

## Use of Cloud-Based Accounting Software: A Tool for Business Failure Prevention

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### Abstract

*The study examined the effect of usage of cloud-based accounting software on business failure prevention. The research context covered the consumer goods sector of the Nigerian exchange group. An ex-post facto research design was deployed on a purposively selected sample of fourteen (14) consumer goods firms. Secondary data were sourced from audited financial statements and annual reports of several consumer goods firms. The data collection phase extended over a decade, covering the financial years from 2012 to 2021. The descriptive statistical characteristics of the data were analyzed using measures such as the mean, standard deviation, minimum, and maximum values. In addition to descriptive analysis, the study employed robust least square regression method to test the hypotheses. The study found that the usage of accounting software significantly reduces the likelihood of business failure. In conclusion, adopting modern technological solutions, such as cloud-based accounting software, is a crucial and comprehensive strategy to enhance the financial health and resilience of businesses. We therefore recommend that governments, industry associations, and financial institutions should prioritize investments in technological infrastructure and skills development to support the widespread adoption of cloud-based accounting software.*

**Keywords:** Accounting Software, Business Failure Prevention, Cloud-Based Accounting Software

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### 1.1 Introduction

In the current era of rapid technological advancement, businesses across industries are continuously seeking ways to improve efficiency, streamline operations, and enhance decision-making processes (Rahman, Melewar, Foroudi & Gupta, 2024). One significant technological innovation that has revolutionized the domain of accounting and financial management is the advent of cloud-based accounting software (Chikkala & Jaffer, 2022). This software, which operates on remote servers accessed via the internet, offers businesses the flexibility, scalability, and accessibility they need to manage their financial data effectively (Wicaksono, Kartikasary & Salma, 2020). As businesses strive in an increasingly competitive and uncertain economic environment, the importance of adopting advanced technological solutions to prevent failures and ensure sustainability becomes paramount (Nworie & Okafor, 2023;

Nworie, Anaike & Onyeka, 2023; Nworie, Okafor & John-Akamelu, 2022). This context sets the stage for exploring the effect of cloud-based accounting software on business failure prevention.

Cloud-based accounting software has emerged as a promising tool for businesses looking to bolster their financial management practices and mitigate the risk of failure (Atadoga, Umoga, Lottu & Sodiya, 2024). By transitioning from traditional, on-premises accounting systems to cloud-based solutions, organizations can unlock numerous benefits. These include real-time access to financial data, improved collaboration among team members, enhanced data security, and cost savings through reduced IT infrastructure expenses (Marsintauli, Novianti, Situmorang & Djoniputri, 2021).

Cloud-based accounting software offers businesses a robust platform to proactively identify and address potential risks, ranging from cash flow issues and budgetary constraints to compliance and regulatory concerns (Aini, Anoesyirwan & Ana, 2020). By centralizing financial data and automating routine tasks, these software solutions empower organizations to streamline processes, identify inefficiencies, and allocate resources more effectively. Moreover, cloud-based accounting software enables businesses to adapt to changing market dynamics and capitalize on emerging opportunities promptly (DeStefano, Kneller & Timmis, 2023).

Therefore, the adoption of cloud-based accounting software represents a paradigm shift in how businesses approach financial management and risk mitigation (Saha, Das, Rahman, Siddique & Uddin, 2020). As organizations increasingly recognize the strategic value of leveraging these technologies, research into their effectiveness in preventing business failures becomes essential. Traditional accounting systems often lack the flexibility and scalability needed to adapt to dynamic business environments, hindering timely access to crucial financial data and impeding decision-making processes. Additionally, on-premises accounting solutions are typically burdened with high maintenance costs, complex software installations, and limited accessibility, making it challenging for organizations to stay competitive and agile in today's fast-paced digital setting (Chandra & Gupta, 2022).

Moreover, without the ability to leverage cloud-based accounting software's advanced features such as real-time data synchronization, automated reporting, and enhanced security measures, businesses risk falling behind their counterparts who embrace these technologies to optimize efficiency, minimize errors (Hang, Hai, Trung, Chien & Nga, 2020), and enhance overall financial management practices. Therefore, the failure to embrace cloud-based accounting solutions can ultimately lead to organizational stagnation, missed opportunities, and increased vulnerability to market disruptions, contributing significantly to business failure. Businesses leverage cloud-based accounting software to streamline financial processes, enhance data accuracy, and facilitate informed decision-making (Chikkala & Jaffer, 2022), ultimately contributing to the prevention of business failure. Cloud-based accounting solutions offer real-time access to financial data from any location with internet connectivity, enabling efficient collaboration among team members and improving overall operational efficiency (Marsintauli, Novianti, Situmorang & Djoniputri, 2021). Moreover, these platforms often feature automated workflows, customizable reporting tools, and robust security measures, empowering

organizations to adapt to changing market conditions and mitigate potential risks proactively (FastAccounts, 2023).

