

DATA INTEGRITY AND INFORMATION VALUE OF TELECOMMUNICATION FIRMS IN SOUTH-SOUTH, NIGERIA

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Abstract

The purpose of this study was to investigate the influence of Data Integrity on Information Value of Telecommunication Firms in South- South Nigeria. This hypothesis testing study adopted a causal research design and a cross-sectional investigation and obtained quantitative data from the respondents in a non-contrived environment. The population for this study consists of four (4) Telecommunication Firms in South- South, Nigeria. The researchers adopted a census study because of the small size of the study population henceforth; there was no need for sampling. However, five (5) managers were drawn from each of the Telecommunication Firms in South-South, Nigeria that constituted the study population. In all, one hundred and twenty (120) managers constituted the respondents for the study. One hundred and twenty (120) copies of structured questionnaire were administered to the respondent managers while one hundred (100) 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 influence of the predictor variable (Data Integrity) on the criterion variable (Information Value). The result of the analysis revealed that Data Integrity significantly and positively had an influence on Information Value of Telecommunication Firms in South- South, Nigeria. Furthermore, the study revealed that amongst the dimensions of data integrity used for the study, Data Consistency made relatively highest contributions (0.640) to change in the dependent variable (Information Value). Remarkably, sequel to the obtained findings, the researchers concluded that Data Integrity significantly and positively influenced Information Value and thus recommended that Telecommunication Firms in South- South, Nigeria should monitor and always improve on their data integrity in other to enhance their value of information.

Keywords: *Data Integrity, Data Authenticity, Data Consistency, Data Accuracy, Data Availability, Information Value, Decision Value, Usability Value*

Introduction

Data integrity is a fundamental component of information security. In its broadest use, data integrity refers to the accuracy and consistency of data stored in a database, data warehouse, data mart or other construct (Yupuetal, 2010). Every day, an ever-increasing amount of data is generated, captured, and used by organizations worldwide to make business critical decisions. Data is a crucial differentiator in companies as more and more data are generated, used, transmitted, and stored. Reliable and meaningful data provides companies with a performance

edge and let them compete with their competitors. The potential for errors increases as the amount of data increases. The consequences of such errors can have a huge impact on consumers and can potentially affect vast number of people. Data integrity is the maintenance of and the assurance of the accuracy and consistency of data over its entire life-cycle, and is a critical aspect to the design, implementation and usage of any system which stores, processes, or retrieves data. The term data integrity is broad in scope and may have widely different meanings depending on the specific context – even under the same general umbrella of computing. Data integrity is the opposite of data corruption, which is a form of data loss. (Boritz, 2011).

Given the importance of data and ever-increasing reliance on data to make decisions, organizations need to be able to trust the decisions they are making based on their data. Data integrity is an important component to be able to trust the insights and crucial decisions being made based on data. Data integrity ensures data is discoverable, reliable, consistent, and recoverable. Protecting data's integrity can improve optimization of resources as it increases reusability. Thus, when data integrity standards are strong and vigorous, the data remains untampered and dependable, regardless of how often it is accessed, transmitted or how long it has been stored. Success, they argue, is earned. It is not the ad hoc result of situational or environmental influences. Firms that insist on the integrity and quality of their products that are adapted to the needs and want of target customers and that market them faster and more efficiently than their competitors are in a better position to enjoy measurable level of information value and sustainable competitive advantage which is increasingly derived from knowledge and technological skills and experience in the creation of new products (Alegre, Lapiedra & Chiva, 2006). In consideration of the discourse thus far, this study was designed to examine the influence of Data Integrity on information value of Telecommunication firms in South- South Nigeria.

Theoretical Frameworks: Dynamic Capability Theory

Dynamic capabilities theory examines how firms integrate, build, and reconfigure their internal and external firm-specific competencies into new competencies that match their turbulent environment (Teece, Pisano & Shuen, 1997). The theory assumes that firms with greater dynamic capabilities will outperform firms with smaller dynamic capabilities. The aim of the theory is to understand how firms use dynamic capabilities to create and sustain a competitive advantage over other firms by responding and creating environmental changes (Teece, 2007). Capabilities are a collection of high-level, learned, patterned, repetitious behaviors that an organization can perform better relative to its competition (Winter, 2003).

