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Operational Planning and Organisational Survival of Small and Medium Enterprises in Rivers State

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Abstract

The study examined the relationship between operational planning and organisational survival of small and medium enterprises in Rivers State, Nigeria. Operational planning was studied using personnel planning and inventory planning, while organisational survival has innovation and adaptability. The relationship between operational planning and organisational survival was moderated by organisational environment. The study adopted a cross-sectional survey design while primary data was collected via the administration of a structured questionnaire. Copies of the questionnaire were administered to 131 owners/managers of SMEs chosen from a population of 183. Five research objectives with corresponding number of research questions and research hypotheses were formulated. Descriptive statistics were analyzed using simple percentages and charts with the aid of the Statistical Package for Social Sciences, while the Partial Least Square - Structural Equation Modeling was deployed to test the hypothesized relationships via Smart PLS 3.2.7. The results of the analyses show that dimensions of operational planning (personnel and inventory planning) significantly and positively correlated with measures of operational performance (innovation and adaptability). This result shows that, operational planning amplify the SMEs' operational performance. Thus, it was recommended that SMEs owners/managers should develop good personnel planning policy. Likewise, since the success of the SMEs is greatly depending on the owner's relationship with his employees. Therefore, the owners/managers should be encouraged to maintain adequate and proper inventory records; which is a vital tool for good

management and sound decision making. Also, government should be flexible with some of its policies to create a comfortable environment for SMEs to thrive. It further suggested that future studies be done in other sectors (e.g. manufacturing) to offer more general results.

Keywords: Operational planning, personnel planning, inventory planning, organisational survival, innovation, adaptability, organisational environment

1. INTRODUCTION

Organisational survival has been argued to be a fundamental goal or objective of every organisation (Gross, 1968). Organisational survival is a tacit rule of every organisation and an implicit organisational goal that requires the input of energy and resources (Jones & Bartlet, 2008). Undoubtedly, organisational survival is a product of goods and services. Organisations survive by being innovative (Wang & Ahmed, 2004) and adaptive (Chu, 2012). Through innovation, organisations can admit new entrants, invent or develop new ways of doing things (Olughor & Oke, 2014). Moreover, adaptability enable organisation to generate solution models as they grow to tackle difficulties (Adger, 2003; Olsson, Folke & Hahn, 2004).

Operational planning is mainly known for detailed procedures and processes. Operational planning is the process of setting short-range objectives and determining in advance how they will be accomplished (Lussier, 2008). It also serves a major role in the implementation of business strategies by translating strategic plans into functional areas (Logan & Salem, 1986). Operational planning is a combination of Personnel Planning and Inventory Planning (Gaskill, Van Auken & Kim, 1994). Through personnel planning organisations can estimate, employ, preserve and improve the creation of workforce needed to meet management expectations (Wichmann, 1983). Also, inventory planning is crucial to profit maximization due to the enormous investment small business must indulge in to procure goods (Grablowsky, 1984).

Organisational environment is the combination of all the conditions that influence the existence and development of the business. Its strengths and weaknesses are associated with internal

environment while opportunities and threats are associated with external environment of the business (Obiwuru, Oluwalaiye & Okwu, 2011). It is right for top level managers of organisation to identify opportunities and threats in the external environment and as well as focus on strengths and weakness, in the internal environment. Urgent attention is needed to know areas of improvement to survive the environment. Thus, organisations ought to scan its environment frequently (Oghojafor, 1998). Organisational survival is based on the correct assumptions to a tumultuous environment.

Researches abound on the survival construct at individual, organisational and industry levels (e.g. Garratt, 1987; Cefis & Marsili, 2005; Akinyele & Fasogbon, 2010; Lin, 2014; Akani, 2015). Other studies examined it under employee mental ability (Olughor & Oke, 2014), learning organisation (Gunu & Sanni, 2016) and workforce diversity (Akhigbe & Ohiria, 2017). Past research involving operational planning in the area of small business setting has been given less consideration (Robinson et al., 1986 & Salem, 1984). However, it appears there are fewer empirical studies on this construct at the Small and Medium Enterprises (SMEs) and in Nigerian work environment compared to other levels (e.g. Ashworth, 2012; Darcy, Jimmy, McCabe, & McGovern, 2014).

Despite its importance, Most Small and Medium Enterprises (SMEs) go in to extinction within the first five years notwithstanding the agencies established by Nigerian Government to support the sector. They do not survive due to numerous threats bedeviling the sector which borders on the progress of small businesses. In Nigeria, most SMEs do not survive within their first five years of formation, a smaller percentage goes into extinction between the sixth and tenth year while only about five to ten percent survive, thrive and grow to maturity (Aremu & Adeyemi, 2011). Operational Planning in SMEs is generally low. This is consistent with Clute (1979) and Wichmann (1983) who have identified deficiencies in planning areas as a factor attributed to SME failure. This is in congruence with the finding of Iorun's (2014) that the root cause of early extinction of SMEs in Nigeria is poor personnel planning. Most business owners are usually more concerned about production, sales and finance, to the disadvantage of personnel matters (Iorun, 2014). They suspend personnel matters till crises set in. Such crises, most times end up as threats to the firm's survival.

However, despite the revelation that SMEs has a low level of operational planning, the study reveals that operational planning positively enhances organisational survival. The reason for this is that, operational planning - involves a detailed assessment of existing workforce, job requirements and developing personnel who will run the structures of the evolutionary organisation now and in the future to aid the survival of the organisation.

This finding is in harmony with Ifekwem and Adedamola (2016) who are of the view that maintaining small but dedicated and inspired personnel is important in guaranteeing the survival of the SMEs in a volatile environment. This study, therefore, investigates the organisational survival of SMEs in Rivers State through the lens of operational planning. Furthermore, the study investigates the moderating role of environmental uncertainty on the relationship between the chosen constructs.

