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Innovation and Competitiveness of Deposit Money Banks in South-South, Nigeria

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Abstract

The study investigated the link between innovation (dimensioned by product/service innovation and process innovation) and competitiveness of deposit money banks in South-South, Nigeria. The cross-sectional survey design was adopted and the underpinning philosophy is positivism. The study population consists of all the branches of the systemically important Banks in South-South, Nigeria. The accessible populations consist of 520 middle management staff of the identified Banks and a sample size of 221 was determined using the Krejcie and Morgan's formula, however, this was adjusted upwards by 20% to provide for non-responses and attritions. The Bowley's formula was utilised to proportionally allocated sample and the stratified random sampling was adopted with the aid of random numbers. The average variance extracted and standardised estimates were principally used to assess convergence validity and discriminant validity. Descriptive statistics involves the use of mean and standard deviation, while inferential Statistics involved the use of Structural Equation Modeling to test the hypotheses at 0.05 significance level. The results lend credence to the position that innovation is a highly imperative factor in ensuring competitiveness. Thus, it is recommended that Management of deposit money banks should have a wide applications of new products/services and respond promptly to customer needs / wants. Furthermore, Managers of deposit money banks should regularly conduct training for staff, encourage the implementation of new knowledge and be quick to embrace new technology, in order to be competitive.

Keywords*: Innovation; product/service innovation; process innovation; Competitiveness; Deposit Money Banks.*

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1. Introduction

In Nigeria, the banking sector generates a significant quantum of income and employment, provides opportunities for developing and is a major source and hub for innovations (Olaleye, Anifowose, Efuntade, & Arije, 2021). However, the sector is bedevilled with a myriad of challenges, which includes insider-related fraud, multiple taxation, infrastructural deficit as well as the challenge of inadequate competitiveness. The need of competitiveness among banks has become very profound; as competitiveness ensures change in the way things are done, improve product quality, as well as appropriate pricing levels (Adelaiye, Adubasim & Adim, 2020). Competitiveness is both a relative concept (like how one firm manages compared to another) and a multi-dimensional notion (such as the attributes or qualities of competitiveness). According to Zuñiga-Collazos, Castillo-Palacio and Padilla-Delgado (2019), competitiveness at the firm level, constitute an important matter for practitioners in order to create and develop abilities, a proper performance of recourses and management of factors that influence the results in the market place.

Despite the fact that the Nigerian **Banking** remains an attractive sector, with over $9 billion in value pools (Kola-Oyeneyin, Kuyoro & Olanrewaju, 2020), the traditional banks in Nigeria have not shown capacity to adapt and compete favourably with the fast growing financial technology (Fintechs) companies. The probable cause for this inadequate competitiveness include: limited banking services in rural areas, issues of affordability and sub-optimal user experience across the customer spectrum. This has created openings for Firms to take advantage of, with many stepping up to develop enhanced propositions across the value chain. Clearly, inadequate competitiveness is exposing the traditional banks to existential threats from Fin-tech firms in every aspect of their business, ranging from payment services to corporate lending.

On the other hand, innovation is a multifaceted and relative concept (Szerb, 2009). This has led to broad and varied perspectives of the firm. Accordingly, Porter (1996) noted that a firm can compete effectively if it generates a specific and durable differentiating factor and innovation is one of the key ways through which firms can create the differentiating factor, while Schumpeter and Nichol (1934) argued that innovation isakin to the introduction of a product which is new to consumers or one of higher quality than existing products, new methods of production, the opening of new markets, the use of new sources of supply and new forms of competition, that could lead to the restructuring of an industry. Innovation remains a broad concept that is conceptualized in different ways(Afuah, 2003; Johannessen, Olsen & Lumpkin, 2001).

As such, in this study, innovation is dimension in terms of product/service innovation and process innovation in tandem with Chuang et al., (2010). However, despite the practical and theoretical link between innovation and competitiveness, the disposition of deposit money banks in Nigeria appears to be non-adherent to the need for innovation. Unsurprisingly, research has shown that irrespective of the obvious benefits of innovation many organizations still play down on this process in a bid to play safe and avoid the huge financial investment required, hence they struggle seriously with the challenges of market forces, competitive threats, and other environmental factors (Adelowo, Akinwale, & Olaopa, 2017). Given these facts, the present study is intended to review the activities of this vibrant sector and evaluate how innovation practices serve as a weapon to win the war of competitiveness, especially in deposit money banks in south-south, Nigeria. Therefore, this study seeks to ascertain the relationship between innovation (dimensioned by product/service innovation and process innovation) and competitiveness of deposit money banks in South-South, Nigeria.