Organizational capabilities are called "zero-level" capabilities, as they refer to how an organization earns a living by continuing to sell the same product, on the same scale, to the same customers (Winter, 2003). Dynamic capabilities are called "first-order" capabilities because they refer to intentionally changing the product, the production process, the scale, or the markets served by a firm (Winter, 2003). An organization has dynamic capabilities when it can integrate, build, and reconfigure its internal and external firm-specific capabilities in response to its changing environment. For example, whereas organizational capabilities have to do with efficient exploitation of existing resources, dynamic capabilities refer to efficient exploration and implementation of new opportunities (March, 1991).

Absorptive Capacity Theory (ACT)

Absorptive capacity theory examines the extent to which a firm can recognize the value of new external information, assimilate it, and apply it toward achieving organizational goals (Liu., Zhang,

& Hu, 2005). The theory assumes that absorbing new knowledge can help an organization become more innovative and flexible and achieve higher levels of performance than it would without absorbing new knowledge. The theory also assumes that firms that have higher abilities for absorbing new knowledge will have a competitive advantage over firms with lower abilities. A firm's technical knowledge tends to come from four sources. (1) The firm conducts its own research and development (R&D). (2) The firm derives new knowledge from its own current manufacturing operations. (3) The firm borrows new knowledge from other organizations or other sources. (4) The firm purchases new knowledge, such as through buying new equipment, hiring new knowledgeable people, or paying a consultant to train individuals in the use of a new method.

The theory assumes that organizations require a knowledge base to be able to absorb and use new knowledge. Firms that have no knowledge base may never be able to absorb new knowledge, no matter how they obtain it or how much they spend to obtain it. Firms that have never developed a knowledge base are said to be "locked-out" for subsequent knowledge and technological developments, a situation that can result in the creative destruction of an organization (Schumpeter, 1942). The possession of prior knowledge is helpful for organizations in two ways. First, creating an absorptive capacity for new knowledge in one period will help the absorption of new knowledge in the next period. Second, the successful use of new knowledge can be self-reinforcing and can motivate a firm to continue to absorb new knowledge indefinitely. Firms with higher absorptive capacities tend to proactively search for and absorb new knowledge regardless of current performance, but firms with lower absorptive capacities tend to reactively scrounge for new knowledge in response to some failure or decline in performance.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Davis (1986), is one of the most widely used models to explain user acceptance behavior. This model is grounded in social psychology theory in general and the Theory of Reasoned Action (TRA) in particular (Fishbein, & Azjen, 1975). TRA asserts that beliefs influence attitudes, which lead to intentions and therefore generate behavior. Correspondingly, Davis (1986, 1989) introduced the constructs in the original TAM as follows: perceived usefulness (PU), perceived ease of use (PEOU), attitude, and behavioral intention to use. Among the constructs, PU and PEOU form an end-user's beliefs on a technology and therefore predict his or her attitude toward the technology, which in turn predicts its acceptance. The technology acceptance model (TAM) explains the acceptance of information systems by individuals. TAM postulates that the acceptance of technology is predicted by the users' behavioral intention, which is, in turn, determined by the perception of technology usefulness in performing the task and perceived ease of its use. The acceptance and the use of information technologies can bring immediate and long-term benefits at organizational and individual levels, such as improved performance, financial and time efficiency and convenience (Foley Curley, 1984; Sharda, Barr & McDonnell, 1988).

Concept of Data Integrity

The word data is the plural form of the Latin noun datum (verbatim "something given") (Lexico English Dictionary, 2022). In general, data is "information, especially facts or numbers, collected to be examined and considered and used to help decision-making ,or information in an electronic form that can be stored and used by a computer" (Cambridge Dictionary, 2022). Data is defined as "factual information (such as measurements and statistics) used as a basis for reasoning, discussion of calculation." The meaning of the word has expanded through technology to be more encompassing and is now inclusive of anything that can be stored

in digital form, on a computer. Conversely, the word quality has multiple origins, among others, from the Latin noun *qualitas* (verbatim characteristic, nature). According to International Organization for Standardization. (2015). quality is the "degree to which a set of inherent characteristics of an object fulfills requirements." Nevertheless, the requirements remain undefined at this point. Therefore, in our context, quality broadly refers to the extent of the goodness of a thing (for instance, our data). Notably, Data integrity is the maintenance of, and the assurance of the accuracy and consistency of, data over its entire life-cycle, and is a critical aspect to the design, implementation and usage of any system which stores, processes, or retrieves data. In the views of Nwinyokpugi and Omunakwe (2019), data integrity is a major requirement for organizational productivity. Organizational productivity is a measure of efficiency of a person, machine, and factory system in converting input into useful output.

