JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

ASSESSMENT OF THE EFFECT OF BIG DATA ANALYTICS ON ACCOUNTING INFORMATION QUALITY IN NIGERIA

Nneka Maureen Okeke[1] Augustina Akuchukwu Eze[2]
[1&2]*Department of Accounting, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.*
Emails: nm.okeke@unizik.edu.ng[1] aa.ezeh@unizik.edu.ng[2]
Correspondence: nm.okeke@unizik.edu.ng

CITATION: Okeke, N.M. & Eze, A.A. (2025). Assessment of the effect of big data analytics on accounting information quality in Nigeria, *Journal of Global Accounting*, 11(1), 64 - 83. Available:https://journals.unizik.edu.ng/joga

ABSTRACT

In the past years, accounting information quality has posed a big challenge to firms, stakeholders, industry watchers and the accounting profession globally. It is against this backdrop that the big data analytics emerged as one of the solutions to this dilemma. This study therefore critically assessed the effect of big data analytics on accounting information quality in an under researched sector, the hospitality sector in Lagos. Evidence obtained from the responses of 102 accountants and 50 IT staff selected through purposive sampling technique served as the source of data. These raw data were subjected to detailed descriptive tests and regression analyses. Findings here proved that velocity of data and variety of data had positive and significantly strong effect on the quality of accounting information while volume of data had a smaller positive significance. It is therefore imperative to recommend amongst others that firms should integrate the adoption of big data analytics into mainstream accounting activities and accountants should also prioritize their technological development in order to meet up with the rapidly increasing demands of stakeholders.

Key words: *Accounting Information Quality, Big Data Analytics, Financial Reports.*

1. INTRODUCTION

Currently, there's a wind of technological revolution blowing across the world which is geared towards improving all facets of human life. The result of this technological innovations is the "fourth industrial revolution" which is spreading like wild fire. Nigeria has also had an impressive share in these technological advancements as one of Africa's emerging economies. The accounting profession is also not left out in this technological revolution as there has been constant researches in recent times on how the profession can evolve for increased efficiency. These researches are on a steady increase due to the need for the quality of accounting information to be enhanced in order to drastically reduce the negative effects associated with fraudulent financial reporting. One of the innovations associated with the fourth industrial

revolution is the Big Data Analytics (BDA). The advent of this big data presents a wide array of opportunities to the accounting profession particularly in the area of financial reporting which is the main focus and leading motivator of this paper. Although there are fears that the big data regime may disrupt the traditional roles of accountants but in the real sense the disruption is a positive one because it will make the work of an accountant a lot easier, faster and improve efficiency. This notion is also supported by Mohammed, Elsayed and Mohammed (2023) who noted that the big data system processes large volume of data with ease and speed through gathering and immediate processing with varying degrees as it includes structured data, unstructured data and semi-structured data. In the same vein, many scholars have supported the need for big data analytics to be mainstreamed into accounting processes for increasing financial reporting quality. In the past, firms could only access information from limited sources but now sources of information at the disposal of firms are numerous which further justifies the need for adoption of the big data system. Masuke (2021) corroborated the above statement when he noted that the big data as the flow of a large volume of various information into a firm and this information can come from internal and external sources which are not easily processed by humans for decision making purposes. Despite the obvious impact of the big data analytics, Griffin and Wright (2015) exercised the fears of the risks associated with it which are in the form of widespread use of large volume of data in practice, education and research.

Another risk is that Accountants have little understanding of how to harness the inherent potentials of the big data hence a big gap between what accountants can and should do to help in big data governance has been created (Ehioghiren & Adoleh, 2023). In filling this gap, Sanchez (2019) enumerated five key steps which are: focusing on outliers and unexpected patterns, creating visuals that emphasize insights, anticipate initial costs for investment into big data, prioritize cyber security and have a formidable team of accountants that can analyse the big data. In the course of this study, some gaps were noted in the literature available to the researchers and one of them is sectorial gap. Studies reviewed so far showed that the hospitality sector is yet to be researched hence the reason for this study. Furthermore, results of this research seeks also to serve as a reference for more technological improvements and for firms to be technologically tolerant in embracing more relevant innovations in order to increase work efficiency. The rise of big data analytics offers a positively disruptive paradigm shift with a wide range of opportunities to enhance the accuracy and effectiveness of error detection and fraud prevention mechanisms (Allioui & Mourdi, 2023).

