

Cloud Based Accounting Information Systems for Affiliated Companies

Idris

Industrial Engineering,
Kantor Jasa Akuntan Idris Asmuni
Sekolah Tinggi Teknologi Nusantara Lampung,
E-mail : pakidris@gmail.com

Abstract—For affiliated companies, there is a need to organize an online-based bookkeeping system in order to facilitate the coordination of incoming and outgoing transactions in integrated financial reports. The use of a cloud-based accounting information system will unify separate records to become more reliable and trustworthy in accordance with the regulations in the International Financial Report Standard (IFRS). This paper discusses the implementation of a cloud-based information system and accounting application features in reports produced based on IFRS-guided principles which have a good impact on companies between head office and branches in presenting financial reports on time in decision making. However, there are costs that must be a major concern for managers in implementing cloud accounting and must be included as economic expenditure to achieve company goals. Future threats in cloud implementation that users should consider before choosing cloud-based accounting are security issues of company confidential financial data

Keywords—cloud based , accounting information systems, Affiliated Companies

I. INTRODUCTION

Information technology is a factor that pushes the accounting system technically to become a modern system. The accounting system helps company management in carrying out management functions for decision making. The Corona pandemic incident 2 years ago (2021), has separated communication between companies so far apart that the cloud accounting information system (CAIS) has become a solution in an effort to protect data from manipulation. The tremendous development in internet usage globally has resulted in the emergence of cloud accounting systems. The study of cloud accounting is very important for external auditors because they will assess the risks that may arise when using CAIS, so that assessing the efficiency of internal control in the company becomes a requirement for auditors to improve their skills. [1].

Sustainable challenges globally will force all entities in the financial sector to do things that are competitive, dynamic and active. The financial information created by accounting information systems fulfills a variety of needs for example for business assessment, decision-making processes, and management. Cloud Accounting is a new pattern where the software is hosted on a remote server and has replaced

desktop-based accounting software, thereby reducing the cost of providing an accounting system. In cloud accounting, information can be transferred to the cloud, and then processed further for use by users in managing transactions so that accounting functions can be carried out anywhere as long as they have internet access. [1].

This paper discusses the role of cloud accounting in helping the work of affiliated companies, in this case the relationship between head office and branches in integrating data based on cloud accounting information systems. Continuous changes in cloud accounting affect a wide variety of businesses, making cloud accounting the right choice for any business that wants to keep up with its competitors.

II. LITERATURE OF REVIEW

A. Cloud Accounting Technology

Cloud Accounting is a combination of cloud computing and accounting by utilizing a web server to build a virtual accounting information system. Accounting cloud services consist of three models, namely Infrastructure as a Service (IAAS), Platform as a Service (PAAS) and Software as a Service (SAAS). Cloud technology has four types of cloud deployment models. Deployment models are differentiated based on implementation type, hosting type, and authorized access such as Public Cloud, Private Cloud, Hybrid Cloud, and Community Cloud [2]



Figure 1. Financial Concepts Based on cloud computing[3].

Cloud computing implements future financial features namely service availability, payment according to service, scalable features. It is based on service-oriented architecture and its models can be categorized as follows: [3]

- a) Public Cloud – is a type of cloud where third parties will provide services to clients via the internet (online). Each user will have their own access mechanism provided by a third party without having to provide their own server. [3]
- b) Private Cloud – private cloud has advantages over public cloud because it can be processed and managed by the organization itself. It provides better and controlled security infrastructure. [3]
- c) Community Cloud – Community cloud provides services to communities within organizations. Community members can access data in the community cloud. Communities are formed by groupings of people who have similar interests. [3]
- d) Hybrid Cloud – is a combination of private, public and community clouds. It has maximum functionality compared to all clouds and non-critical information is handled by the public cloud while critical information and processing is done on the organization-controlled private cloud. [3]

The cloud computing industry uses three different service models, namely:

- a) Infrastructure as a Service (IaaS): cloud service providers offer users a customized infrastructure on which they can run any operating system or application. Users have almost complete control over the infrastructure, making it the most adaptable of the three types of cloud computing services.