Conceptual framework of the study

Below is the conceptual framework for this study:

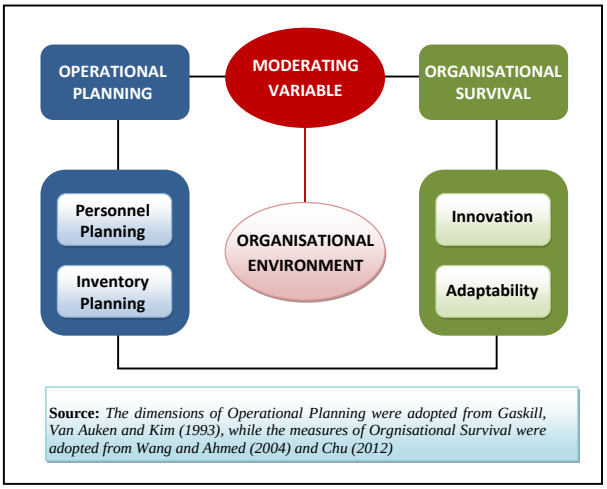

Figure 1.1 identifies the key constructs of the study. The independent variable is operational planning (bifurcated into personnel planning and inventory planning), whereas organisational survival was decomposed into: innovation and adaptability. Finally, it is proposed that the interconnection between operational planning and

organisational survival is subject to the influence of organisational environment.

The following hypotheses are provided for investigation:
H_{O1}: There is no significant relationship between personnel planning and innovation.
H_{O2}: There is no significant relationship between inventory planning and innovation.
H_{O3}: There is no significant relationship between personnel planning and adaptability.
H_{O4}: There is no significant relationship between inventory planning and adaptability.
H_{O5}: Variation in organisational survival as a result of operational planning is not significantly a function of organisational environment.

The remaining section of the paper is concerning the literature review; methodology; data analysis, results and discussion; conclusions and recommendations as well as limitations and suggestions for further research directions.

2. LITERATURE REVIEW

2.1. Baseline Theories

2.1.1 Systems Theory

Systems theory identifies the various parts of the organisation, and, in particular, the interrelations of the parts, e.g., the coordination of central administration with its programs, engineering with manufacturing, owners/managers with employees, etc. Von Bertalanffy (1972) states that a system as a convolution of mutually interacting components, in a mutual relationship where they affect each other. The application of the theory is described as systems thinking, which deal with a convolution of events in contrast to single constructs (Senge, Smith, Kruschwitz, Laur & Schley, 2010). The significance of the external environment in a system (organisation) highlights the influence of the general environment on owners/managers (Von Bertalanffy, 1972). SMEs owners face many unpredictable challenges, which align with systems theory, that allow

the integration of multiple components and processes in starting up, and organisational survival to achieve their desired goal.

2.1.2 Contingency Theory

Contingency theory asserts that when managers make a decision, they must take into account all aspects of the current situation and act on those aspects that are a key to the situation at hand. The assumption behind Contingency Theory (Burns & Stalker, 1961; Lawrence & Lorsch, 1967) is that organisations have to achieve a "fit" with the conditions offered by their environment. It further assumes that there is an ideal organisational structure or design for each situation, in contrast to earlier theories, which assumed that there are no universally valid organisational principles. Accordingly, by using the contingency theory of the firm, adaptability would be set equal to organisational adaptation, which refers to the ability of managers to adapt to the organisational design or structure appropriately to the situation, (i.e, the external conditions and the organisation's current situation (Lewin & Volberda, 1999). Lin (2014) states that "the organisations whose internal features best match the demands of their environment will accomplish the best adaptation. The emphasis in the contingency theory of the organisation lies primarily on the reactive adaptation to circumstances (Lin, 2014).

2.1.3 Dynamic Capabilities Theory

Dynamic capability theory states that "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece, Pisano & Shuen, 1997). Ljungquist (2014) defined dynamic capabilities as a firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments. Having dynamic capabilities to redeploy or configure those substantive capabilities according to the strategic goals will help firms grow and survive as they face changes in the internal and external environment (Zahra et al., 2006). Consequently, investigating if the dynamic capabilities approach can be applied on firms in a developing country, as Nigeria, where the organisational environments (internal and external environment) is unstable and unsecure, is important for a wider context.

2.2 Organisational Survival

The term survival has many connotations, both subjective and objective (Robbins & DeCenzo, 2005; Jones & Bartlet, 2008). Akindele, Oginni and Omoyele (2012) submitted that organisational survival is the operation of business organisation on - going concern sometimes refers to as managing to stay in business. The most objective way to measure survival in organisations is to observe their continuing existence. The goal of organisational survival hinges on all other goals. Paying attention to this goal contributes to the successful execution and completion of other organisational goals. Gross submitted that survival is mandatory of all organisations. This means that every organisation should see survival as absolutely essential due to its significance generally (Gross, 1968). In this study, two measures of organisational survival were reviewed.

2.2.1 Measures of Organisational Survival

2.2.1.1 Innovation

There are different definitions of innovation. Innovation remains vague (Garcia & Calantone, 2002; Lam, 2005; Damanpour & Scheneider, 2006). Thus, there is no agreement on a general definition of the concept (Zairi, 1994; Cooper, 1998). According to Drucker (1985) innovation is the businessman's specific tool to make use of change for a diversified business or service. Furthermore, he stated that innovation can be offered as a discipline which can be studied and practiced. Specifically, innovation is perceived as "an idea, tradition, or object that is seen as new by an individual or other unit of acceptance" (Rogers, 1995; Grawe, 2009; Daugherty, Chen, & Ferrin, 2011). Tidd, Bessant, Pavitt, and Wiley (1998) defined innovation as the complete change of expectations into modern concepts and adopted as a routine. 'Organisations that acquire innovation develop their competence, keeps them healthy to stay afloat' (Esteve-Perez & Manez-Castillejo, 2008, p. 234) and consistent with the obligation of being new (Stinchcombe, 1965). Thus, innovation includes the ability of an organisation to adopt or create modern ideas and enforce them to create modern brands or better working processes.

2.2.1.2 Adaptability

Adaptability is viewed as organisations accepting new marketing methods; frequently carrying out changes on products or services; and

regularly implementing new technologies and skills (Chu, 2012). According to Nelson, Zaccaro and Herman (2010) it is a "functional change (cognitive, behavioural, and/or affective) in response to real or anticipated variations in the environment" (p. 132). Adaptive organisations have multiple answers to arrays problems (Walker, et al., 2006).