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

1.1 Objectives

The main objective of this study is to assess empirically, the effect of big data analytics on accounting information quality. Specifically, it seeks:

1. to examine the effect of velocity of data on accounting information quality
2. to determine the effect of volume of data on accounting information quality
3. to ascertain the effect of variety of data on accounting information quality

1.2 Hypotheses

In order to achieve the stated objectives, the following hypotheses were formulated in their null forms:

H_{o1}: Velocity of data has no effect on accounting information quality

H_{o2}: Volume of data has no effect on accounting information quality

H_{o3}: Variety of data has no effect on accounting information quality

2. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Big Data and its Key Dimensions

Various attempts has been made in giving big data a comprehensive definition. Awotomilusi and Bagunn Osaloni (2022) aptly described big data as datasets that are large, diverse, rapidly changing and difficult to navigate them with traditional tools. It also refers to as the technique of examining large amounts of data to defect hidden and false patterns, correlations and insights. It further requires the use of advanced analytical tools for analysing and interpretation of complex data sets usually in real time. It is usually associated with various techniques which includes predictive analytics, descriptive analytics, prescriptive analytic, machine learning amongst others. The application is not only limited to accounting profession but cuts across other areas such as business intelligence, customer analytics, health care analytics, cyber security not limited to them though. It seeks to bring effective and long term solutions to serious concerns ranging from data privacy and security, data quality and accuracy, ethical considerations and skills gap. It possesses the following dimensions which are also called the ten ‘V’s.

a. Velocity: This is known as the speed at which data is being generated. It carries this out with fast generation and processing of data through real-time or near real-time data processing.

b. Value: it ensures that the data generated is of value by extracting insights from data, data analysis, reporting and visualization.
c. Volume: The size of the data to be processed depends largely on the amount of data and number of sources which is usually measured in petabytes, exabytes, zettabytes, etc.
d. Variability: This explains the ever changing nature of data, its inconsistencies, merits and anomalies.
e. Veracity: This is the extent to which data generated can be trusted judging by its degree of accuracy and quality.
f. Variety: Highlights the diverse range of data types, formats and sources. This includes structured, semi-structured and unstructured data, such as text, images, videos and
g. Vulnerability: Refers to the susceptibility of data to breaches, cyber threats and unauthorized access. Ensuring data security is essential.
h. Viscosity: Describes the resistance to flow or change in data, due to complexity or format issues. Overcoming viscosity ensures smooth data processing.
i. Virality: Describes the speed and ease with which data spreads and becomes popular. Understanding virality helps organizations leverage data-driven trends.
j. Validity: Concerns the extent to which data accurately represents the real world or phenomenon being measured. Ensuring data validity ensures reliable insights.

2.1.2 Prospects of Big Data Analytics

The prospects of big data in financial reporting are vast. Big data analytics can provide deeper insights into financial performance, identify trends and patterns and improve decision-making processes. By analysing large volumes of data in real-time, financial reporting can become more accurate, timely and relevant. Additionally, big data can help detect fraud, manage risks and enhance regulatory compliance. Opportunity or threats for the Accounting Profession Big data analytics presents both opportunities and threats for the accounting profession. While Falan, Olusola and Muyiwa (2023) argue that accountants can still create value in a world of big data by leveraging their skills in problem-driven analysis of structured and unstructured data, others acknowledge the challenges that big data poses to traditional accounting and auditing systems. The integration of big data and artificial intelligence raises ethical challenges for professional accountants, who are expected to exercise ethical judgment and professional scepticism when dealing with technology. However, it is suggested that instead

of competing, humans and machines can work together to overcome these challenges and benefit from each other.

2.1.3 Challenges of Big Data Analytics

Despite its potential benefits, big data poses several challenges for financial institutions. One of the main challenges is the sheer volume of data available, which can overwhelm traditional reporting systems and processes. Additionally, ensuring data quality, privacy and security are major concerns when dealing with big data. Furthermore, integrating disparate data sources and ensuring data consistency can be complex and time-consuming tasks. The use of big data technology requires accountants to adapt to new tools and techniques, which can be a challenge in itself. Additionally, the complexity and high cost of big data analysis can hinder its adoption by accounting departments. Implementing advanced analytics and business intelligence in accounting systems also poses challenges and issues that need to be addressed by business managers. Furthermore, the security challenges of big data analytics in financial accounting cannot be ignored, as the digitization and collection of consumer and organizational information for data analytics increases the potential for cyberthreats and cyberattacks. Overall, while big data analytics offers opportunities for improving financial accounting processes, it also brings challenges related to technology adoption, cost, security and complexity. (World Journal of Advanced Research 2023).