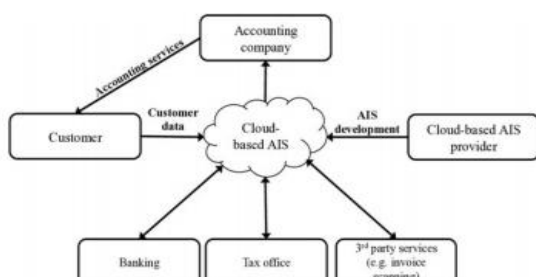


Figure 2. Outsourcing Relationship Structure in Cloud Accounting Data Systems [4].

- b) Platform as a Service (PaaS): The PaaS concept offers clients a virtualized platform for developing applications without having to provide their own hardware resources or system administration.

- c) Software as a Service (SaaS): Cloud providers deliver fully functional software programs via a web browser under SaaS. The provider manages the software and infrastructure. Email, CRM, and collaboration applications are SaaS [4].

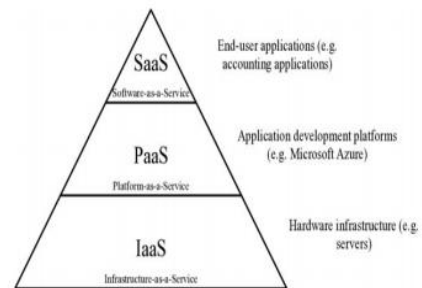


Figure 3. Cloud Service Models [4]

B. The Internet Economics Process

Internet-based economic processes in transactions begin when resources are used by the measurement function in its records. After that, the mediation function mediates by creating an accounting record for that accounting function by issuing a session record, sent to the pricing and charging function. The first generates a formula to determine how to price session recordings, which is used by the second function. The flow continues with the charging step, which generates a charge record for the billing function [5].

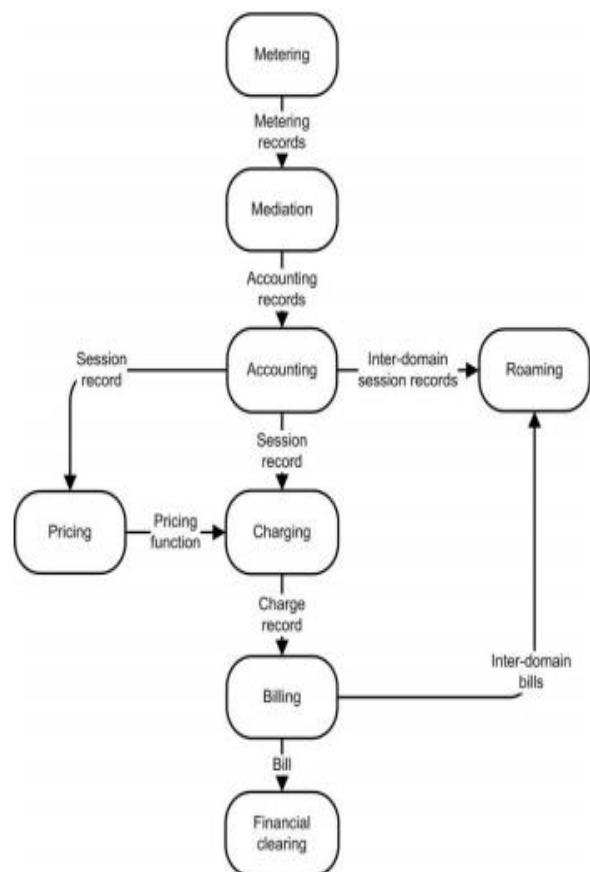


Figure 4. Vision of an Integrated Internet-Based Economic Process[5]

C. Branch Classification

Accounting for affiliated companies in this research are companies whose operational activities have separate branches from the head office, so that company data is interconnected and integrated. A branch is part of an organization that carries out business activities on behalf of its parent body, namely the Head Office (HO). Usually the Branch is located far from the Head Office but at the same time is controlled or managed as per the instructions of the HO. [3]. Branch Classification is explained below:

- (1) INDEPENDENT Branches maintain complete records of all Accounting transactions at the Branch location itself.
- (2) The Dependent Branch does not maintain complete records of all Accounting transactions at the Branch location. The HO keeps complete Accounts for the Branches to monitor the activities carried out at the Branch level. Branches only maintain important records like Stock List, Petty Cash Cash Book, Customer A/c for recovery purposes etc. And correspondence with HO. [6].