Furthermore, adaptability is the ability for organisations to build their own environment (Child, 1997). Each day, there are continuous changes in the business environment pertaining the opportunities and risks they encounter. These changes put the firm in a situation that requires a quick response to ensure they adapt to stay afloat in business and accomplish their objectives; or else it will seize to exist. In developing organisational adaptability in a chaotic economic environment, owners/managers, are expected to be strategic partners, employee sponsors or advocates and change mentors (Ulrich, 1997).

In a situation, where businessmen observe that their internal and external environment is at risk, adaptability becomes an important strategy for survival (Rwigema & Venter, 2004, p. 55). A bigoted reaction to change can lead to risk-averting behaviour and a burden that stifle the owner/manager's ability to adaptability (Morris & Zahra, 2000, p. 94). Adaptability is crucial for business survival (Andries & Debackere, 2006, p. 81).

2.3. Operational Planning

Operational planning is the process of setting short-range objectives and determining in advance how they will be accomplished (Lussier, 2008). Specifically, operational planning (Villemain, 1991) is used to ensure deadlines are met, as well as to coordinate and communicate administrative and technical issues in order to meet corporate objectives (p. 2).

The operational level of planning is primarily realized for specific procedures and processes, and controlled by the lowest ranked managers (Buble, 2000, 2003; & Buble, 2006). Operational planning comprises a one-year period, it is derived from tactical planning, it contributes to realization of the planned strategy, it is more detailed and more concrete, and is performed continuously (minimally) at the level of business units, including the production process as well (Bahtijarević-Šiber & Sikavica, 2001; Osmanagić-Bedenik, 2002;

Certo & Certo, 2006). This level of planning defines individual functions to be performed in due time using the available resources.

In recognizing the importance of operational planning, Robinson, et al. (1986) noted that "operational plans is very vital in the implementation of business strategies by translating strategic plans into functional areas" (p. 8). Operational planning in this study was viewed in terms of personnel planning and inventory planning.

2.3.1 Dimensions of Operational Planning

2.3.1.1 Personnel Planning

Lazar (2001) defined personnel planning as the process of getting the correct personnel, with the correct skills in the right positions at the right time. According to DeCenzo & Robbins (2005) personnel planning is the process by which an organisation makes sure that it has the right number and types of personnel at the right role, at the right time, capable of adequately and competently accomplishing those functions that will assist the organisation realize its long-term objectives.

Furthermore, to improve employee effectiveness and increase business productivity, better planning of personnel by the manager should be considered. Adequate personnel planning have a significant effect in the organisation, it will lead to the achievement of organisational goals and objectives and also survival of an organization. Personnel planning play an important and vital role in administrative functions within the organisation. Personnel planning oversee payroll, benefit, recruiting and hiring employee and function as an intermediary between employee and management since it manages such a different assessment of responsibilities, a disorganized and incompetent place of work can be the outcome if the department does not succeed, to plan distinctive responsibilities effectively (Todd Barol, 2012).

Thus, personnel planning is a management activity that involves a thorough analysis of existing workforce, job requirements in other sources and developing personnel who will run the structures of the evolutionary organisation now and in the future in order to ensure the achievement of objectives.

2.3.1.2 Inventory Planning

Inventory planning is the process of deciding how and where new materials can be sourced; taking different stock of what is needed in the store for a period of six to twelve months; and regularly taking stock of proper inventory site (Gaskill, Van-Auken & Kim, 1994). According to Şebnem (2019), inventory planning can be considered as key tactical level decisions to facilitate the effective and timely stocking of raw materials or finished products. Ideally, inventory planning helps to reduce costs, improve customer service levels, improve operations and improve profitability (Hamisi, 2010; Sople, 2010; Chopra, Meindl, & Kalra, 2007; Hatten, 2012). Specifically, the goal of inventory planning is to ensure the availability of the resources in an organisation.

Furthermore, inventory planning tells you where inventory is needed and where it is not needed. The major function of inventory planning is to abreast managers with the quantity of goods to re-order, when to reorder the goods, duration of orders and what the suitable safety stock is, for minimizing stock-outs (Ogbo, 2011). Also, it helps to develop and employ strategies to optimize the inventory levels, to maximize the service level and level of demand fulfillment through preventing stock outs and backlogs, and to minimize the cost of holding stock (Şebnem, 2019). Successful managers assume personal responsibility and proper inventory, as they are held accountable (Mueller & Thomas, 2001, p. 55; Rwigema & Venter, 2004, p. 64).

2.4. Organisational Environment

Generally, organisational environment can be understood as a combination of all environmental conditions and influences that can affect or influence business activities. According to Hans (2018), organisational environment is defined as a merger between the internal and external factors that stimulates a firm's activities and its stakeholders and business regulations. Hence, organisational environment represents all forces, factors and institutions that are beyond the control of the business and affect the smooth running of a business enterprise. These include customers, competitors, suppliers, government, and the social, political, legal and technological factors etc. Thus, organisational environment means anything, which surrounds the business organisation.

Furthermore, Ashley and Van de Van (1986), are of the view that the managers ought to be able to manage and control the organisation in the difficult scenarios and emergency period. It is noteworthy that organisations and in considering this fact, effective management requires the assessment of strength and weakness of the organisation and the opportunity and threat posed by the challenges of the external environment. Changes take the form of adaptation. For survival and growth, organisation must adapt these changes. Thus, the success of every business depends on adapting itself to the environment within which it functions.

2.5. Empirical Review

Gaskill, Van Auken and Kim (1994) studied operational planning activities of 92 successful and 91 failed small business clothing and adornment retailers in Iowa. Using analysis of variance (ANOVA) to verify the significant differences between the four planning dimensions (i.e. marketing, personnel, financial, inventory). It was found that marketing, financial, and inventory planning significantly differed between groups ($p < .001$). Successful small business retailers were substantially more likely to succeed than the failed business owners who practice market, financial, and inventory planning. There were no significant differences found in personnel planning activities.

Ifekwem and Adedamola (2016) investigated the survival strategies and sustainability of SMEs using selected small businesses in the Oshodi-Isolo Local Government Area, Lagos State. Fifty (50) SMEs were randomly selected. Analysis was done with Pearson's product–moment correlation coefficient, with the aid of the Statistical Package for Social Science (SPSS) Version 21.0. The result revealed that there is a significant relationship between survival strategies and the small firms' sustainability.

