

The Impact of Human Resources on The Application of Cloud Accounting

By

Faten Hatem

Al Rafidain University College, Iraq

Email: Faten.hatem@ruc.edu.iq

Firas Albdamer

Al Rafidain University College, Iraq

Email: Firas@ruc.edu.iq

Sabeeha Saleh

Al Rafidain University College, Iraq

Email: Sabeeha.saleh@ruc.edu.iq

Alaa Jassim

Al Rafidain University College, Iraq

Email: Sabeeha.saleh@ruc.edu.iq

Abstract

The research aims mainly to demonstrate the role of human resources in the application of cloud accounting services, and in order to achieve this goal, the descriptive analytical approach was used through the use of a questionnaire to analyze the opinion of the research sample. The results of the research showed that human resources are a major factor in the application of cloud accounting programs and services, if they contribute positively to the development of the practical experience of accountants and employees in the organization that uses cloud accounting programs. In light of the above, the research recommended emphasizing the importance of cloud accounting and benefiting from the experiences of countries that have previously applied it, and training, developing and preparing qualified cadres to use cloud accounting programs.

Keywords: Human resources, cloud accounting, Benefits of Cloud Accounting, Cloud Accounting Application Requirements, Software as a Service, Platform as a Service, Infrastructure as a Service, Fresh Books Program, NetSuite ERP program, Sage 50 cloud program.

1. Introduction

The rapid development in the information technology environment, many organizations have tended to take advantage of cloud accounting services or applications, as these applications help the organization to gain a competitive advantage or maintain a competitive position in the market and become more efficient and productive. The term cloud accounting indicates that it is an accounting information system through which data and financial information can be accessed from anywhere, at any time, and at a lower cost, by connecting to the Internet without the need to install accounting software on computers or servers in the organization, so there is a need to learn about the role and importance of human resources that contribute to the application of cloud accounting services effectively and efficiently.

The First Topic: Research Methodology

First: The Research Problem

Cloud accounting programs are one of the most important factors that help business organizations keep pace with scientific and technological developments and use them in organizing accounting work and preparing accounts through an accounting program hosted by another service provider based on the Internet, and the application of cloud accounting services differs from one country to another and from one economic environment to another as well, and in light of this, the research problem can be formulated with the following question: Does human resources affect the application of cloud accounting services in the organization?

Second: The Importance of Research

The research acquires its importance in recognizing the importance of human resources in the application of cloud accounting services, as it is one of the most important modern technologies that have led to improving the quality of services in the performance of business organizations, in addition to its role in providing distinguished programs and applications, large storage spaces, monitoring, saving and transferring financial data in a secure manner and at a lower cost.

Third: The Research Objectives

The research seeks to achieve the following objectives:

1. Learn about the concept and benefits of cloud accounting services.
2. Identify the requirements that must be met to implement cloud accounting software.
3. Statement of the impact and importance of the human resources working in the organization and their role in the application of cloud accounting services.

Fourth: The Research Hypothesis

The research is based on the following main hypothesis: Human resources affect the application of cloud accounting services in business organizations.

Fifth: Sources of Data Collection

In order to obtain the necessary data to support the objectives of the research and test its hypothesis, in the theoretical aspect, it was relied on scientific sources from books, periodicals, and the Internet, while in the practical aspect, it was relied on the questionnaire form, and the research sample included a group of academics in the departments of Al-Rafidain University College.

Sixth: Research Community and Sample

The research community consists of academics working at Al-Rafidain University College. The research sample consisted of academics in the following departments: Accounting, Business Administration, Computer Technology Engineering, Computer Communication Engineering, Computer Science, and Digital Media.

The Second Topic: Previous Studies

A study (Quinn & Cleary, 2016) entitled: Performance: An Intellectual capital and business exploratory study of the impact of cloud-based accounting and finance infrastructure. Intellectual capital and business performance: an exploratory study of the impact of cloud accounting and financial infrastructure.

