

Instrument for Testing Innovation on the Sustainable Growth of Manufacturing SMEs in Nigeria: A Pilot Study

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Received: March 11, 2020; Accepted: June 15, 2020; Published: June 16, 2020

Abstract

This paper is based on a pilot study which was conducted to test innovation on the sustainable growth of SMEs by focusing on the methodological viewpoints. The objective of the pilot study was to assess the viability, length of time, cost, and adverse effects of innovation on the sustainable growth of SMEs in Nigeria so as to enhance the design of the questionnaire before its full implementation. A review of the research instrument was performed by four multi-disciplinary academics who specialised in management, accounting, and strategic management, respectively. The aim was to ensure consistency in the questionnaire so that respondents would have no trouble completing them. The statistical package for social sciences (SPSS) Version 23 was used to assist in the exploratory factor analysis (EFA) which tests for reliability and the Cronbach alpha values were used to examine the content and face validity of the instrument. All the constructs and items used in the model were adapted from previous literature. The sample size used for the study comprised 100 respondents recruited from the SMEs operating in Nigeria. The findings showed that all the constructs in the model carried a high Cronbach alpha value of above 0.7. Therefore, all items used in the instrument were retained. This study is expected to contribute to the literature on methodological multivariate studies, the quantitative approach research on innovation, and the sustainable growth of SMEs.

Keywords: pilot study, innovation, sustainable growth of SMEs, quantitative approach, methodological viewpoint

1. Introduction

Upon completion, the final draft of the survey questionnaire was despatched to the four experts who academics were specialising in management and strategic management so that the instrument can be evaluated for further review. This was termed as pre-testing, an important stage for ensuring that there was no ambiguity in the questions designed so that the information required can be extracted as intended (Sekaran, 2003; Memon, Ting, Ramayah, Chuah, & Cheah, 2017). A pre-test usually uses a small-scale trial of a particular research component which may involve written or oral feedback. In the context of the pre-test done in this study, no substantial problem was detected with the questionnaire wordings and design. Nonetheless, some minor adjustments following the experts' recommendations were made prior to the pilot study (Saunders, Lewis & Thornhill 2012). The pilot study is a preliminary study. It focuses on the entire research procedure, but only a small sample is used. This pilot study adopted the exploratory factor analysis (EFA) (Pearson & Mundform, 2010), with the aid of the SPSS Version 23, to analyse the accuracy of the findings. The Cronbach alpha was used to assess the content and face validity of the variables and measurement items used. The exploratory factor analysis (EFA) is a statistical method that reduces a large number of observed variables into a small number of "factors/ components" which reflect the common clusters (Hadi, Abdullah & Sentosa, 2016; Bento, Gaultney & Dahlquist, 2020). The exploratory factor analysis (EFA) is thus, a valuable tool for analysing the relationship between the measured constructs.

The sample size used for this pilot study comprised 100 respondents. The decision was based on the recommendation of past studies (Memon et al., 2017). For instance, Cooper and Schindler (2011) mentioned that a target sample size of between 25-100 persons is enough for conducting a pilot study involving a survey. This was confirmed by Connelly (2008) who maintained that 10 percent of the sample estimated for the main study should serve as the sample size for the pilot study. Cooper and Schindler (2011) also maintained that the target sample size could also be based on the kind of examination conducted at the phase of the evaluation while Hill (1998), and Isaac and Michael (1995) noted that the range of between 10-30 individuals is adequate for a pilot test.

Thus, this study administered the survey questionnaire on 100 target respondents so as to ensure that the outcome derived from the exploratory factor analysis would be consistent with prior studies (Hoque, Awang, Jusoff, Salleh & Muda, 2017; Jung & Lee, 2011; Gorsuch, 1983; Hair, Black, Babin & Anderson, 2010; Sang, Mail, Karim, Ulum, Mifli & Lajuni, 2017; Kline, 1994) . The 100 respondents were contacts who were attached to 52 manufacturing SMEs in the North Central Geopolitical Zone of Nigeria The survey attempted to gather their demographic information as well as some background information about their respective enterprise or firms from the North Central Geopolitical Zone of Nigeria. The 100 respondents were approach using simple random sampling, via mailed survey. Their input would help to shed some light on how the main study could be conducted (Kelley, Clark, Brown & Sitzia, 2003).

