SASAR
Open Access Journal

Research article

Impact of The Cost Structure on The Financial Performance in Light of The Application of Cloud Computing Systems in the Palestinian Electricity Companies

AlaaEldin Z. Albaja [1], *

[1] Department of Accounting, Modern University College, Ramallah, Palestinian Authority.

*   Correspondence: Alaaeldin.baja@muc.edu.ps.

Abstract: This research aims to test the impact of the cost structure on financial performance in light of the application of cloud computing systems in the Palestinian electricity companies, during the period 2009 at 2020. The model is estimated using a multiple linear regression model (Cross-sectional Data), to test the independent study variables represented by the cost structure (fixed costs during the application period, and variable costs during the application period) and the dependent variables represented by financial performance (inventory and liabilities and net income). The implication of this study is that the relationship between the costs structure (fixed costs and variable costs during the application period) and the dependent variables by financial performance is significant. This research will help the management that by Cloud Computing to reducing the costs of the companies will and effectively the improve its financial performance. Accordingly, this research confirms there is a relationship between cost structure (fixed and variable costs) on financial performance under the application of system cloud computing.

Keywords: Cloud Computing, Cost structure, Financial Performance.

1.   Introduction

In light of the emergence of production methods, technological development, and modern mechanisms used in production processes, it has become necessary for companies to make rational decisions regarding the selection and use of the best machines that improve quality, raise efficiency and effectiveness, and exploit costs, control and reduce them, to reach a degree of efficiency and effectiveness. For this development, companies have to employ modern technology systems represented by cloud computing systems in their business.

Due to the emergence of production methods, technological development, and modern mechanisms used in production processes, it has become necessary for companies to make rational decisions regarding the selection and use of advanced technology systems represented by cloud computing systems that improve quality and exploit pricing and reduce costs to increases effectiveness and efficiency. Cloud computing systems are considered the most powerful in their impact on corporate performance, especially financial performance. Through their use of cloud computing systems, companies can access basic services over the Internet. The Palestinian economic and political climate is considered exceptional; Because of the difficult conditions he is experiencing, the World Bank called for the need to shift to the application of computing systems in the Palestinian territories because of its positive effects on government institutions, and they considered that the goal of applying cloud computing systems is to enable Palestinians to easily access basic services while saving time, effort and money. And it is the pivotal solution in the successful deployment of e-government services, and it will enable Palestinians to cover communication and information technology gaps and keep data in safe places. And the use of cloud computing systems also reduces the costs borne by government institutions, especially information technology, which has become high, and according to an assessment conducted by the World Bank, it was found that the application of cloud computing systems is still in its early stages in the Palestinian territories [1], [2].

Systems for cloud computing have the most significant influence on business performance, especially financial performance. Using cloud computing systems, companies can access basic services over the Internet. However, the Palestinian economic and political climate is considered exceptional; because they face several challenges. Cloud computing systems are also essential for successfully implementing e-government services, allowing Palestinians to fill communication and information technology gaps and securely store their data. And the use of cloud computing systems also reduces the costs borne by government institutions, especially information technology, which has become high,

And the use of cloud computing systems also reduces the costs borne by government institutions, especially information technology, which has become high. According to an assessment conducted by the World Bank, the application of cloud computing systems is still in its early stages in the Palestinian territories.

Palestinian electricity companies began working on the application of cloud computing systems; Because these services that it provides are related to the infrastructure and are among the most important services, as they are provided to a wide segment of the Palestinian society through multi-site channels managed by the internal departments of the Palestinian electricity companies, and that the application of cloud computing systems provided the electricity companies with many advantages, including the ability to Control and detection of their systems in different areas, which made it easier for them to work, especially in difficult times. As for information security and cost management, these systems provide them with high efficiency. Therefore, the application of cloud computing systems is the ideal alternative to what the management of Palestinian electricity companies needs in implementing important decisions, providing services with high efficiency and effectiveness, and reducing costs [3]–[6].

Cloud computing systems are considered advanced systems through which companies can develop their performance, improve their efficiency, reduce costs, obtain their information at the time they aspire to reach, maintain the security and confidentiality of their data, and make decisions [7]–[9]

Many Arab and Foreign studies have discussed cloud computing systems, they all used questionnaires, interviews, and descriptive-analytical methods. The previous studies recommended the importance of searching for evaluation methods to reach a more accurate measurement of the impact of cloud computing systems.

The second theme is the cost structure and the indication of the financial and operative performance. From this point, the study was able to merge the variables that were used in previous studies separately which are represented in the first and second themes in order to reach measuring methods and creditable results.

The study depended on the cost structure as an independent variable and on implementing the cloud computing system as a Moderator Variable. It also depended on the indication of the financial performance as a dependent variable, and the study used the indication of the financial performance to reach the influence of using cloud computing systems in the study sample.

According to the researcher, previous studies did not employ financial performance to clarify the impact of cloud computing systems and which distinguishes this study from other previous studies.

This study came to investigate the problem of the study, which is: (The impact of the cost structure in light of the application of cloud computing systems in the Palestinian electricity companies). The researcher believes that the application of cloud computing systems is one of the factors that can affect financial performance indicators. Next question:

What is the impact of the cost structure on the financial performance indicators in light of the application of cloud computing systems for Palestinian electricity companies?