2.1.4 Accounting Information Quality

The key idea of accounting information quality is on timely release of accurate prediction of future cash flows for investment decisions. It consists of techniques geared towards effective assessment of a firm's financial health, evaluation of management's stewardship and identifying potential strengths and weaknesses (Krismiaji & Djaja, 2018). It is very crucial for maintaining trust and confidence in the capital markets. Accounting information quality can also mean to be the degree of accuracy, reliability, relevance and timeliness of financial information provided by a firm. Absence or non-compliance to it can spell doom to all stakeholders in the form of inaccurate investment decisions, misallocated resources, decreased investor confidence and regulatory penalties.

2.1.5 Role of Big Data Analytics in Accounting Information Quality

It is imperative to state that the accounting profession landscape is evolving hence the urgency to infuse emerging technologies in order to reduce the incidences of business collapse. Past

studies has shown that fraud is a key factor responsible for collapse of businesses and the emergence of big data analytics seeks to correct this anomaly by using top notch technologies to integrate data from various sources including financial systems, transaction databases amongst others- All the aforementioned are geared towards analysing financial activities holistically in a bid to reveal irregularities, awkward patterns and even fraud prone areas. Batco and Lezak (2022) deduced that big data analytic tools provide a comprehensive view of an entity's operations by giving insights to employees" financial transactions with external data, market trends and future predictions. In furtherance of its fraud detection and prevention role, the big data system uses algorithms that can trace duplications and outliers in a data, enhance the reliability of fraud detection models, reduce cases of false alarms and make room for efficient resource allocation by firms which were associated with the traditional based accounting system. Another benefit synonymous with big data analytics is the real-time reporting of accounting information thereby reducing reporting lag and enhancing the timeliness feature of accounting information. It performs this role effectively through the instrumentality of Extensible Business Reporting Language (XBRL), formerly XML (Extensible Markup Language) which can process and convert data automatically into useful information. Furthermore, the XBRL analyses financial information which has the ability of publishing financial reports in several languages and enhance financial disclosures in line with statutory requirements. The big data regime automatically verifies accounting information (both financial and non-financial) which reduces the cost and time involved in preparing financial reports, thereby providing a comprehensive review of performance by firms.

It is of utmost importance to state here that the big data era has equipped modern day accountants with effective tools that aids their duties. Some of these tools are data visualization softwares which makes it possible for complex accounting information to be turned in to visual representations for easier understanding and interpretation. These tools consists of Tableau, Qlik View and Power BI and they offer a wide range of services from connection to variety of sources such as spreadsheets, databases, using their interactive dashboards customizable charts and graphs and data filters (Leonidas, Georgies and Constantinos, 2024). Another vital tool necessary in big data is machine learning algorithms which basically uses statistical models in discovering patterns in large sets of data and errors and even risk prone areas. They are often times used for accounting processes automation, transaction categorizations and matching of invoices Ding, Chen, Werd and Yang 2022). This has revolutionized the accounting profession with new techniques in automation and financial

data analyses. Some of these algorithms include regression analysis, decision trees, random forest, neural networks which can be used for several accounting function. In the auditing processes, big data also comes handy as a great fool to redefine the manner auditors carry out their tasks. Before now, auditors were limited to few sources of data (basically financial statements and other internally sourced records) which greatly affected their opinion. With the advent of big data, auditors are now exposed to wide variety of data on which thorough analyses can be carried out in order to gain reliable insights into a firm's financial position. In addition, audit time has been greatly reduced as a result of automation and speedy verification features associated with the big data system.

2.2 Theoretical Review

This research paper is hinged on the theoretical background of Technological Organizational Environmental framework as propounded by Tornatzky and Fleischer in the year 1990. They are of the view that the adoption of technological innovations by firms is clearly dependent on the technological, organizational and environmental contexts the firm is exposed to. They discussed extensively this theory is their book titled "the process of technological innovations" where they described the comprehensive procedures of innovations beginning from the development of innovation ideas down to the adoption and implementation by end-users. The theory which is organizational based asserts that three key elements. Greatly influences a firm's technological, organisational and environmental which formed the TOE acronym. This theory provides leading insights into understanding the adoption of modern technologies in accounting in response to the perennial challenges bewildering the profession.