2. Frequency Analysis

The demographic analysis derived from the pilot-study was categorised in two ways: the respondents' profile and their enterprises' background information such as present business status, sub-sector of the enterprise, number of full-time employees hired, nature of enterprise's business unit/legal status, and basic enterprise assets (excluding land and buildings). The demographics of the respondents were described in six different areas: gender, age, highest qualification, responsibilities, years of services or working experience, and location/area where data was collected. The details of the frequency analysis are presented in the tables provided below.

2.1 Demographics of the Enterprises (Manufacturing SMEs)

Details of the enterprises comprised of several components as illustrate in Table 1 below. The details are presented in terms of frequency analysis.

Table 1. How would you describe the present business status of your manufacturing enterprise?

	Frequency	Percent	Valid Percent	Cumulative Percent
Novel concept that has never existed	15	15.0	15.0	15.0
Established from an existing concept of manufacturing enterprise in Nigeria	69	69.0	69.0	84.0
Established from existing concept of manufacturing enterprise outside Nigeria	16	16.0	16.0	100.0
Total	100	100.0	100.0	

Table 1 shows three general outcomes with majority describing the business status of their enterprises as 'established from an existing concept of manufacturing in Nigeria'. Almost an equal amount of the respondents stated that the business status of their enterprises were 'established from existing concept of manufacturing outside of Nigeria' (16%), and 'novel concept that had never existed' (15%). This result revealed that majority of the respondents were attached to enterprises that had been established from the existing concept of manufacturing enterprises in Nigeria.

The survey noted in this pilot study also aimed to measure the length of time the respondents' enterprises had been operating in Nigeria. Table 2 below illustrates the results.

Table 2. How long has your manufacturing enterprise been incorporated in Nigeria?

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5 years	5	5.0	5.0	5.0
6 -10 years	21	21.0	21.0	26.0
11-15 years	22	22.0	22.0	48.0
16-20 years	29	29.0	29.0	77.0
21-25 years	10	10.0	10.0	87.0
26-30 years	4	4.0	4.0	91.0
Above 31 years	9	9.0	9.0	100.0
Total	100	100.0	100.0	

The information displayed in the table shows that 5% of the respondents' enterprises had been established in Nigeria from 1-5 years, 21% of the enterprises had been established from 6 to 10 years, 22% of the enterprises had

been established from 11-15 years, 29% of the enterprises had been established from 16-20 years, 10% of the enterprises had been established from 21- 25 years, 4% of the enterprises had been established from 26-30 years, and 9% of the enterprises had been established more than 31 years. This result showed that majority of the SMEs are well established, from 16-20 years.

The table below outlines the respondents' enterprises in terms of the manufacturing sector.

Table 3. Which manufacturing sub-sector does your enterprise belong to?

	Frequency	Percent	Valid Percent	Cumulative Percent
Food & beverages SMEs	15	15.0	15.0	15.0
Cement manufacturing SMEs	12	12.0	12.0	27.0
Electrical wire and cables products SMEs	11	11.0	11.0	38.0
Textile and fabrics products SMEs	17	17.0	17.0	55.0
Paints and building materials SMEs	15	15.0	15.0	70.0
Leather works products SMEs	8	8.0	8.0	78.0
Consumers goods (all consumables) SMEs	8	8.0	8.0	86.0
Fabricated metal products SMEs	14	14.0	14.0	100.0
Total	100	100.0	100.0	

From the information provided, it appears that majority of the respondents (17/100) were from the Textile & Fabrics sector, 15% were from the Food & Beverages industry, and 15% were from the Paints & Building Materials industry. The lowest of the participation came from the Leather Work Products and Consumer Goods industry.

Table 4 below highlights the size of the respondents' enterprises in terms of employees hired.

Table 4. How many full time employees you currently hire

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 10 employees	11	11.0	11.0	11.0
10-49 employees	62	62.0	62.0	73.0
50-199 employees	27	27.0	27.0	100.0
Total	100	100.0	100.0	

As noted from the table, about 11% of the respondents' enterprise had hired less than 10 employees, 62% of the enterprises hired between 10 to 49 employees, and 27% of the enterprises hired between 50 to 199 employees. These results suggest that majority of the respondents were in the middle range enterprises which hired between 10-49 employees.

The table below illustrates the business nature of the respondents' enterprises.

Table 5. What is your manufacturing enterprise form of business unit/legal status?