Data integrity is a concept and process that ensures the accuracy, completeness, consistency and validity of an organization's data. More so, Data integrity refers to the characteristics that determine data reliability and consistency over a file's entire life cycle (Harren, 2019). Data integrity is so critical to any organization that maintains electronic records including: the telecommunication sector, corporations, governmental agencies, non-profit organizations, service groups, medical practices and educational institutions. If the integrity of records is compromised, the impact on the organization could be horrific, resulting in financial records being exposed, the theft of customer or client identities, the exposure of strategic initiatives, loss of business, and even the malicious transfer of funds, all of which are potential outcomes, when an organization's database technologies are compromised (Murray, 2020).

Elements of Data Integrity

Data Authenticity

The concept of authenticity informs a number of central topics in management studies. On the surface, it might seem that a consensus exists about its meaning; there is indeed widespread agreement that authenticity refers to that which is "real" or "genuine" or "true". Below the surface, however, there is much less agreement; scholars use the same lexical term but often approach the concept from different perspectives and apply different meanings. Whatever the reason, the concept of authenticity carries great appeal indeed. As Potter (2010) proclaimed, "the demand for authenticity...is one of the most powerful movements in contemporary life." There are different types of authentication methods that could be used for Web Applications so that security could be provided to the website and to its users. Authentication is used not only on websites but everywhere. It is an "Idea" to keep the hackers away so that if they are not authorized to access, how would they hack the platform? Both authentication and authorization work together to ensure the website's security to the core, if one of them is removed, the application's security is sacrificed. There is no point in authenticating the user if we are not authorizing them the task and routes, and the same way if the authorization is implemented without authentication, the user simply cannot identify themselves to the website to access.

Data Consistency

To be successful in business, data consistency is crucial. It does not matter whether or not you are little startup or international conglomerate, lack of data consistency can build or break a company. Consistency of data is essential for each enterprise, regardless of its size. During this digital world, businesses principally place confidence in knowledge storage and transactions to perform sure operations. The proliferation of web-based applications and information systems, and recent trends such as cloud computing and outsourced data management, have increased the

exposure of data and made its consistency very difficult. In the era of data consistency, people's lifestyles, daily habits, and modes of thinking have undergone earth-shaking changes. Data consistency has become an important topic for research in industry and academia. But big data is a double-edged sword. It brings convenience to people and brings certain risks. In the process of data collection, storage, and use, it can easily lead to the leakage of personal information, and the fact that data is difficult to discern. How to ensure big data consistency and privacy protection has become one of the hot issues in the current stage of research.

Data is the general name for numbers and letters which have certain significance. For further analysis, the concept of data is classified into three types: atomic data, data unit, and data set. Atomic data is the smallest identity item with independent meaning (Thorsen, 2000). Atomic data cannot be divided into smaller meaningful items. An atomic data includes not only the value, but also its physical unit. Data unit is a combination of atomic data that describes the complete meaning of a phenomenon. It consists of one or more data items and only has a certain meaning when the data items are put together. Data unit cannot be divided again in the physical sense. A data unit can accurately describe a basic meaning only when these items are grouped together. Also, Data set is a set of data units. It contains one or several data units. One data unit in a data set is called an element of the data set. Conversely, Data consistency refers to the extent to which the same data kept at different data bases match or do not match. It further refers to a data characteristic that contradictory conclusions cannot be derived from the given data.

Data Accuracy

Data Accuracy is one of the main dimensions of Data Quality; it measures the degree to which data are correct. Knowing the accuracy of an organization's data reflects the level of reliability it can assign to them in decision-making processes. Several studies have identified Accuracy as the key dimension of Data Quality and the hardest to assess (Motro & Rakov, 2018, Batini, & Scannapieco, 2016). Knowing beforehand the Accuracy of their data brings many benefits to organizations. Indeed, the decision-making process is improved when we know the degree of confidence that can be attributed to the data. On the other hand, inaccurate data can lead to erroneous conclusions and can significantly compromise a range of decision-making processes which can lead to lost opportunities, lost revenue, strategic mistakes, etc. Thus, evaluating data accuracy is a process that requires planning before any data exploitation (Mylavarapu, Thomas, & Viswanathan, 2019).