Seventh: The Search Form

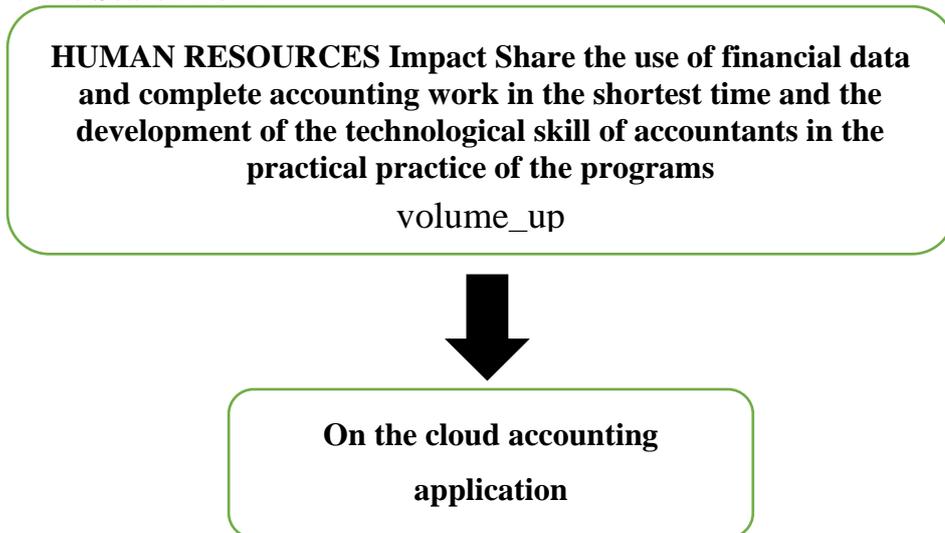


Figure 1. Search form

The study aimed to show how to use the cloud financial accounting infrastructure and its impact on business performance in small and medium-sized companies in the United Kingdom, and based on survey data collected through a questionnaire to find out perceptions about the impact of cloud accounting infrastructure on business performance in small and medium companies. And among the most important results that have been reached, the cloud accounting infrastructure has positive results and a statistically significant impact on human capital and capital structure.

A study (Rao, et al ,2017) entitled Impact of Cloud Accounting: Accounting professional perspective. The impact of cloud accounting: the viewpoint of accountants.

The study aimed to obtain an overview of cloud accounting and conduct a comparative study of the services provided by five companies that apply cloud accounting around the world to understand the impact of cloud accounting from the point of view of accountants through the distribution of (33) questionnaires. Cloud accounting will have a significant impact on the growth of business organizations, as it provides a range of benefits related to ease of use, security, cost reduction and efficiency in accessing data, which facilitates the decision-making process.

2. The Third Topic: The Theoretical Framework of The Research

2.1 First: Human Resources

Human resources are the most valuable and valuable organizational resources and the most important in the organization, as it can be said that without the presence of competent employees, achieving the goals of the organization is impossible, as human resources have a key role in the growth of the organization, and it has been proven that organizations that have made great achievements are As a result of her interest in the human element in her work.(Jasim, 2021).

so, the survival and growth of any organization depends to a large extent on the capabilities, awareness and skills of its human resources, especially the managers in that organization, As business organizations look to their human resources for being a unique asset that can achieve a sustainable competitive advantage, changes in the business environment and

the spread of globalization and technological changes, and an increased focus on profitability, intellectual capital and the continuous changes witnessed by business organizations have led to the increasing importance of human resources.

It has become necessary today to view workers as a core ability that gives a competitive advantage to business organizations, especially if they have distinct capabilities and skills in decision-making processes and creativity in a way that cannot be imitated by competitors. (Mathis and Jackson ,2014).