However, as a result of many implementation challenges, businesses still rely on outdated accounting systems or manual processes (Saha, Das, Rahman, Siddique & Uddin, 2020; Tawfik, Durrah, Hussainey & Elmaasrawy, 2023), which hinder their ability to effectively manage financial resources and respond to market demands. Legacy systems often lack the agility and scalability required to keep pace with modern business requirements, leading to inefficiencies, errors, and delays in financial reporting. Additionally, the reliance on manual data entry increases the likelihood of inaccuracies and discrepancies, undermining the reliability of financial information and impeding strategic decision-making processes. Without the adoption of cloud-based accounting software, businesses face increased operational costs, reduced productivity, and heightened susceptibility to financial mismanagement and errors (DeStefano, Kneller & Timmis, 2023). Moreover, the lack of real-time visibility into financial performance and limited collaboration capabilities hinder organizations' ability to identify emerging challenges, capitalize on growth opportunities, and adapt to market dynamics effectively (Dimitriu & Matei, 2015). Ultimately, the failure to leverage cloud-based accounting solutions can exacerbate organizational vulnerabilities, compromise competitiveness, and increase the risk of business failure in an increasingly digital and competitive business environment (FastAccounts, 2023).

Among the existing related research, including Liu, Chan, Yang, and Niu (2018); Al-Zoubi (2017); Hang, Hai, Trung, Chien, and Nga (2020); Wicaksono, Kartikasary, and Salma (2020); Kariyawasam (2019); Adjei, Adams, and Mamattah (2021); Bello, Oyedele, Akinade, Bilal, Delgado, Akanbi, and Owolabi (2021); Tiwari, Bharadwaj, and Joshi (2021); Marsintauli, Novianti, Situmorang, and Djoniputri (2021); and Uko, Esther, Isaiah, and Ojo (2023), none have empirically determined whether the implementation of cloud-based accounting software would help mitigate the risk of business failure, hence the need to fill this research gap. The empirical evidence for analysis are gleaned from the Nigerian consumer goods sector. It is against this background that this study examines the use of cloud-based accounting software as a tool for business failure prevention.

## **2.0 Literature Review**

### **2.1. Cloud-Based accounting software**

Cloud-based accounting software refers to digital platforms or applications that enable businesses to manage their financial processes and data remotely through internet-based servers, commonly known as "the cloud" (Wicaksono, Kartikasary & Salma, 2020). Unlike traditional accounting software installed on local computers, cloud-based accounting software operates entirely online, allowing users to access and update financial information from any location with internet connectivity (Khanom, 2017). These solutions typically offer a range of features, including but not limited to, bookkeeping, invoicing, expense tracking, budgeting, financial reporting, and payroll processing. Cloud-based accounting software often provides real-time visibility into financial data, enhances collaboration among team members, automates repetitive tasks, and offers scalability to accommodate the evolving needs of businesses of all sizes (Singerová, 2018). Moreover, these platforms prioritize data security and often

incorporate encryption, authentication protocols, and regular backups to safeguard sensitive financial information. Therefore, cloud-based accounting software facilitates efficient financial management, improves decision-making processes, and enhances organizational agility in today's dynamic business environment (Chikkala & Jaffer, 2022).

Cloud-based accounting software refers to accounting software that operates on remote servers accessed via the internet, rather than being installed on a local computer or network (Aini, Anoesyirwan & Ana, 2020). Users can access the software from any device with an internet connection, making it highly flexible and convenient (Chandra & Gupta, 2022). This type of software allows businesses to manage their financial records, perform accounting tasks, and generate reports from anywhere at any time (DeStefano, Kneller & Timmis, 2023). Cloud-based accounting software typically offers features such as invoicing, expense tracking, budgeting, financial reporting, and integration with other business tools and applications. Popular examples include QuickBooks Online, Xero, FreshBooks, and Wave Accounting.

### **2.1.1 Challenges facing the adoption of Cloud-based Accounting Software**

The adoption of cloud-based accounting software by firms is gaining momentum due to its potential to streamline operations, improve collaboration, and provide real-time access to financial data (Chikkala & Jaffer, 2022). However, several challenges must be addressed for successful implementation. Foremost, security concerns remain a significant barrier to adoption. Firms are often hesitant to store sensitive financial information on remote servers due to fears of data breaches or unauthorized access. Ensuring robust encryption protocols, regular security updates, and compliance with industry regulations is crucial to build trust in cloud-based solutions (Yau-Yeung, Yigitbasioglu & Green, 2020).

In addition, integration with existing systems can be complex. Many firms have legacy accounting software or customized systems in place, making seamless integration with cloud-based solutions challenging. Compatibility issues may arise, requiring substantial time and resources to migrate data and adapt workflows to the new platform (Saha, Das, Rahman, Siddique & Uddin, 2020). Moreover, concerns about data ownership and control can hinder adoption. Firms may worry about relinquishing control over their financial data to third-party providers and the potential risks associated with vendor lock-in. Clear agreements outlining data ownership rights and exit strategies are essential to mitigate these concerns and ensure firms retain control over their information.

Additionally, cost considerations pose a challenge for some firms (Chandra & Gupta, 2022). While cloud-based accounting software offers scalability and flexibility (Liu, Chan, Yang & Niu, 2018), subscription fees and ongoing maintenance costs can accumulate over time, especially for larger enterprises with complex needs. Firms must carefully evaluate the total cost of ownership and weigh it against the anticipated benefits before committing to a cloud-based solution. Lastly, resistance to change within the organization can impede adoption efforts. Employees may be accustomed to traditional accounting practices and reluctant to embrace new technology. Providing comprehensive training and support programs, along with effective change management strategies, is essential to overcome resistance and foster a culture of innovation within the firm (Saha, Das, Rahman, Siddique & Uddin, 2020).

