

DATA STEWARDSHIP AND COMPETITIVENESS OF INSURANCE FIRMS IN SOUTH-SOUTH, NIGERIA.

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ABSTRACT

This study ascertained the relationship between data stewardship and competitiveness of insurance firms in South-South, Nigeria. The study employed the information security control theory as the baseline theory underlying the study. The study adopted the descriptive research design, using a cross sectional approach. The target population comprised all the insurance firms in south-south, Nigeria, while the accessible population for the study comprised the twenty-nine (29) insurance firms in South-South, Nigeria. The researcher adopted a census method where 145 principal officers were chosen based on the focus of the study. Data collected using structured and close-ended questionnaire. Retrieved data was analyzed using the Spearman Rank Order of Correlation Coefficient, with the help of Scientific Package for Social Science version 23. The findings revealed that there is a positive and significant relationship between data stewardship and competitiveness of insurance firms in south-south, Nigeria using the Pearson Product Moment Correlation coefficient at 95% confidence interval. The study concludes that there is a positive and significant relationship between data stewardship and competitiveness of insurance firms in South-South, Nigeria. The study therefore recommends that; Data stewards should be engaged so that insurance firms' data is protected, trustworthy and usable which is integral to the competitiveness of insurance firms in South-South, Nigeria.

Keywords: Data Stewardship, Competitiveness, Patronage & Market Share

INTRODUCTION

Competitiveness is a multidimensional concept. It means different things to different people depending on the context and level. It can be looked at three different but inter-related levels: Country, Industry and Firm level. Competitiveness originated from the Latin word, *Competer*, which means involvement in a business rivalry for markets. In simple terms, it is the ability to compete. It has become the name of the game today to describe economic strength of a country or industry or firm with respect to its competitors in the global market economy in which goods, services, people, skills and ideas move freely across geographical borders (Murths, 1998). Firm Level Competitiveness can be defined as the ability of firm to design, produce and or market products superior to those offered by competitors, considering the price and non-price qualities (D'Cruz). Competitiveness Processes are those processes, which help identify the importance and current performance of core processes such as strategic management processes, human resources processes, operations management processes and technology management processes.

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which help identify the importance and current performance of core processes such as strategic management processes, human resources processes, operations management processes and technology management processes.

According to O'Hara (2019) data stewardship, where an intermediary facilitates or holds consent and decision-making on behalf of users, is a viable solution that can balance individual data rights and the use of data for societal good. Stewards are also responsible for ensuring data is unlocked to generate societal value, and maintain the security standards and quality of the datasets. Data stewardship can potentially enhance accountability of platforms, user control over their own data, and consequently, trust in processes of data use and analysis. That being said, the current vocabulary on data stewardship is complex, and often conflicting. Terms and concepts are used loosely and interchangeably, making adoption of a specific taxonomy complicated. Creating a common taxonomy is a necessary step to kick-off pilots, for large-scale implementation, and for regulation. This report builds on the existing work regarding the practice of data stewardship, its definitions, models and use cases, and aims to unify the language of stewardship and present a framework of analysis that encompasses all existing models of stewardship. It also explores the legal and technical features of these models, and examines a few specific takeaways for India. This paper therefore examined data stewardship and competitiveness of insurance firms in South-South, Nigeria.

THEORETICAL FOUNDATION (INFORMATION SECURITY CONTROL THEORY)

This proposed theory on information security control simply states that the motivation behind all attempts by an organisation to secure information against threats is to create resources that can later improve organisational performance. Information will degrade over time without adequate controls mechanisms being implemented for its protection and overall governance. In terms of the taxonomy of information systems theories presented by Gregor (2006), this manuscript provides a high-level theory for explanation, describing how and why the phenomenon of information security occurs. The theory on information security control originates from the area of information systems, built entirely from concepts that relate to information and the breadth of systems that it can reside on. It applies to different levels, including strategies to protect information used by individuals, groups, organisations and also protects information shared between organisations. The results are that, depending on the information affected, degradation over time may reduce the usefulness of the resource and thus lead to the potential erosion of competitive advantage or organisational success.