A Plethora of definitions for data accuracy exist in literature. Each definition involves aspects of the context in which it was given. Generally, there is a reasonable consensus that the accuracy of the data is linked to a specific concept, namely the magnitude of an error (Haegemans, Snoeck, & Lemahieu, 2016). For Ballou and Pazer (2015), data are accurate when their value stored in a database corresponds to the real value. Motro & Rakov, (2018) link the accuracy of data to the percentage of objects that do not contain errors in the data such as misspellings, value outside the allowed range, and so on. Scannapieco, Missier and Batini, (2015) define accuracy as a measure of the proximity of a given value v to another value v' considered to be correct. Therefore, the researcher defines data accuracy as that which reflects the degree of correctness at which the data in an information system represents the real world.

Data Availability

The concept of availability pertains to the assurance that authorized individuals can easily access information when needed. This suggests that it is crucial to protect information systems from interruptions that could hinder users' access to information. Whitman and Mattord (2017) opine

that a company's website must have constant accessibility for clients. The concept of availability pertains to the assurance of accessibility and usability of network resources, services, and data, specifically when those with proper authorization need them (Sayyad et al., 2021). Data availability refers to the guarantee that authorized individuals may readily access information at the time it is required. This implies that it is imperative to safeguard information systems from any disruptions that may impede users' ability to access information. Whitman and Mattord (2017) assert that a company's website must always be accessible to clients without interruptions. Unforeseen periods of operational interruption, arising from either possess the capacity to impede organizational functioning, incur financial detriments, and undermine the reputation of an entity. Several strategies may be employed to improve availability. These include implementing redundancy using mirrored systems, employing load-balancing techniques to disperse network traffic effectively, and developing comprehensive disaster recovery plans. Including high availability architectures and failover mechanisms is of utmost importance in ensuring continuous accessibility to network services.

Access to data is a critical feature of an efficient, progressive and ultimately self-correcting scientific ecosystem including verification, discovery, and evidence synthesis. But the extent to which in-principal benefits of data sharing are realized in practice is unclear. Accordingly, there is growing recognition that data availability is a critical feature of an efficient, progressive, and ultimately self-correcting scientific ecosystem that generates credible findings (Munafo, 2017, & Nosek, 2015). A minimum level of credibility we would expect of all published findings is that they can be reproduced when the reported analyses are repeated upon the raw data: a concept referred to as computational or analytic reproducibility (Goodman, Fanelli, & Ioannidis, 2016., Stodden et al, 2016).

Nature of Information Value

Humans, like many other animals, have evolved to be inherently curious, shaped by ancestral priorities reflecting a diversity of behavioral and social factors (New et al., 2007; Cosmides et al., 2010). This curiosity drives humans to (consciously and unconsciously) observe and collect data about the world around them, in turn generating information used in decision making. This information has value to individuals and, more broadly, to society. If it did not, efforts to seek information would be absent. Interest in quantifying the value of information (hereafter "VOI") has existed for decades as economists, other scientists, and decision makers have sought to better understand the benefits derived from certain types of information (Howard, 1966; Howard, 1968; Keisler et al., 2014).

Value of information theory posits that information has potential value when it is used to inform decisions that lead to improved outcomes (Macauley, 2006). Further, information is valuable when it reduces uncertainty, although the value of a new piece of information may decline as overall knowledge surrounding a decision becomes sufficient or has decreasing marginal returns (Howard, 1966; Howard, 1968; Bernknopf & Shapiro, 2015). The estimation of VOI commonly involves comparing the difference in value between outcomes (real or hypothetical) with and without additional information (Howard, 1966).

Information value is defined as the increase in expected value or benefit that the manager gets for having obtained the right information. The value of information (VoI) is a decision analytic method for quantifying the potential benefit of additional information in the face of uncertainty. Simply put, your data today holds more value than your data tomorrow. This is the principle behind the time value of information. The user of information gives value to the piece of information when the information is used. The purpose of testing, computer modeling, or any other information generator is to provide information and analysis so that a sound decision can be

made. When the information does not match the decision, or the information is not available in a timely fashion, bad decisions are made (Baio & Russo, 2009).

