendly government policies which many SME owners often notably describe as conflicting, stifling and inconsistent. A typical example of this was the sudden ban on bike-hailing service companies by the government of Lagos state. The arbitrary manner in which these policies are often enacted, without proper consultation or notice goes a long way to kill business and further discourage Investor confidence. This can be solved when the government makes proper consultations before enacting policies that may undermine the operations of the business in the country.

### **Insecurity/Political Instability**

Insecurity has continued to ravage the northern part of Nigeria over the last 20 years. Besides from the fact that insecurity displaces people from their settlements and reverses economic development of the affected states, many SMEs across the country depend on raw materials that are majorly sourced from these affected regions such as food items. Insecurity has greatly hampered the free movement of wares and personnel from the troubled states. The negative impact of this on the fortunes of SMEs cannot be over-emphasized. The issue of insecurity can only be solved by the government. The government must find an effective and lasting solution to the various cases of insecurity across the country in order to create a favorable atmosphere for SMEs to thrive nationwide.

### **Access to Capital**

It is quite difficult for Nigerian SMEs to access credit facilities because the loan conditions are often too stringent for SMEs to meet. Hence some of these companies find it difficult to expand their operations and enjoy economies of scale. Despite a profitable business model some SMEs wind-up due to mere liquidity issues. The government needs to make funds, loans and/or grants

available to SMEs in order to solve this challenge. A friendly business environment should also be created to encourage international Venture Capitalists and Angel Investors to participate in the Nigerian economy. The goal is not only for more SMEs to spring up but to see them thrive, operate sustainably, profitably and grow into world class companies and unicorns.

*Getting loans is one of the challenges faced by Small and Medium Enterprises (SMEs) in Nigeria. However, there are some funds available to be accessed by entrepreneurs. One major criterion for accessing these funds is the business owner's capability to present a viable business plan. The entrepreneur should also be able to describe the market for his or her products.*

**Development Bank of Nigeria (DBN):** As a wholesale bank, the DBN will lend wholesale to Microfinance Banks and deposit money banks who will on-lend medium to long-term loans to micro, small and medium enterprises. The most basic criteria to benefit from the DBN loan are:

1. You must apply through your bank
2. The loan sought for must be long term;
3. You should have reasonable book keeping; and
4. Your bank (micro finance or commercial banks) must run a due diligence and qualify you.

**CBN MSMEs fund:** Business owners can access the funds and pay back, depending on the sector, in three years minimum i.e for those that are in other businesses. But for those in agriculture, it is being extended to up to five years. The former has a moratorium of six months before you start paying, while with the latter repayment starts after one year i.e. those that are to access the funds for agriculture[6].

**Bank of Industry (BoI) Funds:** The BoI has a number of funds that entrepreneurs of all levels can access. First is the Graduate Entrepreneurship Fund (GEF), which is meant for serving members of the National Youth Service Corps (NYSC). Candidates are allowed to submit their business ideas, which are then reviewed by a team of experts. The NYSC members whose ideas are marketable and bankable are then selected, trained for four weeks and then given between N500,000 and N2 million[7]. There are also the Cottage Agro Processing (CAP) Fund for small and medium agro processors, The Nolly Fund for players in the Nollywood (movie) industry, as well as Fashion Fund for designers and other players in the value chain.

**Tony Elumelu Fund:** The Tony Elumelu Foundation has \$100 million for 10,000 African entrepreneurs and business men. Entrepreneurs in agriculture, fashion and design, light manufacturing, ICT, and solid minerals, among others apply for this on-going fund, and are granted up to \$1,000 in investment.

**Lagos State Employment Trust Fund:** Lagos State has N25 billion to support SMEs. The fund is divided into two categories; micro and small businesses. Under the micro, businesses can access up to N500, 000 loans with an interest rate

of five percent and a tenor of one year. For the small business category, businesses can get up to N5 million for a tenor of three years. The criteria for accessing the funds include: membership of a business organization, which will recommend the business for the loan; Lagos State tax receipt for at least six months, and Lagos state residency card.

### **Modeling of Problem**

#### **Decision Variables Representation.**

Let P1 represent Access to capital (external)

Let P2 represent Lack of strategic planning (internal)

Let P3 represent Infrastructure (external)

#### **Objective function**

The key objective is to minimize the three stated decision variables subject to constraints.