Obasan (2014) studied the impact of organisational environment on the survival of small businesses in Nigeria. A logistic regression analysis revealed predictable distribution of 72.15% of the observed values of the survival of small scale businesses, with a -2 Log Likelihood value of 105.20 while factors like inflationary trend, Infrastructural facilities accessibility and government policy are impediments to business growth and survival, the other variables that are controllable by managers ensures a positive impact on the business. These authors recommended that entrepreneurs must

developed and adopt scientific and rational business management policy that will help and increase their knowledge of both their organisation and its environment in order to expedite planning and outcomes on the most critical issues that affects business survival.

Furthermore, Al Shobaki, Abu Amuna and Abu Naser (2016) studied the function of strategic and operational planning as approach for crises management in United Nations Relief and Works Agency (UNRWA) – Gaza Strip field- Palestine. With a population of 881 and a sample size of 268 and data analysis and hypothesis testing was done via several statistical tools, including reliability Correlation using Cronbach's alpha, "ANOVA". The hypotheses test revealed a weak static relation between strategic and operational planning and crisis management with Pearson Correlation Coefficient (0.431). It was revealed that strategic and operational planning is performed in UNRWA. The results supported the proposition which states that there are relationships between strategic and operational planning and crises management. Despite the relationship, more improvement and expansion is needed. It was suggested that UNRWA have to put more on resources to improve strategic and operational planning and enhance other means to manage potential crises imminently.

3. METHODOLOGY

3.1. Population and Sampling Method

The population for the survey consist of telecommunication services SMEs operating in Rivers State. A total of one hundred and eighty three (183) telecommunication services SMEs were selected as the population. However, because several SMEs go into extinction after five years, our survey was on those SMEs (telecommunication services) that have being in business for more than ten years. This resulted in having one hundred and thirty one (131) SMEs being selected for this research.

3.2. Data collection, Questionnaire Design and Instrumentation

The study involved primary and secondary methods of data collection. The secondary data were obtained from company records, journals and government publication, while primary data were obtained from responses of the structured questionnaire administered to the

respondents. Out of the 131 copies of the questionnaire distributed, 103 (which represent 78.7%) were completely filled and returned for manipulation. The questionnaire consists of four sections. Section A is concerned with the demographic information of the respondents, which include gender, age, marital status, highest level of educational attainment, position in the organisation and years of experience in the organisation. Section B contains items that captured operational planning. It consists of two dimensions, viz: Personnel Planning and Inventory Planning. which were adapted from Gaskill, Van-Auken and Kim (1994). Personnel planning is depicted by five (5) items - e.g. "Analyzing training needs at least annually". Inventory Planning is described by nine (9) items – e.g. "Reviewing purchasing policies annually". Section C has 7 observable indicators for organisational survival, 3 of which are for innovation while 4 are for adaptability. Innovation has three items (e.g. "We are regularly improving our business processes") was adapted from Wang and Ahmed (2004). Adaptability has four items (e.g. "Our organisation frequently modifies our products/services") was adopted from Chu (2012). Section D contains four manifest indicators that captured organisational environment adopted from Jarwoski and Kohli (1993) - e.g. "In our market changes takes place continuously" Apart from the demographic variables, all other items in the survey instrument were anchored on a five-point Likert scale of 1=Strongly Disagree to 5=Strongly Agree.

3.3. Data analysis Techniques

The sample characteristics and nature of the data were analyzed using means and standard deviation, skewness and kurtosis with the aid of the IBM SPSS Statistics version 22, while the Partial Least Square - Structural Equation Modeling was used to analyze the measurement of the constructs as well as the hypothesized relationships, with the aid of Smart PLS 3.2.6 (Ringle, Wende, & Becker, 2015). Partial Least Square (PLS) – Structural Equation Modeling (SEM) has the advantage of placing minimal demand on sample size (Fornell & Bookstein, 1982). Moreover, PLS-SEM has great flexibility in estimating multiple interaction effects (Sarkar, Echambadi, & Harrison, 2001).

4. DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Demographic Characteristics of Respondents

A total of 131 Copies of the survey instrument was administered to owners/managers those SMEs (telecommunication services) that have being in business for more than ten years. One hundred and three (103) copies of the questionnaire were returned which represents 78.7% response rate. These copies of the instrument were properly filled by the respondents and so were used for analysis. Table 4.1 below shows the demographic characteristics of the respondents.

Table 4.1: Demographic Characteristics of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	77	74.8	74.8	74.8
	Female	26	25.2	25.2	100.0
Age	20-35	32	31.1	31.1	31.1
	36-50	61	59.2	59.2	90.3
	51-Above	10	9.7	9.7	100.0
Marital Status	Single	23	22.3	22.3	22.3
	Married	66	64.1	64.1	86.4
	Separated	8	7.8	7.8	94.2
	Divorced	6	5.8	5.8	100.0
Educational Qualification	WAEC-OND	21	20.4	20.4	20.4
	B.SC/HND	64	62.1	62.1	82.5
	Maters-Above	18	17.5	17.5	100.0
Position in the Organisation	Managers	39	37.9	37.9	37.9
	Owners	64	62.1	62.1	100.0
Years of Experience in the Organisation	0 – 5 years	38	36.9	36.9	36.9
	6 – 10 years	47	45.6	45.6	82.5
	11 years and above	18	17.5	17.5	100.0
	Total	**103**	**100.0**	**100.0**	

Source: Research Data (SPSS Output), 2021

Table 4.1 indicates the demographic details of the 103 respondents that participated in the study. For gender distribution, result shows that 77 respondents (74.8%) were males while 26 (25.2%) were females. For age distribution, respondents within 51 years and above age brackets were the minority recorded with only 10 respondents (9.7%), while those between 36-50 were the majority respondents with 61 (59.2%). And the age bracket of 20-35 had 32, representing 31.1% of the total number of respondents. For marital status, 66 respondents (64.1%) were married, 23 (22.3%) were single, 8 (7.8%) were separated, while 6 (5.8%) were divorced. On highest level of

educational qualification, 64 respondents (62.1%) have Bachelor Degree and Higher National Diploma, 21 respondents (20.4%) have The West African School Certificate and Ordinary National Diploma while 18 respondents (17.5%) have Master Degree and above. As regards to position in the organisation, there are 39 managers, representing 37.9%, while owners are 64 representing 62.1% of the total number of respondents. Finally, for years of experience in the organisations, 38 respondents representing 36.9% have worked in their organisations for 0-5 years, 47 (45.6%) have worked for 6-10 years, while 18 respondents, representing 17.5% have worked in their organisations for 11 years and above.