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1.1 Objectives and hypotheses

The aim of this study is to examine the relationship between innovation and competitivenessof deposit money banks in South South, Nigeria.

The specific objectives of the study are to:

1. Ascertain the relationship between product/service innovation and competitiveness.
2. Examine the link between process innovation and competitiveness.

The following research questions directed the investigation:

1. What is the association between product/service innovation and competitiveness?
2. What is the link between process innovation and competitiveness?

Accordingly, the following null hypotheses were formulated:

H_{01}: There is no significant relationship between product/service innovation and competitiveness.

H_{02}: There is no significant relationship between process innovation and competitiveness.

2. LITERATURE REVIEW

2.1 Theoretical framework: The Competing Values Framework (CVF) Theory and the Survival based theoryunderpin the study. Competing Values Framework according to Cameron and Quinn (2006), helps to create language that is common amongst the workforce of an organisation by giving them the opportunity to discuss the best and easy manner of effectively attaining the anticipated outcomes. The relevance of the ccompeting values framework (CVF) theory to this study, is that the theory explains the significance of cultural features in an organisation. Survival-based theory or rather 'survival of the fittest' theory was brought into limelight by Herbert Spencer (Tengku, 2010). The survival-based theory emphasized that for a firm to survive, strategies need to be deployed to focus on managing and operating the firm efficiently, such that the firm can respond to changes in the competitive environment (Tengku 2010). The relevance of the survival-based theory to this study is that it provides a useful insight on how to ensure firms survival, by explaining how Banks can adapt to the ever-changing environment, be competitive and ensure customer satisfaction. This will enable Banks to operate efficiently while adapting successfully to the environment.

2.2 Conceptual framework: Innovation and its dimensions (product/service innovation and process innovation) were adapted from Chuang et al. (2010), while the single construct of competitiveness was adapted from Mellat-Parast and Spillan (2014).

2.2.1 Innovation: Innovation is described as the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a system (Aldahdoul et al., 2019). Innovation is an essential tool to attain success especially in a keenly contested market or industry. Yezersky (2017) described innovation as a process of value creation which consists in changing the composition of a set of variables describing a system. Innovation, therefore, was defined by Ottosson (2013) as ideas for new products and/or services that have been developed and that have been taken in use or been consumed.

2.2.2 Product/Service innovation: Product/service innovation is the ability of the firm to come

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with new product/service that is entirely new and probably solving new problem or solving old problem in a new way. According to Kyei and Bayoh (2017) innovation refers to the creation, development and implementation of a new product, process or service with the goal of improving efficiency, effectiveness or competitive advantage. Product-service alignment is expected to be able to integrated offerings and respond appropriately to request of customer. For Bustinza et al. (2017), it is an essential capability that enables organisations to compete via product-service offerings. For manufacturers, alignment prioritizes product/service enhancement processes, decreasing the cost of designing new products/services, reducing time-to-market for new products/services, enhancing product/service quality, and supporting product/service innovation. The innovation process ends with the use of products but at the same time, it is the starting point for a new product/service innovation process.

2.2.3 Process innovation: A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software-such as automation equipment or real-time sensors that can adjust processes, computer-aided product development (Atalay, Anafarta & Sarvan, 2013). According to Sabanciozer (2012), a process innovation points to the utilization of a new or drastically improved production or delivery method, where such alterations are mostly in techniques, equipment and/or software. Similarly, Process innovation is the implementation of a production method, or significant changes in specific techniques, equipment and / or software, in order to reduce production and distribution costs, improve the quality, production or distribution of new or improved products, to increase the efficiency or flexibility of a productive activity or supply activity and to reduce the risks to the environment (Maier, 2018).

2.2.4 Competitiveness: Competition ensures change in the way things are done and raise quality bar to international standard as well as help to achieve appropriate pricing level (Adelaiye, Adubasim & Adim, 2020). Thus, competitiveness is the contest for superiority among 'peers' and in this case, the industry such business belongs to. Competitiveness which is usually related to market performance and productivity is a concept that economists, industrialists, politicians, journalists and academics frequently refer to, debate and worry about. Competitiveness is both a relative concept (i.e. how one firm manages compared to another) and a multi-dimensional notion (i.e. the attributes or qualities of competitiveness).