Thus, while cloud-based accounting software offers numerous benefits, firms must address various challenges related to security, integration, data ownership, cost, and organizational change to realize its full potential (Sokolenko, Egorushkina, Kosytsia, Atamas & Kyiashko, 2020). By carefully addressing these concerns and implementing appropriate strategies, firms can successfully adopt cloud-based accounting solutions and drive efficiency and productivity in their financial operations (Nworie & Okafor, 2023).

## **2.2 Preventing Business Failure Using Cloud-based Accounting: Theoretical Underpinning**

This research is anchored on the Resource-Based Theory which was propounded by Jay Barney and Birger Wernerfelt in the 1980's (Barney, Ketchen & Wright, 2021). Resource-Based Theory posits that a firm's competitive advantage stems from its unique resources and capabilities (Barney, 2021). Cloud-based accounting offers several resources that can contribute to a firm's competitiveness and resilience. These include real-time financial data access, scalability, cost-effectiveness, and enhanced collaboration (Chikkala & Jaffer, 2022). By leveraging these resources, businesses can make informed decisions, adapt to market changes swiftly, and allocate resources effectively, thereby reducing the likelihood of failure (Lubis, 2022).

In the dynamic setting of modern business, where competition is fierce and margins are often razor-thin, the ability to manage finances effectively can mean the difference between success and failure. Unfortunately, many businesses, particularly small businesses, struggle to maintain a firm grasp on their financial health due to a variety of challenges, including limited resources, outdated systems, and inefficient processes. However, the advent of cloud-based accounting solutions has opened up new avenues for businesses to prevent failure by providing access to powerful tools and capabilities previously available only to larger organizations (FastAccounts, 2023). Cloud-based accounting software has emerged as a powerful tool for preventing business failure by providing real-time insights, enhancing collaboration, and streamlining financial processes (DeStefano, Kneller & Timmis, 2023).

One of the primary advantages of cloud-based accounting software is its ability to provide businesses with enhanced financial visibility and control. Traditional accounting systems often suffer from delays in data entry and processing, leading to outdated financial information and limited insights into the company's financial health. In contrast, cloud-based accounting offers real-time access to financial data (Dimitriu & Matei, 2015), allowing businesses to track their income, expenses, cash flow, and profitability with precision. By gaining a comprehensive understanding of their financial performance, businesses can make informed decisions, identify potential risks, and seize growth opportunities in a timely manner (Singerová, 2018).

Cloud-based accounting software empowers businesses to make better-informed decisions and develop more effective strategic plans. With access to up-to-date financial information and advanced reporting capabilities, business owners and managers can analyze key performance indicators (KPIs), identify trends, and forecast future outcomes more accurately. This enables them to allocate resources wisely, prioritize investments, and adjust their strategies in response to changing market conditions. By making data-driven decisions, businesses can mitigate risks, optimize their operations, and maximize their chances of success (Lapitkaia, 2021).



Effective collaboration and communication are essential for the success of any business, especially in today's interconnected world. Cloud-based accounting software facilitates seamless collaboration between different stakeholders, including business owners, accountants (Chikkala & Jaffer, 2022), employees, and external partners. By hosting financial data on the cloud, everyone involved can access the same information from anywhere at any time, eliminating the need for manual data sharing and reconciliation (DeStefano, Kneller & Timmis, 2023). This promotes transparency, accountability, and teamwork, leading to more efficient financial management and smoother business operations.

Another key advantage of cloud-based accounting is its scalability and flexibility (Tiwari, Bharadwaj & Joshi, 2021). Unlike traditional accounting systems that require costly hardware upgrades and software installations, cloud-based solutions can be easily scaled up or down to accommodate the evolving needs of a business (Tiwari, Bharadwaj & Joshi, 2021). Whether a company is experiencing rapid growth, seasonal fluctuations, or unexpected challenges, cloud-based accounting software can adapt accordingly without disrupting operations or incurring significant expenses. According to Liu, Chan, Yang and Niu (2018), this scalability and flexibility enable businesses to remain agile and responsive in a dynamic business environment, reducing the risk of failure due to inadequate financial infrastructure. In sum, cloud-based accounting software plays a crucial role in preventing business failure by providing enhanced financial visibility and control, improving decision-making and strategic planning, facilitating efficient collaboration (Chikkala & Jaffer, 2022) and communication, and offering scalability and flexibility. Hence, the hypothesis of this study is that usage of accounting software will significantly reduce the likelihood of business failure.

### **2.3 Related Empirical Positions**

Uko, Esther, Isaiah, and Ojo (2023) conducted a study to explore the impact of cloud accounting on the quality of financial information in selected firms within Nigeria. Employing a cross-sectional survey research design, the study targeted a diverse population consisting of professional accountants, auditors, and information technology experts across various fields. Following Taro Yamane's assumptions (1967), the study adopted a population size of 400 respondents. Focusing on the Lagos state metropolis, renowned for its bustling commercial activities and housing the headquarters of numerous Nigerian companies, primary data were gathered through the administration of a well-structured questionnaire. The reliability and validity of the research instrument were assessed using the Cronbach's Alpha test and content validity test, respectively. Data analysis involved descriptive statistics and Ordinary Least Square (OLS) regression. The study's three hypotheses were affirmed, indicating a strong and positive relationship, demonstrating that cloud accounting techniques significantly and positively influence data storage.