	Frequency	Percent	Valid Percent	Cumulative Percent
Sole Proprietorship	19	19.0	19.0	19.0
Partnership	23	23.0	23.0	42.0
Limited Liability	15	15.0	15.0	57.0
Private Shareholding	18	18.0	18.0	75.0
Joint Venture	17	17.0	17.0	92.0
Franchise	8	8.0	8.0	100.0
Total	100	100.0	100.0	

Table 5 indicates that majority or 23% of the respondents' enterprise was of the partnership type, followed by Sole Proprietorship (19%), Private Shareholding (18%), Joint Venture (17%), Limited Liability (15%), and the least was the Franchise Type (8%). This outcome shows that majority of the respondents' enterprise belonged to the partnership form of business unit/legal status.

Table 6. What is your manufacturing Assets based (Excluding Land and Buildings)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5	11	11.0	11.0	11.0
	5 to less than 50	65	65.0	65.0	76.0
	50 to less than 500	24	24.0	24.0	100.0
	Total	100	100.0	100.0	

From the table, it can be seen that 11% of the respondents' enterprise had assets of below five million naira, 65% of the respondents' enterprise had assets of between five million naira to below 50 million naira, and 24% of the respondents' enterprise had assets of between 50 million naira to below 500 million naira. The findings suggest that majority of the enterprises were in the medium range of between five to below 50 million naira.

2.2 Demographics of the Respondents

The demographics of the respondents were also noted in the tables below.

Table 7. What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	53	53.0	53.0	53.0
	Female	47	47.0	47.0	100.0
	Total	100	100.0	100.0	

Table 7 indicates the gender of the respondents with almost equal number of males (53%) and females (47%).

Table 8. What is your age range?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 - 30 years old	13	13.0	13.0	13.0
	31 - 40 years old	27	27.0	27.0	40.0
	41 - 50 years old	23	23.0	23.0	63.0
	51 - 60 years old	30	30.0	30.0	93.0
	61 years old and above	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Table 8 stresses on the age of the respondents with majority or 30% of them being in the 51 to 60 years old range, and a minority in the above 61 years old range. Overall, it can be said that most of the respondents were matured or experienced, with an overall of 87% of them being above 31 years of age, and only 13% between 21 to 30 years of age.

Table 9. Your highest qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Doctor of Philosophy/ Doctor of Business Administration	15	15.0	15.0	15.0
	Master of Philosophy/ Master of Science/Master of Business Admin	17	17.0	17.0	32.0
	Bachelor Degree/Higher National Diploma	17	17.0	17.0	49.0
	Diploma/ Nigerian Certificate of Education	14	14.0	14.0	63.0
	Professional Certificate/Training	19	19.0	19.0	82.0
	Secondary School Certificate Examination	11	11.0	11.0	93.0
	First School Leaving Certificate	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Table 9 highlights the respondents' academic qualifications which seemed to be diverse, ranging from doctoral degrees to first school leaving certifications. Around 15% held a Doctor of Philosophy/ Doctor of Business Administration degree, 17% held a Masters of Philosophy/ Masters of Science/Master of Business Administration, 7% held a Bachelor's degree/Higher National Diploma, 14% held their Diploma/Nigerian Certificate of Education, 19% had professional certificate/training, and 7% had first school leaving certificates. Based on this, it is deduced that majority of the respondents were fairly well educated.

Table 10. Your responsibilities in the manufacturing enterprise

	Frequency	Percent	Valid Percent	Cumulative Percent
Chief Executive Officer (CEO)/Managing Director (MD)	42	42.0	42.0	42.0
Founder/Owner-manager	30	30.0	30.0	72.0
Director/General Manager/Unit Head/Departmental head/Principal Manager	20	20.0	20.0	92.0
Supervisor/Manager	8	8.0	8.0	100.0
Total	100	100.0	100.0	

Table 10 shows the work designation of the respondents involved. Nearly half or 42% of the respondents were the Chief Executive Officers (CEO)/Managing Directors (MD), about 30% were the founder/owner-managers, 20% of the respondents were Directors/General Managers/Unit Heads/Departmental Heads/Principal Managers and 8% were Supervisors/Managers. The result revealed that majority of the respondents examined in this pilot study comprised the CEOs or Managing Directors.

Table 11. How many years have you served in this manufacturing enterprise?