Decision Value

Decision value is defined as the benefit that a manager gets for having taking an appropriate decision to undertake certain tasks and responsibilities himself or deliberately delegating such responsibilities to others who will deliver the expected outcomes. In addition, value-based decisions are decisions that involve subjective preferences for example, (whether an individual want an apple or an orange?). These may be contrasted with perceptual decisions that involve decisions related to an objective state of the world which entail asking the question (whether what is been held is an apple or an orange?) People differ in whether they like to be in control of a decision or whether they would happily delegate a decision. People often make decisions which not only affect their own outcome but also the outcome of others. These decisions are prevalent in many areas, e.g. choosing a vacation destination/ restaurant/ leisure activity for a group of friends, firms deciding whether to move to a new city, athletes taking the decisive shot, or representatives opting in or out of committees. Some people might strive to be in control in these decisions while others see these decisions as a burden and would prefer to give up the decision-making power (Owens et al., 2014).

Usability Value

Usability value is defined as the ability of a software product or information to enable a specified user to achieve his or her desired objective with good level of effectiveness, safety and security with the period in use. Evaluation of information systems (IS) represents an important topic among practitioners and researchers of information systems development (ISD) field. The evaluation of an IS may regard different aspects of the system, for example, performance, cost-benefit analysis, user acceptability, usability, reliability, functionality, efficiency job satisfaction, etc. In this paper, we will focus on usability evaluation (UE) of information systems. According to Kirwan (2012), a product can be said to be efficient if the user can use the product by specific time to meet their objectives accurately and completely when using the system. According to ISO (2018) usability is the level of adoption of a product from the user's perspective to achieve an objective effectively, efficiently, and satisfactorily. Usability evaluation needs to be done to ensure that a product can be run without giving confusion to the user.

METHODS

The study population consisted of all four registered and telecommunication firms in South-South, Nigeria. These telecommunication service providers are the ones predominantly involved in the delivery of voice call services even though they provide data support services. As a macro study it adopted the entire population (census) since the entire population was not large. However, five (5) managers were drawn from each of the four telecommunication firms in each state that constituted the study population. In all, one hundred and twenty (120) managers constituted the respondents for the study. The study utilized 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 experts in the field of measurement and evaluation studies. Reliability in this study was determined using the Cronbach's Alpha coefficient with the aid of SPSS version 23. One Hundred and twenty (120) copies of structured questionnaire were administered to the participants while one hundred (100) 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 influence of the predictor variable (Data Integrity) and the criterion variable (Information Value).

Data Analysis and Result

To empirically evaluate the influence of the predictor and criterion variables of this study (including their dimensions and measures), the spearman's rank order of correlation coefficient (RHO) was adopted. As a tool, it is considered to be more flexible and it is not limited or confined to parameters statistical assumption such as applicable in the Spearman Rank Order Correlation Coefficient. The analysis was executed using the scientific package for social sciences (SPSS) version 23 software.

