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DATA GOVERNANCE STRATEGIES AND BUSINESS SUSTAINABILITY OF COMMERCIAL BANKING SECTOR IN RIVERS STATE, NIGERIA

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ABSTRACT

This study examined the relationship between data governance strategies and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria. The study population comprised of 19 commercial banks which also served as the study sample size with 133 respondents comprised of top managerial staff derived from the 19 commercial banks in Port Harcourt, Rivers State, Nigeria. The instrument for data collection was the use of questionnaire distributed to the study target organizations respondents (commercial banks). And for the test of our hypothesized hypotheses, the collected data were coded using SPSS and analysed presented through Pearson Product Moment Correlation Coefficient statistics. The result of the analysed data showed positive significant relationship between the dimension of the predictor variable (Data Governance Strategies – data architecture, data policies and data security) and the measures of the criterion variable (Business Sustainability – profitability, service quality and market share). Relying on the results of the analysed data, we concluded that, there is a positive significant relationship between data governance strategies and business sustainability in commercial banks in Port Harcourt, Rivers State, Nigeria. We therefore, recommended that, management of organizations should implement the strategies utilized in this study for their data governance as it's enhances strong positive significant relationship with business sustainability where data is the major asset.

Keywords: Data Governance Strategies, Business Sustainability, Data Architecture, Data Policy, Data Security

INTRODUCTION

In recent centuries, there has been a re-awakening, with companies realizing the value of data as a strategic advantage as well as an organizational necessity. Managing and harnessing the power of data and processes, on the other hand, is becoming increasingly difficult. Organizations are leveraging enterprise data for better efficiency and decision-making in today's rapidly evolving market environment. Data governance programs must be founded on a thorough understanding of business processes, a grasp of how data is moved and transformed within the enterprise, and a shared language to ensure efficient communication. Organizational data, procedures, business rules, priorities, and strategies must be carefully controlled. It must be accessible and consumable in the company, with adequate access and visibility based on roles and responsibilities. Interestingly, the goal of every business organization is to ensure they succeed today without compromising the future. It is on this note that leaders of business organizations work round the clock to find solution to the sustainability of the business in the midst of environmental instability.

Today, data is in proliferation than ever before, analysts have intensified the call for effective data governance. According to Weber, et al. (2009), the term governance in general, refers to the way an organization goes about ensuring that strategies are set, monitored, and achieved. As data have become a backbone of every organization, data governance becomes an integral part of any business strategies and falls under the corporate governance. Historically, data emerged out of disparate legacy transactional systems. Then, data was seen as a by-product of running the business and had little value beyond the transaction and the application that processed it; hence, data was not treated as a valuable shared asset. This continued until the early 1990s, when the value of data

started to take another trend beyond transactions. Business decisions and processes started to be driven increasingly by data and data analysis. Further investment in data management was the approach taken to tackle the increasing volume, velocity, and variety of data, such as complex data repositories, data warehouses, enterprise resource planning (ERP), and customer relationship management (CRM), (Begg & Caira, 2012).

Moreover, organizational data links became very complex and shared among multiple systems, and the need for providing a single point of reference in order to simplify daily functions became crucial, which gave birth to data governance. As per Wogwu and Innocent-Wali (2022), data complexity and volume continued to explode; businesses have grown more sophisticated in their use of data, and the technology to be deployed in data governance. Data governance institute (DGI) defines data governance as a system of decision rights and accountabilities for information-related processes, executed according to agreed-upon models, which describe who can take what actions with what information, and when, under what circumstances, using what methods (Al-Ruithe, et al., 2019).

Data constantly becomes more valuable asset to organizations. This is especially highlighted when data are being referred to as the 'new oil' (Nokkala, et al., 2019). Discussing data governance in their study Abraham, et al. (2019) opined that, key trends that contributed to this development are the growing number of produced data and the shift towards data-driven business models. They further stated that, likewise, more organizations use data analytics tools to exploit the value of data. The growing relevance of data was clearly demonstrated when international data protection legislations such as General Data Protection Regulation (GDPR) were released. These legislations address the rising concerns about a lack of data quality, privacy breaches and infringements resulting from poorly governed data production and exchange (de Prieëlle, et al., 2020). Raising the attention towards these risks provides new incentives for organizations to engage in data governance. However, up until now, data governance is not practiced extensively and there are hardly organizations that reached a sufficient level of data governance maturity (Al Ruithe, et al., 2018).