Data is seen as amorphous and can be printed on paper, stored on computers, sent by post or electronically, shown on videos and articulated in a discussion (Von Solms & Van Niekerk 2013). As well as being stored on physical media such as paper and digital media such as computers, information can also reside on cognitive media, i.e. people's minds (Ahmad *et al.* 2005). Information can also have various levels of sensitivity, is difficult to control which sometimes results in leakage, and is intangible in nature (Ahmad *et al.* 2005). Information however is not data, with the distinction being that data are raw facts and information is processed data that is meaningful (McKinney Jr & Yoos 2010). It is interesting to note that information hosted in the cloud brings its own set of challenges including (1) long-term viability, where information restoration becomes doubtful should the cloud vendor become bankrupt, and (2) information availability, where cloud vendors may not restore to a different environment should the information become unavailable (Catteddu 2010).

Concept of Data Stewardship

As more and more data is generated, it has become critical for creating value for businesses, providing insights for policy-makers, and empowering individuals with improved choice and, more targeted goods and services. With its growing centrality to decision-making, the ubiquity of data also raises concerns about unfair competitive advantages, invasion of privacy, and poor utilization of data. The current scenario of data sharing and governance lacks structure in a majority of jurisdictions. According to (Bestman & Wogboroma, 2016) massive amounts of heterogeneous and continuously updated information is available to organizations due to presence of Big Data. This is required in order to protect the interests of stakeholder groups in the context of data sharing and usage patterns. In the last decade, there has been tremendous collection and aggregation of data by governments and private actors. As of June 2019, there were 4.4 billion internet users across the world, generating data on social media, e-commerce, search engines, ride-sharing apps, email services, internet of things etc. This data generated can help businesses better understand users, build applications for societal impact, and provide more tailored goods and services (Schultz, 2019). Insights into consumer behaviour are a significant competitive advantage and have been the central use case for large tracts of data.

Kelvin et al, (2014) stated that companies use data as capital, a critical raw material that can be used to generate more wealth. For example, Netflix analyses user data to understand preferences and viewing for specific genres, and updates its algorithms to recommend the best programs in a targeted manner. This understanding of consumer preferences also allows Netflix to produce content that is well received and gives the company returns on investment in the 2019 Oscars just six years after it had started producing content; Netflix-produced films had 15 nominations (Brennan & Lyons, 2019). Unsurprisingly, 84% of S&P 500 companies in 2018 drew their value from intangible assets i.e. data,⁴ which is evidence of this advantage. The increasing centrality of data to businesses which use it to create efficiencies in their business, build new products, services, and explore new markets, is a cause of some concern for the free-market and competition in digital services. Data accumulation can create monopolies that prevent new competitors from entering the market, or succeed in ones where they are already present. This hurts the economy, disempowers consumers, who may face lack of choice and over time, high prices (Khan, 2019).

A counter trend to the growth of big technology companies is the demand for greater individual control over personal data which may improve safeguards to privacy, misuse of data, and reduce discrimination and exploitation. This movement also believes that the benefits of data (as capital) should be reaped by individuals as well. Data governance to enhance individual agency and check against the abuse of centralised power can create avenues for innovation and value propositions in terms of greater access and impact. Further, there is a growing realization of the value of data for addressing society's "wicked problems" complex, intricate questions that involve a number of stakeholders, and have the potential to create significant impact for stakeholders. For example, the global water crisis could benefit from data driven insights on use, wastage, and enable better utilization of water infrastructure. However, governments, non-profits and businesses working on solving this issue have limited data access and are unable to utilize large data sets to build solutions that are tailored to individuals and communities.