2.1 EMPIRICAL REVIEW: The nexus between the dimensions of innovation (product/service innovation and process innovation) and the competitiveness has been investigated by some writers. For instance, Bustinza, Gomes, Vendrell-Herrero and Baines (2017) studied Product-service innovation and performance: The role of collaboration partnerships and R&D intensity. The study focused on North America, Asia and Europe to get data from manufacturing firms investing in product/service innovation. Structural Equation Model (SEM) was used in analysing the data to resolve the position of the hypotheses. The study revealed that product/service innovation reinforce performance and long term profitability and eventually, firm survival. Again, the finding revealed that innovations involve new or modified business strategies that incorporate service into traditional product offerings as exposed by other scholar.

Furthermore, Atalay, Anafarta and Sarvan (2013) studied the relationship between innovation and firm performance, using empirical evidence from Turkish automotive supplier industry. The study made use of survey research design by adopting face-to-face questionnaire as the research instrument to gather primary data from Turkish automotive supplier industry. The population of the study was 240 managers, however, only 113 top level managers of automotive supplier firms

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operating in Konya between 2011 March and December were considered valid for this study analysis. The study had four (4) hypotheses which were analysed using hierarchical regression. Sampling adequacy was done using KMO measure and Bartlett test of sphericity and they were within the acceptable proportion. The findings revealed that product innovation as well as process innovation positively affects the performance and survival of automotive supplier industry.

3. Research Methods: A research design is critical in terms of linking the theory and the empirical data collected in order to answer the research questions (Nachmias & Nachmias, 2008). Accordingly, this study which is a correlational study, adopted a cross-sectional survey research design, on a descriptive and explanatory basis which was conducted in a non-contrived setting. The cross-sectional survey design is a research type that analyzes data of variables collected at one given point in time across a sample population. The underlying philosophy is positivism. The population for this study, consists of all the branches of the systemically important Banks in Rivers, Bayelsa, Akwa Ibom and Delta States and the elements of the accessible populations comprise of 520 middle management staff identified in the Banks. Using the Krejcie and Morgan's (1970), a sample size of 221 was determined and this was adjusted upwards by 20% to 265, in order to provide for non-responses. The Bowley's (1926) proportional sample allocation and the stratified random sampling techniques were deployed with the aid of random numbers.

Questionnaire was the instrument of data collection. Convergence validity was ensured based on the criteria of: standardised estimates ≥ 0.7 (Brown, 2010) and Average Variance Extracted (AVE) ≥ 0.5, while and discriminant validity was confirmed based on the criterion that the square root of the average variance extracted of a construct must be greater than its correlations with all other constructs (Fornell & Larcker, 1981) respectively. Descriptive statistics involve the use of mean and standard deviation, while inferential Statistics involved the use of Structural Equation Modeling (SEM) to test the hypotheses at 0.05 level of significance. A total of 265 copies of the questionnaire were administered, out of which 238 copies were retrieved. However, 27 copies representing 10.2% were not retrieved due to the inability of the respondents to meet up with the time window stipulated for questionnaire completion. Of the 238 copies of the instrument retrieved, 24 copies, representing 9.1% were not usable due to missing responses.

Table 1: Descriptive Statistics for Innovation

		N	Minimum	Maximum	Mean	Std. Deviation
Product/Service Innovation	PDSI1	214	2	5	4.53	.647
	PDSI2	214	3	5	4.40	.570
	PDSI3	214	2	5	4.25	.725
	PDSI4	214	3	5	4.21	.639
	PDSI5	214	2	5	3.84	.923
	PDSI6	214	2	5	4.21	.688
Process Innovation	PRI1	214	2	5	4.26	.858
	PRI2	214	2	5	4.25	.712
	PRI3	214	2	5	4.36	.767
	PRI4	214	2	5	4.27	.764
	PRI5	214	2	5	4.36	.675

Source: SPSS Data result, 2022

Product/Service Innovation Distribution: Table 1 describes the distribution for the data on product/service innovation. The distributions for the variables are revealed to be significant and highly substantial, given the central tendencies for the indicators – PDSI1: We have wide applications of new products/services, has a high mean (x = 4.53) suggesting that respondents agree with the statement; PDSI2: Our products/services is among the industry leaders, has a significant mean (x = 4.40) affirming that majority of the respondents consider the statement as being a true position of their views; PDSI3: For three years now, we have received several local and/or international awards for product/service innovation, has a substantial mean (x = 4.25) which indicates that most of the respondents consider the statement to be correct. PDSI4: In my organization, we encourage new idea suggestions from staff, is associated with a high mean (x = 4.21) implying that a majority of the respondents believe the statement aligns with their own views too; PDSI5: We have diversity of products/services, has a moderately significant mean (x = 3.84) suggesting that most of the respondents identify with the statement; PDSI6: We respond promptly to customer needs/wants, has a mean (x = 4.21) indicating that a majority of the respondents affirm to the statement as being true.