Data are often processed in storage towers within an organization. This means that data are not shared between different departments. A negative consequence of this is a lack of accountability and responsibility for data related issues, because departments developed different internal processes (Janssen, et al., 2020). Data governance is a set of processes that ensures that important data assets are formally managed throughout the enterprise. Data governance ensures that data can be trusted and that people can be made accountable for any adverse event that happens because of low data quality. It is about putting people in charge of fixing and preventing issues with data so that the enterprise (organization) can become more efficient. Data governance also describes an evolutionary process for a company, altering the company's way of thinking and setting up the processes to handle information so that it may be utilized by the entire organization. When companies desire, or are required, to gain control of their data, they empower their people, set up processes and get help from technology to do it (Jackson, 2009).

Additionally, as data becomes one of the critical assets to organizational success today, the ability of the organization to own data and design policies that ensure effective data control is critical to organizational competitive advantage. Data is everywhere and every business processes leave behind a trace of data to produce first-hand information for effective decision making. Data could be structured or unstructured, whichever form that data appears in the organization, and the processes put in place by management of organizations play critical roles in data utility. Sustainability is the ability to operate today or tomorrow, without compromising the future. Competition is a popular word in the business environment. Every business organization competes against each other and the more intelligent an organization is, the more chances of data sustainability available to the organization.

Statement of the problem

Our knowledge has been drawn to inability of commercial banks in Rivers State to strategically set up running and active systems to govern their data to enable them sustain day-to-day running of their business and to avoid unscrupulous elements from invading their data base. It has become a necessary discipline and an important area of focus for modern financial organizations to realize operational efficiency and to support business growth. We have seen many organizations that look to expensive technology to solve their data governance challenges. The researcher has also observed that commercial banks in Rivers State lack the ability to govern their data which leads to unrealized opportunities and inability to make informed and timely decisions to keep them running seamlessly. Timely decision making is especially important for brick and mortar financial institution, given the emergence of FinTech entities. The researcher has also observed the gap that exists as a result of unauthorised data manipulation or deleting from the data base of commercial banks in Rivers State.

The study shows that there is a lack of research that explicitly studied activities for governing data. In other words, no study has been done empirically to illustrate how specific dimensions of data governance strategies such as data architecture, data policies and data security interact with business sustainability of commercial banks in Rivers State, Nigeria in terms of profitability, service quality, and market share. This simply indicates that the relationship between data governance strategies and business sustainability of commercial banks in Rivers State, Nigeria has not received ample documented attention. This is the knowledge gap which this study seeks to fill.

Conceptual Framework

The study on data governance and business sustainability of the banking sector in Rivers state, Nigeria, is framed into the predictor and criterion variables. The predictor variable is the data governance strategies. The following dimensions have been properly examined and it is accepted to address the concern of this research work. This includes data architecture, data policies and data security. The criterion variable – business sustainability is measured with profitability, service quality and market share.