Al-Okaily, Alkhwaldi, Abdulmuhsin, Alqudah, and Al-Okaily (2023) delved into the factors influencing the usage of cloud-based accounting information systems. Employing a quantitative research approach, the study utilized a cross-sectional online questionnaire to collect empirical data from 438 potential and current users of cloud-based AIS. Structural equation modeling, based on the analysis of moment structures 25.0, was employed for data analysis. The results of the structural path analysis revealed that performance expectancy, social motivation, COVID-19 risk (COV-19 PR), and trust (TR) significantly influenced users'

behavioral intention (BI) towards using cloud-based AIS, explaining 71% of its variance. Contrary to expectations, the impact of effort expectancy and perceived security risk (SEC) on BI was deemed insignificant. Additionally, BI was found to influence actual usage behaviors, explaining 74% of its variance. Moreover, the usage of cloud-based AIS significantly influenced communication quality (CQ) and decision quality (DQ).

Marsintauli, Novianti, Situmorang, and Djoniputri (2021) evaluated cloud-based accounting systems in terms of compliance with accounting standards, security systems using the Parkerian Hexad theory, and the functions of each part of Accurate Online. Employing both qualitative and quantitative methods, data were collected through questionnaires and interviews from 113 Accurate Online users. The study's findings indicated that Accurate Online had met all levels of technological readiness and scored 9 on a technological readiness scale, establishing itself as a trusted cloud-based accounting information system that successfully operates technology and provides the benefits of ease of management.

Adjei, Adams, and Mamattah (2021) conducted a study to explore the role of mimetic, coercive, and normative institutional pressures in predicting the adoption outcomes of cloud computing among organizations in the region. By testing three main hypotheses and ten corollaries, and analyzing data collected from seventy-nine organizations using partial least square structural equation modeling (PLS-SEM), the study revealed that institutional pressures (mimetic, coercive, and normative) account for 27% of the variance in cloud computing adoption. Notably, the mimetic – cloud computing adoption path coefficient of 0.35 emerged as the most significant contributor to the model, while the normative – cloud computing adoption path exhibited the least contribution with a path coefficient of 0.18.

Bello, Oyedele, Akinade, Bilal, Delgado, Akanbi, and Owolabi (2021) undertook a systematic review to evaluate the current contributions and use cases of cloud computing in construction practices. Drawing from ninety-two peer-reviewed publications spanning from 2009 to 2019, the study identified cloud computing as a key innovation delivery enabler for other emerging technologies within the construction industry, including building information modeling, internet of things, virtual reality, augmented reality, and big data analytics. Furthermore, the paper elucidated current and future application areas of cloud computing in construction, while also addressing barriers to broader adoption and proposing strategies for overcoming them.

Tiwari, Bharadwaj, and Joshi (2021) investigated the impact of cloud computing and artificial intelligence on operational and service advantage, utilizing confirmatory factor analysis (CFA) technique. Their findings demonstrated that cloud computing and artificial intelligence positively influence various aspects such as efficient client service, business continuity, access to automatic updates, auto scalability, improved operational efficiency, cost reduction, enhanced security, and backup management. These results underscore the transformative potential of cloud computing and artificial intelligence in enhancing operational effectiveness and service delivery across various domains.

Hang, Hai, Trung, Chien, and Nga (2020) utilized multiple discriminant analyses to validate the importance of accounting software in mitigating frauds and errors in SMEs' operations, notwithstanding certain limitations. The study highlighted that the managerial accessibility to the software and the decentralization of authority in software access were pivotal factors

determining the success or failure of accounting software implementation for fraud and error control. Moreover, the strategic utilization of accounting software applications was found to have a positive impact on fraud prevention within enterprises. In light of these findings, recommendations were formulated for SMEs, emphasizing the necessity of investing in sophisticated accounting software applications and continually updating management's accounting knowledge to maximize the long-term benefits of software utilization in business operations.

Wicaksono, Kartikasary, and Salma (2020) conducted an analysis on the factors influencing the implementation of cloud accounting systems for accounting processes in Micro, Small, and Medium Enterprises (MSMEs), along with the economic effects on these companies. Employing a descriptive qualitative approach in the form of a case study, the research utilized primary data gathered from observations and interviews conducted with representatives from MSMEs employing cloud accounting systems and cloud accounting system providers. The analysis revealed several factors under consideration, including changes in accounting processes, compliance requirements, and security systems.

Kariyawasam (2019) investigated the relationship between cloud accounting and the business performance of SMEs within the Sri Lankan economy. Employing a quantitative deductive approach, the study utilized survey methodology, distributing self-administered questionnaires to collect data from the sample. Given the limited adoption of cloud accounting among SMEs, a purposive sampling method was employed. The findings indicated a positive association between cloud computing and Intellectual Capital, as well as business performance, suggesting the potential benefits of cloud accounting adoption for SMEs in enhancing organizational capital and overall performance.