The importance of the study emerges from a practical point of view because of the information it provides through which companies can access the advantages of cloud computing systems, especially with regard to reducing costs, and this is considered one of the objectives that the administration seeks to achieve and reach.

The main objective is to reach the impact of the cost structure on the financial performance indicators in light of the application of cloud computing systems. The study targeted Palestinian electricity companies.

The study proceeded to achieve its objectives by obtaining financial data, then the study analyzed and converting them into financial indicators, and then Multiple Linear Regression.

Our findings indicate that there is a relationship between cost structure and inventory, current liabilities, and net income in Electricity Companies Under the application of system cloud computing, this is which measures the financial performance of the study sample companies. Moreover, the use of cloud computing systems in Palestinian electricity companies has made it possible to raise the level of the companies' financial performance and to achieve a high level by providing services to customers. Moreover, Electricity Companies need to develop strategies that enhance the cost structure and performance financial of her, through the application of cloud computing systems, it achieves what companies seek.

2. Background

This section provides a basic overview of Cloud Computing Systems Cost Structure, and financial performance, intending to emphasize their increasingly vital role in addressing practical challenges such as decision-making and systems controlling remote, which Electricity companies this application is a prime target. Moreover, we review some previous studies that have offered comprehensive overviews of Cloud Computing Systems, Cost Structure, and financial performance, approaches in various topics and demonstrate how they are used in empirical research.

Cost Structure:

Cost Structure methods aim to statement the impact on costs incurred by electricity companies of applications Cloud Computing Systems. In the process, Cost Structures (Variable Cost and Fixed Cost) for costs incurred by electricity companies. For example, the implementation of cloud computing systems should lead to lower costs and better remote control. Thus, to support applications for Cloud Computing companies in Palestine, the researcher used the cost structure to prove that the application of cloud computing systems accrues to companies the benefits of cost reduction and remote control systems ability.

The cost structure is a system that seeks to provide accurate information, obtained through its various sources within the company, and then summarized and evaluated to obtain high-quality information, and presented to management; For planning, control, and decision-making purposes [10]. Cost structure can be defined as the ratio of variable costs and fixed costs to total costs [11]. The costs are categorized in the cost structure as follows:
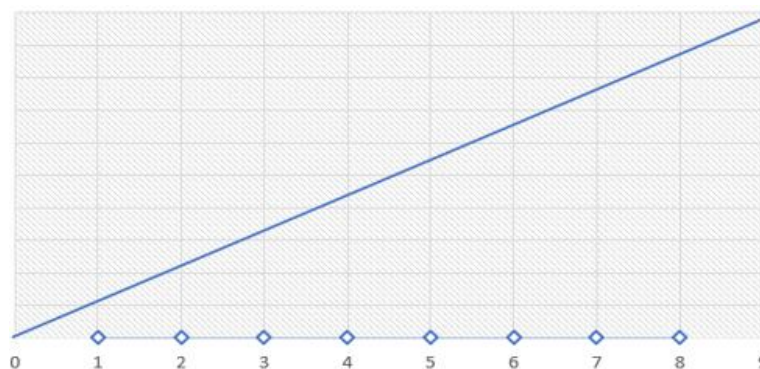

Figure 1: Variable Costs

Are those costs that change in total with the increase or decrease in the volume of production or activity, which means that the variable costs increase with the increase in the volume of production and decrease when the volume of production decreases, and therefore the share of the unit produced in it remains constant regardless of the change in the volume of production, and variable costs include materials Direct, direct wages and direct expenses [12].
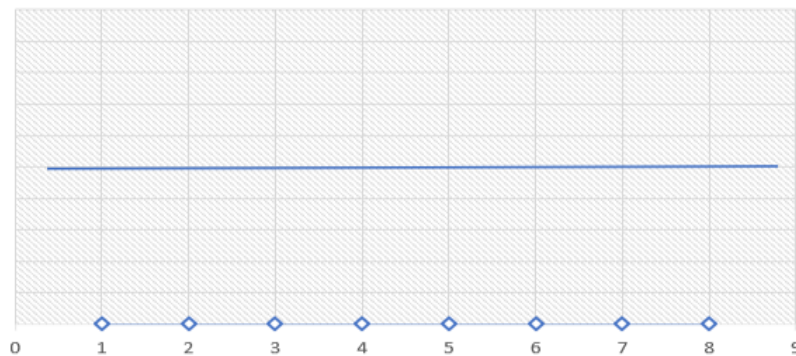
Figure 2: Fixed Costs

They are the costs that do not change with the change in the volume of production (the sum of them does not change) during a certain time. It is the opposite of variable costs which are not affected by the change in the volume of production during the period. This means that as the volume of production increases or decreases, costs remain fixed within the specified capacity [13], [14].

Cloud Computing:

In the past few years, the cloud computing system has gained great interest in technology at the global level. Because cloud computing systems are compatible with advanced technology trends, cloud computing employment brings companies many benefits, which are often related to cost reduction and access to appropriate data and information at the right time. Therefore, cloud computing systems provide such as big data, companies control their systems remotely, and mobility. And so on, instead of paying high costs by sending a crew to control the system, etc. Today, interest and confidence in cloud computing systems have increased to a high degree [27].