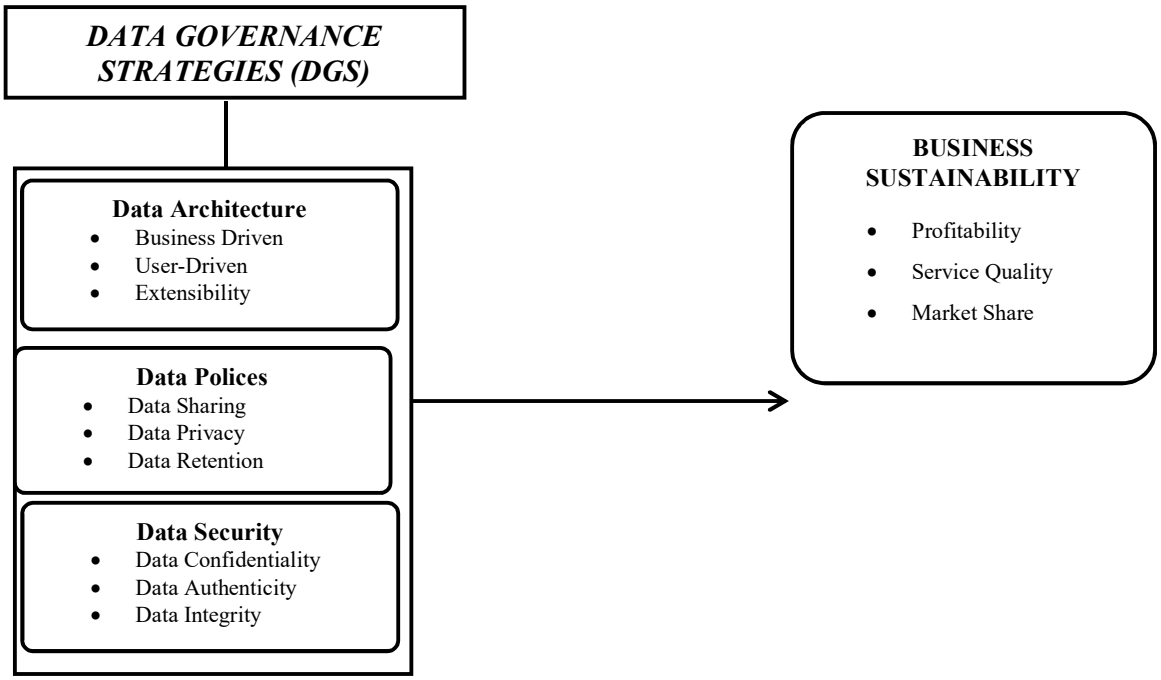

Fig. 1:*Conceptual Framework Depicting Dimensions of the Predictor and the Criterion Variables*
***Source**: Researcher's Conceptualization (2022).*

Aims and Objectives of the Study

The aim and objectives of this study were to examine the extent of relationship between data governance strategies and business sustainability of commercial banking sector in Rivers State, Nigeria. The specific objectives of the study were to:

1 Examine the influence of data architecture on business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.
2 Determine the influence of data policies on business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.
3 Determine the influence of data security on business sustainability of commercial banks in Port Harcourt.

Research Questions

The following research questions were posed in guiding the study:

1. To what extent does data architecture influence business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria?
2. To what extent do data policies influence business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria?
3. To what extent does data security influence business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria?

Hypotheses

To achieve the target of this study, the following null hypotheses was adopted:

H_{01}: There is no significant relationship between data architecture and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.
H_{02}: There is no significant relationship between data policies and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.
H_{03}: There is no significant relationship between data security and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.

METHODOLOGY

This study adopted the explanatory and quantitative methods, drawn from their respective knowledge and human nature roots, carried out with a view to enhancing external validity; hence it is correlational study in nature because it investigates the relationship between the study constructs. This was a macro study which consists of top level management employees of operating banks in Port Harcourt, Rivers State, Nigeria. Based on CBN data 2020, there are twenty three registered banks in Nigeria. Unfortunately, all the banks are not located in Port Harcourt. A total of nineteen commercial banks are physically located in Port Harcourt. Therefore, the population of this research study covers only the nineteen (19) national and internationally authorised commercial banks in Rivers State. Categories of managerial staff identified are: Regional Director, Managers, Information Technology (IT) Manager, Human Resource (HR), Head of Operations, Internal auditor & Marketing managers. Therefore, seven (7) managerial staff with the managerial rank above derived from each banks, making a total population of one hundred and thirty three (133) respondents. It is presented thus;

Table 3:1 Population Frame of the Distribution of the nineteen commercial banks in Port Harcourt, Rivers State with national and international authorization.