The technological contexts includes relevant technologies that the firm has adopted as well as the ones adopted in the business arena yet to be adopted by the firm. Nevertheless, a firm's existing technological levels are very essential to the ones they intend to adopt because they serve as a platform upon which other technological innovations can be set, Several significant departures from old ways and systems abound which signifies a discontinuous change often referred to as radical innovation which also reflected in the accounting profession- A quod example is the switch from the traditional accounting system of manual recordings to the computerized electronic system with its attendants speed and other advantages. The organizational element refers to the strength and abilities of the firm including its features. These factors have direct link to the disposition of the firm in adoption and implementations decision particularly the technological ones. The top management foster innovations and

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

adoption of other technological advancements that helps in achieving the firm's core mission and vision through implementation of several techniques such as educating workers on the importance of innovations to workers, rewarding innovative ideas and building a technologically skilled executive team. However, the welfare remunerations packages of these workers will strongly affect their technological adaptability rates.

Lastly the environmental determinant is centred on the structure of the industry, regulatory bodies and what rules in them. A firm in a highly competitive and fast growing industry is more likely to embrace technological innovations more than others. Availability of skilled consultants to teach accountants and the regulation of government are also two key factors under this environmental context. If the regulations are not industry friendly, the rate of adoption will be very low likewise their overall performance too.

23 Empirical Review

Empirical studies suggest that the use of big data in financial reporting enhances the efficiency, accuracy and timeliness of reports. Evidence from Agustinus, Meiryani and Reyhan (2023) lay credence to this. They empirically investigated the effect of big data analytics on financial reporting with evidence from Indonesia. Primary data in the form of questionnaires distributed to employees in accounting firms served as the source of data. Findings here suggested that big data analytics provides high quality financial reports.

In the same vein, a study by Falana, Igbekoyi and Dagunduro (2023) on the effect of big data on accounting information in selected firms in Nigeria. They specifically studied how the timeliness of accounting information can be affected by big data analytics by sampling 20 quoted firms using the survey research design. Discoveries here indicated that big data analytics (data volume, variety and velocity) have a positive significant effect on the timeliness of accounting information. Bose, Dey and Bhattacharjee (2022) carried out a study on the role of big data, data analytics and artificial intelligence in accounting and the study revealed that accountants must incorporate big data analytics and artificial intelligence in order to remain relevant in this competitive world.

Younis2020 opined that business organizations benefit from big data analytics such as helping to provide a comprehensive view of the economic unit, building the strategy and business model of the economic unit, creating a highly competitive advantage for formation, improving

the quality of accounting information, providing relevant information that helps to rationalize decisions in economic units, determining past performance and future sources of information. On the other hand, big data analytics faces a number of challenges such as lack of a workforce specializing in big data analysis, high cost of hiring experienced experts. The study concluded that big data analysis improves the quality of accounting information, as it clearly affects the qualitative characteristics of accounting information, which positively affects the quality of financial statements.

Finally, Dheifallah, Ebbini, Aryan and Hawary (2023) investigated on the impact of big data on the financial reporting quality of the industrial sector in Jordan and they deduced that proxies of big data (variety, volume and velocity) have a positive impact on financial reporting quality.

3. MATERIALS AND METHOD

The study employed a survey research design to gather data from relevant professionals within the industry. This design was chosen because it allows for the collection of detailed information from a specific population, enabling the researchers to capture insights into the perceptions and experiences of those directly involved in financial reporting and data management in the hospitality sector. The population for this study comprised accountants and information technology (IT) staff working in hospitality firms across Lagos. These two groups were selected because they play crucial roles in the implementation and utilization of big data analytics for financial reporting. Accountants are responsible for generating financial reports, while IT staff are typically involved in managing and analysing the data that feeds into these reports.

The sample for the study consisted of 152 respondents, made up of 102 accountants and 50 IT staff from various hospitality firms in Lagos. A purposive sampling technique was employed to select the respondents. This non-random sampling method was chosen to ensure that the participants had specific expertise and experience relevant to the study, particularly in the areas of reporting accounting information and big data analytics. The purposive sampling approach allowed the researchers to target individuals who are directly involved in the processes being studied, thereby enhancing the relevance and accuracy of the data collected. Data was collected using structured questionnaires developed specifically for this study. The questionnaires were designed in line with a 5-point Likert scale, which ranged

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

from "Strongly Agree" to "Strongly Disagree." This format was chosen to capture the degree of agreement or disagreement with statements related to the effects of big data analytics on accounting information quality. The questionnaire covered various aspects of big data analytics, including data velocity, volume and variety and their perceived impact on the accuracy, timeliness and comprehensiveness of financial reports.