2.2 Second: Cloud Accounting

The National Institute of Standards and Technology (NIST) defines cloud accounting as a model for providing convenient, permanent, and at any time access to the network to share a wide range of computing resources (networks, servers, applications, data storage media, services) that can be provided Quickly and with minimal effort while providing service, and cloud accounting has been defined as accounting processing applications hosted on remote servers that process and return the financial data sent by the user, and the application's functions are implemented outside the site and not on the user's desktop. (Gangwar and Date , 2016). It was also known as providing software applications as services over the Internet, as it allows users to store financial data and use applications through different devices located in several locations, and cloud accounting uses accounting programs that are hosted on third-party servers on the Internet, which makes it easier for companies to prepare their accounts through specialized accounting companies, which leads to reducing the costs of preparing financial statements in addition to more compliance with the laws and regulations in force in the world, and it generally uses external server devices to conduct and store all the accounting operations carried out by the company so that the accounting software is transformed from products to services carried out by other companies.

Cloud accounting can be defined as online applications or services that contain a large storage space that enables the user to store financial data on external servers (cloud storage) and these servers are managed by a third party (service provider), which facilitates the process of accessing and sharing this data by several accountants or users working in the same organization quickly and with minimal effort through computers or smart phones connected to the Internet, (Dimitriu and Matei ,2014).

2.3 Third: Benefits of Cloud Accounting

The application of cloud accounting offers a lot of benefits, especially in organizations around the world in recent years, and developed countries began to switch to cloud accounting can which be summarized as follows: (Avram ,2014)

Software as a subscription: the user is paid as much as is used, as the user no longer needs to purchase software and download it on his device, but will be able to use it through a web browser or any communication mechanism as long as the software is on servers equipped with the service.

Cost Reduction: User will feel lower material cost through:

1. The cost of the tools and devices used will be low, as the connection to the cloud only requires a computer with simple specifications with the ability to connect to the Internet.
2. The cost of subscribing to the software that the user needs will be more than the cost of purchasing complete software that only part of it is used. There is no need to purchase

software packages for all the computers in the organization, except for employees who use applications to access this application in the cloud.

3. Reducing the cost of maintenance, because most of the maintenance work will be concentrated in the service provider.

4. Organizations can reduce capital and operational expenditures by paying only for the services that are being used, possibly by reducing or redeploying IT staff, benefiting from the expertise of specialized staff, and no need to find, hire, train and pay new staff.

Saving time: One of the most important benefits of the cloud accounting application is to save time and quality by automatically entering account statement transactions in a timely and correct manner, in addition to the availability of current financial information with update, Which helps to respond to changes quickly, as it provides a clear image of the cash flows, bank balances and the current financial position of the organization in a timely manner through the flexibility in providing the information that management needs, whether at work, home or on the go, in addition to the multi-user access that makes it easy for business owners to collaborate with their accountants instead of sending data files every time, it also helps accountants create timely financial reports and focus on data analysis and ensuring insights into the financial aspects.

Data Security: The private data of the organization is stored on the Internet, so there is no need to worry if a personal computer is stolen, or in the event of a fire, the private data remains safe and under control and no one can access it unless he has an account login On the Internet, and can access data if there is an invitation to users, in addition to automatic data backup and protection from virus that attacks the computers of the organization.

Automatic software update: The update and upgrade processes are done automatically at the edge of the cloud, and even the copy numbers will be invisible to users, as all the changes they will see are the good functions that have been added as a result of the update, so the user will be able to get the latest technologies and features quickly without the need To wait for the time to do updates from one version to another, thus, the user no longer needs to do updates for the programs he deals with, in addition to reducing the training costs that accompany new versions of software to work alongside stronger commercial solutions.

Increased credibility: Cloud accounting is characterized by high reliability and credibility because most of the systems that operate within the cloud are original and under direct control of the service provider, in addition to the presence of alternative servers for backup operations.

Scalability: With the huge increase in the user's digital activities and the amount of information, the storage space of the personal computer may run out. In this case, a new storage disk must be purchased, but when using the cloud, all the user has to do is contact the service provider to increase the storage space allocated to him. The same applies to software services. If he wants to work on a new program, all he has to do is contact the service provider.