Beyond availability, quality of data remains a challenge that is compounded by the ability of smaller firms to process large sets of data. It is undeniable that there is a need to unlock the

value of data by sharing, such that it is released from the monopolies of big technology companies, and used to empower individuals and address societal problems. It is, therefore, time to build systems and processes that allow for easy and safe data sharing in ways that enable innovation without compromising individual rights and security and to derive public good. This balance of societal good, market innovation, and privacy is at the core of the questions on data governance, which needs to create data sharing apparatuses that are equitable, accountable, and just.

According to O'Hara (2019) data stewardship, where an intermediary facilitates or holds consent and decision-making on behalf of users, is a viable solution that can balance individuals data rights and the use of data for societal good. Stewards are also responsible for ensuring data is unlocked to generate societal value, and maintain the security standards and quality of the datasets. Data stewardship can potentially enhance accountability of platforms, user control over their own data, and consequently, trust in processes of data use and analysis. That being said, the current vocabulary on data stewardship is complex, and often conflicting. Terms and concepts are used loosely and interchangeably, making adoption of a specific taxonomy complicated. Creating a common taxonomy is a necessary step to kick-off pilots, for large-scale implementation, and for regulation. This report builds on the existing work regarding the practice of data stewardship, its definitions, models and use cases, and aims to unify the language of stewardship and present a framework of analysis that encompasses all existing models of stewardship. It also explores the legal and technical features of these models, and examines a few specific takeaways for India.

Concept of Competitiveness

Business competition has become tougher; business people must continuously find ways and strategies to overcome competition in their respective fields (Schymik, 2018). In choosing the business models and concepts to be used, ideally, business people should be able to combine internal factors, particularly resources, and look at the structure of the industry externally. After analyzing the industry structure based on external factors, the company might have maximized all components of internal resources (resources) by creating various advantages. Competitive advantage factors are those that are gained or can be developed/created. Competitive advantage stems from a company's strategic choices to seize market opportunities (Friesenbichler & Reinstaller, 2022). A business strategy, also called competitive strategy, is usually developed at the divisional level, and emphasizes improving the competitive position of a company's products/services in the specific industry/market segment served by the division. The division's business strategy may focus on increasing profits in the production and sale of products and services. Business strategies should integrate various functional activities to achieve divisional goals.

The concept of a company's competitive advantage was developed using the generic strategy proposed in earlier studies. Measurements that show competitive advantage variables are imitability, durability, and ease of matching (Correia, Dias & Teixeira, 2020). Competitive advantage is at the heart of a company's performance in a competitive market. A company's advantage grows from the value or benefits that the company can create for its buyers. If the company can create an advantage over one of these three generic strategies, it may gain a competitive advantage. Competitive advantage can be understood by looking at the company stemming from the many activities that a company undertakes in designing, producing, marketing, delivering, and supporting sales (Farhikhteh, Kazemi, Shahin, Shafiee 2020). Thus, competitive advantage is a position in which the organization is still working to beat

competitors. According to Huang & Li (2018) in order to be competitive, organizations must be able to integrate strategy and various resources in creating superior competitiveness. For instance, one company in Porter's generic strategies runs its business to achieve and maintain its advantages (Bel, 2018). Porter explains that three types of strategies are used by businesses to achieve and maintain competitive capabilities. These three strategies are distinguished according to their capabilities. They are seen from the demand side as well as from the size and composition of the market to be entered. The ability to practice this strategy is seen from the supply side or owned and seen from the company's ability. Here, Porter identifies two competencies that are considered quite important: product differentiation and product price (equated with efficiency). At the beginning of its formation, Michael Porter divided his strategy into three dimensions, namely, low, medium, and high, and gave an approach as a three-dimensional matrix.

This categorical scheme is represented by a $3 \times 3 \times 3$ cubes. However, most of the 27 cube combinations are not commonly used in business. Currently, three primary strategies are most commonly used by companies (Bel, 2018). These three strategies are cost leadership strategy, differentiation strategy, and focus strategy. A cost leadership strategy can inhibit competitors by reducing the cost of the production process, which offers lower prices to buyers. In addition, if you want to obtain a good supplier, the company may find it easier to negotiate with large-scale suppliers so that raw materials are easier to obtain. In terms of competition, companies that use a low-cost strategy face threats from both similar companies and those companies that produce substitute goods by bringing low prices as an advantage. This strategy emphasizes customer loyalty, thus from an entry barrier perspective, companies can gain easier access to marketing (Khan et al, 2021).