Liu, Chan, Yang, and Niu (2018) conducted an investigation into the relationship between cloud computing and organizational agility, drawing on survey data from users of the Alibaba cloud in China. Employing partial least squares (PLS) based structural equation modeling with SmartPLS 2.0, the empirical analysis focused on the critical role of two cloud computing-related capabilities, namely CI flexibility and CI integration, in enhancing firms' agility. By examining the moderating effect of IT spending on cloud computing in light of the IT—agility contradiction, this study offers a novel perspective for comprehending the practical and theoretical implications of cloud computing technology.

Al-Zoubi (2017) aimed to assess the impact of Cloud Computing on various elements of the Accounting Information System, encompassing the establishment of "Accounting Entity," financial operations, documents, accounting books, financial reporting, users, procedures, software, and physical devices. Adopting a descriptive approach, the study synthesized previous literature on cloud computing and information technology to analyze their influence on accounting information systems. The results revealed several notable impacts of Cloud Computing, including the reduction in the size of enterprises in terms of physical infrastructure, improved operational performance through streamlined processes and enhanced accuracy, facilitation of communication and collaboration, digitization of documents for customer self-service, reduction in the need for sales personnel through electronic sales orders, and increased accessibility to software and physical equipment without the need for individual ownership or installation.



### 3.0 Methodology

The study employed an ex-post facto research design. This design was chosen because the data collected on the study variables pertained to the past and were therefore historical. Data for each firm under study were gathered from 2012 to 2021, covering a ten-year period. Given that the events being analyzed have already taken place, the ex-post facto research design was deemed the most appropriate for the study. The context in which the hypotheses were tested was on listed consumer goods firms in Nigeria. The study utilized purposive sampling in selecting a sample of fourteen firms based on availability of data.

**Table 1 Study Sample**

1. Cadbury Nigeria Plc.	9. Nascon Allied Industries Plc.
2. Champion Brewery Nig. Plc.	10. Nestle Nigeria Plc
3. Dangote Sugar Refinery Plc.	11. Nigerian Breweries Plc
4. Flour Mills Nig. Plc.	12. PZ Cussons Nigeria Plc.
5. Guinness Nig. Plc	13. Unilever Nigeria Plc.
6. Honeywell Flour Mill Plc.	14. Vitafoam Nigeria Plc.
7. International Breweries Plc.	
8. Northern Nig. Flour Mills Plc	

**Source: Author's Compilation, 2024**

In this study, secondary data were sourced from audited financial statements and annual reports of several consumer goods firms. The data collection phase extended over a decade, covering the financial years from 2012 to 2021. The variables extracted encompassed the extent of cloud-based accounting software employment and Altman's Z-score. Given that the financial statements underwent statutory audits, they serve as a credible and dependable research tool. These audits guarantee the precision and comprehensiveness of the financial data presented in the statements. Consequently, the gathered data were deemed appropriate for the objectives of this study.

The operational measurement of the variables is shown in **Table 2** below.

**Table 2 Operationalization of Variables**

Altman Z-Score	$1.2 * X_1 + 1.4 * X_2 + 3.3 * X_3 + 0.6 * X_4 + 1.0 * X_5$ <p>Where:</p> <p><math>X_1</math> = working capital to total assets ratio  <math>X_2</math> = retained earnings to total assets ratio  <math>X_3</math> = Profit before interest &amp; tax to total assets  <math>X_4</math> = market value of equity to book value of total liabilities  <math>X_5</math> = Revenue to total assets</p>
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Usage of Cloud-based Accounting Software	(Amount of accounting software/total asset) X 100
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Source: Researcher's Compilation (2024)

The Altman Z-score model assesses a company's financial well-being through a structured calculation incorporating the formula:  $Z\text{-Score} = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$ , where  $X_1$  to  $X_5$  represent specific financial ratios.

This formula yields a Z-score value, categorizing firms into three groups: those facing financial distress, with a score below 1.81; those in a transitional range, scoring between 1.81 and 2.99; and those securely positioned, registering a score above 2.99 and showing no signs of business failure.

In other words, higher value of Z-score would represent business failure prevention. After the analysis, if the coefficient of Usage of Cloud-based Accounting Software is positive, it implies such usage helps to increase Z-score, thereby leading to business failure prevention, and vice versa.

The model used in the study is stated as:

$$Z\_Score_{it} = \beta_0 + \beta_1UCBAS_{it} + \varepsilon_{it} \dots \dots \dots 1$$

Where,

$Z\_Score_{it}$  = Altman Z-Score for firm i in year t

$UCBAS_{it}$  = Usage of Cloud-based accounting software for firm i in year t

$\beta_1$  = Coefficient of predictor

$\beta_0$  = Constant

$\varepsilon$  = Error term

In this study, the descriptive statistical characteristics of the data were analyzed using measures such as the mean, standard deviation, minimum, and maximum values. This information was used to explain the central tendencies, variability, and ranges of the data.

In addition to descriptive analysis, the study employed robust least square regression method to test the hypotheses. The reason for choosing this method was because the data were not normally distributed. The outliers in the dataset were accounted for by the use of this robust least squares.