The analysis of the data collected from the 152 respondents was carried out in two distinct phases. In the first phase, the research questions were analysed using frequency and mean to provide descriptive statistics that highlight the general trends and patterns in the data. This phase aimed to offer a preliminary understanding of the respondents' views on the relationship between big data analytics and accounting information quality. In the second phase, the hypotheses were tested using multiple regression analysis. This statistical method was employed to determine the extent to which the independent variables—data velocity, volume and variety—predict the dependent variable, which is the quality of accounting information. The use of multiple regression analysis allowed the researchers to assess the relative impact of each dimension of big data analytics, thereby providing a more precise understanding of how big data analytics affects financial reporting quality in the hospitality industry. The regression model tested is shown below:

$AIQi = \beta_0 + \beta_1 VELD_i + \beta_2 VOLD_i + \beta_3 VARD_i + \mu_t$ ……..Eqn 1.

Where;

ARQ=Accounting Information Quality

VELD= Velocity of data

VOLD = Volume of Data

VARD= Variety of Data

μ_i = Error term for period t

β_0 = Constant term

$\beta_1 – \beta_3$ = Coefficients of data analytics predictors

i denotes the cross-sectional entity

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

4. RESULT AND DISCUSSIONS

This study examined the effect of big data analytics on the accounting information quality of hospitality firms in Lagos. The sample respondents were made up of 102 accountants and 50 information technology staff in the selected hospitality firms. The analysis of data as collected from 152 respondents is divided into two phases: analysis of research question and test of hypotheses.

4.1.1 Research Questions Analyses

Table 1: Analysis of Research Questions

S/N	Velocity of Data	SA	A	U	D	SD	Mean	Remark
1	The speed at which data is processed in our firm enhances the timeliness of our financial reports.	15	54	18	47	18	3.01	Accept
2	The ability to handle high-velocity data contributes to more accurate financial forecasting in our firm.	27	52	25	34	14	3.29	Accept
3	Quick data updates in our systems improve the relevance of our financial reports.	6	46	53	41	6	3.03	Accept
4.	The speed at which financial data is processed positively impacts our decision-making process.	12	49	14	25	52	2.63	Reject
S/N	**Volume of Data**	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**Remark**
5.	The large volume of data available in our firm improves the comprehensiveness of our financial reports.	28	50	34	35	5	3.40	Accept
6	Managing large data sets in our firm enhances the accuracy of financial reporting.	56	10	32	15	39	3.19	Accept

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

7	The ability to process vast amounts of data contributes to more detailed financial analyses.	22	34	47	37	12	3.11	Accept
8	Large data volumes enable our firm to better identify financial trends and patterns.	13	41	6	86	6	2.80	Reject
S/N	**Variety of Data**	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**Remark**
9	The variety of data sources used in our firm enhances the quality of our financial reporting.	22	51	27	17	35	3.05	Accept
10	Integrating diverse data types in our financial systems leads to more insightful financial reports.	16	45	22	45	24	2.89	Reject
11	Variety in data sources allows our firm to present a more complete picture of financial performance.	14	88	10	8	32	3.29	Accept
12	Diverse data inputs contribute to more innovative financial reporting practices in our firm.	6	78	11	32	25	3.05	Accept
S/N	**Accounting Information Quality**	**SA**	**A**	**U**	**D**	**SD**	**Mean**	**Remark**
13	Our financial reports are highly accurate due to the integration of big data analytics.	17	135	0	0	0	4.11	Accept
14.	The use of big data analytics improves the transparency of our financial reporting.	134	2	5	2	9	4.64	Accept
15.	Big data analytics helps our firm produce more reliable financial reports.	5	41	17	89	0	2.75	Reject
16	Big data analytics enables our firm to provide more timely	15	54	18	47	18	3.01	Accept

	financial information to stakeholders.							

Source: Field Survey (2024)

The frequency table presented in Table 1 provides an analysis of research questions related to the velocity, volume and variety of data, as well as the overall quality of financial reporting in a firm, based on responses from participants.

For the velocity of data, the first item suggests that the speed at which data is processed enhances the timeliness of financial reports, with a mean score of 3.01, leading to its acceptance. Similarly, the ability to handle high-velocity data is perceived to contribute to more accurate financial forecasting, reflected in a mean of 3.29, also resulting in acceptance. Quick data updates are seen as improving the relevance of financial reports, with a mean of 3.03, accepted as well. However, the fourth item, concerning the impact of data processing speed on decision-making, was rejected with a mean of 2.63, indicating that respondents did not strongly agree with this statement.