Patronage

According to Nwiele & Ateke (2016) firms' crave customers' patronage because patronage is the bedrock of the continued existence and success of a business. Firms are thus always challenged to contrive initiatives that elicit customers' patronage. It has also been established that caring for current customers is key to securing their continued patronage. Consumers make decisions daily. Sometimes less thought is given to the decision making process, nonetheless, every decision is affected by basic rational and emotional states of being. Consumers initiate and conclude purchase based on the perceived value of the products. Thus, patronage is influenced by psychological principles developed to harness an understanding of needs. Customer patronage is a combination of psychological factors that influence purchase behaviour and these factors are considered important by consumers as yardsticks in determining which firm to patronize. It has been measured by various authors in different dimensions, including store traffic flow; willingness, word of mouth, repeat purchase, customer retention and customer referrals, customer satisfaction and referrals.

Market Share

Marketing professionals have been feeling the increasing pressure to justify why companies need marketing. "Researchers in marketing have cautioned that the inability of marketing to demonstrate its contribution to firm performance has weakened its standing within firms" (Gao, 2010). Therefore, measures to evaluate the marketing performance have received much more attentions than ever. Among those financial or non-financial measures, market share has been the one which researchers and business managers focus on the most. The biggest reason why market share got the most attention is that it has been empirically proved that market share can lead to profitability (Bhattacharya et al., 2021).

With the advancement of marketing discipline, “scholars have been developing and evaluating schemes for measuring the performance of marketing activities for the past half century (Clark, 2001). Even though research on marketing performance has been very well established, there is no clear and explicit definition of marketing performance (Gao, 2010). The only agreement that has been reached in the strategic marketing literature is that marketing performance is multidimensional in nature (Gao, 2010). However, there are many different measures that have been utilized in marketing literature and a superior marketing performance may differ between businesses (Vorhies & Morgan, 2003). Basically, some of them are financial-related measures and others are non-financial measure. According to Gao (2010), within the marketing discipline, there is a general trend of marketing performance measurement. First of all, researchers have begun to use non-financial measures instead of traditional financial measures more frequently in these days. These non-financial measures mentioned here include market share, customer satisfaction, customer loyalty, and brand equity (Gao, 2010). Secondly, in addition to measuring just the output produced by market activities, more and more practitioners and researchers start to pay attention to measuring the market input, such as marketing audit, marketing implementation, and market orientation. They often can lead to intermediate outcomes such as customer satisfaction, customer loyalty, and brand equity, which in turn lead to financial output (Gao, 2010). Thirdly, instead of using single measure to evaluate the marketing performance, researchers gradually switch their focus to multiple-dimensional measures. More researchers now agree that marketing performance is multidimensional (Vorhies & Morgan, 2003). Finally, the last trend that has been observed is that the marketing performance is not only measured from the customer’s perspective but also evaluated from the investor’s perspective. In other words, “a new trend has appeared that links marketing performance to firm value and in particular to shareholder value” (Gao, 2010).

METHODS

The study population consisted of all registered and functional insurance firms in South-South, Nigeria, while the accessible population for the study comprised twenty nine (29) insurance Firms in South-South, Nigeria. The researcher adopted the entire population (census) as the sample size considering the fact that the study population is not large. However, five (5) managers were drawn from each of the twenty nine insurance firms in each state that constituted the study population. Preliminary investigation revealed that there are five most important managerial positions in these insurance firms. Specifically, the study respondents include: Head of corporate Business, Head of Sales, Head of Actuarial, Research & Development Manager, and Head of Finance. In all, one hundred and forty five (145) managers constituted the respondents for the study. The study used structured-close ended questionnaire as a means of generating primary data from the respondents of the study. The validity of the instrument was determined by the team of supervisors and other experts in measurement and evaluation studies. Reliability in this study was determined the Cronbach Alpha coefficient with the help of SPSS version 23. One hundred and forty five (145) copies of structured questionnaire were administered to the respondent managers while one hundred and forty (140) copies were retrieved, cleaned and qualified for use. Measures of central tendencies and measures of dispersions were used in analyzing the respondent’s demographics. More so, the simple Regression Analysis was used in testing the various hypotheses in other to ascertain the relationship between the predictor variable (Data protection) on the criterion variable (Competitiveness). The result of the analysis revealed