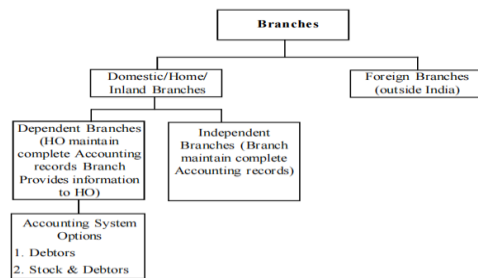


Figure 5. Scheme of Branch to Head Office Relations [6].

Investments by the head office in a branch that is a local company with limited liability will appear on the books of the parent company usually as (1) investment in share capital in the local branch company, (2) amounts owed by the branch for goods shipped and (3) money advance to pay for fixed assets or other purposes. If the foreign business is simply a branch of the home office, the share capital account is omitted. [7]

Integrated Inter-Branch Access Integrated business processes make business company financial reports visible in real time, making it very easy to make business decisions. Monitor inventory between company branches by easily monitoring inventory, both inter-warehouse inventory and inter-branch inventory, so you can find out the condition of inventory turnover. [9].

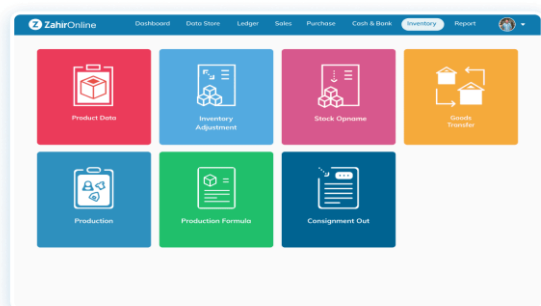


Figure 6. Integrated Features of Affiliate Company Inventory[9].

C. Accounting Software

Accounting software is a computer program designed to help users process transaction data needed for owners and investors, the government helps managers make better economic decisions. As time goes by and as the economy develops and complexity increases, the goals, methods and designs and models of accounting software are aimed at responding to financial needs. Developed by vendors separately, the company decides the distribution of financial capital required to report accounting ensures that this new technology. In recent years, rapid advances in computer and information technology have changed business practices and disseminated information regarding the world economy Accounting has changed and organizations are seeking to Take advantage of these developments, financial and economic information Provides a way to enable users to access information The possibility of effective exchange of information and Timeliness between suppliers and Stakeholders increases. Accounting research has determined the most successful companies that decision makers can use to use the best accounting software. [8]

D. IFRS Cost For Performing Cloud Accounting

The International Financial Reporting Standards (IFRS) do not provide explicit guidance regarding customer accounting in cloud computing arrangements or the costs of implementing them. Therefore, an entity needs to consider these arrangements in various IFRS standards, including IFRS 16 Leases, IAS 38 Intangible Assets, IAS 16 Property, Plant and Equipment, and IFRS 15 Revenue from Contracts with Customers. The following diagram summarizes cloud computing regulatory accounting: [10]

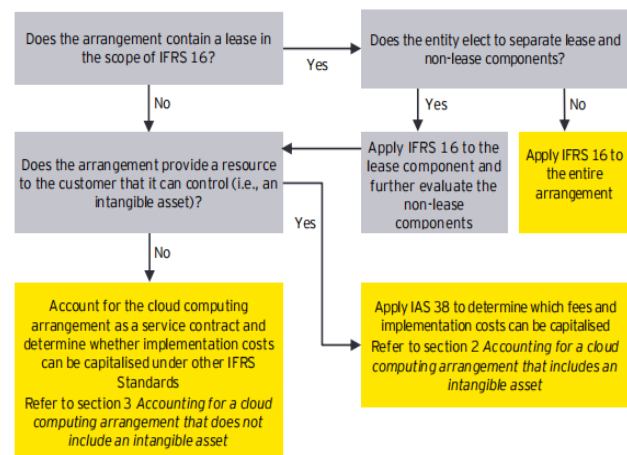


Figure 7. Scheme of Cloud Accounting Provider Cost Rules According to IFRS [10]