Modern technologies have found the term cloud computing, which refers to the technological resources and systems available upon demand or need, and the cloud computing system provides integrated services without being restricted to local resources, to manage the company's business or start its operational activities, and the user can once be connected to the Internet, control the Its systems are available to it through an easy-to-use software interface [2], [7], [15], [16].

Figure 3: Cloud Computing

Cloud computing applications have gained the confidence of many organizations around the world thanks to the great advantages they provide to organizations in dealing with data [16], [17].

The American National Institute of Standards and Technology (NIST) defines cloud computing as a model that enables a user of cloud computing systems to access a common set of resources just by being connected to the Internet, which can be provided and used quickly without effort or high cost [15], [18]–[20]. Cloud computing has been defined as the computer systems that provide services so that the user can access and obtain information and services through his connection to the Internet only [21].

Cloud computing services:

Software As a Service (SaaS):

Software as a service provides and rents cloud-based software to customers, whether individuals or companies, through their connection to the Internet [22], [23]. Manage all hardware, middleware, and security, at no cost to the customer other than the cost of subscription, and SaaS allows customers to automatically access the service simply by connecting to the Internet, and through multiple technology devices. SaaS is designed to solve more than one problem and easily connect and manage enterprise systems, for example, Gmail, Google Docs, and some FreshBooks software to provide cloud-based software services [24], [25].

Figure 4: SAAS platform

Platform As a Service (PaaS):

Cloud computing infrastructure (PAAS) or computing environment is the next level that serves to receive and transmit data, also known as (PAAS) platforms consisting of the set of software, tools, and operating systems available to develop products hosted on the infrastructure, cloud computing (PAAS) consists of All hardware components (servers, processors, storage media, network services, access) and running on operating systems to enable customers to access them on demand or as needed, e.g. Microsoft Azure, Force. com and Provider are examples of cloud computing infrastructure [7].

Figure 5: PAAS Platform

Infrastructure As a Service (IaaS):

Infrastructure as a service is the basic type or lower layer that provides servers running on several operating systems options, and compute infrastructure enables customers to work as a virtual machine, through which they can store files and documents without any restrictions, and conduct their daily work through their webs Computational computing systems, and sub-services include the following: such as Linux and Amazon [26]–[28].

Figure 6: IaaS Platform

Four main models of cloud computing services and their costs:

A. Storage as a Service: Through the storage service, customers are provided with space to store their data and documents, in addition to being safe and at a low cost [29], [30].

B. Hardware as a Service: Virtualization capabilities such as solid memory and extensive CPU are provided for data transfer [31], [32].

C. Communication as a Service: Through this service, customers can communicate and communicate, and such a service is provided to educational institutions [33].

D. Desktop as a Service: The desktop service provides a set of services that in turn manage virtual servers on the cloud, and allows choosing the operating system to be used such as Windows or others, in addition to determining the amount of memory or processor [34], [35]

Financial performance:

The financial performance reflects the efficiency and effectiveness of the administration in the optimal use of its available resources and the generation of profits and its ability to reduce its obligations and coverage in the long or short term, and the company's ability to reduce inventory and provide what it needs on demand, and on the other hand it is the result that the management aspires to achieve [36], [37].

Inventory: Inventory is managed using modern and advanced systems. These systems help the management in determining the required materials at the specified time upon request [38].

Current liabilities: Current liabilities are obligations of the entity as the entity must pay those obligations within a year, and there must also be sufficient financial liquidity to pay these obligations [39], [40].

Net income: The net profit that can be distributed to holders of ordinary shares after deducting all other expenses, or as a result of the business of the enterprise from its operations, and the resulting net income is considered [41].

3. Theoretical Literature Review

The population of this study includes Palestinian Electricity Companies in Palestinian. There are 5 Electricity Companies. Among them, 3 Electricity companies were selected for data collection. They are Jerusalem Electricity (JDECo), Hebron Electric, and Gaza Power Generating Company (GPGC). Also, in an attempt to attain increased representativeness, data financial statement period 2009-2020 for this study used a sample of electricity companies in Palestinian. Hence, this study used simple available data financial statements. Finally, the convenience sampling technique was applied to the financial performance of the included-in inventory, total liabilities, current liabilities, and net profit that was Taken from the financial statements of each company in the study.

This research has applied a quantitative research approach, SPSS version 26 was used to ensure that the relevant issues are investigated in a comprehensive method. Descriptive statistics, multiple linear regression analysis, and ANOVA are used to test and evaluate the hypothesis in the study framework.

4. Empirical Literature Review and Hypothesis Development

The study aims to define the characteristics of financial indicators of computational computing and to study the costs incurred by government institutions to provide their services to the public. In his methodology, the researcher relied on the interview conducted with the Director of the Information Technology Department, in addition to using the questionnaire to be able to collect information about the application of the cloud computing system. Consequently, the financial indicators were affected. Most of the participants asserted that the computational model will control expenses and improve the long-term return on investment (ROI), and the implementation of the computational computational system gives the organization the flexibility to use the appropriate bandwidth based on its objectives, and variable costs and fixed costs play the main role when implementing computational data center costs The study aimed to analyze the financial performance of pharmaceutical companies in India using the cost structure (cost reduction) that plays a role in profitability growth. Between 2009-2014 AD for a period of five years, the study confirmed that only sound financial performance is able to face challenges by managing the correct cost structure to increase its profitability.