Ease of access: One of the most important advantages of cloud accounting is the ability to access files and programs from anywhere and any computer connected to the Internet, which leads to the transition to the concept of the mobile employee and abandoning the idea of having an employee in every office.

Environmentally friendly: One of the most important benefits is to increase the life of its servers, by continuing to use them even if they become old as long as they follow periodic

maintenance operations, which leads to a reduction in the percentage of throwing old electronic parts, thus reducing the percentage of environmental pollution and carbon emissions that result from destroying them. , as well as the energy needed to manufacture new servers, as well as reducing the number of devices, storage media, and saving energy consumed.

Harmony with the current computer trends: The use of netbooks (which are small, light and cheap portable computers) has recently spread, and users seem to prefer the limited processing provided by these computers because they meet their needs at an affordable price, and that is instead of using desktop and laptop computers with large capacities and more expensive prices, and here comes the benefit of cloud computing to match these trends, because the processing power will be concentrated at the end of the cloud and not the user.

2.4 Fourth: Requirements of Cloud Accounting (Requirements of Cloud Accounting)

To be able to use cloud accounting services, the following requirements must be met:

- A portable personal computer with medium or below average capabilities, connected to a high-speed Internet network.
- An operating system that allows access to the Internet.
- An Internet browser that allows the use of cloud services.
- Cloud service provider. (Laudon and Laudon ,2017).

It can be said that cloud accounting is a practical solution that contributed to making information services available to beneficiaries after the availability of infrastructure for Internet networks through computers and smart phone devices, as most business organizations seek to reduce their costs, so their transition from using traditional accounting to cloud accounting led to a reduction The cost of consuming its resources and the high efficiency of accounting information technology, as cloud accounting applications provide the ability to transfer, process, send and receive files and financial information quickly to accountants and authorized users, in addition to that, it contributes to reducing costs and providing a large storage space and other advantages, and despite these multiple advantages, there are several obstacles facing their application as it requires the availability of qualified and trained cadres to implement them, providing a permanent and fast connection to the Internet, ensuring the quality of service and not penetrating Servers of service providers and the possibility of theft or loss of financial information.

Fifth: Cloud accounting services: The American National Institute of Standards and Technology (NIST) identified three services: (Sobhan ,2019).

Software as a Service (SaaS): The service provider hosts, manages and updates the applications, and the user connects to and uses the cloud without having the ability to control the basic programming of these applications or the operating system in the cloud infrastructure, such as the word program on the cloud where the user can write texts, insert images and edit content, such as E-mail systems, customer relationship management applications, shared software and work management systems, which are software that is deployed via the cloud, such as the Google service that provides the service (Google Mail & Google Docs), the Apple company that provides the service (I Work.com), and Apple Inc. Microsoft provides MS Online Services.

Platform as a Service (PaaS): In this service, the user is able to control the application itself and has the ability to put several applications on the cloud and can work on all of them and there is an integration between the applications, meaning that the cloud platform is for the

user as an operating system, software environment, database, web server that the user can deal without cost associated with purchasing hardware or software, but has no ability to control operating systems or network infrastructure such as Google Inc., Google App Engine, Salesforce, Force.com, Microsoft, Azure.

Infrastructure as a Service (IaaS): Where it enables the organization to manage the infrastructure technology environment and programs via the Internet in an easy and secure way without the need to have expensive data centers, in addition to exempting this organization from the trouble of maintaining and monitoring infrastructure components such as servers, storage units and the network, such as Amazon web service, if Internet sites are hosted and services are provided to them as requested by the beneficiary, whether for storage or interactive services, preparing backup copies and securing transactions on the site, especially financial transactions. Among the most important cloud accounting programs that are used in organizations are:

Fresh Books Program: The program contains a flexible payment management system, capable of settling accounts with more than one payment method such as Visa, MasterCard, American Express cards, as well as the ability to quickly create profit and loss reports, and the ability to accurately calculate the salaries of the company's employees, by entering The number of actual working hours, in addition to the feature of tracking invoices sent to customers and knowing when the customer viewed the invoice.

