

Effective Strategic Decision Making and Business Intelligence Tools Among Entrepreneurs in Ogun State, South-West, Nigeria

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Abstract

The study examined business intelligence tools as predictors of effective strategic decision making among entrepreneurs in Ogun State, South-West, Nigeria. Three research questions were raised and answered in this study. A descriptive survey design was adopted. The population of the study comprised a total of 6,321 registered entrepreneurs (SMEs) in Ogun State. Using stratified sampling technique, a total of 1700 entrepreneurs (SMEs) were selected as sample size. This represents 26.89% of the population. Researcher developed questionnaires; titled: Business Intelligence Tools and Effective Strategic Decision Making Questionnaire (BITESDMQ) with 0.90 as reliability coefficient was used for data collection. Descriptive statistics of mean and standard deviation were used for answering research question 1 while research questions 2 and 3 were answered using multiple regression analysis. The findings of the study revealed that On-Line Analytical Processing, Advanced Analytics, Data Warehouse and Data Mart and Data Mining were mostly used business intelligence tools among the entrepreneurs for strategic decision making. It was

also revealed that about 52% of the variance in effective strategic decision making was accounted for by the linear combination of the business intelligence tools. Out of the four variables examined three were found to be significant and strongly determine effective strategic decision making among entrepreneurs in Ogun State with their p -value less than 0.05. Sign of Data Mining ($\beta = .253$, $t = 7.188$, $p < .05$), Advanced Analytics ($\beta = .199$, $t = 6.869$, $p < .05$) and On-Line Analytical Processing ($\beta = .080$, $t = 3.172$, $p < .05$) were positive and significant while Data Warehouse and Data Mart ($\beta = .014$, $t = 0.552$, $p > .05$) was positive but not significantly enough to determine effective strategic decision making among entrepreneurs in Ogun State. The study recommends among other things that government and its agencies should organized capacity building programmes for SMEs (entrepreneurs) in Ogun State on how to consistently adopt and improve their skills on business intelligence tools with the view to enhance their level of strategic decision making.

Keywords: Business Intelligence, Strategic Decision Making, Entrepreneurs

Introduction

The success of an entrepreneur in business might depends on series of predictors such as government policy on taxation, competition, promotion of ideas and innovations, sound knowledge on business financial prudence, ability to forecasts business environment, creativity skills among others. How entrepreneurs made decisions on business opportunity might also play role in promoting and enhancing their performance and this form part of the reasons entrepreneur must be effective in strategic decision making. Strategic decision making allows entrepreneur to make the right decision at the right time for the success. It is a decision process and procedure that allow entrepreneur forecast and make business plan of action for goal achievement. That is, strategic decision making focused on how to take viable decision out of the alternative for business success and sustainability. Strategic decision making could either be long or short term goals achievement in business. A short term strategic decision making entailed ability of the entrepreneur to understands and define factors for the business success such as

location of the enterprises, volume of the business, size of the staff strength, marketing methods and how best to get and retain customers while long term strategic decision making is all about ensuring business sustainability in a competitive business environment. Effectiveness in strategic decision making is useful for business growth and development and observations have shown that organizations that are effective in strategic decision making may likely solved business challenges. Hasan and Kaplan (2017) contended that effective strategic decision making help entrepreneur or organization to achieve desire results and they further asserted that effective strategic decision making showcase opportunity that can make business attain its goals and objectives.

Observations have shown that organizations of the past decades seem to be facing serious challenges on the way things are changing in the environment. Government policy, ICT innovations, technological growth, internet expulsion, increases in business failure, increases in volume of competitors among the predictors that now dictates the direction and performance of an organization.

Any organizations that fail to cope with these aforementioned predictors might result into

collapsed. More reasons entrepreneur of today globalization are looking for antidotes to change the direction of old ways through seeking for information, turning such information into data that can later be used for strategic decision making for future performance of their enterprises. Today organizations are now focusing on the business intelligence tools that can drive effective information and disposal for quick and futuristic plan of actions. According to Mohammad (2013), the important of business intelligence tools in organization is to enhance future forecasting plan of actions, allows organization to processes bulk of information about the business environment and to avoid the mistake done by the decades organizations. He concluded that business intelligence tools help organization or entrepreneur in findings answers to business challenges. To the current researchers, business intelligence is the process organization can take to collect, save, process, evaluate and implement data in form of information to provide solutions and better knowledge on the competitive business environment to drive organizational objectives. Business intelligence also involves the process entrepreneur took for converting data into knowledge; understand risk assessment of the business environment, integration of tools for quick data retrieval, collection and for problem solving.