From the result in Table 4.1, respondents are mostly males. This great disparity may be due to Nigeria being a male dominated society (Amadi, 1982). Also, few women may have the zeal to be employed or remain as managers in SMEs which requires constant mobility.

Findings on the respondents' demographic profile also indicated that most of the respondents fall between the age bracket of thirty six and fifty years old, with over sixty percent being over thirty six years. Thus, a large chunk of the owners/managers are at their energetic years.

Also, it was revealed that a large portion of the subjects are married, followed by single, separated and divorced.

Furthermore, most of the respondents have a bachelor degree to master and above. It means that most of the respondents are sufficiently educated and thus may exhibit an advanced level of cognitive thinking; which implies that they may have a better understanding about the questionnaire and respond correctly.

Also, it was revealed that a chunk of the respondents are owners. Most operational jobs in the SME sector do not demand the input of employees before they could be completed. This may not be unconnected to a deliberate attempt to slash the total salary of the firm, especially as warranted by the chaotic economic environment.

Finally, almost half of the respondents have worked between six and ten years. Additionally, over forty percent of the respondents have worked between 0 to 5 years. Data also reveal that about over ten percent of the respondents have been in their respective organisations for over 11 years. This implies that more than fifty percent of the respondents have been employed for over 5 years.

4.2: Univariate Analysis

Data concerning the five latent variables were analyzed in terms of their means, standard deviations and kurtosis. On a five-point scale, Oxford and Burry-stock (1995), classified mean values (M) are classified between 1.0 - 2.4 as low, 2.5 - 3.4 as medium, while Asawo (2009) classified all responses with mean values between 1.0 - 2.4.0 as low, 2.5 - 3.4 as moderate, 3.5 - 4.4 as high and 4.5 above as very high. Hence, 2.5 is the recommended cut-off mean score for this study.

Furthermore, in testing for normality of the data sets, skeweness (S_k) and kurtosis (K_u) of the responses on the items were analysed (Weston & Gore, 2006). In line with Bulmer (1979), a distribution is highly skewed when the skewness value is not more than -1.0 or more than 1.0; moderate if value is between -1.0 and -0.5 or 0.5 and 1.0, and fairly symmetrical if values are between -0.5 and 0.5. Also, as a simple criterion to be applied, the skewness and kurtosis values of each variable was divided by its corresponding Standard Error (S.E) and the result revealed that the outputs did not differ much between -2 and +2, indicating no serious violation of normality (George & Mallery, 2010; Gravetter & Wallnau, 2014). Table 4.2 shows that personnel planning has low scores (M = 2.08, SD = 0.52), inventory planning has moderate scores (M = 2.55, SD = 0.56), innovation has moderate scores (M = 2.72, SD = 0.59), adaptability has moderate scores (M = 2.71, SD = 0.64) and organisational environment also, attracted moderate scores above the threshold (M = 2.87, SD = 0.68).

Furthermore, since the model is tested using PLS, which is robust under situations of mild non-normality, further alterations to the data are not necessary.

Table 4.2: Descriptive Statistics of Latent Variables

Latent Variable	Mean	Standard Deviation	Skewness (S_k)	Kurtosis (K_u)	Standard Error
PP	2.08	0.52	0.53	0.04	0.21
IP	2.55	0.56	0.50	0.09	0.43
OE	2.87	0.68	0.63	0.54	0.29
IN	2.72	0.59	0.72	0.73	0.35
AD	2.71	0.64	0.84	0.30	0.42

Source: Research Data (SPSS Output), 2021

4.3: Multivariate (Inferential) Analysis

Owing to the fact that this study is concerned with the relationships and explanation of target variables, the Partial Least Square-Structural Equation Modeling is considered suitable (Hair, Hult, Ringle & Sarstedt, 2014; Lowry & Gaskin, 2014). It can be an alternative for non-parametric methods as it presents fewer constraints, particularly data distribution and determination of sample size (Esposito Vinzi et al., 2010).

The PLS-SEM algorithm has two models, namely: (i) the model inside which explains the structural connections between the variables, while the model outside shows the connection between the latent variables (LVs) and their corresponding items. The independent variable is Operational Planning which is disintegrated into Personnel Planning and Inventory Planning. The dependent variable is organisational survival which has innovation and adaptability as sub-constructs. Additionally, the moderating effect of organisational environment is measured after assessing the inner direct relationships.

Lohmoller (1989) presented examples where a model with 96 indicators, and 26 constructs was estimated with 100 data cases. In this study, there are 9 constructs and 143 samples, which may be enough to perform PLS-SEM. Moreover, based on regression heuristics, Chin (1998) advocated a sample size that is at least 10 times the block with the largest number of indicators. In this study, Environmental Turbulence as a latent variable has the largest number of 10 indicators. Thus, by multiplying 10 by 10 gives 100. Since this study has 143 cases, it could be appropriate to deploy the PLS-SEM via Smart PLS 3.2.6 (Ringle, Wende, & Becker, 2015).

The following are the stages of the PLS-SEM algorithmic model evaluation (i) Assessment of Measurement Model, (ii) Assessment of Structural Model (direct effect), and (iii) Assessment of Moderating or interactive effect.

4.3.1 Assessment of Measurement Model

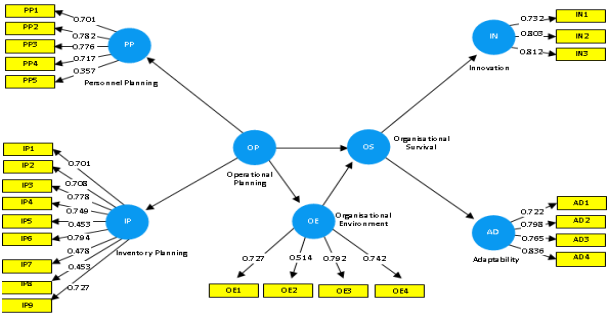

Figure 1: Smart PLS 3.2.6 output for outer loadings of indicators

Figure 1 shows the Smart PLS 3.2.6 output for outer loadings of the indicators. This result is shown in table 4.2 in order to assess reliability and convergent validity of the model.