Therefore, the Objective function can be written as follows:

Maximize  $Z = P1 + P2 + P3$

#### **Constraints**

Assuming that the total amount of resources needed to solve the problem of lack of strategic planning is 45% of the total budget made available by the federal government, while the amount needed to solve the issue of access to capital and infrastructure is 55% of the total budget. Likewise, the non-negativity requirement is considered satisfied[8]. Also assuming the average budget for SME development is one hundred billion naira, we have as constraints:

$$P1 + P2 \leq 45\% \text{ of } 100,000,000,000 \text{ billion naira}$$

$$P1 + P3 \leq 55\% \text{ of } 10,000,000,000 \text{ billion naira}$$

$$P1, P2, P3 \geq 0, \text{ integers}$$

#### **The Model**

The model can therefore be stated as:

$$\text{Max } Z = P1 + P2 + P3$$

Subject to:

$$P1 + P2 \leq 4.5$$

$$P1 + P2 \leq 5.5$$

$$P1, P2, P3 \geq 0, \text{ integers}$$



### Model Solution

The branch and bound method was used to solve the integer problem.

The possible integer value sets of the variables P1, P2, P3 are

$$P1 = 0,1,2,3$$

$$P2 = 0,1,2,3,4$$

$$P3 = 0,1,2,3,4,5$$

Solving linear programs involving integer values of  $P1 = 0,1,2,3,4$ , but disregarding the integer constraints imposed on P2 and P3:

With  $P1 = 0$

$$\text{Max } Z = P1 + P2 + P3 = 0 + P2 + P3$$

Subject to

$$0 + P2 \leq 4.5$$

$$0 + P3 \leq 5.5$$

$$P1, P2, P3 \geq 0$$

**Therefore, this Implies:**

With  $P1 = 0$ , gives  $P1=0, P2 = 4.5, P3 = 5.5$ . Which implies  $Z = 10$

Similarly,

With  $P1 = 1$ , gives  $P1=1, P2=3.5, P3=4.5$ . Which implies  $Z = 9$

With  $P1 = 2$ , gives  $P1=2, P2=2.5, P3=3.5$ . Which implies  $Z = 8$

With  $P1 = 3$ , gives  $P1=3, P2=1.5, P3=2.5$ . Which implies  $Z = 7$

With  $P1 = 4$ , gives  $P1=4, P2=0.5, P3=1.5$ . Which implies  $Z = 6$

It can be seen that the branch corresponding to  $P1 = 0$  has the highest upper bound value of 10

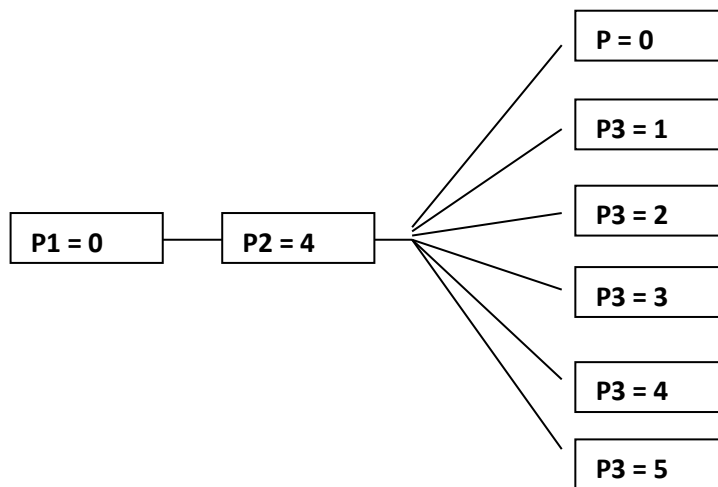


Fig 1: Reduced Tree diagram

Now, with  $P1 = 0, P2=0$ , gives

$$\text{Max } Z = P1 + P2 + P3 = 0 + 0 + P3$$

Subject to:

$$0 + 0 \leq 4.5$$

$$0 + P3 \leq 5.5$$

$$P1, P2, P3 \geq 0$$

**Therefore, this implies.**

With  $P1 = 0, P2=0$ , gives  $P1=0, P2 = 0, P3 = 5.5$ . Which implies  $Z = 5.5$

Similarly,

With  $P1 = 0, P2=1$ , gives  $P1=0, P2=1, P3=4.5$ . Which implies  $Z = 5.5$

With  $P1 = 0, P2=2$ , gives  $P1=0, P2=2, P3=5.5$ . Which implies  $Z = 7.5$

With  $P1 = 0, P2=3$ , gives  $P1=0, P2=3, P3=5.5$ . Which implies  $Z = 8.5$

With  $P1 = 0, P2=4$ , gives  $P1=0, P2=4, P3=5.5$ . Which implies  $Z = 9.5$

Since  $P1 = 0, P2 =4$ , has the highest upper value bound value of 9.5, it would be set aside.