In terms of the volume of data, respondents generally agreed that a large volume of data improves the comprehensiveness of financial reports, as indicated by a mean of 3.40, resulting in acceptance. Managing large data sets is also seen as enhancing the accuracy of financial reporting, with a mean score of 3.19, leading to acceptance. The ability to process vast amounts of data is believed to contribute to more detailed financial analyses, supported by a mean of 3.11, accepted as well. However, the notion that large data volumes enable better identification of financial trends and patterns was rejected, with a lower mean score of 2.80.

Regarding the variety of data, the first item indicates that the variety of data sources enhances the quality of financial reporting, as reflected in a mean of 3.05, leading to acceptance. However, the integration of diverse data types was not seen as leading to more insightful financial reports, resulting in rejection with a mean of 2.89. On the other hand, the variety in data sources was perceived to allow for a more complete picture of financial performance, with a mean of 3.29, resulting in acceptance. The contribution of diverse data inputs to innovative financial reporting practices was also accepted, with a mean of 3.05.

Finally, for accounting information quality, the integration of big data analytics is seen as highly beneficial, improving the accuracy of financial reports, as indicated by a high mean of 4.11, resulting in acceptance. The use of big data analytics to improve transparency in

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

financial reporting received a very high mean score of 4.64, leading to strong acceptance. However, the belief that big data analytics helps produce more reliable financial reports was rejected, with a mean score of 2.75. Lastly, big data analytics was perceived to enable the firm to provide more timely financial information to stakeholders, with a mean of 3.01, leading to acceptance.

In summary, the table reveals that while respondents generally accept the positive influence of data velocity, volume and variety on financial reporting quality, there are specific areas, particularly in decision-making and reliability, where scepticism remains.

4.2 Test of Hypotheses

Table 2: Test of Hypotheses Using Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	9.714	.499		19.452	.000
	Velocity of Data	.247	.041	.430	5.973	.000
	Volume of Data	.063	.044	.114	1.419	.008
	Variety of Data	.214	.044	.423	4.854	.000
F = 44.366; Prob(F) = 0.000; Adjusted R Square = .463						

a. Dependent Variable: Financial Reporting Quality

Source: Field Survey (2024)

Table 2 presents the results of a regression analysis used to test three hypotheses concerning the effects of data velocity, volume and variety on the accounting information quality among hospitality firms in Lagos. The analysis provides coefficients and p-values for each variable, along with overall model statistics including the F-value, probability of the F-statistic and the Adjusted R-Square. The model statistics show an F-value of 44.366 with a probability of F (Prob(F)) of 0.000, indicating that the overall model is statistically significant. The Adjusted R-Square value of 0.463 suggests that approximately 46.3% of the variance in accounting information quality can be explained by the combined effects of data velocity, volume and variety. This highlights the importance of these data characteristics in determining the financial reporting quality in the hospitality sector in Lagos.

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

4.2.1 Hypothesis I

H_{01}: Velocity of data has no significant effect on accounting information quality.

H_{i1}: Velocity of data has significant effect on accounting information quality

In the first paragraph of the table, the coefficient for the velocity of data is 0.430 with a p-value of 0.000. This indicates a strong and statistically significant positive relationship between the velocity of data and financial reporting quality. Since the p-value is less than 0.05, the null hypothesis (H01), which states that velocity of data has no significant effect on accounting information quality, is rejected. This result suggests that higher data processing speed significantly enhances the quality of financial reports in these firms. Therefore, the velocity of data has a significant positive effect on financial reporting quality (coefficient = 0.430, p-value = 0.000).

This finding reveals that the velocity of data has a significant and positive effect on accounting information quality, as indicated by a coefficient of 0.430 and a p-value of 0.000. This suggests that the speed at which data is processed is crucial for enhancing the timeliness and accuracy of financial reports in the hospitality sector. The reason for this result could be attributed to the dynamic nature of the hospitality industry, where rapid changes in financial transactions and customer interactions require firms to process data quickly. High data velocity ensures that financial information is up-to-date and accurate, allowing firms to make informed decisions and maintain compliance with regulatory standards. The finding that the velocity of data significantly enhances accounting information quality is supported by the study conducted by Falana, Igbekoyi and Dagunduro (2023). They examined how big data analytics, including data velocity, affects the timeliness of accounting information in selected firms in Nigeria. Their results indicated that data velocity positively influences the timeliness, which in turn enhances the quality of financial reports. This aligns with the current study's finding that rapid data processing is crucial for maintaining accurate and timely financial reports in the hospitality industry. Similarly, the work of Dheifallah et al. (2023) also supports this finding, as they concluded that data velocity positively impacts financial reporting quality in the industrial sector in Jordan.

