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Accounting Information Systems Implementation
(A Case Study Approach)

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Abstract — This research discussed about Accounting Information Systems implementation in company. As we know company needs to implement Accounting Information Systems that can contribute to help reconcile and collect data and information that can give the economic impact and intangible benefits on the organization. This research uses case study approach to measure accounting information systems software implementation by using direct observation in the company,and also conducting survey of the currently running program to analyze the current system's weakness and identifies the information needs. The expected result from this research is we know several problems occurs in the existing application in the company that can be solved by using selected Accounting Information Systems software, so the company can reduce time required to perform company financial process.

Keywords—Information Systems; Accounting Information Systems; implementation

I. INTRODUCTION

Technology has grown rapidly in this era, and that development need to in line with business development. An information technology has a very important role to support organizational activity running smoothly. For a company, fast and accurate information is needed to make managerial decisions. *Information* technology needed in the company to ensure that the company can well-manage their main activities, simplifying the process, and help to analyzing and maintaining information for decision making. It was also revealed that technology is a tool to ensure organization running well their procedures (business processes). For the example to manage accounting, financial resources, project management, personnel management, strategic planning, and decision-making processes. [1]

With the existing of technology and information systems, the company can running transaction data processing activity

quickly, low cost, and it can help stakeholders in the company to make decision, quickly processing data into information to

support their business process runs smoothly. And therefore a lot of company is expected to implement accounting information systems that can contribute to help reconcile and collect data and information that can give the economic impact and intangible benefits on the organization. [2]

Accounting information systems is also related with employee productivity. By implementing integrated information systems, the employees can complete their work effectively and also get information at the right time, share information, and they don't need to retrieve data manually, it will help to minimize the risk of error and data repetition, so the system will help the company with accurate information, that can help to make decision fast and accurate.

Implementation of information technology can be useful if it's in line with organization's business strategy, organization's vision and mission, and Information System Strategic Planning. In addition, information systems and information technology development can give the company competitive advantages to face challenges to compete with new or existing competitors in sales and purchasing cycle related internal control activities. [3]

The sales process is also very important process in a company, so accounting information system is expected to help and simplify sales recording process, and the system will help to process data of sales into useful information on financial statements so it will be used by the Management of the company as a reference for decision making. Accounting System that stores data, processes data and makes a report are the main purpose of accounting information system as well as data and information is used to assess performance, and decision making by the company."[4]

In the application of accounting information system, it is undeniable that the most important cycle is revenue cycle. Revenue is one of the important benchmarks to the financial performance and management of a company. The revenue cycle can provide important information to make a company's decision making. [5]

XYZ Company is a distributor for construction companies should use accounting information system to help the company to record purchase and sales data and it will help

this organization to avoid any miscalculation in financial statements. Therefore XYZ Company should implements an integrated information system, so the Company can analyze financial statements accurately and they can predict how much purchase and sales that will occur in the next period. The financial statements will become the reference for decision making that will affect for decision related how much the purchase will occur in the next period in accordance with sales prediction from the previous period.

Previously, XYZ Company doesn't use any accounting information systems, and they record the transaction data by using Microsoft Excel only. Because of problem related recording data into the excel file, there are find many inventory items lost because of human error while input the data. To solve this problem, XYZ Company try to use Accurate accounting software. And there are also find some weaknesses of Microsoft Excel in managing and recording data as follows: (1) Requires a long process to set up data until it can be used as needed, (2) Requires a long process to set up data until it can be used as needed, (3) The functions for accounting are gard to understand and require a lot of time to reach a result avoiding mistakes, (4) Doesn't have a good internal control, (5) Data can be easily erased or accidentally erased and the access and backups of files is not automatic and must be configured, (6) Data isn't fully integrated and the data store and pull is complex for the final user.

So, the company hope to implementing Accounting Software to reduce the risk of human error while input the data, because this software has been integrated automatically and it will reduce or increase the number of inventory stock after the procurement and sales process. By input purchase order and sales invoice into the systems, the systems will automatically generate and update inventory data. And based on the needs and problems in the organization, the authors analyze and implement accounting information systems that can answer the needs of XYZ Company through this research as a case study.