Based on the evidence presented for the distribution, it is affirmed that all 6 of the indicators for product/service innovation are well and substantially manifested by the respondents and their respective organizations. This suggests the strong manifestation of product/service innovation as being well captured and evident within the sample of the study.

Process Innovation Distribution: Table 1 also illustrates the distribution for process innovation. The result from the analysis on the indicators presents them as having significant and high mean values. PRI1: My organization regularly conduct training for staff, has a high mean (x = 4.26) indicating that in generality, respondents agree with the statement as being correct; PRI2: My organization encourages the implementation of new knowledge, has a significant mean (x =4.25) suggesting that majority of the respondents affirm the statement as being true; PRI3: My organization has effective operation service process, has a high mean (x = 4.36) implying that majority of the respondents agree with the position of the statement as regards their organizations pursuit of new services and products; PRI4: My organization simplify work process for staff; has a substantial mean (x = 4.27) suggesting that majority of the respondents are in agreement with the statement. PRI5: My organization is quick to embrace new technology, has a high mean (x = 4.36) implying that majority of the respondents agree with the position of the statement as regards their organizations pursuit of new technology. The result form the analysis presents the target organizations as being high in process innovation. The implications are that majority of the banks consider themselves as trend setters and actual change initiators with respect to innovative processes, within their various geographical locations.

Table 2: Normality Statistics Descriptive Statistics

	N	Mean	Std.Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Product/Services Innovation	214	33.64	3.515	-.853	.166	.563	.331
Process Innovation	214	29.99	3.648	-.779	.166	.014	.331
Competitiveness	214	34.23	3.847	-.560	.166	.999	.331
Valid N (listwise)	214						

Source : Researcher's data (2021)

Table 4.2 shows the mean, standard deviation, skewness and kurtosis values for each construct. All the items in the dataset were found to be normally distributed with the skewness in each case in the range of ±1.0, with standard error of 0.166 and kurtosis values in the range of ±1.0, with standard error of 0.331. This confirms that the dataset is approximately normally distributed.

Table 3: Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Product/Services Innovation	Based on Mean	6.399	2	211	.402
	Based on Median	4.472	2	211	.113
	Based on Median and with adjusted df	4.472	2	178.063	.213
	Based on trimmed mean	5.685	2	211	.104
Process Innovation	Based on Mean	10.527	2	211	.200
	Based on Median	7.683	2	211	.101
	Based on Median and with adjusted df	7.683	2	145.642	.201
	Based on trimmed mean	9.324	2	211	.400
Competitiveness	Based on Mean	8.967	2	211	.080
	Based on Median	9.613	2	211	.090
	Based on Median and with adjusted df	9.613	2	154.250	.070
	Based on trimmed mean	9.026	2	211	.400

Source: Researcher's data (2021)

The Levene's test was used to determine the presence of homogeneity of variance in the dataset using Age of Respondents as a non-metric variable on the one-way ANOVA. The results of the ANOVA and Levene's tests revealed that all of the latent variables were non-significant (i.e. $p>0.05$). Thus, the assumption of homogeneity of variance was not violated.

Table 4: Reliability Statistics

SN	CONSTRUCT	NO OF ITEMS	CRONBACH'S ALPHA STATISTICS
1.	Product/Service Innovation	6	0.714
2.	Process Innovation	5	0.815
3.	Competitiveness	5	0.796

These results suggest that the instrument is reliable, as all scales exhibit reasonably high internal consistency above the recommended threshold of 0.70 (Nunnally & Bernstein, 1994).

4.2 Measurement Model: In line with Hu and Bentler (1999), the acceptable goodness of fit indices is defined by the following criteria: RMSEA (≤0.6), SRMR (≤0.8), CFI (≥0.95), TLI (≥0.95), GFI (≥0.90), NFI (≥0.95) PCLOSE (≥0.5) and AGFI (≥0.90), while the parameter estimates, should be greater than 0.5 and preferably above 0.7 (Byrne, 2006). Where: RMSEA = Root Mean Squared Error of Approximation, CFI = Comparative Fit Index, TLI = Turker-Lewis index, GFI = Goodness-of-Fit-Index, AGFI = Adjusted Goodness-of-Fit-Index, SRMR = Standardized Root Mean Residual and NFI = Normed Fit Index.