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

4.2.2 Hypothesis II

H_{02}: Volume of data has no significant effect on accounting information quality.

H_{i2}: Volume of data has significant effect on accounting information quality

The coefficient for the volume of data is 0.114 with a p-value of 0.008. Although the coefficient is smaller compared to that of data velocity, it still shows a positive relationship between the volume of data and financial reporting quality. The p-value is also below the 0.05 threshold, leading to the rejection of the null hypothesis (H02). This implies that the volume of data in the hospitality firms in Lagos has a significant, albeit smaller, effect on the quality of financial reporting. Thus, the volume of data also positively impacts financial reporting quality, though to a lesser extent (coefficient = 0.114, p-value = 0.008).

This discovery indicates that the volume of data has a significant but smaller effect on accounting information quality, with a coefficient of 0.114 and a p-value of 0.008. Although the impact is less pronounced compared to data velocity, the volume of data still contributes positively to the comprehensiveness of financial reports. This result may stem from the fact that having access to large volumes of data allows firms to capture a broader range of financial activities, leading to more detailed and thorough reporting. However, managing vast amounts of data can be challenging and the relatively smaller coefficient might reflect the potential difficulties in filtering and analysing such large datasets to extract relevant insights.

The finding that volume of data has a significant but smaller effect on accounting information quality is consistent with the research by Falana et al. (2023), who identified that data volume, along with other big data dimensions, positively impacts the timeliness and quality of accounting information. Their study suggests that while large volumes of data contribute to more comprehensive reports, managing such data can present challenges, which might explain the relatively smaller impact observed. Furthermore, the study by Dheifallah et al. (2023) also supports the notion that data volume positively impacts financial reporting quality, indicating that a larger data set can enrich the reporting process, even though its influence might not be as strong as that of data velocity or variety.

JOURNAL OF GLOBAL ACCOUNTING
11(1) February, 2025.
ISSN (Online): 1597–7641; ISSN (Print): 1597-8273
https://journals.unizik.edu.ng/joga

4.2.3 Hypothesis III

H_{03}: Variety of data has no significant effect on accounting information quality

H_{i3}: Variety of data has significant effect on accounting information quality

In the third hypothesis, the coefficient for the variety of data is 0.423 with a p-value of 0.000, similar to the velocity of data. This also indicates a strong and statistically significant positive relationship between the variety of data and financial reporting quality. The very low p-value leads to the rejection of the null hypothesis (H03), meaning that the diversity of data sources significantly enhances the quality of financial reporting among the hospitality firms. Thus, the variety of data significantly enhances financial reporting quality (coefficient = 0.423, p-value = 0.000).

The third finding shows that the variety of data has a strong positive impact on accounting information quality, as evidenced by a coefficient of 0.423 and a p-value of 0.000. This highlights the importance of incorporating diverse data sources and types into financial reporting processes. The significant effect of data variety can be explained by the ability of diverse data inputs to provide a more comprehensive view of a firm's financial performance. By integrating various data types, such as structured financial data, customer feedback and market trends, firms can produce more insightful and accurate financial reports, reducing the risk of biases and offering a fuller picture of their financial health. The finding that variety of data significantly enhances financial reporting quality is corroborated by the study conducted by Agustinus, Meiryani and Reyhan (2023) in Indonesia. Their research demonstrated that big data analytics, including data variety, contributes to high-quality financial reports, suggesting that incorporating diverse data sources enhances the richness and accuracy of financial information. Additionally, the study by Dheifallah et al. (2023) in Jordan also supports this finding, as they concluded that data variety positively impacts financial reporting quality, highlighting the importance of diverse data inputs in creating comprehensive and reliable financial reports. These studies collectively reinforce the significance of data variety in enhancing the overall quality of financial reporting.

5. CONCLUSION AND RECOMMENDATIONS

As businesses increasingly rely on large-scale data to drive decision-making, the role of big data analytics in improving the accuracy, timeliness and comprehensiveness of financial reports has become more critical. This study explores how the key dimensions of big data—

velocity, volume and variety impact the quality of financial reporting in the hospitality industry, offering insights into the significance of each factor.

In conclusion, the findings suggest that all three dimensions of big data analytics—velocity, volume and variety—play a significant role in enhancing the financial reporting quality of hospitality firms in Lagos. While data velocity and variety have a more substantial impact, the volume of data also contributes positively, albeit to a lesser extent. These results underscore the importance of not just the amount of data available but also the speed of processing and the diversity of data sources in improving the quality of financial reporting in the hospitality sector.