III. FACTORS INFLUENCING OF CLOUD ACCOUNTING SUCCEEDED

Organizational commitment has a positive effect on the performance of accounting information systems. This research has indeed been carried out which means that the higher the organizational commitment to employees, the higher the performance of the accounting information system. In addition, personal technical skills as accounting personnel have a positive effect on the performance of the accounting information system, meaning that the better the employee's technical skills, the better the performance of the accounting information system. Training and education have a positive effect on the performance of the accounting information system, which means that the better the user's abilities due to regular training and education, the better the performance of the accounting information system. The sophistication of information technology has a positive effect on the performance of the accounting information system, which means that the more sophisticated the information technology used to complete the work, the more sophisticated the accounting information system will be [11]

IV. PERFORMANCE IN APPLICATION

A. Best Practice From Accurate

Accurate Accounting Software is one of the accounting software in Indonesia which is a CPSSoft product for accounting applications developed since 1998. In its development, Accurate has always been guided by Financial Accounting Standards and Tax Regulations to become a reliable accounting information system application. [12]. Research has been carried out to evaluate the implementation of Accurate Online by distributing questionnaires to Accurate Online users and processing them into SPSS. [12]

Criteria	Sub-Criteria	Criteria	Sub-Criteria
Security	1. Sign Up Facility	Reliability	1. Audit Trail feature
	2. Log In User Facility		2. Data Validation
	3. Back up dan Restore Data		3. Data Integration
Availability	1. Input Feature	Report Quality	4. Rounding the Numbers
	2. Output Feature		1. Availability of reports
Currency Symbol	1. Local Currency		2. Ease of Modifying Reports
	2. Multi Currencies		3. Rating Ratio
Flexibility	1. Minimum Standards for Installation	Upgradability	4. Graph, Histogram, Pie-Chart
	2. Ease of User Access		1. Update Service System
	3. Multi User Support	Vendor Support	1. High Quality Training
	4. Ability to Modify		
	5. Account Number Structure		
Ease of Use	1. Help service Feature		

Table 1. Criteria for Measuring Cloud Accounting Implementation in Accurate Software [12]

In line with the increasing need for the use of accounting information systems accompanied by the emergence of competitors to meet the need for flexibility in updating business information for financial transaction management, in 2016 CPSSoft launched a new product, namely Accurate Online, which allows users to manage finances. transactions anywhere from various information technology facilities, starting from computers, tablets, or smartphones. [12]

When choosing a software product, all the advantages and additional features such as cost savings, convenience, increased service accounting efficiency and mobility should be weighed against the disadvantages and threats, especially those related to privacy, trust and data security. For this reason, a SWOT analysis can be applied by companies before choosing to use cloud accounting. Prospective users can carry out the Accurate Online subscription process independently.

Prospective users can register by filling in their username, email address and verification will be carried out using email or OTP sent via SMS to the registered number. [12]

1. Comply with Accounting Standards

Based on the results of evaluating the availability of financial reports on Accurate Online, it appears that Accurate Online supports users in adjusting financial reports in accordance with applicable PSAK or SAK ETAP [12].

2. Report Quality

The financial reports provided by Accurate Online also suit user needs with the availability of all types of financial reports except notes to financial reports, reporting needs for both standard financial report displays, financial reports per department, per project, complete with display of numbers. options, ratio calculation, or display options. chart. [12]

Profit/Loss Standard	Balance Sheet (Standard)
Profit/Loss (Multi Period)	Balance Sheet (Multi Period)
Cash Flow (Indirect)	Cost Availability Projection
Cash Projection per Month	Profit/Loss (Compare Period)
Profit/Loss (Quarterly)	Profit/Loss (Compare Budget)
Balance Sheet each branch	Balance Sheet (Compare Period)
Balance Sheet (Portion)	Balance Sheet (Parent Scentro)
Cash Flow (Direct)	Statement of Cash Flow Detail (Indirect)
Financial Ratio	Financial Focus
Retained Earnings	Statement of Owner Equity Changes
Account value Comparison Graph	Revenue to Expense Graph
Net Worth chart	Liquidity Ratio Graph
Return on Asset chart	Return on Equity Chart

Table 2. Accurate Software Financial Report Output[12]

B. Best Practice From Zahir Online

Convenience in accessing data safely at Zahir Online is always prioritized in the accounting software developed by PT Zahir Internasional in Indonesia since 1996. Zahir Online uses an encryption system supported by an Extended Validation (EV) SSL Certificate (Green Bar) internet connection.[9].