1.	The table shows the methodology of previous studies related to the research topic:		
Methodology	**Study title, author and year**	**Objective**	**Results**
Descriptive analytical method	The impact of cloud computing as one of the digital transformation technologies on the cost structure[42].	The study aimed to identify the impact of cloud computing as one of the digital transformation techniques on the cost structure.	The study concluded that the use of cloud computing technology transformation helps to reduce costs.
	The study aims to identify the impact of applying cloud accounting on accounting plans and programs in Palestinian universities.[2]	The study aimed to identify the impact of applying cloud accounting on accounting plans and programs in Palestinian universities.	Cloud computing will address the problem of costs incurred by Palestinian universities in their programs and the application of cloud accounting will reduce costs.
	The impact of accounting information systems on cost reduction under cloud computing.[43]	The study aimed to identify the impact of accounting information systems on cost reduction under cloud computing.	There is a compatibility between the application of accounting information systems and their impact on cost reduction.
	The extent of applying the rational thinking method and its impact on the financial performance of the companies listed on the Palestine Exchange.[44]	The study aimed to identify the extent to which the rational thinking method is applied and its impact on the financial performance of the companies listed on the Palestine Stock Exchange.	The results showed that there is a relationship between rational thinking, working capital ratio and fixed assets turnover rate, and there is an effect of rational thinking on profitability indicators.
	Cloud computing in construction industry: Use cases, benefits and challenges" [26]	This study consisted of identifying wrong decisions, their impact, operational performance, profitability and implementation delay.	Operational performance affects cost reduction in companies that apply cloud computing, as the cloud computing system works through cloud computing technologies.

Methodology	Study title, author and year	Objective	Results
Descriptive analytical method	The Behavioural Effects of Competition Intensity and Cost Structure on Competing Suppliers: An Experimental Study in the Context of the USA" [22]	The study aims to identify how the intensity of competition and differences in the cost structure affect the decisions taken by competing suppliers, in light of the role that behavioural factors play as influences.	The study concluded that decisions related to competition and its intensity differ in the presence of a cost structure, and that in cases where the cost structure of suppliers is heterogeneous, the average decisions of people are higher than when the suppliers have the lowest cost, that people's behaviours differ according to the intensity of competition and the structure of the cost.
	Comparison of LPWAN Technologies: Cost Structure and Scalability" [45]	The study aimed to provide a general framework on the methodology for analysing the feasibility of communication technologies and their application, as their feasibility is measured through the cost structure of these technologies.	The study concluded that (LPWAN) is cost effective and applicable, and that the cost drivers were divided into the cost of the site, electricity, management, installation and operating expenses, which are the most prevalent of the cost.
	"Impact of Capital Structure on Financial Performance. [28]	The study aimed to identify the capital structure and its impact on financial performance, and to identify the determinants of capital structure and measure its impact on financial performance.	The study concluded that there is a relationship between the capital structure and profitability, and the capital structure has a significant impact on the financial performance of the study sample companies.
	"Cloud Computing Financial and Cost Analysis: A Case Study of Saudi Government Agencies" [27]	The study aimed to identify the characteristics of the financial indicators of cloud computing and to study the costs incurred by government institutions in order to provide their services to the public.	The study concluded that the total cost of ownership (TCO) and cost indicators affect the return on investment (ROI) were affected by the decision to adopt cloud computing systems. Variable costs and fixed costs play the main role when implementing cloud data centre costs.
	"A Study on Impact of Cost Structure on Financial Performance of Selected Pharmaceutical Companies in India"[8]	Aims to find out how the cost structure affects the financial performance of pharmaceutical companies in India	The study concluded that the cost structure was not identical and varied from one company to another during the period under study.

The study aims to reach the extent of the capital structure and its impact on the financial performance. The financial data of the companies were obtained from the financial market in India for the study sample. multiplayer, based on the SPSS program. The results of the study concluded that the relationship is statistically significant between capital structure and profitability, so the change in debt

and equity is linked to profitability, and therefore companies must follow the capital structure because it works to increase their profitability and reduce their costs. [27], [11], [13]. The study relied on the analytical descriptive approach to achieve the objectives of the study related to the impact of the cost structure on financial performance indicators in light of the application of the cloud computing system for the Palestinian electricity companies (2009-2020). And converting them into financial indicators, and then subjecting them to statistical analysis, relying on the quantitative analysis methodology based on reference to the financial data, and the use of multiple linear regression analysis for the sample in the study, and then analyzing and describing.

$$Y_{it} = B_{i0} + B_{it1} X_{it1} + B_{it\,2} X_{it2} \ldots \ldots + B_{itp} X_{itp} + \varepsilon_{it}$$