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 1 year	5	5.0	5.0	5.0
1 -5 years	19	19.0	19.0	24.0
6-10 years	29	29.0	29.0	53.0
11-15 years	23	23.0	23.0	76.0
16-20 years	13	13.0	13.0	89.0
21- years and above	11	11.0	11.0	100.0
Total	100	100.0	100.0	

The table above displays the respondents' length of time serving in their respective work responsibilities. It appears that 5% of the respondents had less than a year's working experience, 19% of the respondents had between 1-5 years working experience, 29% of the respondents had 6-10 years working experience, 23% of the respondents had 11-15 years working experience, 13% of the respondents had 16-20 years working experience, and 11% of the respondents had 21 years and above in working experience. The result showed that more of the respondents were in the 6-10 years working experience.

Table 12. Location (Area)

	Frequency	Percent	Valid Percent	Cumulative Percent
Abuja-FCT	19	19.0	19.0	19.0
Benue State	15	15.0	15.0	34.0
Kogi State	12	12.0	12.0	46.0
Kwara State	14	14.0	14.0	60.0
Niger State	16	16.0	16.0	76.0
Nasarawa State	13	13.0	13.0	89.0
Plateau State	11	11.0	11.0	100.0
Total	100	100.0	100.0	

Table 12 shows that 19% of the respondents came from Abuja-FCT, 15% of them came from Benue State, 12% of them came from Kogi State, 14% of them were from Kwara State, 16% of them were from Niger State, 13% of them came from Nasarawa State, and 11% of them were from Plateau State. Thus, majority were from the Abuja-FCT area.

3. Findings and Analysis

The reliability of the questionnaire scale was tested using the Cronbach alpha value. The initial items in each construct included in the questionnaire used in this pilot study is shown in Table 13 below.

Table 13. Initial Items for each Construct used in the Questionnaire

Construct	Sub-construct	No. of Items	Role
ORGANISATIONAL CULTURE (OC) Tang, Kim & O'Donald, 2000.	Family Orientation /Loyalty	05	Independent
	Open Communication/Consensual Decision Making	05	
	Team Approach	05	
	Knowledge of Managers	05	
STRATEGIC ORIENTATION (SO) (Cheng & Huizingh, 2014; Gatignon & Xuereb, 1997)	Entrepreneurial Orientation (EO)	05	Independent
	Market Orientation (MO)	06	
	Resource Orientation (RO)	06	
TECHNOLOGY ORIENTATION (TO) (Halac, 2015; Gatignon & Xuereb, 1997))		08	Independent
STRATEGIC BUSINESS MODEL (SBM) (Pucihar et al., 2019)	Business Environment	06	Independent
	Information Technology	05	
	Innovation	05	
INNOVATION COMPETITIVE ADVANTAGE (ICA) (Sheng, Chang, Teo & Lin, 2013; Paswan & Wittmann, 2009; Chen, Lin & Chang, 2009)		06	Mediator
MANAGEMENT SUPPORT (MS) (Lo, Wang, Wah & Ramayah 2016; Garrett & Neubaum, 2013)		08	Moderator
SUSTAINABLE GROWTH OF MANUFACTURING SMEs (SGMSMEs) Arora, Kumar & Thapar (2018); Eggers <i>et al.</i> , 2013a, 2013b; Al Ansari, 2014.		06	Dependent
Total		81	

The information shown above indicates a total of 81 items used in 14 constructs. To test the reliability of the constructs, the reliability analysis for each of the constructs were assessed, and their Cronbach alpha values were calculated. The results of the Cronbach alpha values are presented below.

3.1 Family Orientation /Loyalty

Table 14. Reliability Statistics

Cronbach's Alpha	N of Items
.780	5

Table 15. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
FO_L1	12.53	11.302	.589	.727
FO_L2	12.54	13.463	.418	.780
FO_L3	12.53	12.534	.541	.744
FO_L4	12.85	11.321	.599	.723
FO_L5	12.55	11.563	.628	.714

The construct reliability for the five items used to assess the respondents' family orientation or loyalty was noted to be at the alpha value of 0.780 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. As a result, there was no need to delete any item.

3.2 Open Communication/Consensual Decision-Making

Table 16. Reliability Statistics

Cronbach's Alpha	N of Items
.792	5

Table 17. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OC_CDM1	12.83	12.001	.587	.753
OC_CDM2	12.21	13.743	.568	.753
OC_CDM3	12.53	14.211	.536	.763
OC_CDM4	12.53	14.474	.569	.755
OC_CDM5	12.66	13.560	.620	.738

The construct reliability for the five items used to assess the respondents' open communication or open decision making carried the alpha value of 0.792 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. Thus, there was no need to delete any item.