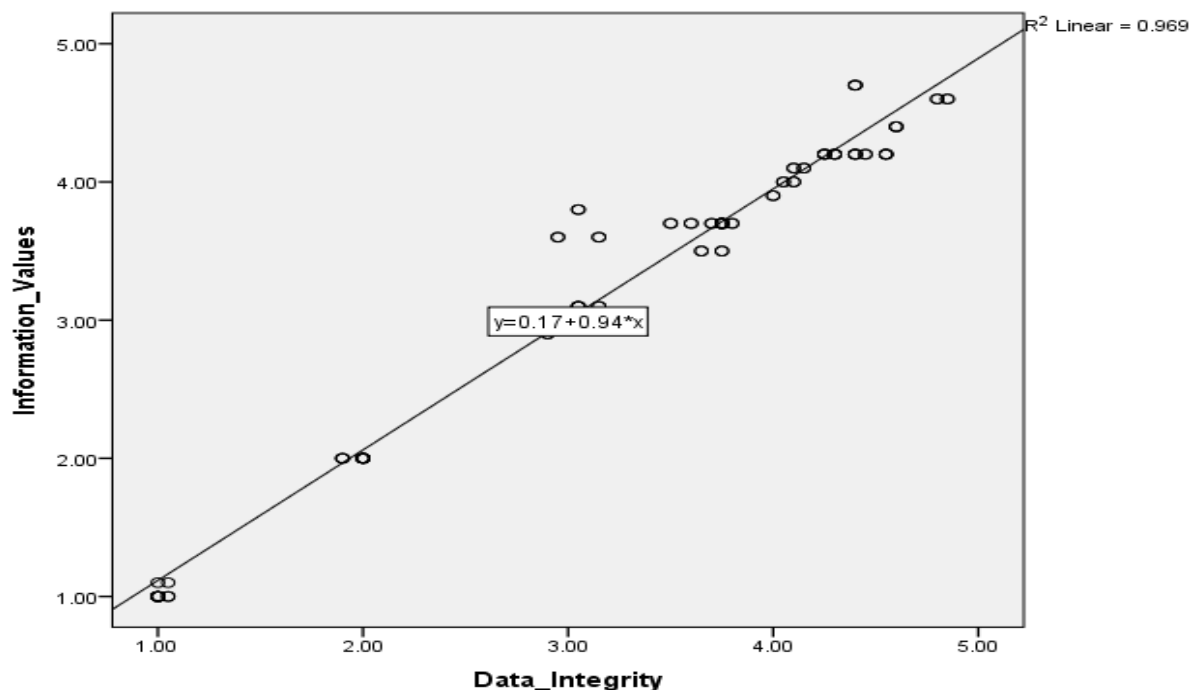


Fig 1.1: Scatter graph for the relationship between data integrity and information value
Figure 1.1 shows a very strong relationship between data integrity (independent variable) and information value (dependent variable). The scatter plot graph shows that at is linear value of (0.969) depicting a very strong and positive relationship between the two constructs. The implication is that an increase in data integrity simultaneously brings about an increase in the

Ho₁: Data authenticity does not significantly influence decision value of telecommunication firms in South - South Nigeria.

Table1: Correlations for authenticity influence on decision value

		Data Authenticity	Decision Value
Data Authenticity	Pearson Correlation	1	.708**
	Sig. (2-tailed)		.000
	N	100	100
Decision Value	Pearson Correlation	.708**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 1 shows a Pearson Product Moment Correlation (ρ) of 0.708 on the influence of data authenticity on decision value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in decision value was as a result of the adoption of data authenticity. Therefore, data authenticity has a strong influence on decision value of telecommunication firms in South - South Nigeria.

Ho₂: Data authenticity does not significantly influence usability value of telecommunication firms in South - South Nigeria.

Table 2: Correlations for data authenticity influence on usability value

		Data Authenticity	Usability Value
Data Authenticity	Pearson Correlation	1	.743**
	Sig. (2-tailed)		.000
	N	100	100
Usability Value	Pearson Correlation	.743**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 2 shows a Pearson Product Moment Correlation (ρ) of 0.743 on the influence of data authenticity on usability value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in usability value was as a result of the adoption of data authenticity. Therefore, data authenticity has a strong influence on usability value of telecommunication firms in South - South Nigeria

Ho₃: Data consistency does not significantly influence decision value of telecommunication firms in South - South Nigeria.

Table 3 Correlations for influence of data consistency on decision value

		Data Consistency	Decision Value
Data Consistency	Pearson Correlation	1	.723**
	Sig. (2-tailed)		.000
	N	100	100
Decision Value	Pearson Correlation	.723**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 3 shows a Pearson Product Moment Correlation (ρ) of 0.723 on the influence of data consistency on decision value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an

increase in decision value was as a result of the adoption of data consistency. Therefore, data consistency has a strong influence on decision value of telecommunication firms in South - South Nigeria.

Ho₄: Data consistency does not significantly influence usability value of telecommunication firms in South - South Nigeria.

Table 4 Correlations for influence of data consistency on usability value

		Data Consistency	Usability Value
Data Consistency	Pearson Correlation	1	.771**
	Sig. (2-tailed)		.000
	N	100	100
Usability Value	Pearson Correlation	.771**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 4 shows a Pearson Product Moment Correlation (rho) of 0.771 on the influence of data consistency on usability value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in usability value was as a result of the adoption of data consistency. Therefore, data consistency has a strong influence on usability value of telecommunication firms in South - South Nigeria.

Ho₅: Data availability does not significantly influence decision value of telecommunication firms in South - South Nigeria.