## 4.0 Data Analysis

### 4.1 Descriptive Analysis

**Table 3 Descriptive Analysis**

	<b>Z_SCORE</b>	<b>Value of Cloud-based Accounting Software (₦'000)</b>	<b>Usage of Cloud-based Accounting Software (UCBAS)</b>
<b>Mean</b>	3.605958	253796.6	0.383871
<b>Median</b>	2.953268	54509.50	0.148032
<b>Maximum</b>	17.63356	1962124.	5.376032
<b>Minimum</b>	-2.902475	0.000000	0.000000
<b>Std. Dev.</b>	2.667382	371806.9	0.696012
<b>Skewness</b>	1.628437	1.953167	4.184725
<b>Kurtosis</b>	8.165756	6.976617	25.39292
<b>Jarque-Bera</b>	217.5382	181.2588	3333.696
<b>Probability</b>	0.000000	0.000000	0.000000
<b>Sum</b>	504.8341	35531531	53.74200
<b>Sum Sq. Dev.</b>	988.9751	1.92E+13	67.33618
<b>Observations</b>	140	140	140

Source: Eviews 10 Output

For the Z\_SCORE, the mean value is 3.605958, indicating that, on average, the businesses in the study have a moderately positive financial health status. The standard deviation of 2.667382 suggests a notable dispersion of Z\_SCORE values around the mean, signifying variance in financial health among the businesses. The positive skewness of 1.628437 indicates that the distribution of Z\_SCORE values is skewed to the right, meaning there are more businesses with higher Z\_SCORE values than lower ones. The kurtosis of 8.165756 indicates a leptokurtic distribution, suggesting that the distribution has heavier tails and is more peaked than a normal distribution. Additionally, the probability of Jarque-Bera test being 0.000000 confirms that the distribution significantly deviates from normality.

For the Value of Cloud-based Accounting Software (₦'000), the mean value is ₦253,796,600, indicating the average monetary value attributed to cloud-based accounting software usage among the businesses in the study. The standard deviation of ₦371,806,900 suggests a substantial variability in the monetary value of cloud-based accounting software among the businesses. The positive skewness of 1.953167 indicates that the distribution of values is skewed to the right, implying that there are more businesses with higher values than lower ones. The kurtosis of 6.976617 indicates a leptokurtic distribution, suggesting heavy tails and a peaked shape compared to a normal distribution. The probability of Jarque-Bera test being 0.000000 confirms significant deviation from normality.

For the Usage of Cloud-based Accounting Software (UCBAS), the mean value is 0.383871, indicating that, on average, businesses in the study allocate approximately 0.38% of their total assets towards cloud-based accounting software usage. The standard deviation of 0.696012

suggests notable variability in the proportion of assets allocated to cloud-based accounting software among the businesses. The positive skewness of 4.184725 indicates a strong right skew, suggesting that there are more businesses with higher percentages of asset allocation to cloud-based accounting software than lower ones. The kurtosis of 25.39292 indicates a heavily leptokurtic distribution, implying a high degree of peakedness and heavier tails compared to a normal distribution. The probability of Jarque-Bera test being 0.000000 confirms significant deviation from normality, suggesting a non-normal distribution of asset allocation percentages among the businesses.

#### 4.2 Test of Hypothesis

H1: Usage of accounting software will significantly reduce the likelihood of business failure.

The output of the regression analysis used in testing the hypothesis is shown below.

**Table 4 Regression Output from Robust Least Squares**

Dependent Variable: Z\_SCORE

Method: Robust Least Squares

Date: 03/03/24 Time: 11:29

Sample: 2012 2021

Included observations: 140

Method: S-estimation

S settings: tuning=1.547645, breakdown=0.5, trials=200, subsmpl=2,  
 refine=2, compare=5

Random number generator: rng=kn, seed=244735830

Huber Type I Standard Errors & Covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
UCBAS	0.676726	0.264351	2.559955	0.0105
C	2.228157	0.209544	10.63337	0.0000
Robust Statistics				
R-squared	0.038744	Adjusted R-squared	0.031778	
Scale	1.794043	Deviance	3.218592	
Rn-squared statistic	6.553368	Prob(Rn-squared stat.)	0.010469	
Non-robust Statistics				
Mean dependent var	3.605958	S.D. dependent var	2.667382	
S.E. of regression	2.916607	Sum squared resid	1173.910	

Source: Eviews 10 Output

Based on the output in Table 4, the adjusted R-squared value of 0.031778 indicates that approximately 3.18% of the variance in business failure prevention can be explained by the usage of cloud-based accounting software. While this percentage may seem modest, it still

signifies a meaningful impact given the complex array of factors influencing business failure prevention. Moreover, the probability associated with the Rn-squared statistic is 0.010469, indicating that the overall model is statistically significant, further supporting the assertion that the usage of cloud-based accounting software has a discernible effect on business failure prevention.

The regression output from robust least squares reveals a significant relationship between the usage of cloud-based accounting software (UCBAS) and business failure prevention. The coefficient for UCBAS is 0.676726, indicating that for every one unit increase in the usage of cloud-based accounting software, there is a predicted increase of approximately 0.677 units in the effectiveness of business failure prevention. The coefficient's statistical significance is highlighted by the p-value of 0.0105, which is below the threshold of 0.05, suggesting strong evidence to reject the null hypothesis that the coefficient is equal to zero.