that there is a positive and significant relationship between Data Stewardship and Competitiveness of Insurance Firms in South-South, Nigeria.

Table 1 Reliability Coefficients of Variable Measures

S/No	Dimensions/Measures of the study variable	Number of items	Number of cases	Cronbach's Alpha
1	Data Stewardship	5	140	0.760
2	Patronage	5	140	0.811
3	Market Share	5	140	0.798

Source: SPSS Output, 2024

RESULTS

Data Stewardship and Competitiveness Measures

Table 2 shows the result of correlation matrix obtained for data stewardship and competitiveness measures. Also displayed in the table is the statistical test of significance (p - value), which enables us to answer our research question and generalize our findings to the study population.

Table 2: Correlations for Data Stewardship and the Measures of Firm Competitiveness

			Data Stewardship	Patronage	Market Share
Spearman's rho	Data Stewardship	Correlation Coefficient	1.000	.809**	.887**
		Sig. (2-tailed)	.	.000	.000
		N	140	140	140
	Patronage	Correlation Coefficient	.809**	1.000	.885**
		Sig. (2-tailed)	.000	.	.000
		N	140	140	140
	Market Share	Correlation Coefficient	.887**	.885**	1.000
		Sig. (2-tailed)	.000	.000	.
		N	140	140	140

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

Source: Research Survey, 2024

RQ1: To what extent does data stewardship enhance the competitiveness of insurance firms in South-South, Nigeria?

The correlation coefficient (rho) result in table 2 was used to answer research question 1. Table 2 shows a Spearman Rank Order Correlation Coefficient (rho) of 0.809 on the relationship between data stewardship and patronage. This value implies that a very strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in patronage was as a result of the adoption of data stewardship. Therefore, there is a very strong positive correlation between data stewardship and patronage of insurance firms in South-South, Nigeria.

Similarly, Table 2 shows a Spearman Rank Order Correlation Coefficient (ρ) of 0.887 on the relationship between data stewardship and market share. This value implies that a very strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in market share was as a result of the adoption of data stewardship. Therefore, there is a very strong positive correlation between data stewardship and market share of insurance firms in South-South, Nigeria.

Therefore, to enable us accept or reject hypotheses 1 and 2 as well as generalize our findings to the study population the p- value was used as shown below:

H₀₁: There is no significant relationship between data stewardship and patronage of insurance firms in South-South, Nigeria.

Similarly displayed in the table 2 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. From the result obtained from table 2, the sig- calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between data stewardship and patronage of insurance firms in South-South, Nigeria.

H₀₂: There is no significant relationship between data stewardship and market share of insurance firms in South-South, Nigeria.

Also displayed in the table 2 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. From the result obtained from table 2, the sig- calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between data stewardship and market share of insurance firms in South-South, Nigeria.

Therefore, the results for the first set of hypotheses with regards to the relationship between data stewardship and firm's competitiveness measures are stated as follows:

- i. There is a strong positive significant relationship between data stewardship and patronage of insurance firms in South-South, Nigeria.
- ii. There is a very strong positive significant relationship between multi-factor authentication and integrity of Telecommunication Firms in South-South, Nigeria.