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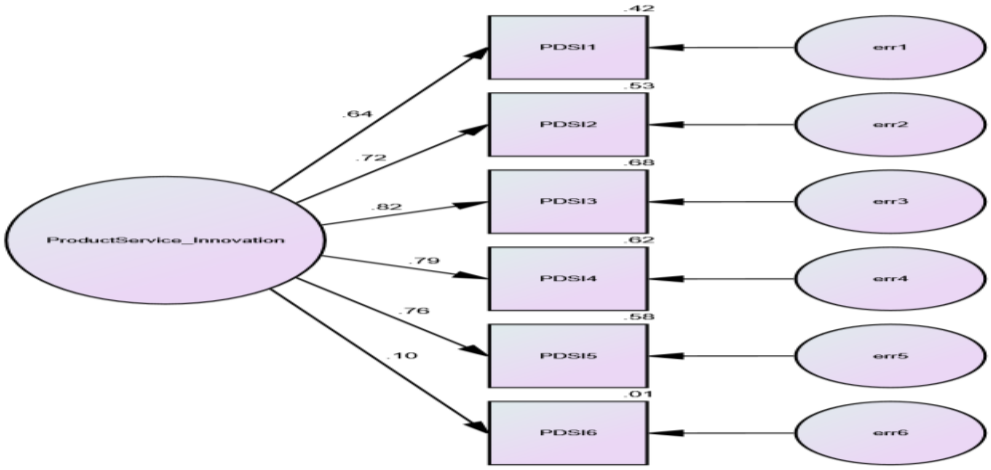

Figure 1: Measurement Model Analysis for Product/Service Innovation

Table 5: Measurement Model Analysis of Product/Service Innovation

Model	Chi-Square(df), Significance	χ^2/df	NFI	TLI	CFI	RMSEA	Variable	Factor Loading Estimates	Error VAR
Product/Service Innovation	(9df) =9.785, P=0.368	1.087	0.979	0.997	0.999	0.20	PDSI1	0.645	0.42
							PDSI2	0.725	0.53
							PDSI3	0.822	0.68
							PDSI4	0.788	0.62
							PDSI5	0.760	0.58
							PDSI6	0.103	0.01

Source: Amos 24.0 output on research data, 2021

The results of the goodness of fit indices indicated acceptable fit to the data for one-factor model (chi-square (9df)=9.785, χ^2/df=1.087, p=0.368, RMSEA=0.020, CFI=0.998, NFI=0.979 and TLI=0.997). Table 4.1.17 summarized the goodness of fit indices, the factor loading estimates and the error variances. Factor loading estimates revealed that five indicators were strongly related to latent factor product/service innovation and were statistically significant. The indicators PDSI1-PDSI5 had factor loadings of 0.645, 0.725, 0.822, 0.788, and 0.760 respectively and error variances of 0.42, 0.53, 0.68, 0.62, and 0.58 respectively. However, the sixth indicator has a factor loading of 0.103 and error variance of 0.01, and is excluded. These parameters are consistent with the position that these are reliable indicators of the construct of product/service.

Figure 2: Measurement Model of Process Innovation

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Table 6: Measurement Model Analysis of Process Innovation

Model	Chi-Square(df), Significance	χ^2/df	NFI	TLI	CFI	RMSEA	Variable	Factor Loading Estimates	Error VAR
Process Innovation	(5df) =38.850 P=0.000	7.770	0.922	0.997	0.998	0.020	PRI1	0.816	0.52
							PRI2	0.869	0.67
							PRI3	0.809	0.41
							PRI4	0.747	0.47
							PRI5	0.036	0.66

Source: Amos 24.0 output on research data, 2021

The results of the goodness of fit indices indicated acceptable fit to the data for one-factor model (chi-square (5df)=38.850, χ^2/df=7.770, p=0.000, RMSEA=0.178, CFI=0.998, NFI=0.979 and TLI=0.997). Table 4.1.18 summarized the goodness of fit indices, the factor loading estimates and the error variances. Factor loading estimates revealed that five indicators were strongly related to latent factor - process innovation - and were statistically significant. The indicators PRI1-PRI4 had factor loadings of 0.816, 0.869, 0.809, 0.747. respectively. However, indicator PRI5 has factor loading of 0.36 and is expunged. The freely estimated standardized parameters were statistically significant. These parameters are consistent with the position that these are reliable indicators of the construct of process innovation.