II. BACKGROUND THEORY

A. Accounting

Accounting is the system to measure financial performance from the company by grouping many kind of transactions such as sales, purchases, assets, and liabilities in standard format. Accounting can help to evaluate company past performance, present condition, and predict company's future performance. [6]

B. Accounting and IT

In technology era, IT can be aligned with business. It also happens in Accounting. There are several accounting challenges that IT can answer it.
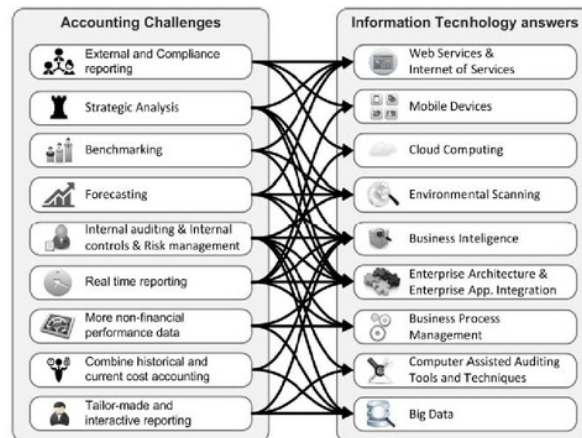

Fig. 1.   Accounting Challenges and how IT answers it [7]

C. Accounting Information Systems

To facing that challenges, company uses Accounting Information Systems (AIS). AIS is a combination of Accounting and Information Technology Systems which designed to help company in terms of company economic-financial area. The concern of organization to manage AIS is the communication and control of AIS. [8] AIS generally can track accounting activity in connection with information technology resources. AIS is consist of Transaction Processing System (TPS), General Ledger and Financial Reporting System (GL/FRS), and Management Reporting System (MRS). [7]

D. Traditional AIS Business Cycle

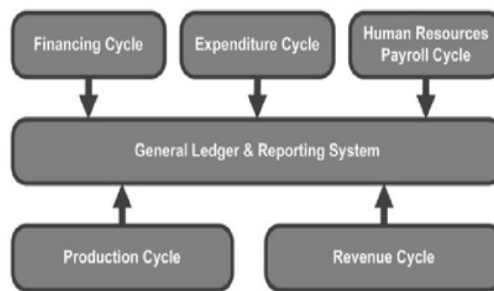AIS has traditional business cycles that usually used by the company as follows:

Fig. 2.   AIS Traditional Business Cycles [9]

From above figure, we can see AIS focus on registering business transactions in different business cycle, like revenue cycle which focus on selling products or services, and collect payment, expenditure cycle which focus on buying and paying for products from supplier, human resources/payroll which focus on hiring and paying employees, production cycle which focus on convert raw materials into finished products, and also

financing cycle which focus on obtaining necessary funds activities to run the organization, and distribute profits to investors. [9]

E. AIS Function

AIS has main function to display quantitative value of the past, present, and future economics event in the organization. AIS can produce financial statement, such as income statements, cash flow statement, and balance sheets. User can input the data into system, and system will process the data and transform it into accounting information that can be used by the company. [10]

AIS can also collect and record data and information regarding events that have an economic impact to organizations, and information communication to internal and external stakeholders. AIS also can provide information to help executive in decision making process. [11]

By using AIS, organization can manage electronic document that can facilitate users to access the document in an easy way. Supervision of transactions became easier because supervisor can access information through one AIS everywhere and every time. [12]

F. AIS Advantages

There are several advantages from AIS to company/organization, as follows:

TABLE I. AIS ADVANTAGES [13]

Benefit	Description
Good Cooperation	AIS can avoid duplication, and can perform all of accounting information record and analytical work well
Meet the needs of multi-users	AIS can record database and all resources from economic business activities. Users can access software at the same time, and AIS will update data and information on real time basis.
Control afterwards, in advance, and in concurrent	AIS can perform real time financial control activities, which include process control authorization, budget management, and other accounting activities.

III. RESEARCH METHODOLOGY

Research is an activity of collecting, processing, presenting and analyzing data which is done by scientific method efficiently and systematically. In this scientific paper, authors has done several research methods, which are direct observation at XYZ Company to obtain information and data related payroll procedures at the company; Data analysis is done by conducting a survey of the currently running program to analyze the current system's weaknesses and identifies the information needs. Also Company has decide 3 (three) Accounting software based on company needs, which are Accurate, Zahir, and Fina, then authors doing some comparison based on all features that provided by these 3 (three) accounting software.

IV. RESULT AND DISCUSSION

A. Problems and Solution

There are many problems when using Excel to record corporate financial data. First, Excel software may be easy to use for the layman when doing normal calculation activities, but in accounting there are many formulas needed to do the calculation. If you want to use Excel, you must design the formula first to meet accounting needs. With excel you have manually enter the formulas and it will take a relatively harder and more complex, compared with integrated accounting software.

The second problem is the absence of a live update system on Microsoft Excel. For example, XYZ Company has 3 (three) persons who handle sales records, whether sales agent retail. When using Excel, they have to do manually input one by one to avoid data errors. But when using accounting software, then 3 (three) persons can input data directly without wait alternately.

The third problem is Excel doesn't have function to directly convert buying and selling goods data. For example, if buyers order goods, then Excel can only input the data, but the creation of the invoice requires a lot of time and effort for each invoice. Sales division must create invoice manually and print the invoice. If company use accounting software, then inputting data and create invoice, it can be done simultaneously, and not necessarily re-created.