3.3 Team Approach

Table 18. Reliability Statistics

Cronbach's Alpha	N of Items
.710	5

Table 19. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TA1	13.43	10.288	.650	.580
TA2	13.30	11.384	.505	.646
TA3	13.45	12.856	.317	.721
TA4	13.47	12.009	.420	.682
TA5	13.15	12.290	.463	.665

The construct reliability of the five items used to assess the team's approach carried an alpha value of 0.710 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. In that regard, there was no need to delete any item.

3.4 Knowledge of Managers

Table 20. Reliability Statistics

Cronbach's Alpha	N of Items
.774	5

Table 21. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
KM1	12.99	14.091	.433	.769
KM2	12.99	12.576	.594	.716
KM3	13.10	12.535	.589	.717
KM4	13.18	12.533	.612	.710
KM5	13.06	13.289	.506	.746

The construct reliability of the five items used to measure the managers' knowledge also carried the alpha value of 0.774 which was above the threshold of 0.7, hence the constructs were also considered to be at the acceptable level. Thus, there was no need to delete any item.

3.5 Entrepreneurial Orientation (EO)

Table 22. Reliability Statistics

Cronbach's Alpha	N of Items
.794	5

Table 23. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EO1	12.47	16.373	.652	.729
EO2	12.30	17.667	.542	.764
EO3	12.54	16.918	.547	.763
EO4	12.14	16.909	.553	.761
EO5	12.43	17.076	.575	.754

The construct reliability of the five items used to assess the respondent's entrepreneurial orientation carried an alpha value of 0.794 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. In that regard, there was no need to delete any item.

Table 24. Market Orientation (MO)

Reliability Statistics	
Cronbach's Alpha	N of Items
.756	6

Table 26. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MO1	16.12	18.288	.529	.711
MO2	16.19	18.721	.510	.717
MO3	15.92	19.145	.456	.731
MO4	16.23	18.280	.518	.714
MO5	16.00	19.434	.431	.737
MO6	16.24	18.629	.530	.711

The construct reliability for the six items used to assess the respondent's market orientation carried an alpha value of 0.756 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level so there was no need to delete any item.

3.6 Resource Orientation (RO)

Table 27. Reliability Statistics

Cronbach's Alpha	N of Items
.738	6

Table 28. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RO1	16.84	16.075	.585	.667
RO2	16.81	16.236	.553	.677
RO3	16.83	18.001	.410	.719
RO4	16.85	16.977	.516	.689
RO5	16.70	18.899	.330	.740
RO6	16.67	17.900	.453	.707

The construct reliability of the six items used to assess the respondents' resource orientation carried an alpha value of 0.738 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. Therefore, there was no need to delete any item.

3.7 Technology Orientation (TO)

Table 29. Reliability Statistics

Cronbach's Alpha	N of Items
.756	8

Table 30. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
TO1	21.16	28.661	.548	.711
TO2	21.05	30.816	.497	.723
TO3	21.10	32.960	.336	.749
TO4	21.20	29.919	.452	.730
TO5	21.14	29.617	.491	.723
TO6	21.33	31.880	.320	.755
TO7	21.18	32.210	.303	.758
TO8	20.96	28.099	.714	.684

The construct reliability for the eight items used to assess the respondents' technology orientation carried an alpha value of 0.756 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. In that regard, there was no need any item.

3.8 Business Environment

Table 31. Reliability Statistics

Cronbach's Alpha	N of Items
.781	6

Table 32. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BE1	15.83	20.042	.572	.737
BE2	15.43	20.571	.581	.736
BE3	15.47	21.686	.438	.770
BE4	15.48	20.798	.501	.755
BE5	15.54	21.099	.482	.760
BE6	15.50	20.253	.604	.730

The construct reliability of six items used to assess the respondents' business environment noted that the alpha value was 0.781 which was above the threshold of 0.7, hence the constructs were considered to be at the acceptable level. Consequently, there was no need to delete any item.

3.9 Information Technology

Table 33. Reliability Statistics

Cronbach's Alpha	N of Items
.753	5

Table 34. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Item-Cronbach's Alpha if Item Deleted
IT1	12.75	13.159	.501	.715
IT2	12.42	14.246	.417	.742
IT3	12.64	11.465	.577	.687
IT4	12.54	12.109	.559	.694
IT5	12.61	12.968	.546	.700

The construct reliability for five items used to assess the respondents' information technology was noted to have an alpha value of 0.753 which was above the threshold of 0.7 hence the constructs were considered to be at the acceptable level. Thus, there was no need to delete any item.