DISCUSSION OF FINDINGS

The findings showed that there is a significant positive relationship between data stewardship and insurance firms' competitiveness in South-South, Nigeria. This reinforces the arguments of that data sharing has been undertaken for a long time to enable mutual benefit, as countries and industries benefit from cooperating and learning about one another. Sharing of meteorological data for example, has helped the study of weather and climate patterns generating benefits across borders. Similarly, the practice of governments sharing data with academics for analysis has been instrumental to the study of economics. Sharing data is instrumental in the development of knowledge; research, innovation, and cooperation that help us better understand our society, economy, and polity. Some data, therefore, is rightly regarded as a shared resource that benefits society at large. Health data has seen the earliest growth in formalized sharing. In some ways, the marginal benefit from sharing data is easily communicated as it leads to collaborations and outcomes that have impact the lives of people significantly (Marcel, et al, 2019). Health data for research is used through anonymized sharing between hospitals and researchers, who navigate these relationships through data sharing agreements. Consent from users or patients are acquired at the point of care. While

patients may be informed of purpose and safeguards to their privacy, they are unlikely able to negotiate the terms of sharing. However, given the contribution to research, and possibly in areas that impact the users/their families personally, the incentive to share is high.

With growing awareness on safeguards for privacy, hospitals are becoming increasingly conscious of setting up mechanisms that do not compromise the data. One of these mechanisms is data rooms, or high security data centres, that allow for patient health information sharing through trustworthy channels. That said, there is a need for a more organized approach to collection and sharing of data in the context of health. More and more countries are setting up clear policies for data sharing in health, such as Norway, which has put together a strategy for access and sharing of research data. The strategy is anchored in the need to share and reuse data more widely, but combines this openness with essential safety and security guidelines that afford the highest protection to users (Norwegian Ministry of Health, 2018).

Even so, the current finding agrees with the conceptual arguments that data stewards are designed to be trusted intermediaries that lie between users, fiduciaries and requestors and can ease the process of sharing. A Data Steward has four main functions: Collaboration: the data steward provides a platform to individuals and entities to pool and share their data and bring different data sets together, for the benefit the public. Disaggregated silos of data are collated and organized by the data steward to make organized and structured systems to store, share, and use the data that is entrusted to it. Management: The steward makes data available in a usable format. To this end, the data steward is tasked with meeting certain standards in maintenance of data quality. This finds application in terms of standards for input/accepting data, its storage, as well as in sharing. Depending of the structural role of the steward, it may be in a position to prescribe data formats and technical specifications that apply to a certain type of data or purposes of usage (Verhulst, 2018).

The data steward is entrusted with data by users and other companies with separate liability. It is required to follow disclosure norms and offer accountability mechanisms to end users. It communicates the fiduciary responsibility to users through disclosures on data use, safety and security standards and practices, and transparency regarding the structure and activities of the steward. The specifics of the accountability measures applicable vary according the model of data stewardship as well as the sectoral regulations applicable in the relevant jurisdiction. Intermediation: The data steward, based on the terms on which data is collected, manages data, including consent, on behalf of users and participating companies. This includes management of sharing and providing third-party access to this data as well. This function positions the steward as an intermediary of data sharing and access: between participating users and companies on one hand and third-party entities on the other. Being in this position of a trusted intermediary, the steward builds mechanisms of enforce the rights of users over their data. Broadly, the steward protects the interests of the users here and incentive structures around the steward are designed to account for this.

CONCLUSION/RECOMMENDATION

This study examined the relationship between data stewardship and competitiveness of insurance firms in South-South, Nigeria. Data stewardship (predictor variable) was tested against the measures of competitiveness (criterion variable) patronage and market share. The hypotheses were tested using the Simple Regression Analysis. The tests were carried out at a 95% confidence interval and a 0.05 level of significance. The major findings revealed that

there is a positive and strong relationship between data stewardship and the competitiveness of insurance firms in South-South, Nigeria. Based on discussion and conclusion drawn; it was recommended that;

- i. Insurance firms should ensure that data stewards are engaged so as to ensure that the sector's data is accessible, trustworthy, usable and secure, so that overall competitiveness can be attained by insurance firms in South-South, Nigeria.

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