Table 4.2: PLS-SEM Assessment Results of Measurement Model

Latent Variable	Indicators	Convergent Validity			Internal Consistency Reliability		
		Loadings	Indicator Reliability	AVE	Composite Reliability	Reliability Coefficient	Cronbach Alpha
		> 0.70	> 0.70	> 0.50	> 0.70	> 0.70	0.70-0.90
PP	PP_1	0.701	0.491				
	PP_2	0.782	0.621	**0.469**	0.732	0.661	0.651
	PP_3	0.776	0.602				
	PP_4	0.717	0.514				
	PP_5	***0.357***	***0.127***				
IP	IP_1	0.756	0.572				
	IP_2	0.708	0.501	**0.448**	0.903	0.825	0.813
	IP_3	0.778	0.605				
	IP_4	0.749	0.561				
	IP_5	***0.453***	0.205				
	IP_6	0.794	0.630				
	IP-	***0.478***	0.228				
	IP_8	***0.453***	0.205				
	IP_9	0.727	0.529				
OE	OE_1	0.727	0.529				
	OE_2	***0.514***	***0.264***	***0.493***	0.891	0.798	0.794
	OE_3	0.792	0.627				
	OE_4	0.742	0.551				
IN	IN_1	0.732	0.536				
	IN_2	0.803	0.645	0.613	0.840	0.764	0.741
	IN_3	0.812	0.659				
AD	AD_1	0.722	0.521				
	AD_2	0.798	0.637	0.611	0.871	0.782	0.772
	AD_3	0.765	0.585				
	AD_4	0.836	0.699				

Note: PP = Personnel Planning, IP = Inventory Planning, OE = Organisational Environment, IN = Innovation, AD = Adaptability. **Note: Bold and italicized items/scores did not meet recommended threshold**

As stated in table 4.2, latent variables reported good composite reliability values which range from 0.743 (Personnel Planning) to 0.911 (Inventory Planning). Specifically, it means that the proportion of the total composite variance that serves as an estimation of the

true-score variance of each latent variable is above the 0.70 cut-off value (Wang & Stanley, 1970).

Also, both the reliability coefficients of the unobserved (latent) variables and their corresponding Cronbach's alpha values improved; far exceeding the 0.7 threshold (Nunnally & Bernstein, 1994). Consequently, the results verify that the extracted variables are consistent in interpreting the variances that comprises them.

Furthermore, convergent validity of the model was confirmed through the values of the Average Variance Extracted (AVE), which exceeded the recommended 0.50 threshold (Fornell & Larcker criterion, 1981). Next is table 4.3 which shows the output for the test of discriminant (divergent) validity.

Table 4.3: Test of Discriminant Validity - Fornell and Larcker (1981) criterion

	AVE	PP	IP	OE	IN	AD
PP	0.555	**0.745**				
IP	0.566	0.237	**0.752**			
OE	0.570	0.187	0.103	**0.755**		
IN	0.613	0.057	0.224	0.163	**0.783**	
AD	0.611	0.074	0.041	0.112	0.143	**0.782**

Note: AVE = Average Variance Extracted. PP = Personnel Planning, IP = Inventory Planning, OE = Organisational Environment, IN = Innovation, AD = Adaptability. The off-diagonal values are the correlations between latent variables, while **the diagonal values in (bold) denote the square roots of AVEs.**

Source: Smart PLS 3.2.6 Output on Research Data, 2021

It can be deduced from table 4.3 that the model demonstrates discriminant validity since the square roots of the AVEs (diagonal values in bold) are higher than 0.70, and are far above the correlations between the constructs (the off-diagonal figures). This confirms that each construct is sufficiently distinct from any other one (Fornell & Larcker, 1981).

4.3.2: Assessing the Structural Model (Main Effect)

This stage involves testing the hypotheses through the significance of the path coefficients (β) and the predictive accuracy (coefficients of determination or R^2). Also, the Stone-Geisser test method (Geisser, 1975; Stone, 1974) a nonparametric method was used to assess the

predictive relevance (Q^2) as a substitute to goodness-of-fit. This test uses a blindfolding procedure (e.g., Tenenhaus et al. 2005).

4.3.2.1: Tests of Hypotheses

Table 4.4 shows the results on the tests of hypotheses H_{O1}, H_{O2}, H_{O3} and H_{O4} and the moderating effect of organisational environment on the model (H_{O5}a and H_{O5}b) is also demonstrated.

Table 4.4: Results of Hypotheses Testing

Null Hypothesis	Path (Relationship)	Path Coefficient (β)	Standard Error	t- Statistic	Decision
H_{O1}:	PP -> IN	0.552	0.052	3.007	Not supported
H_{O2}:	IP -> IN	0.103	0.104	1.997	Not supported
H_{O3}:	PP -> AD	0.184	0.086	2.019	Not supported
H_{O4}:	IP -> AD	0.417	0.072	1.460	Not supported
H_{O5}a:	OP -> OS	0.112	0.113	1.980	Not supported
H_{O5}b:	OE -> OS	-0.252	0.082	2.012	Not supported
Note: PP=Personnel Planning, IP=Inventory Planning, OE=Organisational Environment, IN=Innovation, AD= Adaptability.					

Source: Smart PLS 3.2.6 Output on Research Data, 2021

This study bootstrapped 500 samples by random replacement method, the path coefficients and the resulting t-values were recorded. This provides the rationale for either confirming or disconfirming the hypotheses. Routinely, path coefficients (β values) of .10 to 0.29, .30 to .49 and .50 to 1.0 are weak, moderate and strong correlations, respectively (Cohen, 1988). Furthermore, for a two tailed test, t values above 1.96 are significant, while t values below 1.96 are non-significant (Hair et al., 2014).