The fourth problem is very clear that Excel in spite of the templates to make adjusting entries, bank reconciliation and financial reports, it depends on outside development and connection with macros and other resources. Excel here is just as a place for storing raw data without being able to produce information that can be used by the company to make decisions. To create a financial report, it must be done manually by calculating each total number of each financial process, and then in the new spreadsheet must be set up to generate financial reports. Based on XYZ Company experienced, sometimes Excel can move different data or error, when performing number transfers using vlookup function. And also Excel can't provide real time financial reports.

The fifth problem occurs in internal control problem. In a computer, without the right configuration, everyone without exception can open the data. There are no limitations that Excel can make to keep the data confidential. For example, the payroll should only be opened and managed by the owner, but by using Excel everyone can open and access data that should be classified. By using accounting software, it can be prevented because accounting software already has a feature to provide a limit to people who can access the data. People can also change data on Excel without anyone else knowing, and it can trigger a fatal error like changing inventory data. As in the case of XYZ Company, due to the alteration of inventory input by an unknown person, there happened thieves of inventory in the warehouse by that person.

The sixth problem is Excel data is very fragile. There is a case in XYZ Company that the admin section accidentally

deleted the company's financial data, so it must be re-made which takes a long time. By using accounting software, data can be safely stored in database (online in server or offline). So, if the data is accidentally deleted, the company still have backup data.

The last problem is Excel software isn't integrated and not connected at all. It means every process in accounting must be done manually and takes long time. For example, if the company wants to create a purchase order, the company must create a purchase requisition first, then make a purchase order by retype again. Microsoft Excel can't pull data directly from purchase requisition to purchase order without input the data again. While using accounting software, data becomes very easy. For example, to create a purchase order only just pull data from purchase requisition that has been created before, and input vendors data that have been selected. Based on several above problems, authors create software comparison that suitable for this company needs, as follows:

TABLE II.   ACCOUNTING SOFTWARE COMPARISON

Standard Features	Accurate	Zahir	Fina
Purchase	Yes	Yes	Yes
Sales	Yes	Yes	Yes
Inventory	Yes	Yes	Yes
General Ledger	Yes	Yes	Yes
Cash/Bank	Yes	Yes	Yes
Fixed Asset	Yes	Yes	Yes
Advanced Features			
Cheque Management	No	Yes	Yes
Audit Trail	Yes (Journal Level)	Yes	Yes (Journal Level and Transaction Detail)
Consolidation	Yes (General Ledger Level)	No	Yes (GL level, synchronization, and consolidation report)
Multi Currency	Yes	Yes	Yes
Multi Project	Yes	Yes	Yes
Multi Department	Yes	Yes	Yes
Multi Price Level	Yes	Yes	Yes
Inventory Module			
Costing Method	FIFO and Average	FIFO, LIFO, and Average	FIFO and Average
Multi Warehouse	Yes	Yes	Yes
Serial Number	No	Yes	Yes
Batch number and expired date	No	Yes	Optional with Scripting
Job Costing	Yes	Yes (assembling include)	Yes
Support			
On Site Support	No	Yes	Yes (during contract maintenance)
Email	Yes	Yes	Yes
Telephone	Yes	Yes	Yes
Yahoo Messenger	Yes	Yes	Yes
Remote	No	Yes (Team Viewer)	Yes (Team Viewer License)
Technical			
Database	Firebird	Firebird	Firebird
Development Tools	Delphi 2010	Delphi	Delphi
OS Supporting	Windows dan Linux	Windows	Windows
Posting System	Real Time Update	Real Time Update	Real Time Update
Custom	No	No	Yes (Scripting)
Several Excel Problems			
First Set Up	Easy Set up	Easy Set Up	Easy Set Up
Live Update System	Yes	Yes	Yes
Auto Generate	Yes	Yes	Yes
Advanced Function (Adjusting Entries) Bank Reconciliation and Financial Reports	Yes	Yes	Yes
Internal Control	Yes	Yes	Yes
Data Backup dan database	Yes (Server)	Yes (Server)	Yes (Server)
Integrated Data	Yes	Yes	Yes
Price, Training, and Implementation			
Price	IDR 8.800.000	IDR 8.000.000	IDR 3.600.000
Number of User	2	2	1
Training	Not Included	Yes	Yes
Implementation	Not Included	No	Yes
Maintenance	Not Included	No	Yes
Price to add user	IDR 2.500.000	IDR 8.000.000	IDR 3.300.000

From the results of the above comparison, it can be concluded that Accurate accounting software has been selected to be implemented and replace Microsoft Excel used by XYZ Company. In terms of completed features or not, Accurate, Zahir, and Fina have a complete features to meet XYZ Company needs in business. All three software have complete standard and advanced features that required to run

the business and also in the inventory module. The Accurate, Zahir, and Fina have the features needed by XYZ Company.