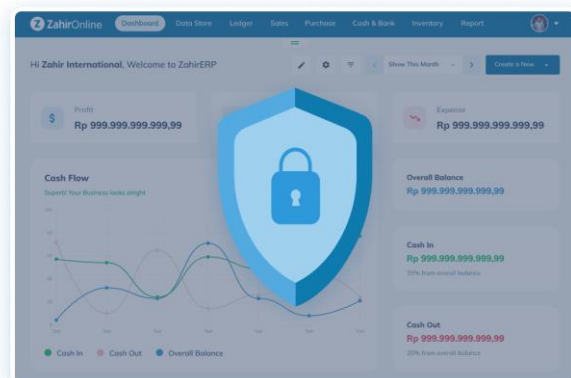


Figure 8. Zahir Online Data Convenience Features [9]

C. Standard Features Made By Global Vendor

What is Unique About Sage Business Cloud Accounting?
[13].

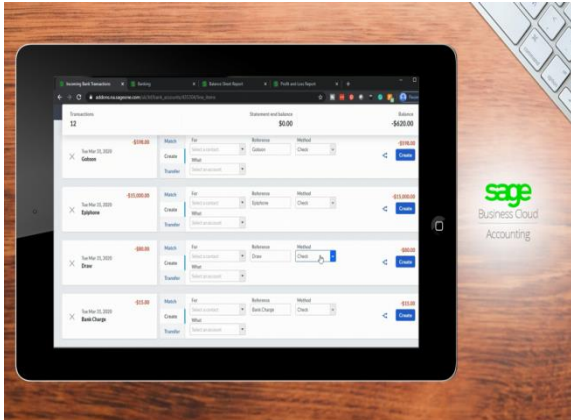


Figure 8. Sage Business Cloud Accounting Display Features[13]

- a) Intuitive design. This cloud native solution is easy to learn for beginners and those new to the platform can set up and use it with ease. Even maintaining the solution when needed is an easy task. [13]
- b) Line payouts. Sage Business Cloud Accounting integrates with Stripe to enable fast and seamless online payments. This allows businesses to receive payments quickly and customers can do it easily on their part.[13]
- c) Real-time cash flow insights. Business owners can operate with confidence because they pay attention to their cash flow. They can see how much is coming in and how much is going out of their account at any time during a transaction [13]
- d) Automatic expense tracking. The benefit of connecting a bank account with Sage Accounting is automatic expense tracking. Users don't have to do it manually, but they can simply take photos of invoices and receipts, and the software enters everything via AutoEntry.[13]
- e) Multi-currency. Because even small businesses can transact in various currencies. Sage Accounting offers the ability to handle multiple currencies to help small-scale operations go global.[13].

V. CONCLUSION

The use of Cloud Accounting will make it easier for preparers of financial reports where there is access that is not limited by space and time with a complete design and easy use so that it can reduce company expenses. Companies do not need to provide expensive storage media such as servers and buy software applications that are installed on each computer, but with cloud services companies can work flexibly, supported by an API system that can integrate systems with banking, tax and market services. A place intended to facilitate the bookkeeping process.

However, there are several disadvantages of cloud-based accounting, namely that it requires dependence on internet services, available cloud capacity because more and more

data is stored in the cloud, this will affect the running of the online accounting program, even though users can easily carry out the registration and subscription process, Users feel requires training but the subscription fee does not include training costs for using the system. Future threats in cloud implementation that users should consider before choosing cloud-based accounting are security issues of company confidential financial data such as possible leaks, loss of company financial information, vulnerability to hackers, and changes in data. in developer services or terms that allow companies to increase payments for maintaining the company's database.

VI. IMPLICATION FOR FUTURE

Ultimately, in the internet plus big data era, the accounting industry is facing new opportunities and challenges that are pushing modern accounting to a new level. With the development of applications in companies, in the internet plus era, accountants must seriously study new science and technology in the "Internet Plus" big data era. They must realize the transformation from basic accounting functions to financial management, and also adapt to the modern needs of the industry, contributing to the reform and development of the accounting industry[14].

The use of cloud-based AIS is changing the way accountants work and interact with financial data, which has a significant impact on the accounting sector. Future research should focus on how accountants' jobs are evolving, the skills required for success in cloud-based environments. The accounting profession must be responsive where accountants need to experience different points of view and welcome the assistance provided by this 21st century innovative technology. They also need to shift to services that are more interactive and meet business information needs efficiently. Accountants must be able to offer real-time insight into profitability. Cloud accounting offers an alternative to move from paper-based to online based via electronic forms [15].