In all, the results suggest that higher utilization of cloud-based accounting software is associated with improved business failure prevention. This finding underscores the importance of adopting modern technological solutions, such as cloud-based accounting software, as part of a comprehensive strategy to enhance the financial health and resilience of businesses. Additionally, it provides empirical evidence for stakeholders to justify investments in cloud-based accounting systems as a means to mitigate the risk of business failure. The result aligns with the argument by Jin and McElheran (2017); DeStefano, Kneller and Timmis (2023) and Tawfik, Durrah, Hussainey and Elmaasrawy (2023) that the implementation of cloud-based accounting contributes to firm growth, survival and competitiveness, which are the major indices of business failure prevention.

## **5.0 CONCLUSION AND RECOMMENDATIONS**

The finding suggests that businesses that adopt and utilize cloud-based accounting software are more likely to prevent failure compared to those that do not as a result of the enhanced efficiency and accuracy afforded by cloud-based accounting software. These platforms streamline financial processes, automate routine tasks, and provide real-time access to critical financial data. By leveraging cloud-based accounting software, businesses can better track their financial performance, identify potential risks or inefficiencies, and make informed decisions promptly. This proactive approach to financial management enables businesses to address issues promptly, reducing the likelihood of cascading failures that can lead to business collapse.

Moreover, cloud-based accounting software facilitates better financial transparency and accountability within organizations. With centralized data storage and access controls, stakeholders across the business can easily access relevant financial information, fostering a culture of transparency and accountability. This transparency enables better oversight and governance, reducing the risk of financial mismanagement, fraud, or errors that could contribute to business failure (Hang, Hai, Trung, Chien & Nga, 2020).

Furthermore, the accessibility and mobility of cloud-based accounting software empower businesses to operate more flexibly and efficiently. With cloud-based solutions, employees can access financial data and perform accounting tasks from anywhere with an internet connection, facilitating remote work, collaboration, and responsiveness. This flexibility enhances



operational resilience and agility, enabling businesses to adapt to changing market conditions, economic challenges, or disruptions, thereby reducing the likelihood of failure. In conclusion, adopting modern technological solutions, such as cloud-based accounting software, is a crucial and comprehensive strategy to enhance the financial health and resilience of businesses. We therefore recommend that governments, industry associations, and financial institutions should prioritize investments in technological infrastructure and skills development to support the widespread adoption of cloud-based accounting software. They should develop initiatives to upgrade digital infrastructure, expand broadband access, and promote data security and privacy standards to create an enabling environment for cloud-based solutions adoption.

## References

- Adjei, J. K., Adams, S., & Mamattah, L. (2021). Cloud computing adoption in Ghana; accounting for institutional factors. *Technology in Society*, 65, 101583.
- Aini, Q., Anoesyirwan, A., & Ana, Y. (2020). Effect of Cloud Accounting as income statement on Accountant Performance. *Aptisi Transactions On Management*, 4(1), 13-21.
- Al-Okaily, M., Alkhwaldi, A. F., Abdulmuhsin, A. A., Alqudah, H., & Al-Okaily, A. (2023). Cloud-based accounting information systems usage and its impact on Jordanian SMEs' performance: the post-COVID-19 perspective. *Journal of Financial Reporting and Accounting*, 21(1), 126-155.
- Al-Zoubi, A. M. (2017). The effect of cloud computing on elements of accounting information system. *Global Journal of Management And Business Research*, 17(3), 1-9.
- Atadoga, A., Umoga, U. J., Lottu, O. A., & Sodiya, E. O. (2024). Evaluating the impact of cloud computing on accounting firms: A review of efficiency, scalability, and data security. *Global Journal of Engineering and Technology Advances*, 18(02), 065-074.
- Barney, J. B. (2021). The emergence of resource-based theory: a personal journey. *Journal of Management*, 47(7), 1663-1676.
- Barney, J. B., Ketchen Jr, D. J., & Wright, M. (2021). Resource-based theory and the value creation framework. *Journal of Management*, 47(7), 1936-1955.
- Bello, S. A., Oyedele, L. O., Akinade, O. O., Bilal, M., Delgado, J. M. D., Akanbi, L. A., ... & Owolabi, H. A. (2021). Cloud computing in construction industry: Use cases, benefits and challenges. *Automation in Construction*, 122, 103441.
- Chandra, P., & Gupta, A. (2022). Transformation of conventional to digital accounting: An overview of cloud accounting. *Journal of Emerging Technologies and Innovative Research (JETIR)*.
- Chikkala, R., & Jaffer, S. (2022). Cloud accounting as a new business model. *The journal of contemporary issues in business and government*, 28(4), 723-731.
- DeStefano, T., Kneller, R., & Timmis, J. (2023). Cloud computing and firm growth. *Review of Economics and Statistics*, 1-47.