Business intelligence tools are systems that organization can used to collect data and integrate such data for the purpose of organization sustainability to confront business challenges (Vitt, Luckevich & Misne, 2010). On-Line Analytical Processing (OLANPC), Advanced Analytics

(ADAN), Data Warehouse and Data Mart (DWDM) and Data Mining (DAMI) seem to be among the business intelligence tools used by today organizations for effective strategic decision making. Records have shown that, if all things being equal, these business intelligence tools might determine organization survival and success in a competitive business environment (Matei, 2010 and Ranjan, 2009). OLANPC suggests or provides organization easy means to collect data from the warehouse and established strategies that can be used by the organization to detect issue and list predictors that might be responsible for such problem. ADAN is a little be more than OLANPC because its application based on how to predicts the best viable data that were collected from OLANPC and consequently be useful for organizational growth and performance. DWDM is a information gathering warehouse or source of information that may be useful for business intelligence with collection of past information which might be useful for OLANPC operational effectiveness. DAMI and OLANPC seem to have played similar roles in business intelligence, however, the major different is that while OLANPC provides information in summary form DAMI information provided is comprehensive in nature because it drives its information based on raw data and comparisons.

Studies such as (Hasan & Kaplan, 2017; Mohammad, 2013; Negro & Mesia, 2020; Khurana & Goje, 2016; Birogul & Gultekin, 2016; Alasiri & Salameh, 2020) have all examined similar issues on how business intelligence tools could predicts strategic decision making in organizations. Majority of these studies were not conducted in Nigeria, most especially among entrepreneurs in Ogun State, South-west, Nigeria.

Statement of the Problem

The incident of business failure has ramparts in developing nations most especially in Nigeria. Records have shown that closed to 80% of the business failure in the country occurred as a result of poor management strategies, high interest rate charged by the commercial banks, inadequate operational costs, lopsided government policies, multiple taxation and unstable power supply. Government of Nigeria through its agency (Bank of Industry) have provided reliefs for the business environment with the view to solve the challenges of inadequate funds and guide against high interest rate charged by the commercial banks. Despite the government intervention to reduces numbers of failed business in the country, the challenges still persists. One would begins to wonder why the problems still occurred on a years basis. Could it be that most of these collapsed organizations have failed to adopt viable strategies or tools in predicting their business activities in terms of strategic decision making? All these issues bothered the researchers in attempting to solve the problem. However, this study examined business intelligence tools as predictors of effective strategic decision making among entrepreneurs in Ogun State, South-West, Nigeria.

Objectives of the Study

The main objective of the study was to examine business intelligence tools as predictors of effective strategic decision making among entrepreneurs in Ogun State, South-West, Nigeria. Specifically, the study sought to:

1. Ascertain whether entrepreneurs in Ogun State were using business intelligence tools in

strategic decision making.

2. Examine composite contributions of business intelligence tools on effective strategic decision making among entrepreneurs in Ogun State, South-West.
3. Investigate relative contributions of business intelligence tools on effective strategic decision making among entrepreneurs in Ogun State, South-West.

Research Questions

1. Are entrepreneurs in Ogun State using business intelligence tools in strategic decision making?
2. To what extent does business intelligence tools jointly predicts effective strategic decision making among entrepreneurs in Ogun State, South-West?
3. What is the relative contributions of business intelligence tools on effective strategic decision making among entrepreneurs in Ogun State, South-West?

Methodology

A descriptive survey design was adopted in this study. The reason for using this design is because the opinions of entrepreneurs are required for gathering relevant data towards accomplishment of the study objectives. The population of the study comprised a total of 6,321 registered entrepreneurs (SMEs) in Ogun State. Using stratified sampling technique, a total of 1700 entrepreneurs (SMEs) were selected as sample size. This represents 26.89% of the population. The stratification was based on the three Senatorial Districts in the Ogun State (Ogun East, West and Central Senatorial Districts). Researcher

developed questionnaires; titled: Business Intelligence Tools and Effective Strategic Decision

Making Questionnaire (BITESDMQ) was used for data collection. The questionnaire requested responses on a four (4) – point scale format which was a modification of 5-point Likert scale. The responses rating scales are as follows: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The questionnaire have two sections each of A and B. Section A focused on demographic characteristics of the respondents, while section B examined items on the business intelligence tools and contributions of business intelligence tools on effective strategic decision making. The content and face validity of the instrument was achieved by making sure that it covers all the variables of the study. Test-retest method was carried out using the validated instrument among 50 SMEs who were not

among the sample size of the study. Data collected were subjected to Pearson Product Moment Correlation (PPMC) formula. The reliability coefficient of the instrument yielded 0.90. This implied that the instrument was reliable and can elicit required data for the study. The researchers personally administered the questionnaire with the help of research assistants to the respondents. The researchers ensured that respondents are adequately briefed on the content and procedure for filling the questionnaire. Enough time was given to the respondents to respond to each item in the questionnaire. Descriptive statistics of mean and standard deviation were used for answering research question 1 while research questions 2 and 3 were answered using multiple regression analysis. All the analyses were carryout at .05 level of significance.

Results and Discussion

Research Question 1: Are entrepreneurs in Ogun State using business intelligence tools in strategic decision making?