ACKNOWLEDGMENT

SPECIAL THANKS TO THE IDRIS ASMUNI ACCOUNTING SERVICES OFFICE FOR SPONSORING THE PUBLICATION OF THIS ARTICLE. HOPEFULLY THIS PAPER CAN PROVIDE INSIGHT INTO KNOWLEDGE FOR ALL INTERESTED PARTIES.

REFERENCES

- [1] E. Al-Nsour, S. Weshah, and A. Dahiyat, "Cloud accounting information systems: Threats and advantages," *Accounting*, vol. 7, no. 4, pp. 875–882, 2021, doi: 10.5267/j.ac.2021.1.021.
- [2] S. Salem, N. Nurdayadi, and A. Alfiandri, "Cloud Accounting: The Development of Accounting

- Information System in Industry 4.0 in Indonesia,” *Conf. Ser.*, vol. 3, no. 2, pp. 282–294, 2021, doi: 10.34306/conferenceseries.v3i2.597.
- [3] A. Eltoum, M. Abdalrahman, A. Mahmoud, and M. Mahmoud, “Electronic Accounting Applications using Cloud Computing technology,” vol. 4, no. 2, pp. 297–302, 2015.
- [4] S. E. E. Profile, “Accounting in the Cloud : A New Era of Streamlining Accounting with Cloud Technology,” no. May, 2023.
- [5] V. Ratten, “Cloud Computing Services,” *Int. J. Cloud Appl. Comput.*, vol. 2, no. 2, pp. 48–58, 2012, doi: 10.4018/ijcac.2012040105.
- [6] F. Accounting, “Branch Accounting,” no. 1, pp. 182–230, 1956.
- [7] C. S. Ashdown, “Treatment of Foreign Exchange in Branch-office Accounting Treatment of Foreign Exchange in Branch-office Accounting,” vol. 34, no. 4, 1922.
- [8] A. Mohammadi, “Effect of Cloud Computing in Accounting and Comparison with the Traditional Model,” vol. 5, no. 23, pp. 104–115, 2014.
- [9] “Software Akuntansi Online Terbaik Untuk Bisnis Anda - Zahir.” [Online]. Available: <https://zahiraccounting.com/id/#>
- [10] EY, “Accounting for cloud computing arrangements,” *Ey*, no. July, 2021, [Online]. Available: <https://www.pwc.com/us/en/services/audit-assurance/accounting-advisory/cloud-computing.html>
- [11] M. Ayu, V. Narensi, I. M. Pande, and D. Putra, “Open Access Factors Affecting Accounting Information System Performance (Empirical Study at Head Office of a Local Bank in Bali , Indonesia),” no. 5, pp. 511–517, 2021.
- [12] F. Marsintauli, E. Novianti, R. P. Situmorang, and F. D. F. Djoniputri, “An analysis on the implementation of cloud accounting to the accounting process,” *Accounting*, vol. 7, no. 4, pp. 747–754, 2021, doi: 10.5267/j.ac.2021.2.010.
- [13] “20 Best Cloud Accounting Software Solutions in 2023 - Financesonline.”
- [14] G. Fangyuan and S. Zhihao, “ANALYSIS ON THE INFLUENCE OF " INTERNET PLUS " ON,” vol. 7, no. 5, pp. 80–83, 2019.
- [15] O. Dimitriu and M. Matei, “Cloud accounting : a new business model in a challenging context,” *Procedia Econ. Financ.*, vol. 32, no. 15, pp. 665–671, 2015, doi: 10.1016/S2212-5671(15)01447-1.
- [16] Sobah, R., Fauzi, C., Arfida, S., Mutiara, S. and Nurlaila, S., 2022, December. Naïve Bayes Classifier Algorithm for Predicting Non-Participation of Elections in Lampung Province. In *Proceeding International Conference on Information Technology and Business* (pp. 1-9).
- [17] Sabita, H., Fitria, F. and Herwanto, R., 2021. Analisa Dan Prediksi Iklan Lowongan Kerja Palsu Dengan Metode Natural Language Programing Dan Machine Learning. *Jurnal Informatika*, 21(1), pp.14-22.