4. Innovation

Table 35. Reliability Statistics

Cronbach's Alpha	N of Items
.830	5

Table 36. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
INNOV1	12.82	16.634	.675	.783
INNOV2	12.93	16.955	.636	.794
INNOV3	12.68	17.674	.581	.809
INNOV4	12.87	16.579	.618	.800
INNOV5	12.86	17.132	.631	.796

The construct reliability for five items used to assess the respondents' reliability was also noted to be 0.830 which was above the threshold of 0.7 hence at the constructs were at the acceptable level . Thus, there was no need to delete any item.

4.1 Innovation Competitive Advantage (ICA)

Table 37. Reliability Statistics

Cronbach's Alpha	N of Items
.795	6

Table 38. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ICA1	15.61	21.937	.660	.738
ICA2	15.81	22.559	.508	.773
ICA3	15.63	23.165	.433	.792
ICA4	15.70	21.949	.590	.753
ICA5	15.55	23.078	.513	.771
ICA6	15.55	22.250	.606	.750

The construct reliability for the six items used to assess the respondents' innovative competition edge also carried an alpha value of 0.795 which was above the threshold of 0.7 hence the constructs were considered to be at an acceptable level. Consequently, there was no need to delete any item.

4.2 Management Support

Table 39. Reliability Statistics

Cronbach's Alpha	N of Items
.791	8

Table 40. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
MS1	21.57	29.783	.521	.764
MS2	21.46	32.049	.427	.779
MS3	21.65	35.260	.197	.812
MS4	21.80	31.172	.485	.770
MS5	21.65	30.937	.510	.766
MS6	21.35	31.078	.521	.764
MS7	21.49	28.818	.721	.732
MS8	21.58	30.084	.630	.748

The construct reliability for the eight items used to assess the respondents' management support Carried an alpha value of 0.791 which was above the threshold of 0.7 hence the constructs were considered to be at the acceptable level, thus, there was no need to delete any item.

4.3 Sustainable Growth of SMEs (SGSMEs)

Table 41. Reliability Statistics

Cronbach's Alpha	N of Items
.780	6

Table 42. Item-Total Statistics

	Scale Mean if Item Deleted	ItemScale Variance if Item Deleted	ItemCorrected Correlation	Item-TotalCronbach's Alpha if Item Deleted
GMSMEs1	15.97	17.221	.558	.739
GMSMEs2	16.13	17.549	.430	.776
GMSMEs3	15.89	18.341	.493	.756
GMSMEs4	15.90	19.061	.433	.769
GMSMEs5	16.01	16.576	.630	.721
GMSMEs6	15.95	16.795	.644	.718

The construct reliability of the six items used to ascertain the sustainable growth of the SMEs also carried an alpha value of 0.780 which was above the 0.7 threshold, thus the constructs were considered to be at the acceptable level (Diamantopoulos, Sarstedt, Fuchs, Wilczynski & Kaiser, 2012; Cheah, Sarstedt, Ringle, Ramayah & Ting, 2018). As a result, there was no need to delete any item.

5. Conclusion

As has been described and analysed above, the construct reliability of all the items designed in the questionnaire were thoroughly assessed using the Cronbach alpha value. The results indicated that all the constructs had a high alpha value of above 0.7, suggesting that all the items used in the questionnaire should be maintained. Based on the present business status of the SMEs and the enterprise which the respondents were attached to, it appears that most of the enterprises belonged to the medium range enterprises. The demographic information of the enterprises were drawn based on: the sub-sector, the number of full-time employees hired, the nature of business of the enterprise or business unit/legal status, and the enterprise's basic assets (excluding land and buildings). The demographics of the respondents were also generated based on: gender, age, highest academic qualification, responsibilities, years of service, and the location/area of the respondents. All of these information may affect the outcomes of the sustainable growth of the SMEs in Nigeria. The respondents who were inexperienced, and with less than a year of working experience are likely to face considerable challenges when dealing with the activities of the enterprise they belong to.

This pilot study was conducted based on the objective of assessing the viability, length of time, cost, and adverse effects of using the survey questionnaire for the main study. This pilot study also helped to enhance the design and construction of items used in the survey questionnaire as it was pre-tested and reviewed by four experts so that there would be no obstacle faced during its actual implementation in the main study.

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