Table (2): Variance Inflation Factor

Model	INDEPENDENT VARIABLE
1.072	X1
1.072	X2

Figure (3) show the theoretical framework used in this research with the final target at financial performance and cloud computing:
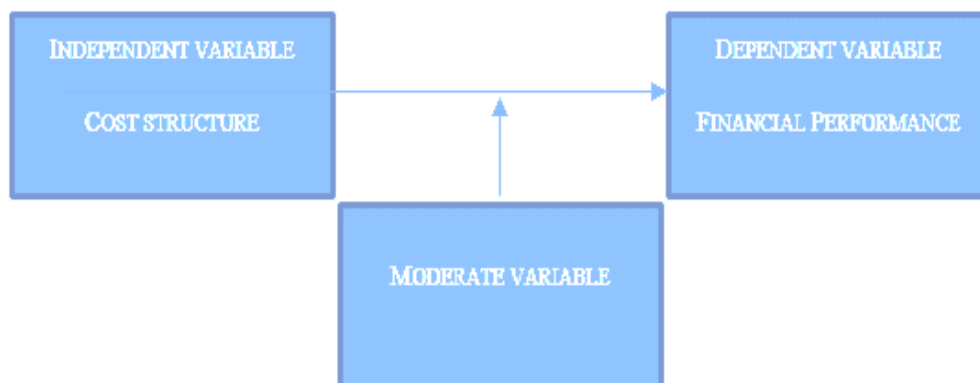

Figure 7: Research Framework

Accordingly, the hypotheses can be formulated as follows:

Research Question

Is there any impact of cost structure on performance financial?

Research Hypothesis

This research is conducted to address the following hypotheses:

H1=There is a relationship between cost structure and inventory in Electricity Companies Under the application of system cloud computing.

H2=There is a relationship between cost structure and liabilities in Electricity Companies Under the application of system cloud computing.

H3=There is a relationship between cost structure and net income in Electricity Companies Under the application of system cloud computing.

5. Descriptive statistics of the hypothesis first Dimensions

Table 3 provides the ANOVA test of the model which reveals the relationship between cost structure; variable cost and fixed cost on inventory Under the application of system cloud computing. As given in table 1. The adjusted R square is 66.3 percent, which shows that full efficiency explains 66.3 percent of the inventory Under the application of system cloud computing. By another meaning if there is no mistake in motivation, 66.3 percent of the inventory Under the application of system cloud computing would be assured, Further, the coefficient of the regression analysis is -0.311, which means that if the variable cost efficiency is increased by 1 unit, the inventory Under the application of system cloud computing would be decreased 0.311 and the coefficient of the regression analysis is 1.246 to fixed cost, which means that if the fixed cost efficiency is increased 1 unit, the Liabilities Under the application of system cloud computing would be increased 1.246. Besides the intercept has an additive impact on the increase; however, the hypothesis is accepted due to the significant impact.

Table (3): Model summary and ANOVA

Coefficients (Sig)			ANOVA	Model Summary		
Constant	VC	FC	Sig.	Adjusted R Square	R	Independent Variables
	0.0130	0.0000	0.000b	0.403	0.663a	Inventory
70,2374	-0.311	1.246				Coefficients (B)

Descriptive statistics of the hypothesis second Dimensions

Table 4 provides the ANOVA test of the model which reveals the relationship between cost structure; variable cost and fixed cost on Liabilities Under the application of system cloud computing. As given in table 4. The adjusted R square is 53.9 percent, which shows that full efficiency explains 53.9 percent of the Liabilities Under the application of system cloud computing. By another meaning, if there is no mistake in motivation, 53.9 percent of the Liabilities Under the application of system cloud computing would be assured, Further, the coefficient of the regression analysis is 2.721, which means that if the variable cost efficiency is increased 1 unit, the Liabilities Under the application of system cloud computing would be increased 2.721and the coefficient of the regression analysis is -6.728 to fixed cost, which means that if the fixed cost efficiency is increased 1 unit, the Liabilities Under the application of system cloud computing would be decreased 6.728. Besides the intercept has an additive impact on the increase; however, the impact is meaningful only if the relation is significant. The significance of a relationship is tested by sig statistics results. Table 2 reveals that the sig statistics of the model is 0.00. Normally the impact is considered to be significant in case the sig statistics are less than or equal to 0.05. Therefore, we can conclude that the concerning impact is significant. Finally, the hypothesis is accepted due to the significant impact.

Table (4): Model summary and ANOVA

Coefficients (Sig)			ANOVA	Model Summary		Independent
Constant	VC	FC	Sig.	Adjusted R Square	R	Variables
	0.000	0.0100	0.000b	0.539	0.753a	Liabilities
635,799,323.5	2.721	-6.728				Coefficients (B)

Descriptive statistics of the hypothesis third Dimensions

Table 5 provides the ANOVA test of the model which reveals the relationship between cost structure; variable cost and fixed cost on Net Income Under the application of system cloud computing. As given in Table 3. The adjusted R square is [39.4 percent], which shows that full efficiency explains [39.4 percent] of the Net Income Under the application of system cloud computing. By another meaning, if there is no mistake in motivation, [39.4] percent of the Net Income Under the application of system cloud computing would be assured, Further, the coefficient of the regression analysis is [-0.532], which means that if the variable cost efficiency is increased 1 unit, the Net Income Under the application of system cloud computing would be decreased [0.532] and the coefficient of the regression analysis is [1.792] to fixed cost, which means that if the fixed cost efficiency is increased 1 unit, the Net Income Under the application of system cloud computing would be increased by [1.792]. Besides the intercept has an additive impact on the increase; however, the impact is meaningful only if the relation is significant. The significance of a relationship is tested by sig statistics results. Table 5 reveals that the sig statistics of the model is [0.00]. Normally the impact is considered to be significant in case the sig statistics are less than or equal to 0.05. Therefore, we can conclude that the concerning impact is significant. Finally, the hypothesis is accepted due to the significant impact.