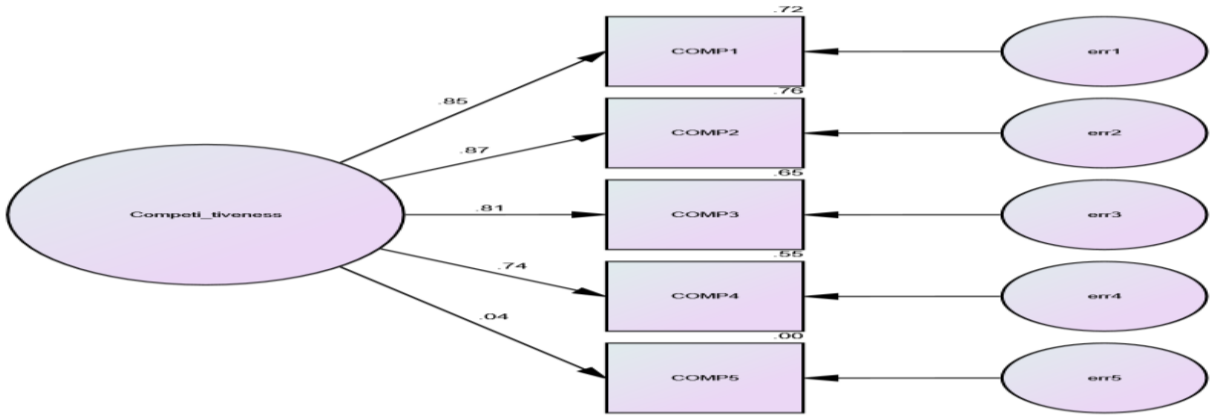

Figure 3: Measurement Model of Competitiveness.

Table 7: Measurement Model Analysis of Competitiveness

Model	**Chi-Square(df), Significance**	χ^2/df	**NFI**	**TLI**	**CFI**	**RMSEA**	**Variable**	**Factor Loading Estimates**	**Error VAR**
Competitiveness	(5df) =37.469 P=0.000	7.494	0.928	0.873	0.936	0.175	COMP1	0.847	0.72
							COMP2	0.872	0.76
							COMP3	0.806	0.65
							COMP4	0.745	0.55
							COMP5	0.038	0.038

Source: Amos 24.0 output on research data, 2021

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The results of the goodness of fit indices indicated mediocre fit to the data for one-factor model (chi-square (5df)=37.469, χ^2/df=7.494, p=0.000, RMSEA=0.175, CFI=0.936, NFI=0.928 and TLI=0.873). After addition of a covariance between the error terms for competitiveness, the result indicated improved fit of the first order measurement model (chi-square (5df)=65.624, RMSEA=0.230, CFI=0.96, NFI=0.98, TLI=0.97 and PCLOSE=0.58). Factor loading estimates revealed that the four indicators were related to latent factor –competitiveness - and were statistically significant. The indicators COMP1-COMP5 had factor loadings of 0.847, 0.872, 0.806 and 0.745. All freely estimated standardized parameters were statistically significant. These parameters are consistent with the position that these are reliable indicators of the construct of competitiveness.

Table 8: Average Variance Extracted (AVE)

Sub-construct	Indicators	Estimates	Squared Estimates	AVE	Square Root of AVE
PRODUCT/SERVICE INNOVATION	PDSI1	0.645	0.416	**0.563**	**O.750**
	PDSI2	0.725	0.526		
	PDSI3	0.822	0.676		
	PDSI4	0.788	0.621		
	PDSI5	0.760	0.578		
	PDSI6	Deleted			
PROCESS INNOVATION	PRI1	0.816	0.666	**0.658**	**0.811**
	PRI2	0.869	0.755		
	PRI3	0.809	0.654		
	PRI4	0.747	0.558		
	PRI5	Deleted			
COMPETITIVENESS	COMP1	.847	0.717	**0.671**	**0.819**
	COMP2	.872	0.760		
	COMP3	.806	0.650		
	COMP4	.745	0.555		
	COMP5	.Deleted			

Table 9: Correlations andAverage Variance Extracted.

Variable	PDSI	PRI	COMP	AVE	Sq. Root of AVE
PDSI	1.0	.085	.198	0.563	O.750
PRI	.085	1.0	.650	0.658	0.811
COMP	.198	.650	1.0	0.671	0.819

Correlation is significant at the 0.05level (2-tailed)

Source: SPSS 25.0 and Amos 24.0 output on research data, 2021

Note: PDSI= product/service innovation,, PRI= process innovation, COMP= competitiveness, AVE= average variance extracted, Sq. Root of AVE= square root of average variance extracted.

4.3 Convergent Validity: As prescribed by Fornell and Larcker (1981), the results in table 4.8 show that all variables have average variance extracted (AVE) values exceeding the 0.50 threshold. The lowest AVE is 0.671 generated by competitiveness variable, while the highest AVE is 0.658 generated by process innovation. Also, the models are over-identified as the

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degrees of freedom are greater than zero. This means that the model has evidence of convergent validity.