NetSuite ERP program: Helps financial management improve the efficiency of the accounting process, get rid of manual reports, and the ability to take proactive decisions, which leads to improving the productivity of the organization, the possibility of reducing the time of preparing and auditing reports, the ability to monitor inventory and store management, and store financial data in one database, which makes it easier for the financial department to access the organization's performance measures and determine each employee's use of the program according to his job duties.

Sage 50 cloud program: The program performs an integrated management process for the expenses and revenues of the organization, tracks purchases, records the bills to be paid, records sales and receipts payable, transfers amounts due, records collected amounts, and reconciles bank accounts, as well as saves data in the cloud storage system, and provides a copy backup of data that can be retrieved in the event of loss of the copy stored on computers, as well as the ability to automatically calculate taxes due, issue invoices and prepare accounting reports electronically.

Accountedge pro program: enables financial management staff to manage bank accounts, track income and expenses, create sales invoices and write checks, prepare organization bank deposits, reconcile bank accounts, track financial information related to organization employees, customers, vendors, and suppliers, and prepare financial statements such as Lists of income and expenses. In addition to other programs such as Xero, QuickBooks Online, Sage Accounting, Exact, and Twinfield.

2.5 Fourth Topic: The Practical Side

In order to achieve the objectives of the research and to test the hypothesis, the questionnaire was relied on to obtain the data. An electronic questionnaire was designed, where (18) questionnaires were filled out, in addition to the distribution of (38) paper questionnaires, for a total of (50) questionnaires, and some methods were relied on. Statistics (Cronbach's alpha

test, mean, standard deviation, percentages), the questionnaire consisted of (10) questions, and the answers were designed according to the triple Likert scale.

First: The Stability of The Search Tool

In order to test the validity and reliability of the research tool, Cronbach's Alpha test was used, as the alpha value of the answers of the search sample for the resolution questions was (72.9%), and this percentage is considered good because it is greater than the acceptable limit of the reliability coefficient, as the statistically acceptable value of the coefficient is Alpha (60%) and above in order for the scale to be stable.

Second: Analysis of The Research Sample

Table 1 shows the general information related to the respondents, according to what was obtained through their answers, using frequencies and percentages, as follows:

Table 1. General Information for The Respondents

Part one: general information	The scientific title	Repetition	percentage%
Qualification	Ph.D.	23	46
	Master	27	54
	Total	50	100%
The scientific title	Professor	2	4
	Assistant Professor	9	18
	Assistant Professor Dr.	1	2
	Doctor instructor	3	6
	Instructor	13	26
	Assistant teacher	22	44
	Total	50	100%
	Scientific Department	Accounting	14
Business Administration		10	20
computer technology		8	16
engineering			
computer communication		10	20
engineering			
Computer Science		2	4
digital media		6	12
Total		50	100%
Years of Experience		Less than 5 years	8
	5-10 years	7	14
	10-15 years	12	24
	15 years and more	23	46
	Total	50	100%

Third - Analyzing the Results of the Questionnaire

Analyzing the sample answers about the impact of human resources and performance development in the application of cloud accounting. Table No. (2) shows the measurement of the trends of the research sample, as the arithmetic averages ranged between (2.80-2.42%) and standard deviations (0.92%-0.80%). These averages indicate the approval of the research sample on all questions that measure the impact of human resources and performance development In the application of cloud accounting to a high degree, and the table indicates that question (5), which states “the link of departments and sections to an internal network

facilitates the process of using financial data by several accountants or several people from different places at the same time” came first, while Question (2), which states that “cloud accounting services contribute to determining the efficiency of accountants and their contribution to the completion of the work assigned to them.” This ranked last, and this can be explained by the fact that the administration and departments of the organization are linked to an internal network that enables accountants to use cloud accounting programs and access and use data Finance in the least time and effort through any device connected to the Internet (computer or smart phones), and therefore the practical practice of these programs enables him to develop his skills in using available cloud programs, which makes it easier for accountants to complete the work assigned to them.