Table 5 Correlations for influence of data availability on decision value

		Data Availability	Decision Value
Data Availability	Pearson Correlation	1	.868**
	Sig. (2-tailed)		.000
	N	100	100
Decision Value	Pearson Correlation	.968**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 5 shows a Pearson Product Moment Correlation (rho) of 0.868 on the influence of data availability on decision value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in decision value was as a result of the adoption of data availability. Therefore, data availability has a very strong influence on decision value of telecommunication firms in South - South Nigeria.

Ho₆: Data availability does not significantly influence usability value of telecommunication firms in South - South Nigeria.

Table 6 Correlations for influence of data availability on usability value

		Data Availability	Usability Value
Data Availability	Pearson Correlation	1	.544**
	Sig. (2-tailed)		.000
	N	100	100
Usability Value	Pearson Correlation	.544**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 6 shows a Pearson Product Moment Correlation (rho) of 0.544 on the influence of data availability on usability value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in usability value was as a result of the adoption of data availability. Therefore, data availability has a moderate influence on usability value of telecommunication firms in South - South Nigeria.

Ho₇: Data accuracy does not significantly influence decision value of telecommunication firms in South - South Nigeria.

Table 7 Correlations for influence of data accuracy on decision value

		Data Accuracy	Decision Value
Data Accuracy	Pearson Correlation	1	.861**
	Sig. (2-tailed)		.000
	N	100	100
Decision Value	Pearson Correlation	.861**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 7 shows a Pearson Product Moment Correlation (rho) of 0.861 on the influence of data accuracy on decision value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in decision value was as a result of the adoption of data accuracy. Therefore, data accuracy has a very strong influence on decision value of telecommunication firms in South - South Nigeria.

Ho₈: Data accuracy does not significantly influence usability value of telecommunication firms in South - South Nigeria

Table 8 Correlations for influence of data accuracy on usability value

		Data Accuracy	Usability Value
Data Accuracy	Pearson Correlation	1	.955**
	Sig. (2-tailed)		.000
	N	100	100
Usability Value	Pearson Correlation	.955**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Source: Research Survey, 2026

Table 8 shows a Pearson Product Moment Correlation (rho) of 0.955 on the influence of data accuracy on usability value. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the influence is positive; implying that an increase in usability value was as a result of the adoption of data accuracy. Therefore, data accuracy has a very strong influence on usability value of telecommunication firms in South - South Nigeria.

Table 9: Correlations for the Moderating Effect of organizational Culture

Control Variables			Data Integrity	Information Value	organizational Culture
-none ^a	Data Integrity	Correlation	1.000	.985	.955
		Significance (2-tailed)	.	.000	.000
		df	0	98	98
	Information Value	Correlation	.985	1.000	.956
		Significance (2-tailed)	.000	.	.000
		df	98	0	98
	organizational Culture	Correlation	.955	.956	1.000
		Significance (2-tailed)	.000	.000	.
		Df	98	98	0
organizational Culture	Data Integrity	Correlation	1.000	.821	
		Significance (2-tailed)	.	.000	
		Df	0	97	
	Information Value	Correlation	.821	1.000	
		Significance (2-tailed)	.000	.	
		Df	97	0	

a. Cells contain zero-order (Pearson) correlations.

Source: Research Survey, 2026

-Table 9 depicts the zero-order correlation between organizational culture and study variables and shows the correlation coefficient when organizational culture is not moderating the variables;

and this is positive and very strong at 0.985. The partial correlation controlling for organizational culture, however, is also strong with rho value of 0.821. The observed positive influence of data integrity on information value of telecommunication firms in South - South Nigeria is due to the underlying relationships between each of their variables and organizational culture. Therefore, organizational culture has a positive and strong influence of data integrity on information value of telecommunication firms in South - South Nigeria.