Table (5): Model summary and ANOVA

Coefficients (Sig)			ANOVA	Model Summary		Independent
Constant	VC	FC	Sig.	Adjusted R Square	R	Variables
	000.0	0.001	0.000b	3940.	a6560.	Net Income
51,283	-0.53	1.792				Coefficients (B)

6. RESEARCH DESING

To assess financial performance under the application of system cloud computing, the cost structure of fixed and variable costs was used. The Electricity Companies were found to be superior in providing service electricity through the applications of a cloud computing system in Palestinians. Our findings indicate that there is a relationship between cost structure and inventory, current liabilities, and net income in Electricity Companies Under the application of system cloud computing, this is which measures the financial performance of the study sample companies. Moreover, the use of cloud

computing systems in Palestinian electricity companies has made it possible to raise the level of the companies' financial performance and to achieve a high level by providing services to customers. Moreover, Electricity Companies need to develop strategies that enhance the cost structure and performance financial of her, through the application of cloud computing systems, it achieves what companies seek.

Population and sample of the research:
The study sample consisted of (3) companies during the period between (2009-2020) the Palestinian Electricity Company (Gaza), the Hebron Electricity Company, and the Jerusalem Electricity Company.

7. EMPIRICAL RESULTS AND DISCUSSION

The main aim of the study is to assess the impact of the cost structure (fixed and variable costs) on financial performance under the application of system cloud computing, the was used in Palestinian Electricity Companies. The study also tried to test the relationship that exists between the cost structure (fixed and variable costs) on financial performance under the application of system cloud computing. This indicates that there is a relationship between cost structure and inventory, current liabilities, and net income. This study also found a positive relationship between fixed cost and inventory and net income, and an inverse relationship between variable costs, inventory, and net income, an inverse relationship between fixed cost and liabilities. Accordingly, the results of this research paper confirmed the theory of literature regarding the relationship between cost structure (fixed and variable costs) on financial performance under the application of system cloud computing. Although this study provides cost structure and performance financial and application of system cloud computing Palestinian Electricity Companies, there is still an area to extend the findings to gain a more comprehensive understanding of the nature of Cloud computing services and their impact separately on companies in Palestinian. The study was able to find ways to measure cloud computing systems through financial performance indicators and cost structure, given the impact of cloud computing systems during the application period on financial performance indicators and cost structure. Indicating that many studies were unable to reach the measurement methods used in this study, and it is considered a new scientific addition to scientific research and the modern academic aspect, This is what the researcher found by discussing previous studies and summarizing them in Table No 1.

8. RECOMMENDATIONS

In light of the results of the study, the researcher made the following recommendations:
1. The researcher recommends Palestinian companies work on applying cloud computing systems because of their impact on net income and cost reduction.
2. The necessity of applying cloud computing systems, for their capabilities to improve the financial performance of companies in Palestine.
3. Through the study, the researcher sought to convey the importance of applying cloud computing systems to assist the administration in making its decisions promptly.
   4. The researcher also recommends conducting studies that can measure the impact of each type of cloud computing system on companies using financial performance.

9. References

[1] H. M. H. Mujahed, E. M. Ahmed, and S. A. Samikon, "Factors influencing Palestinian small and medium enterprises intention to adopt mobile banking," *J. Sci. Technol. Policy Manag.*, vol. 13, no. 3, pp. 561–584, 2022.

[2] E. M. Alhelou, A.-R. M. Rashwan, and S. S. Abu-Naser, "The role of using cloud computing in improving the quality of accounting education in Palestinian universities in light of the Covid-19 Pandemic," *J. Econ. Finance Account. Stud.*, vol. 3, no. 1, pp. 11–32, 2021.

[3] J.-L. Hu, Y.-C. Chen, and Y.-P. Yang, "The development and issues of energy-ICT: a review of the literature with economic and managerial viewpoints," *Energies*, vol. 15, no. 2, p. 594, 2022.

[4] L. Abualigah, A. Diabat, and M. A. Elaziz, "Intelligent workflow scheduling for Big Data applications in IoT cloud computing environments," *Clust. Comput.*, vol. 24, no. 4, pp. 2957–2976, 2021.

[5] R. Assaf, "Adoption of Cloud Computing in Palestinian Ministry of Telecommunication and Information Technology: A Framework Development," *-Manag. J. Cloud Comput.*, vol. 6, no. 1, p. 19, 2019.

[6] A. AlMabhouh and N. S. Alzaza, "Barriers for the adoption of cloud computing in the Palestinian industries," *Eur. J. Comput. Sci. Inf. Technol.*, vol. 3, no. 4, pp. 43–57, 2015.

[7] O. Demigha and R. Larguet, "Hardware-based solutions for trusted cloud computing," *Comput. Secur.*, vol. 103, pp. 1–18, 2021.

[8] A. Heidari and N. J. Navimipour, "Service discovery mechanisms in cloud computing: a comprehensive and systematic literature review," *Kybernetes*, vol. 51, no. 1, pp. 952–981, 2022.