1. Based on the finding that data velocity significantly enhances financial reporting quality, it is recommended that financial managers in hospitality firms prioritize investments in technologies and processes that improve the speed of data processing to ensure timely and accurate financial reports.
2. Given the finding that data volume has a positive, though smaller, effect on financial reporting quality, it is recommended that accounting departments in hospitality firms develop robust data management strategies to effectively handle and analyse large volumes of data, ensuring that the comprehensive data available contributes meaningfully to financial reporting.
3. Considering the significant impact of data variety on financial reporting quality, it is recommended that chief financial officers (CFOs) in hospitality firms encourage the integration of diverse data sources into their financial reporting systems, to provide a more complete and insightful view of the firm's financial performance.

REFERENCES

Agustinus. W., Meiryani B. & Reyhan C. (2023). The impact of big data on financial reporting. *JAFA, 10(1),* 23 – 32.

Allioui, H. & Mourdi, Y. (2023). Exploring the full potentials of iot for better financial growth and stability: A comprehensive survey. *Sensors*, *23(19)*, 8015.

Andiola, L., Masters, E. & Norman, C. (2020). Integrating technology and data analytic skill into the accounting curriculum: Accounting department leaders' experiences and insights. *Journal of Accounting Education*, *50(8*), 179-190.

Awotomilusi, N., Dagunduro, M. E. & Osatoni, B.O. (2022). Adoption of cloud computing on the efficacy of accounting practices in Nigeria. *International Journal of Economics, Business and Management Research, 6(12),* 194-205.

Batko, K. & Shlizak. D. (2022). Fraud detection in the age of big data. A systematic review of the literature. *Journal of Business Research, 140(5*), 519-530.

Bose, S., Dey, S.K. & Bhattacharjee, S. (2022). *Big Data, Data Analytics and Artificial Intelligence in Accounting: An Overview*, Handbook of Big Data Methods forthcoming.

Dheifallah, E., Mohammad, M., Laith, A. A. & Suileman, I. (2023). The effect of big data on financial reporting quality. *International Journal of Data and Network Science, 7* (2023),1775-1780.

Ding. Y., Chenk, Wei, X. & Yang. (2022). A novel cost – management system for container terminals using a time – driven activity-based costing approach. *Ocean and Coastal Management, 217, (3)* 1060 – 1075.

Ehioghiren, E. E. & Addeh, E. (2023). Data analytics in advancing accounting profession and business information for decision making. *International Journal of Business Management, 6(5),* 17-37.

Falana, G. A., Igbekoyi, O. E. & Dagunduro, M. E. (2023). Effect of big data on accounting information quality in selected firms in Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS), 7(3),* 789 – 806.

Griffin, P. A. & Wright, A. M. (2015). Commentaries on big data's importance, accounting and auditing. *Accounting Horizons 29(2),* 379-379, https://doi.org/10.23/08/arch-51066

Krismiaji, D. & Djaja, P. (2018). Accounting information quality and capital investment choice in the governance perspective. An Indonesian Evidence. *International Journal of Business Management and Economic Research (IJBMER), 9(2),*1236-1243.

Leonidas, T., Georgios, T. & Constantinos, H. (2024). Implication of big data in accounting: challenges and opportunities. *Emerging Science Journal, 8(3),* 1201-1214.

Masuke, R. (2021). Exploring the use of big data analytics by management accountants in decision making. (Doctoral dissertation, North – West University South Africa)

Mohammed, M. E., Elsayed, M. E. & Mohamed, Khami Zaytoun (2023). The impact of big data's characteristics on the management account's role as a business partner. A field evidence from Egyptian environment. *Journal of Finance and Accounting, 110,* 19-27.

Rakibul, H. C. (2024). Big data analytics in the field of multifaceted analysis: A study on healthcare management. *World Journal of Advanced Research and Reviews, 22(3),* 2165-2172.

Sanchez, M. (2019). 5 ways Accountants can Effectively Utilize Big Data- https://www.accountingweb.

Schmidt, R., Riley, J. & Swanson, C. K. (2020). Investigating accountants' resistance to move beyond Excel and adopt new data analytics technology. *Accounting Horizons, 29(3),* 719 – 742.

Taylor, C. (2017). "Big Data Security" from https://www.datamation.com/big-data/big-data-securlyhtm.

Tornatzky, L. G. & Fleischer, M. (1990). *The Processes of Technological Innovation.* Lexington, MA: Lexington Books.