Table 2. *The Arithmetic Mean and Standard Deviation of The Answers of The Sample Members about The Impact of Human Resources on The Application of Cloud Accounting*

	Questions	average calculation%	standard deviation%	relative weight%	level of importance
1	Training courses and developing technological skills contribute to the effectiveness of dealing with cloud accounting applications	2.72	0.497	0.90	4
2	Cloud accounting services contribute to determining the efficiency of accountants and their contribution to the completion of the work assigned to them.	2.42	0.609	0.80	9
3	The practical experience of accountants positively affects the use of cloud accounting services.	2.78	0.506	0.92	2
4	Senior management support is an important factor in implementing cloud accounting services.	2.78	0.418	0.92	2
5	The link of departments and sections to an internal network facilitates the process of using financial data by several accountants or several people from different places at the same time.	2.80	0.451	0.93	1
6	The experience of IT staff and accountants can be used to reduce the cost of training programming and operating staff.	2.66	0.519	0.88	5
7	Cloud accounting enables the accountant to collect financial information and obtain reports at any time and there is no need for field visits	2.52	0.735	0.84	7
8	The cloud accounting application reduces errors in reports, financial statements, posting and balance errors, and adjusts reports to suit the needs of the beneficiaries.	2.48	0.646	0.82	8
9	Cloud accounting software reduces the risk of data loss or corruption by backing up financial data	2.62	0.602	0.87	6
10	One of the most important obstacles to the application of cloud accounting is the poor availability of the Internet as a link between the user and the programs used to store financial data	2.74	0.443	0.91	3
	Total	2.65%	0.542%	0.879%	

3. Discuss the Results

The previous results indicate the approval of the research sample on the impact of human resources in the application of cloud accounting, as the relative weight reached (0.879%), as organizations seek to keep pace with modern technology developments in the business environment through the application of modern methods in processing and preserving financial data (especially with the increase Large volume of stored data) through the application of cloud accounting software, and most individuals have become using cloud programs such as sending e-mail messages, browsing the web, etc., whether at work or studying, and they have become necessary for the completion of daily work in organizations, which contributed to improving the level of human resources performance, which is the main element for the application of cloud accounting through practice. Actual of these applications. It also contributed to increasing efficiency and effectiveness by reducing the financial burdens on the organization as well as reducing the routine job burdens for managers and the use of time in drawing up the organization's general policies and planning, while maintaining the confidentiality and security of financial data by keeping this data on the cloud and allowing authorized accountants to access and use it, with considering the obstacles or problems facing the application of cloud accounting, including the weak availability of the Internet and the protection of intellectual property rights for financial data, and it is clear from these results that the main hypothesis of the research is accepted "the impact of human resources on the application of cloud accounting services in business organizations."

4. Conclusions

The results of data analysis showed that human resources and performance development are a major factor in the application of cloud accounting programs and services, if they contribute positively to the development and development of the practical experience of accountants and employees in the organization that uses cloud accounting programs, in addition to securing financial data and access to the same database Data when needed and remotely worked on by authorized personnel through their passcode, rather than relying on the traditional (manual) file transfer process when new information is needed.

Cloud accounting programs contribute to preparing accounts with the latest technological applications and dispensing with permanent updates to programs, as the emergence of cloud programs is the ideal practical solution for transferring, processing and preserving financial data (after the availability of infrastructure for Internet networks in various countries of the world), especially after the emergence of smart phones that carry Internet connection characteristics and the ability to save various information and files on the cloud.