Using the reducing tree diagram in fig 1.

Now, with  $P_1 = 0, P_2=4, P_3=0$  gives

$$\text{Max } Z = P_1 + P_2 + P_3 = 0 + 4 + 0 = 4$$

Subject to:

$$0 + 4 \leq 4.5$$

$$0 + 0 \leq 5.5$$

$$P_1, P_2, P_3 \geq 0$$

Therefore, this implies:

With  $P_1 = 0, P_2=4, P_3=0$  gives  $P_1=0, P_2 = 4, P_3 = 0$ . Which implies  $Z = 4$

Similarly,

With  $P_1 = 0, P_2=4, P_3=1$ , implies  $Z = 5$

With  $P_1 =0, P_2=4, P_3=2$ , implies  $Z = 6$

With  $P_1 =0, P_2=4, P_3=3$ , implies  $Z = 7$

With  $P_1 =0, P_2=4, P_3=4$ , implies  $Z = 8$

With  $P_1 =0, P_2=4, P_3=5$ , implies  $Z = 9$

We can therefore determine that the corresponding branch that gives the optimal solution is  $P_1 = 0, P_2 = 4, P_3 = 5$ , as it has the highest optimal value of 9.

The solution is as follows:

$$P_1 = 0, P_2=4, P_3=5, Z=9$$

## CONCLUSIONS AND RECOMMENDATIONS

The result of this study reveals that SMEs are exposed to a combination of internal and external business challenges, though at varying degrees. Past and present policies put in place by Nigerian government in order to protect SMEs have been effective thus far, however there is a need to strengthen these policies and develop effective policies due to the ever evolving and fast pace world we are in. SMEs are recognized as the main source of economic growth and a major factor in promoting private sector development and partnership, in developed and developing countries. SMEs help to create employment and are often seen as very important for the growth and innovation of dynamic economies. SMEs mostly adopt various risk prevention and reduction techniques in controlling

their risks. These techniques are considered suitable because of their cost effectiveness.

Despite the huge potentiality of SMEs for the development of Nigerian economy, their real contribution is relatively low. This on one hand is attributed to the combination of risks and uncertainties that inhibit their success. On the other hand is the lack of required skills to handle these risks properly. This study has been able to identify key problems that could hinder the economic sustainability of SMEs. However, proper development and application of risk management process will result to higher performance of SMEs. The ultimate survival of an SME lies in the hands of the owner, whose decisions may make or destroy his creation.

#### **ACKNOWLEDGMENT**

The Authors sincerely appreciate and acknowledge Covenant University centre for research, innovation and development (CUCRID) for funding the publication of this research work.

## REFERENCES

- Agarana. C, Anake. T, & Adeleke. O,(2014) Application Of Linear Programming Model To Unsecured Loans And Bad Debt Risk Control In Banks. *International Management Information Technology And Engineering*, 2(7), Pp. 93–102, 2014.
- Aremu, M. A. And Adeyemi, S.A. (2011).Small And Medium Scale Enterprises As A Survival Strategy For Employment Generation In Nigeria. *Journal Of Sustainable Development, Canadian Center Of Science And Education*. Vol. 4(1):200- 2006
- Henry. E, Chinedu. C, & Ukwandu. C (2009) Small Business Problems In Nigeria: A Comparison With Sweden. *School Of Management Blekinge Institute Of Technology*
- Mba. O, & Cletus. I. (2013) Issues, Challenges And Prospects Of Small And Medium Scale Enterprises (Smes) In Port-Harcourt City, Nigeria. *European Journal Of Sustainable Development* (2014), 3, 1, 101-114
- Tajudeen. O, & Francis. S (2013) Smes, Business Risks And Sustainability In Nigeria. *European Journal Of Business And Social Sciences*, Vol. 2, No.9 , Pp 76-94, December 2013.
- Ogechukwu, A.D. (2011) The Role Of Small Scale Industry In National Development In Nigeria. *Universal Journal Of Management And Social Sciences*, 1, 23-41
- Theresa. U, Cecilia. I, Tonna. D, Moses. I. (2014) Roles of Small and Medium Scale Enterprises in Community Development: Evidence from Anambra South Senatorial Zone, Anambra State. *International Journal of Academic Research in Business and Social Sciences* August 2014, Vol. 4, No. 8
- Agarana, M. C., Ajayi, O. O., & Akinwumi, I. I. (2019). Integer programming algorithm for public transport system in sub-saharan african cities. *Wit. Trans. Built. Environ*, 182, 339-350.