4.4 Discriminant Validity: In tandem with the prescription of Fornell and Larcker's (1981), the criterion for discriminant validity is that "the square root of AVE of each construct must be greater than its correlations with other constructs". The results indicate that all the square roots of the average variance extracted are greater than the construct correlations. Therefore, the theorized model has evidence of discriminant validity.

4.5 Structural Model

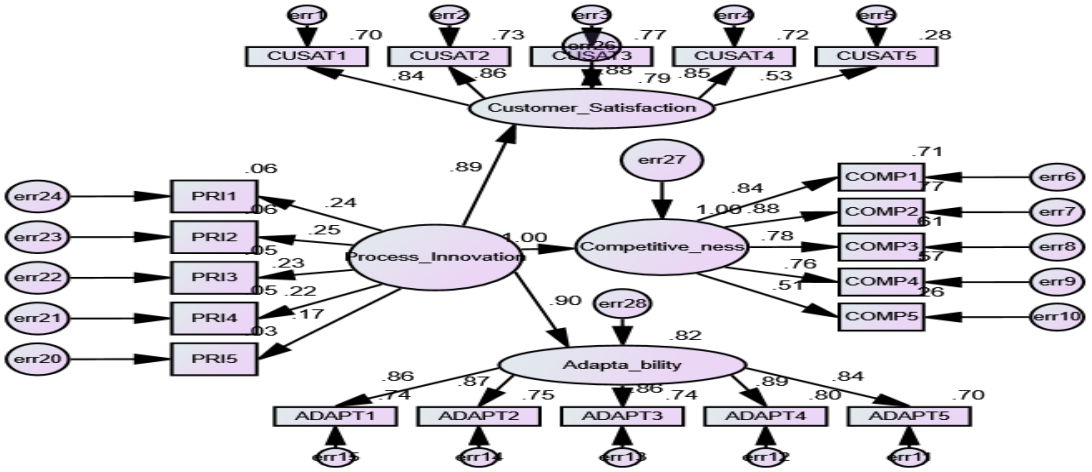

Figure 4: Structural models (linking the hypotheses)

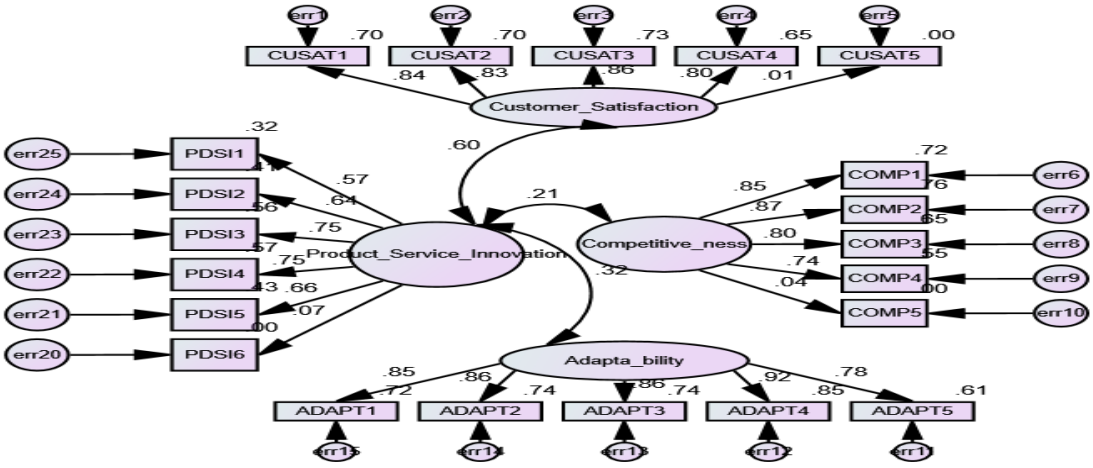

Figure 5: Structural models (linking the hypotheses- continued)

This model, adopted the multiple-indicator measurement approach, using the reflective indicators, reflective measurement model and reflective structural model.