Table 4.4 shows that there is a positive, strong and significant relationship between personnel planning and innovation (β=0.552, t=3.007); a positive, weak and significant relationship between inventory planning and innovation (β=0.103, t=1.997); a positive, weak and significant relationship between personnel planning and adaptability (β=0.184, t=2.019); a positive, moderate and significant relationship between inventory planning and adaptability (β=0.417, t=1.460); a positive, weak and significant relationship between

operational planning and organisational survival (ß=0.112, t=1.980); and a negative, strong and significant relationship between organisational environment and organisational survival (ß=-0.252, t=2.012).Therefore, H_{O1}, H_{O2}, H_{O3}, H_{O4}, H_{O5}a and H_{O5}b were supported.

4.3.2.2: Assessment of Predictive Accuracy (R^2) and Predictive Relevance (Q^2)

R-squared (R^2) which measures predictive accuracy is the figure that shows the effects of all the independent latent variables on a dependent variable (Hair, Hult, Ringle & Sarstedt, 2014). The predictive accuracy (R^2) ranges from 0 to 1, with 1indicating complete predictive accuracy. As a rule of thumb, R^2 with 0.75, 0.50 and 0.25 represents substantial, moderate or weak levels of predictive accuracy, respectively (Hair et al., 2014). Chin (1988), alternatively, describes R^2 values of 0.67, 0.33 and 0.19 as substantial, moderate and weak, respectively (Henseler et al., 2009). A related figure to R^2 is the adjusted R^2. The adjusted R^2 is the proportion of variation explained by only the exogenous construct that actually affect the endogenous construct.

Predictive relevance (Q^2) assessment is mostly used in PLS modelling as an alternative for goodness-of-fit evaluation (Duarte & Raposo, 2010). It is a cross-validated redundancy approach of blindfolding method to evaluate Q^2 was used with (Wold, 1982) omission distance of 7, proposed by Hair et al., 2017). As a benchmark, when Q^2 values of the dependent variable are greater than zero (>0), it shows that the independent (controlled) variable has predictive relevance for the dependent variable (Hair et al. 2011).

Table 4.5 below shows the outputs for predictive accuracy (R^2) and predictive relevance (Q^2).

Endogenous Latent Variable	Correlation Coefficient *(R)*	Predictive Accuracy *(R^2)*	Adjusted R^2	Predictive Relevance *(Q^2)*
IN	0.612	0.375	0.374	0.223
AD	0.821	0.674	0.673	0.327
Reference Values: R^2, 0.19 = weak, R^2, 0.33 = moderate, R^2, 0.67 = substantial, Chin (1988), Q^2> = satisfactory predictive relevance, Hair et al., (2011)				

Source: Smart PLS 3.2.6 Output on Research Data, 2021

The figures in table 4.5 indicate positive, moderate and significant correlations (R) between the dimensions of operational planning and the measures of organisational survival. The combined correlation of the facets of exogenous construct reported R values of 61.2% for innovation and 67.4% for adaptability. This means innovation attracted the lower correlation score while adaptability is higher. In addition is the R^2 which demonstrates the accuracy of the models.

The first model, IN = f {PP, IP}, recorded a moderate R^2 of 0.375. Thus, personnel planning and inventory planning jointly explain 37.5% of the variance of innovation, while other unidentified variables are responsible for the remaining 65.5%. This connotes that, the model has a moderate predictive accuracy.

Secondly, AD = f {PP, IP} reported strong R^2 of 0.674. This implies that personnel planning and inventory planning jointly explain 67.4% of the variance of adaptability, while other unidentified variables are responsible for the remaining 32.6%. Hence, the model has a substantial predictive accuracy.

Furthermore, outputs for the two dependent latent variables reveals that Q^2 is 0.223 for innovation and 0.327 for adaptability. Since the Q^2 values for the dependent variables are greater than zero, it means the structural model is relevant in predicting the dependent latent variables' indicators.

4.3.3: Assessment of Moderating Effect

As earlier stated in section 4.3.2.1 that hypothesis five (H_{O5}) would be tested in this section. The steps of PLS-SEM require that moderating effects are tested after main effects have been evaluated. Specifically, H_{O5} states that *variation in organisational survival as a result of operational planning is not significantly a function of organisational environment.*

The moderating effect of OE was evaluated through the interaction term (cross product of OP_PLA and OE). This process is known as the product indicator method (Hair et al., 2014). Three components were identified at this stage, viz: the influence of OP_PLA on ORG_SUR, the direct outcome of the moderating variable (i.e., OE) on ORG_SUR, and the resultant interaction values. The Smart PLS 3.2.6 statistical tool offers the interacting term as an automatic option with the product indicators (Ringle et al., 2015). The weakening effect of OE was proven because the beta (β) from the interaction component

to the target variable was significant (t> 1.96) disregarding other values (Baron & Kenny, 1986).

Figure 2 shows the Smart PLS 3.2.6 bootstrap output on the straight relationship between Operational Planning and Organisational Survival.

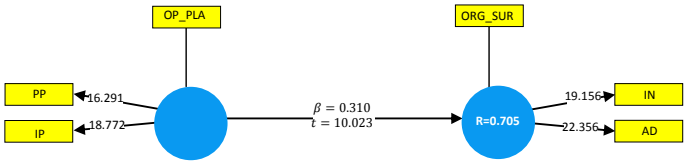

Figure 2: Bootstrapping output on relationship between OP_PLA and ORG_SUR (without moderating variable).

Result from figure 4.2 indicate that, while Organisational Environment (OE) was not present, the path relationship (OP_PLA –> ORG_SUR) is significant (β = 0.310, t = 10.023).

As the moderating variable (OE) was included, next was to right click ORG_SUR, afterward, OE was stated as the moderator variable, and OP_PLA as the explanatory variable. Thereafter, I clicked the calculation method stated as 'Product Indicator'. Finally, the "Enter" button was clicked which produced 'OP_PLA*OE' as interaction term of the model. Figure 3 below, reveals the new bootstrapped structural connection between OP_PLA and ORG_SUR when OE was introduced.

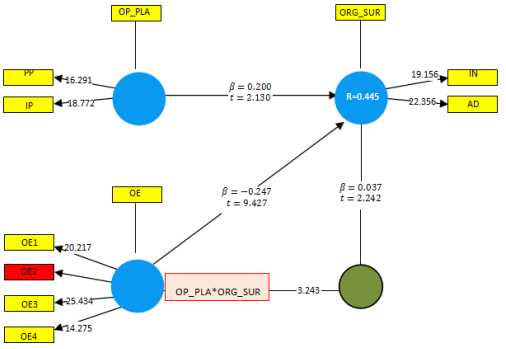

Figure 3: Path relationship between OP_PLA –> ORG_SUR in the presence of OE.