S/N	Names of money deposit banks	Numbers of managerial staff representative
1.	Access Bank Plc	7
2.	Fidelity Bank Plc	7
3.	First City Monument Bank Plc	7
4.	First Bank Nigeria Limited	7
5.	Guaranty Trust Bank Plc	7

6.	Union Bank of Nigeria Plc	7
7.	United Bank of Africa Plc	7
8.	Zenith Bank Plc	7
9.	Citibank Nigeria Limited	7
10.	Ecobank Nigeria Plc	7
11.	Heritage Bank Limited	7
12.	Keystone Bank Limited	7
13.	Polaris Bank Plc	7
14.	Stanbic IBTC Bank Plc	7
15.	Standard Chartered Bank Limited	7
16.	Sterling Bank Plc	7
17.	Titan Trust Bank Ltd	7
18.	Unity Bank Plc	7
19.	Wema Bank Plc	7
	Total	133

Source: https//www.cbn.gov.ng/out/2022/fprd/list

Therefore, the study population is comprised of one hundred and thirty-three (133) managerial staff of the nineteen (19) National and Internationally authorised banks operating in Port Harcourt, Rivers State.

Sample size of a research study is the number of study elements derived from the total study population. Census is use in the sampling technique as the entire population of the top level management staff of the banks that are studied, and base on this, the entire one hundred and thirty-three (133) managerial staff of the banks forms the study sample size.

In this study, the tool used in the data collection is the structured closed ended questionnaire. The measurement of the study instrument is built on the Likert scale principles. Therefore, our instrument is designed using the Likert Scale of four options with the measurement ranking from 4 to 1 points coded as: Very High Extent (VHE) =4, High Extent (HE) = 3, Low Extent (LE) and Very Low Extent (VLE) = 1

The validity of the study instrument is done through the supervisors vetting and other expert in the field of office and information management as to enable the instrument stand the test of validity.

The reliability of the structured questionnaire was ascertained through Test-re-test in which a pilot administration of the questionnaires was made on a portion of the chosen sample and administered to the target respondents after two months and relationship between the two results determined using the Pearson Moment Correlation Coefficient, and presented with Statistical Package for Social Sciences (SPSS) version 20. Our reliability test was also anchored on the Cronbach Alpha at 0.70.

The instrument administration for this study is the use of questionnaire as the data collection tool in which two research assistants will help in the distributions of the questionnaire to the target study. The aim of this study is to investigate the relationship between the study construct, the Pearson's Product Moment Correlation Coefficient will be used to analyse the data.

A total of one hundred and thirty three (133) copies questionnaires were distributed to the nineteen national and international authorized commercial banks in Rivers State that form our study population. The collected questionnaires showed that, 97 copies of the distributed questionnaire were retrieved successfully, which account for 73% of the target study population, while 36 copies of the distributed questionnaires were not retrieved or blankly filled leading to rejection, which account for 27% of the distributed questionnaires.

RESULTS

H_{01}: There is no significant relationship between data architecture and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.

Table 1 Correlations matrix for Data Architecture and Business Sustainability

		Data Architecture	Business sustainability
Data Architecture	Pearson Correlation	1	.976**
	Sig. (2-tailed)		.000
	N	97	97
Business sustainability	Pearson Correlation	.976**	1
	Sig. (2-tailed)	.000	
	N	97	97

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *SPSS Data Output, 2023*

The table 1 showed the correlation of hypotheses one, two and three; the hypothesis one show a significant correlation at r= .976** where P-value = .000 (P<0.001). This implies a strong and significant relationship between both variables at 95% level of confidence. We therefore reject the null hypothesis (Ho:$_1$), and upheld the alternate and restated thus; there is a significance positive relationship between data architecture and business sustainability in the commercial bank in Port Harcourt, Rivers State, Nigeria.

H_{02}: There is no significant relationship between data policies and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.