[9] G. Rjoub, J. Bentahar, O. Abdel Wahab, and A. Saleh Bataineh, "Deep and reinforcement learning for automated task scheduling in large-scale cloud computing systems," *Concurr. Comput. Pract. Exp.*, vol. 33, no. 23, p. e5919, 2021.

[10] K. Katsela and H. Pålsson, "Viable business models for city logistics: Exploring the cost structure and the economy of scale in a Swedish initiative," *Res. Transp. Econ.*, vol. 90, pp. 1–12, 2021.

[11] N. K. MISHRA *et al.*, "Cost Behaviors and Cost Structure of Public Hospitals in India: Analysis from the Perspective of Congestion Costs," *J. Asian Finance Econ. Bus.*, vol. 9, no. 4, pp. 315–324, 2022.

[12] S. M. Datar and M. V. Rajan, *Horngren's cost accounting: a managerial emphasis*, 16th ed. Pearson, 2018.

[13] P. Jindal and P. Newberry, "To bargain or not to bargain: The role of fixed costs in price negotiations," *J. Mark. Res.*, vol. 55, no. 6, pp. 832–851, 2018.

[14] E. Dia and D. VanHoose, "Fixed costs and capital regulation: Impacts on the structure of banking markets and aggregate loan quality," *J. Financ. Stab.*, vol. 36, pp. 53–65, 2018.

[15] N. N. Grigoriou and A. Fink, "Cloud computing: Key to enabling smart production and industry 4.0," in *The Future of Smart Production for SMEs*, Springer, 2023, pp. 315–322.

[16] A. Sunyaev, "Cloud computing," in *Internet computing*, Springer, 2020, pp. 195–236.

[17] Z. R. Alashhab, M. Anbar, M. M. Singh, Y.-B. Leau, Z. A. Al-Sai, and S. A. Alhayja'a, "Impact of coronavirus pandemic crisis on technologies and cloud computing applications," *J. Electron. Sci. Technol.*, vol. 19, no. 1, p. 100059, 2021.

[18] M. Herman *et al.*, "Nist cloud computing forensic science challenges," *Gaithersburg Md. Natl. Inst. Stand. Technol.*, pp. 1–87, 2020.

[19] S. Vinoth, H. L. Vemula, B. Haralayya, P. Mamgain, M. F. Hasan, and M. Naved, "Application of cloud computing in banking and e-commerce and related security threats," *Mater. Today Proc.*, vol. 51, pp. 2172–2175, 2022.

[20] V. Kaushik, P. Bhardwaj, and K. Lohani, "Game of Definitions—Do the NIST Definitions of Cloud Service Models Need an Update? A Remark," in *Futuristic Trends in Networks and Computing Technologies*, Springer, 2022, pp. 653–666.

[21] D. Jiang, "The construction of smart city information system based on the Internet of Things and cloud computing," *Comput. Commun.*, vol. 150, pp. 158–166, 2020.

[22] L. X. Yuan, C. W. Shuong, K. Y. Wei, A. C. Y. Qian, and I. A. Shah, "Business Environment in the Context of Cloud Computing: A Review," *Int. J. Emerg. Multidiscip. Comput. Sci. Artif. Intell.*, vol. 1, no. 2, pp. 119–133, 2022.

[23] G. M. Abdulsahib and O. I. Khalaf, "Comparison and evaluation of cloud processing models in cloud-based networks," *Int. J. Simulation–Systems Sci. Technol.*, vol. 19, no. 5, p. 64, 2018.

[24] P. Srivastava and R. Khan, "A review paper on cloud computing," *Int. J. Adv. Res. Comput. Sci. Softw. Eng.*, vol. 8, no. 6, pp. 17–20, 2018.

[25] A. A. Abbasi, A. Abbasi, S. Shamshirband, A. T. Chronopoulos, V. Persico, and A. Pescapè, "Software-defined cloud computing: A systematic review on latest trends and developments," *IEEE Access*, vol. 7, pp. 93294–93314, 2019.

[26] A. El Mhouti, M. Erradi, and A. Nasseh, "Using cloud computing services in e-learning process: Benefits and challenges," *Educ. Inf. Technol.*, vol. 23, no. 2, pp. 893–909, 2018.

[27] M. Aazam, S. Zeadally, and K. A. Harras, "Fog computing architecture, evaluation, and future research directions," *IEEE Commun. Mag.*, vol. 56, no. 5, pp. 46–52, 2018.

[28] S. A. A. Sherikar and N. Satishkumar, "A Study Of Virtualization Technology In Cloud Computing," *Think India J.*, vol. 22, no. 2, pp. 721–739, 2019.

[29] S. Achar, "Cloud Computing Security for Multi-Cloud Service Providers: Controls and Techniques in our Modern Threat Landscape," *Int. J. Comput. Syst. Eng.*, vol. 16, no. 9, pp. 379–384, 2022.

[30] H. Tabrizchi and M. Kuchaki Rafsanjani, "A survey on security challenges in cloud computing: issues, threats, and solutions," *J. Supercomput.*, vol. 76, no. 12, pp. 9493–9532, 2020.

[31] S. Sinha and R. West, "Towards an Integrated Vehicle Management System in DriveOS," *ACM Trans. Embed. Comput. Syst. TECS*, vol. 20, no. 5s, pp. 1–24, 2021.