Table 1: Mean and standard deviation responses on whether entrepreneurs in Ogun State were using business intelligence tools in strategic decision making (n= 1700)

Items	Mean	SD	Remarks
On-Line Analytical Processing	3.008		
I can solve sophisticated issue with data	3.67	.818	Agreed
I can analyzes any data in a meaningful way and retrieving the needed one in reports	3.66	.876	Agreed
By using On -Line Analytical Processing, I can do analytical process	2.03	1.209	Disagreed
On-Line Analytical Processing gives me a chance to access data warehouse	2.15	1.112	Disagreed

I used On-Line Analytical Processing to creates models that make easier for me to identify problem in simple forms	3.53	.814	Agreed
Advanced Analytics	3.368		
I can deal with huge amount of data	2.07	1.091	Disagreed
I can deals with sophisticated problems	3.31	.676	Agreed
I can apply advanced analytics process	3.71	.800	Agreed
I can make future prediction based on statistics processed	3.83	.837	Agreed
I can produce Statistical reports	3.92	1.111	Agreed
Data Warehouse and Data Mart	3.490		
I have a huge database contains historical data	2.73	1.151	Agreed
My data warehouse supports business functions and units	3.98	1.641	Agreed
I have multidimensional view of data	3.63	1.559	Agreed
I have more than one data mart	3.62	.677	Agreed
Data Mining	3.53		

Source: Field Survey, 2022

Table 1 revealed the means of different business intelligence tools used by entrepreneurs for strategic decision making. The results indicated that On-Line Analytical Processing, Advanced Analytics, Data Warehouse and Data Mart and Data Mining were mostly used business intelligence tools among the entrepreneurs for strategic decision making.

Research Question 2: To what extent does business intelligence tools jointly predicts effective strategic decision making among entrepreneurs in Ogun State, South-West?

Table 2: Extent business intelligence tools jointly predicts effective strategic decision making among entrepreneurs in Ogun State, South-West (n = 1700)

R = .648					
R ² = .521					
Adj R ² = .518					
Std. Error = 6.0934					
ANOVA					
Source of Variation	SS	df	MS	F-ratio	P
Regression	7.259	1	14.519	39.104	0.002
Residual	52.689	1698	3.713		
Total	59.949	1699			

Dependent Variable: Effective Strategic Decision Making

Table 2 revealed that there was significant joint effect of the independent variables (On-Line Analytical Processing, Advanced Analytics, Data Warehouse and Data Mart and Data Mining) on the dependent variable (effective strategic decision making); R = 0.648, p< .05. The table further indicated that {51.8% (Adj. R2 = 0.518)} that about 52% of the variance in effective strategic decision making was accounted for by the linear combination of the independent variables. The ANOVA results from the regression analysis shows that there was significant of the independent variables on the dependent variables; F (1, 98) = 39.104, P<.05.

Research Question 3: What is the relative contribution of business intelligence tools on effective strategic decision making among entrepreneurs in Ogun State, South-West?

Table 3: Relative contributions of business intelligence tools on effective strategic decision making among entrepreneurs in Ogun State, South-West (n = 1700)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	16.837	.583		28.878	.000
1 On-Line Analytical Processing	.105	.033	.080	3.172	.05
Advanced Analytics	.177	.026	.199	6.869	.05
Data Warehouse and Data Mart	.018	.033	.014	.552	.05
Data Mining	.108	.015	.253	7.188	.05

a. Dependent Variable: Effective Strategic Decision Making

Table 3 showed that the sign of the coefficient of On-Line Analytical Processing, Advanced Analytics, Data Warehouse and Data Mart and Data Mining were positive which implied that an increase or improvement in any of these will increase effective strategic decision making among entrepreneurs in Ogun State. Out of the four variables examined three were found to be significant and strongly determine effective strategic decision making among entrepreneurs in Ogun State with their P-value less than 0.05. Sign of Data Mining ($\beta = .253$, $t = 7.188$, $p < .05$), Advanced Analytics ($\beta = .199$, $t = 6.869$, $p < .05$) and On-Line Analytical Processing ($\beta = .080$, $t = 3.172$, $p < .05$) were positive and significant while Data Warehouse and Data Mart ($\beta = .014$, $t = 0.552$, $p > .05$) was positive but not significantly enough to determine effective strategic decision making among entrepreneurs in Ogun State.

Discussion of Findings

The findings of the study revealed that applicability of business intelligence tools significantly influence effective strategic decision making among entrepreneurs in Ogun State, South-West, Nigeria. These findings correlate with Hasan and Kaplan (2017) who found that the operation of business intelligence tools by business organization directly impact their model of strategic decisions making. Also corroborate with Mohammad (2013) who revealed that the usage of business intelligence strategies among Jordania entrepreneurs impact their level of decision making.

Conclusion

The success of entrepreneur will yield the country growth in business opportunity thereby creating avenue for the nation sustainable economic development. This study has examined business intelligence tools as predictors of effective strategic decision making among entrepreneurs in Ogun State, South-West, Nigeria and the following conclusions were drawn based on the findings that about 52% of the variance in effective strategic decision making was accounted for by the linear combination of the business intelligence tools (On-Line Analytical Processing, Advanced Analytics, Data Warehouse and Data Mart and Data Mining).

Recommendations

The following recommendations are provided based on the findings of the study:

1. Government and its agencies should organized capacity building programmes for SMEs (entrepreneurs) in Ogun State on how to consistently adopt and improve their skills on business intelligence tools with the view to enhance their level of strategic decision making.
2. Entrepreneurs or organization should invest more on human capital on how to develop skills on the usage of business intelligence tools.

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