The result from the structural model in figure 3 is shown in table 4.6.

Table 4.6: Test for moderating effect

	Paths	Path Coefficient (β)	t-value	Decision
Hypothesis Testing without moderating variable	OP_PLA -> ORG_SUR	0.310	10.023	Not supported
Hypothesis Testing with moderating variable	OP_PLA -> ORG_SUR	0.200	2.130	Not supported
	OE -> ORG_SUR	-0.247	9.427	Not supported
	Moderating effect 1 -> ORG_SUR	-0.037	2.242	Not supported

Source: Smart PLS 3.2.6 Output on Research Data, 2021

In table 4.6, OP_PLA -> ORG_SUR recorded significant path relationship (β = 0.310, t = 10.023) when OE was not present. Nevertheless, OP_PLA -> ORG_SUR recorded a sudden decline in the path coefficient and t-value (β = 0.200, t = 2.130) with the introduction of OE. Moreover, the moderating Effect 1 –> ORG_SUR (β = -0.037, t = 2.242) is significant. This means, the relationship between OP_PLA and ORG_SUR is significantly bounded by OE.

4.3.3.1: Determination of Effect Sizes (f^2) of the Moderating Variable

Furthermore, the moderating effect of Organisational Environment on the relationship between Operational Planning and Organisational Survival can be determined through the effect size criterion.

The formula for effect size of the moderator is given as:

$$f^2 = \frac{R^2_{moderatorpresent} - R^2_{moderatorabsent}}{1 - R^2_{moderatorpresent}}$$

Where moderating effects with effect sizes $f^2$of 0.02, 0.15, or more than 0.35 can be adjudged low, medium, or high. Less than 0.02 means no effect (Cohen, 1988).

Table 4.7 shows the effect size of organisational environment on the model.

Table 4.7: Effect Sizes of the latent variables

Exogenous Variable	Endogenous Variable	R with moderator	R without moderator	R Squared with moderator	R Squared without moderator	f^2 effect size	Remark on effect size
OP	OS	0.427	0.703	0.182	0.494	-0.381	Large

Source: Smart PLS 3.2.6 Output on Research Data, 2021

Thus, table 4.7 confirms that organisational environment has a large, negative moderating effect (f^2= -0.359) on the relationship between operational planning and organisational survival.

4.4: Discussion

This study investigated the relationship between operational planning and organisational survival of small and medium enterprises in Rivers State, Nigeria. Findings reveal that owners/managers of SMEs are predominantly males than females. Also, majority of the respondents are between thirty six and fifty years old, with most of them married. Furthermore, most of the owners and managers are graduates. Lastly, majority of them have stayed in their respective organisations for over 6 years.

Moreover, although the owners/managers of SMEs are enthusiastic, they have moderate levels of inventory planning, innovation and adaptability coupled with low level of personnel planning.

The study also revealed that higher levels of personnel planning and inventory planning will give rise to high levels of innovation. By comparison, inventory planning contributes moderate effect on the overall relationship between operational planning and innovation, whereas personnel planning have significant but low effect on innovation.

Furthermore, higher levels of personnel planning and inventory planning will give rise to high levels of adaptability. By comparison, inventory planning contributes moderate effect on the overall relationship between operational planning and adaptability, whereas personnel planning have significant but low effect on adaptability.

The study also found that higher level of changes in organisational environment significantly erodes the positive effect of operational planning on organisational survival.

5. CONCLUSIONS AND RECOMMENDATIONS

Theoretically, the study submits that organisational environment and changes in degree of operational planning are the reason for changes in degree of organisational survival. This conclusion validates Ifekwem and Adedamola (2016) view that a thorough plan for a dedicated and inspired workforce is essential in ensuring organisational survival.

Furthermore, the study also gives a theoretical support to Mulero and Emeka (2018) finding that personnel will be most creative when they are motivated mainly by the interest; enjoyment, satisfaction, and challenge of the given task will enhance generation of ideas, which leads to innovation. And also, with the empirical findings from Morris and Zahra (2000) that a wrong attitude to innovation can lead to risk-averting behaviour and imposition of random constraints and structures that stifle the owner/manager's ability to change.

On organisational environment, the study supports the view that, environmental conditions inhibit the connection between the activities of planning and survival. Explicitly, the study advocates that higher levels of variations in the organisational environment takes a weakening toll on the possibility of organisations to constantly be in operation despite many challenges. This study is in accord with Zahra, et al. (2006) that, having dynamic capabilities to reorganize or arrange those substantive capabilities regarding the aims and objectives of the firms will aid survival, as they come in contact with the organisation's environment (internal and external environment).

Practically, the study implies that owners/managers need to understand how they can invigorate organisational survival through the reformation and exploitation of operational planning. In keeping with the above, owners/managers ought to acknowledge that operational planning, dimensionalized as personnel planning and inventory planning, do not automatically guarantee the survival of organisations. Rather, owners/managers need to acknowledge the possible inimical effect of organisational environment on the relationship between operational planning and organisational survival.

The study also emphasized that owners/managers ought to have a grasp of how to cushion the weakening effect of organisational

environment on the connection between operational planning and organisational survival.

The study recommends that:

1. SMEs should carry out routine training of personnel and assess personnel capabilities at least annually, review and set a recommended employee productivity standards and determine specific action plan to improve job satisfaction, in order to survive.

2. SMEs owners/managers should review their purchasing policies, monitor adequacy of stock level, analyze cost of placing an order, purchasing and keeping inventory at least once a year. They should also periodically review the availability of each major item, analyze major items turnover on a monthly basis and take stock of different inventory at least twice a year.

5.1: Limitations and Suggestions for Further Research Directions

This study is affected by some factors which constitute limitations. They include:

Firstly, the study will have limited coverage because it considers only the SMEs in Rivers State. Secondly, it is expected that not all participants will be willing to complete the questionnaires quickly or completely. This will lead to having a limited response from the participants. Thirdly, the study does not explore all the indicators of the study variables available in literature. Rather, only some were considered, thus making the study limited in depth of the constructs.

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