Cloud accounting programs provide economic benefits by reducing the cost and number of computers used while continuing to provide electronic services through any computer connected to the Internet. It also contributes to reducing maintenance costs and purchasing new computers, in addition to reducing the cost of managing and preserving a huge amount of data by providing Unlimited storage space, also reduces the risk of data loss through data backup.

One of the most important obstacles facing the application of cloud accounting is the lack of adequate security and protection means to prevent the penetration of computers, in addition to the poor availability of the Internet, as the Internet connection is the link between the user and cloud accounting programs.

The possibility of benefiting from cloud services, programs and data at anytime and anywhere by accountants or authorized users from accessing and using financial data using computers or smart phones connected to the Internet.

5. Recommendations

1. Emphasizing the importance of cloud accounting and benefiting from the experiences of countries that have previously applied it to know the problems that faced its application to be avoided in the future.
2. Attempting to apply cloud accounting on a trial basis and by making use of the available resources while keeping a copy of the data within the organization until the end of the trial period and showing the success of its application.
3. Providing training and development programs and workshops to prepare qualified cadres of accountants and employees of information technology departments to use cloud accounting programs.
4. Emphasizing the importance of setting security policies and penalties to limit server penetration and developing software encryption tools to prevent unauthorized access to databases stored in the cloud to maintain the privacy and confidentiality of financial data.
5. Finding alternative and quick solutions to address the problem of weakness or interruption of the Internet when using cloud programs to ensure the continuity of work and the provision of cloud service.

References

- Avram, M.G. (2014) Advantages and challenges of adopting cloud computing from an enterprise perspective, *Procedia Technology*, 12, 531-532.
doi: <https://sciencedirect.com/science/article/pii/S221201731300710X>.
- Dimitriu, Otilia & Matei, Marian. (2014) A New Paradigm for Accounting through Cloud Computing, *Emerging Markets Queries in Finance and Business*, *Procedia Economics and Finance*, 15, 840-846. doi: <https://www.sciencedirect.com/science/article/pii/S2212567114005413>
- Gangwar, Hemlata & Date, Hema. (2016) Critical Factors of Cloud Computing Adoption in Organizations: An Empirical Study, *Global Business Review*, 17(4), 888. doi: <https://www.researchgate.net/publication/304341289>.
- Jasim, Raghad, H. (2021) The Quality of Human Resources in Islam and its Relation to Science and Learning and its Impact on the Profession of Costs Accounting, *Journal of AL-Rafidain University College for Sciences*, 50, ISSN (1681- 6870) 104. <http://jaucs.com/ar/wp-content/uploads/2022/01/A9>.
- Loudon, Kenneth C, & Loudon, Jane P. (2017). *Management information system. Managing the Digital form*. 14th edition. Pearson, 175-177. doi: <https://repository.dinus.ac.id/docs/ajar/kenneth> C. Loudon, Jane P. Loudon Management Information System 12th Edition.
- Mathis, R. L. & Jackson, J. H. (2014) *Human Resource Management*, 14th edition., South Western, Ohio, 30.

- Quinn, Martin. & Cleary, Peter. (2016) Intellectual capital and business performance: An exploratory study of the impact of cloud-based accounting and finance infrastructure. *Journal of Intellectual Capital*, 17(.2).doi: <https://www.emerald.com/insight/content/doi/10.1108/JIC-06-2015-0058>.
- Rao, M Thirimal, Jyotsna,T.G, Sivani,M.A (2017) Impact of Cloud Accounting: Accounting Professional's Perspective", *IOSR Journal of Business and Management (IOSR-JBM)* ,2278-487X, (2319-7668),53-59 .doi:<https://www.iosrjournals.org/iosr-jbm/papers/Conf.17037-2017/Vol-7/11.%2053>.
- Sobhan, Raihan (2019) The Concept of Cloud Accounting and its Adoption in Bangladesh, *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 3(4), 1263
- doi: <https://www.researchgate.net/publication/333984297> The Concept of Cloud Accounting and its Adoption in Bangladesh.