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Table 10: Test of Hypothesis

S/N	Mediation Stage	Hypothesis	Standardised Estimate (Beta value) > 0.5; or ≥ 0.7	Critical Ratio (C.R) the t-value) ≥ 1.96	P-value < 0.05	Remark	Decision
1	PDSI →COMP (Hypothesis 1)	There is no significant relationship between Product/Service innovation and Competitiveness.	0.651	2.01	0.000	Positive and Significant	Not supported
2	PI →COMP (Hypothesis 1)	There is no significant relationship between Process Improvement and Competitiveness.	0.999	2.92	0.000	Positive and Significant	Not supported

4.6 Interpretation of Results (Inferential Analysis): The hypotheses were tested based on the reported SEM findings in table 4.1.29. As suggested by Bryne (2006), the standard decision rules for not supporting the null hypotheses are (1) Standardised regression weight (β) should be greater than 0.5 and preferably above 0.7 (Byrne, 2006); (2) C.R value is greater than or equal 1.96 (where C.R, which is the critical ratio is equivalent to t-value); (3) p-value is less than or equal 0.05. This means that two constructs were statistically significantly different with t-value ≥1.96, and at the same time, significantly related with p-value ≤0.05 (tested at 0.05 level of significance). The first hypothesis ($H0:_1$), states that there is no significant relationship between product/service innovation and competitiveness. However, table 4.1.30 also suggests that product/service innovation has a positive and significant relationship with competitiveness of deposit money banks in South-South Nigeria (β=0.651, t=2.01, p=0.000). Thus, $H0:_1$ was not supported. The means that the presence of product/service innovation, in deposit money banks in South-South Nigeria, will lead to competitiveness, among the banks.

Statistically, it shows that an increase in product/service innovation will lead to a 56.1 % increase in competitiveness. The second hypothesis ($H0:_2$), states that there is no significant relationship between Process Innovation and Competitiveness. However, table 4.1.31 also suggests that Process Innovation has a strong and significant relationship with Competitiveness of deposit money banks in South-South Nigeria (β=0.999, t=2.92, p=0.000). Thus, $H0:_2$ was not supported. The means that the presence of process innovation, in deposit money banks in South-South Nigeria, will lead to competitiveness. Statistically, it shows that an increase in process innovation will lead to 99.9% increase in competitiveness. The regression weight for process innovation in the prediction of competitiveness is significantly different from zero at the 0.05 level (two-tailed). Thus, it can be stated that process innovation is enhanced when banks are flexible in dealing with customer's needs, to bring about competitiveness.

4.7 Discussion of Findings: This section contains the discussion of the findings:

4.2.3 Relationship between Product/Service Innovation and Competitiveness

The first objective was to examine the relationship between product/service innovation and competitiveness and was captured by a research question and expressed under $H0:_1$. This hypothesis stated that there is no significant relationship between product/service innovation and competitiveness. The result of this study did not support the hypothesis. The result shows that there is a positive and significant relationship between product/service innovation and competitiveness of deposit money banks in South South, Nigeria. This means that increase in

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product/service innovation is associated with increase in competitiveness. This finding agrees with Price, Stoica and Boncella (2013) who found that innovation has very strong effect on the overall performance and survival indicator, and innovation is contributing factor for improving performance in organizations. This finding is also in conformity with Ayepa, Boohene and Mensah (2019), who found that innovativeness has high relationship with firm's resources. This finding of the study validates the theoretical assertion of the survival-based theory which states that for a firm to survive, strategies need to be deployed to focus on managing and operating the firm efficiently, such that the firm can respond to changes in the competitive environment Tengku (2010).

Relationship between Process Innovation and Competitiveness

The second specific objective was to ascertain the relationship between process innovation and competitiveness and was captured by a research question and expressed under $H0:_2$. This hypothesis stated there is no significant relationship between process innovation and competitiveness. The outcome of the data analysis did not support the hypothesis. The result shows that there is a strong and significant relationship between process innovation and competitiveness of deposit money banks in South South, Nigeria. This implies increase in process innovation is associated with increase in competitiveness. This position is corroborated by Cefis and Marsili (2004) who found that process innovation is the innovative characteristic that distinguishes firms with respect to their likelihood to survive. The finding validates the theoretical assertion of Competing Values Framework (Cameron & Quinn, 2006) which helps to create language that is common amongst the workforce of an organisation by giving them the opportunity to discuss the best and easy manner of effectively attaining the anticipated outcomes.

4.8 Conclusion and Recommendations: The results lend credence to the position that innovation is a highly imperative factor in ensuring competitiveness. Thus, it is recommended that management of deposit money banks should have a wide applications of new products/services and respond promptly to customer needs / wants. Furthermore, Managers of deposit money banks should regularly conduct training for staff, encourage the implementation of new knowledge and be quick to embrace new technology, in order to be competitive.

4.9 Contributions to knowledge: The study validates the theoretical frameworks of the survival based theory and the competing values framework. These theories support the position of innovation as being significant in predicting competitiveness. Furthermore, the findings provide empirical evidence which re-affirms the stand that innovation significantly boosts competitiveness within the context of deposit money banks in South South, Nigeria.

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