Discussion

The findings showed that there is a significant positive relationship between data authenticity and information value of telecommunication companies in South-South, Nigeria. This finding supports the finding of Macharia *et al* (2015) who examined the effects of data authentication on logistics firm's performance in Nairobi Kenya. The study further revealed that information value significantly moderated the relationship between the study variables. Bansal, Bhargavan and Maffeis (2012) examined the effects of data authenticity on Ghana banking sector performance. The target population was the bank in Accra city. The results of the analysis showed a high significant relationship between data authenticity and banking sector performance in Ghana. The finding also agreed with Gauravaram (2012) who carried out a study assessing the relationship between data authentication (DA) and organizational performance of retail super stores in Nairobi Kenya. The study found a positive relationship between data authentication and organizational performance in Nairobi Kenya retail Super stores. Similarly, Meshach, Emelia and Samuel (2019) carried out a study assessing the effects of data authenticity (DI) on information value using Unilever Ghana Limited as case study and found that there was a positive relationship between data authenticity and value of information generated in unilever Ghana Limited. The findings showed that there is a significant positive relationship between data consistency and information value of telecommunication companies in South-South, Nigeria. This finding corroborates the earlier finding of Wang (2017) who conducted research on data consistency and cloud technology adoption in China and showed a high significant relationship between data consistency and information value creation in the Chinese manufacturing sector. Similarly, Zhang, (2018) carried out research on Big Data Security, consistency and Privacy Protection also in China and found that the adoption of consistent protection strategies for big data security and privacy as solution to enhance information value in organizations. Abouelmehdi, Abderrahim and Hayat (2018) researched on big healthcare data: ensuring consistency, security and privacy in Morocco. Their study revealed that data consistency and privacy significantly contribute to big data management and information worth in Morocco health sector. Based on the forgoing discussions and from the review of relevant theoretical literature, it appears that there is a relationship between the predictor and criterion variable and on the strength of the above assertion; the author concludes that data consistency influences information value.

The findings showed that there is a significant positive relationship between data accuracy and information value of telecommunication companies in South-South, Nigeria. This finding corroborates the earlier finding of Nutley *et al*. (2014), for data to become a regular component of decision making at all organization levels, the essential personnel must possess the capabilities to review, interpret, analyze, and use the data. Indeed, if decision makers lack knowledge or understanding of how to review and interpret available data, then, regardless of whether the data is accurate or not, the decision maker is unlikely to make the best decision. Some of the measures of ensuring data accuracy include; edit checks, cross-checking of dependent value, and knowledge of source of data (Grossmann & Rinderle, 2015). Also, Wagaman (2015) contend that data accuracy can also be enhanced through use of technology and verification of data with similar data from other evidence sources before making decisions. The findings showed that there is a

significant positive relationship between data availability and information value of telecommunication companies in South-South, Nigeria. This finding corroborates the earlier finding of Maina and Wairimu (2016) that investigated the effects of data availability on information quality and found that data availability significantly influences information quality. The study recommends that strategic leadership of the firm should consider the adoption of efficient data availability strategies as condition for improving organization information quality. Enida, Vasilika and Amali (2015) conducted a study to investigate the impact of data availability on organizational performance in Germany. The study sought to investigate why some companies are different and obtain good performance compared to other companies. The study sought to investigate the influence of data availability and quality on operational efficiency of construction firms. The study concluded that the managers should ensure the availability and use of quality data as better competitive strategies to increase operational efficiency. The results reveal that organizational culture significantly moderate the relationship between influences of data integrity on information value of telecommunication firms in south - south Nigeria. This finding corroborates with Shuaib and He (2023) who examined the mediating effect of organizational learning and moderating role of organizational culture on the relationship between total quality management and innovation among manufacturing companies in Nigeria. The results indicate that organizational culture has a negative and insignificant relationship. Also, Biriowu and Okwakpam (2020) examined decision-making affordances and sense making in human resource analytics in high reliability organizations (fast food companies) in Port Harcourt, Nigeria. The paper concludes that the more companies build on their Hi-tech capability, use data mining tools, and maintain supportive work culture, the more effective their sense-making and use of HR analytics and ultimately, the better their decision outcomes.

Conclusion and Recommendations

The study concludes that data integrity positively influences information value of telecommunication companies in South-South, Nigeria. Therefore, based on the findings and conclusion, the study recommends thus:

- i. Management of telecommunication companies should foster a culture of transparency and accountability regarding data management practices which can further reinforce data authenticity. Management of telecommunication companies should deploy automated data validation tools and techniques to verify the authenticity of incoming data streams. These mechanisms can include checksums, digital signatures, and cryptographic protocols to detect any tampering or unauthorized alterations.
- ii. Management of telecommunication companies should develop and implement robust data quality assurance processes to ensure the accuracy of data collected, stored, and used by the organization.
- iii. Telecommunication companies should invest in robust data collection and analysis tools to gather relevant information about customer behaviors, network performance, and market trends.
- iv. Telecommunication companies should establish and promote a strong culture that prioritizes data integrity. Emphasize the importance of accurate, consistent, and reliable data across all levels of the organization.

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