- Dimitriu, O., & Matei, M. (2015). Cloud accounting: a new business model in a challenging context. *Procedia Economics and Finance*, 32, 665-671.
- FastAccounts. (2023). The role of accounting software in preventing errors, failures, and fraud in small business accounting. Retrieved from <https://fastaccounts.io/the-role-of-accounting-software-in-preventing-errors-failures-and-fraud-in-small-business-accounting/>
- Hang, N. T. T., Hai, V. T., Trung, T. Q., Chien, V. M., & Nga, N. T. H. (2020). Factors affecting the capacity of accounting software in controlling frauds and errors in small and medium enterprises (SMEs): a case study of SMEs in Hanoi, Vietnam. *Vietnam Journal of Agricultural Science*, 3(3), 746-755.
- Jin, W., & McElheran, K. (2017). Economies before scale: survival and performance of young plants in the age of cloud computing. *Rotman School of Management Working Paper*, (3112901).
- Kariyawasam, A. H. N. (2019). Analysing the impact of cloud-based accounting on business performance of SMEs. *The Business & Management Review*, 10(4), 37-44.
- Khanom, T. (2017). Cloud accounting: a theoretical overview. *IOSR Journal of Business and Management*, 19(6), 31-38.
- Lapitkaia, L. (2021). Application of cloud technologies in accounting. *MEST Journal*, 9(1), 90-96.
- Liu, S., Chan, F. T., Yang, J., & Niu, B. (2018). Understanding the effect of cloud computing on organizational agility: An empirical examination. *International Journal of Information Management*, 43, 98-111.
- Lubis, N. W. (2022). Resource based view (RBV) in improving company strategic capacity. *Research Horizon*, 2(6), 587-596.
- Marsintauli, F., Novianti, E., Situmorang, R., & Djoniputri, F. (2021). An analysis on the implementation of cloud accounting to the accounting process. *Accounting*, 7(4), 747-754.
- Nworie, G. O. & Okafor, T. G. (2023). Implementing Accounting Information Systems in Financial Management Operations of Transportation Companies: A Review of Literature. *International Journal of Academic Information Systems Research*, 7(2), 15-24. <http://ijeais.org/wp-content/uploads/2023/2/IJAISR230202.pdf>
- Nworie, G. O., & Okafor, T. G. (2023). Nigeria public manufacturing firms' adoption of computerised accounting system: the firm size and firm capital turnover effect. *Journal of Global Accounting*, 9(1), 324-345. Retrieved from <https://journals.unizik.edu.ng/index.php/joga/article/view/2071>
- Nworie, G. O., Anaike, C. L. & Onyeka, C. M. (2023). Computerised Accounting System: A Catalyst for Improved Operating Performance of Listed Industrial Goods Firms in Nigeria. *Journal of Accounting and Financial Management*, 8(4), 22-33.

<https://www.iiardjournals.org/get/JAFM/VOL.%209%20NO.%204%202023/Computerised%20Accounting%20System.pdf>

- Nworie, G.O., Okafor, T.G. & John-Akamelu, C.R. (2022). Firm-level traits and the adoption of computerised accounting information system among listed manufacturing firms in Nigeria. *Journal of Global Accounting*, 8(3), 128-148. Retrieved from <https://journals.unizik.edu.ng/index.php/joga/article/view/1858>
- Rahman, N. A. A., Melewar, T. C., Foroudi, P., & Gupta, S. (2024). The Role of Technology Advancement in Managing Business and Establishing Corporate Brand Image: Conception, Challenges, and Commendation in Logistics and Transport Sector. In *Corporate Branding in Logistics and Transportation* (pp. 26-41). Routledge.
- Saha, T., Das, S. K., Rahman, M. M., Siddique, F. K., & Uddin, M. G. (2020). Prospects and challenges of implementing cloud accounting in Bangladesh. *The Journal of Asian Finance, Economics and Business*, 7(12), 275-282.
- Singerová, J. (2018). Accounting in cloud. *European Financial and Accounting Journal*, 13(1), 61-76.
- Sokolenko, L., Egorushkina, T., Kosytsia, O., Atamas, O., & Kyiashko, O. (2020). Use of cloud-based accounting technologies in the information security system. *Academy of Accounting and Financial Studies Journal*, 24(2), 1-8.
- Tawfik, O. I., Durrah, O., Hussainey, K., & Elmaasrawy, H. E. (2023). Factors influencing the implementation of cloud accounting: Evidence from small and medium enterprises in Oman. *Journal of Science and Technology Policy Management*, 14(5), 859-884.
- Tiwari, S., Bharadwaj, S., & Joshi, S. (2021). A study of impact of cloud computing and artificial intelligence on banking services, profitability and operational benefits. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(6), 1617-1627.
- Uko, A. J., Esther, I. O., Isaiah, O. O., & Ojo, O. B. (2023). Effect of Cloud Accounting on Financial Information Quality of Selected Firms in Nigeria. *International Journal of Research and Innovation in Social Science*, 7(1), 1175-1193.
- Wicaksono, A., Kartikasary, M., & Salma, N. (2020, August). Analyze cloud accounting software implementation and security system for accounting in MSMEs and cloud accounting software developer. In *2020 International Conference on Information Management and Technology (ICIMTech)* (pp. 538-543). IEEE.
- Yau-Yeung, D., Yigitbasioglu, O., & Green, P. (2020, October). Cloud accounting risks and mitigation strategies: Evidence from Australia. In *Accounting Forum* (Vol. 44, No. 4, pp. 421-446). Routledge.