[32] T. Korikawa and E. Oki, "Memory Network Architecture for Packet Processing in Functions Virtualization," *IEEE Trans. Netw. Serv. Manag.*, vol. 19, no. 3, pp. 3304–3322, 2022.

[33] A. LUBIS, R. DALIMUNTHE, Y. ABSAH, and B. K. FAWZEEA, "The effect of corporate communication and service quality on customer loyalty and satisfaction in sharia banking," *J. Asian Finance Econ. Bus.*, vol. 8, no. 3, pp. 1267–1274, 2021.

[34] M. O. Mete and T. Yomralioglu, "Implementation of serverless cloud GIS platform for land valuation," *Int. J. Digit. Earth*, vol. 14, no. 7, pp. 836–850, 2021.

[35] A. T. Atieh, "The next generation cloud technologies: A review on a distributed cloud, fog and edge computing and their opportunities and challenges," *Res. Rev. Sci. Technol.*, vol. 1, no. 1, pp. 1–15, 2021.

[36] J. Xu and B. Wang, "Intellectual capital, financial performance and companies' sustainable growth: Evidence from the Korean manufacturing industry," *Sustainability*, vol. 10, no. 12, p. 4651, 2018.

[37] T. C.-T. Hou, "The relationship between corporate social responsibility and sustainable financial performance: Firm-level evidence from Taiwan," *Corp. Soc. Responsib. Environ. Manag.*, vol. 26, no. 1, pp. 19–28, 2019.

[38] W. Muchaendepi, C. Mbohwa, T. Hamandishe, and J. Kanyepe, "Inventory management and performance of SMEs in the manufacturing sector of Harare," *Procedia Manuf.*, vol. 33, pp. 454–461, 2019.

[39] D. Obrzeżgiewicz, "Impact of split payment on financial liquidity of enterprises," *Pr. Nauk. Uniw. Ekon. We Wroclawiu*, vol. 63, no. 12, pp. 88–99, 2019.

[40] J. Hongli, E. S. Ajorsu, and E. K. Bakpa, "The Effect of Liquidity and Financial Leverage on Firm Performance: Evidence from Listed Manufacturing Firms on The Ghana Stock Exchange," *Res. J. Finance Account.*, vol. 10, no. 8, pp. 91–100, 2019.

[41] W. Shi, "Analyzing enterprise asset structure and profitability using cloud computing and strategic management accounting," *PloS One*, vol. 16, no. 9, pp. 1–21, 2021.

[42] B. Bassiouni, "The impact of cloud computing as one of the digital transformation technologies on the cost structure," *PloS One*, vol. 22, no. 2, 2021.

[43] O. Kharabsheh, "The impact of accounting information systems on cost reduction under cloud computing," *PloS One*, vol. 22, pp1-91. 2, 2018.

[44] Ashour, "The extent of applying the rational thinking method and its impact on the financial performance of the companies listed on the Palestine Exchange," *PloS One*, vol. 22, pp1-91. 2, 2018.

[45] H, Markendahl, "Comparison of LPWAN Technologies: Cost Structure and Scalability" " PloS One, vol. 22, pp121. 2,2021

أثر هيكل التكلفة على الأداء المالي في ظل تطبيق أنظمة الحوسبة السحابية على شركات الكهرباء الفلسطينية

علاء الدين زياد البجعة

قسم المحاسبة، الكلية العصرية الجامعية، رام الله، فلسطين

الملخص: يهدف هذا البحث إلى اختبار أثر هيكل التكلفة على الأداء المالي في ظل تطبيق أنظمة الحوسبة السحابية على شركات الكهرباء الفلسطينية خلال الفترة 2009 - 2020. وقد تم تقدير النموذج باستخدام نموذج الانحدار الخطي المتعدد، ولتطبيق الاختبار على البحث، فقد تم تحديد متغيرات الدراسة المستقلة المتمثلة في هيكل التكلفة (التكاليف الثابتة خلال فترة التطبيق ، والتكاليف المتغيرة خلال فترة التطبيق) والمتغيرات التابعة المتمثلة في الأداء المالي (المخزون والمطلوبات وصافي الدخل). إن المعنى الضمني لهذه الدراسة هو أن العلاقة بين هيكل التكاليف (التكاليف الثابتة والتكاليف المتغيرة خلال فترة التطبيق) والمتغيرات التابعة حسب الأداء المالي توجد علاقة ذات دلالة احصائية بين المتغيرات المستقلة والمتغيرات التابعة في ظل تطبيق أنظمة الحوسبة السحابية كمتغير معدل. سيساعد هذا البحث الإدارة التي من خلال تطبيق أنظمة الحوسبة السحابية على تقليل تكاليف الشركات وعلى تحسين أدائها المالي بشكل فعال. وبناءً على ذلك ، يؤكد هذا البحث وجود علاقة بين هيكل التكلفة (التكاليف الثابتة والمتغيرة) على الأداء المالي في ظل تطبيق نظام الحوسبة السحابية، ويعتبر التوصل إلى طرق قياس أثر هذه النظمة إضافة علمية جديدة على البحث العلمي من خلال قياسها باستخدام الأداء المالي للحكم على هذا الأثر.

الكلمات الافتتاحية: الحوسبة السحابية، هيكل التكلفة، الأداء المالي.