Table 2: Correlations Matrix of Data Policies and Business Sustainability

		Data Policies	Business sustainability
Data Policies	Pearson Correlation	1	.993**
	Sig. (2-tailed)		.000
	N	97	97
Business sustainability	Pearson Correlation	.993**	1
	Sig. (2-tailed)	.000	
	N	97	97

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *SPSS Data Output, 2023*

The table 2 showed the correlation of hypotheses four, five and six; the hypothesis four show a significant correlation at r= .993** where P-value = .000 (P<0.001). This implies a strong and significant relationship between both variables at 95% level of confidence. We therefore reject the null hypothesis (Ho:$_2$), and upheld the alternate and restated thus; there is a significance positive relationship between data policies and business sustainability in the commercial banks in Port Harcourt, Rivers State, Nigeria.

H_{03}: There is no significant relationship between data security and business sustainability of commercial banks in Port Harcourt, Rivers State, Nigeria.

Table 3: Correlations Matrix for Data Security and Business Sustainability

		Data Security	Business sustainability
Data Security	Pearson Correlation	1	.992**
	Sig. (2-tailed)		.000
	N	97	97
Business sustainability	Pearson Correlation	.992**	1
	Sig. (2-tailed)	.000	
	N	97	97

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *SPSS Data Output, 2023*

The table 3 showed the correlation of hypotheses seven, eight and nine; the hypothesis seven show a significant correlation at r= .992** where P-value = .000 (P<0.001). This implies a strong and significant relationship between both variables at 95% level of confidence. We therefore reject the null hypothesis ($Ho_{3:}$), and upheld the alternate and restated thus; there is a significance positive relationship between data security and business sustainability in the commercial banks in Port Harcourt, Rivers State, Nigeria.

Discussion of Findings

The first hypothesis showed that, there is a strong positive significant relationship between data architecture and business sustainability. This study findings support the empirical findings of Akinkunmi (2017) who examined what decides the profitability of banks in Spain utilizing information from 1999 to 2009 with the assessment procedure of Generalized Method of Moments (GMM). He uncovered that factors, for example, the level of credits in complete resources, client stores, effectiveness and low dicey resources proportion decidedly influence bank profit, however no effect of economies or diseconomies of scale when profitability is caught by return on resources (ROA).

The second hypothesis showed that, there is a strong positive significant relationship between data policies and business sustainability. This study findings support the empirical findings of Paskaleva, et al. (2017) the key findings of the paper reveal that smart city initiatives seeking to deliver sustainable urban development require engagement with stakeholders to collaboratively identify, collect, generate, and use data. Thus, sustainability shapes a more collaborative approach to data governance in the smart city that addresses broader calls to make smart data governance more responsive and collaborative.

The third hypothesis showed that, there is a strong positive significant relationship between data security and business sustainability. This study findings support the empirical finding of Leonelli (2019), asserted that, the critical importance of documenting data management and transformations processes, especially with Big Data that transit far and wide over digital channels and are grouped, analyzed, and interpreted in different ways and formats. It also explains why the rise of data-centrism involves the increasing acknowledgment of the expertise of those who produce, curate, and analyze data as indispensable to the effective use of Big Data within and beyond the sciences; and the inextricable link between social and ethical concerns around the potential impact of data sharing and scientific concerns around the quality, validity, and security of data.

CONCLUSION

In this study, the relationships between data governance strategies and business sustainability using data architecture, data policies and data security as the dimension of the predictor variable (Data Governance Strategies) and profitability, service quality and market share as measures of the criterion variable (Business Sustainability) have been investigated. The study results showed significant positive relationship between the variables hypothesized in the study conceptual framework. Accordingly, the study methodology was designed in a way that points towards the achievement of the study objectives. The study concluded that data governance strategies through the use of data architecture, data policies and data security significantly influences business sustainability of profitability, service quality and market share.

RECOMMENDATIONS

Based on the conclusions of this study, the following recommendations were made:

1) Data architecture should be given adequate attention as it helps organizations to have a good foundation in the capturing of data from within and outside the organization which provide leaders of organization with first-hand information for effective business sustainability.

2) Data policy is an essential strategy for good data governance in any organization. Therefore, management of organizations should ensure effective policies are on ground if they are to tap the richness of data in the world of data asset.
3) Management of organization should ensure their data security programmes are up-to-date as to guarantee competitive advantage over competitors as lack of data security exposed the organization to be vulnerable.

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