Key and major factors in accounting programs selection to be used by XYZ Company are in terms of budget and computer platform used by the entire organization. Why Accurate is chosen as a system that will replace Microsoft Excel that has been used by the company before? Here are several factors that make Accurate become the selected accounting software by the company:

1) The price of the package is relatively cheap than its competitors. In this case we can see from the number of user obtained in the Accurate package purchase. Accurate sell standard package with the price of IDR. 8.800.000 with 2 users.

2) The price for additional users is relatively cheaper than its competitors, at a price of IDR.2.500.000 for each additional user. This price is cheaper than Zahir accounting software that must spend the money according to the package price is IDR.8.000.000 and Fina accounting software with the price of IDR 3,300,000 for additional user. Because XYZ Company requires a lot of users, at a price of IDR.2.500.000 / user XYZ Company can save money on the use of accounting software.

3) One of the crucial things from the comparison of three accounting software, only Accurate has the way to set up company and user friendly than Zahir and Fina accounting software.

After finishing data analysis, software design, testing and implementation, then authors did a complete data test. The Client requests to input all invoice data and payment data in 2016 to compile the results of profit / loss reports generated from Excel and generated from accounting software. Then the authors input data of 2016 and after finish, the author issued an income statement given to the client. At the time, client checked it and there are several different numbers and profit is reduced more than IDR 1 billion.

Once traced, there was no error that occurred on input data and there was also no error that occurred in the set-up company. And it's found that the client isn't complete provide data that caused differences in data. Clients forget to provide retail sales data, while retail sales costs have been given. This condition causes the differences in the financial statements.

B. Server Network Diagram

In Accurate software, there is a license manager. License Manager is a separate application that serves to manage, distribute, activate Accurate 5 license in one Local Area Network (LAN). The License Manager application can be installed on any computer within the network, but it should be installed together with Accurate Server on the computer where the Accurate database is stored. For those who only run Accurate 5 stand alone on one computer, Accurate Client, Accurate Server, and License Manager should installed on a single computer.

License Manager and Corporate Site ID (CSID) are obtained from purchasing Accurate starter pack and only for

use in one location. License Manager needs to synchronize the Accurate license data that is managed with CPSSoft server, thus the computer (server) that include License Manager must be connected to the internet. Below is the accurate software license manager diagram :
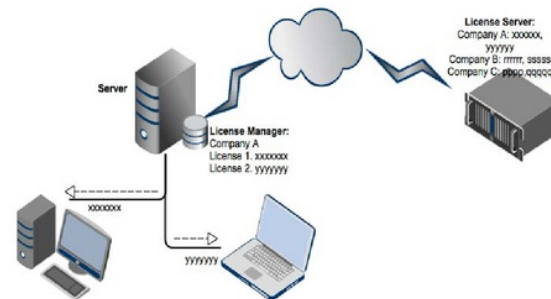

Fig. 3.   Accurate Software License Manager Diagram

And XYZ Company uses Remote Access Database by LAN which will connect to 1 (one) server computer where server computer is connected directly with Accurate cloud store data. So, the data will be stored in 2 places, which are offline in computers server that have installed license manager and in Accurate server cloud. Below is a picture of XYZ Company computer network diagram using LAN :
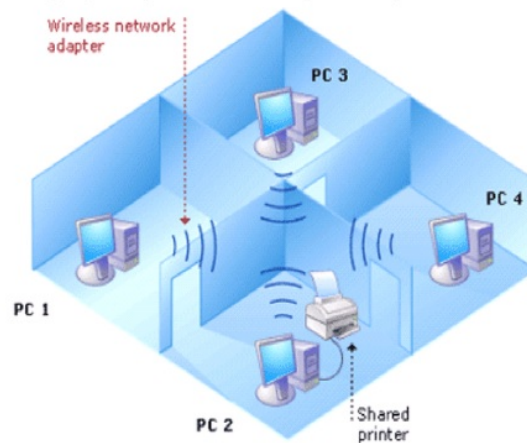

Fig. 4.   XYZ Company Computer Network Diagram using LAN

V. RESULT AND DISCUSSION

By using Accounting Information System in the form of accounting software called Accurate, XYZ Company can handle all the following issues:

1) Set-up data becomes faster and easier, and can also be used by all laymen without training.

2) All financial data will have real time update, because systems can connect all Accurate user in a network to update data into the server.

3) User can directly create a record for purchase invoice, sales invoice, purchase payment, and other data forms without having to recreate because it has been integrated each other.

4) Users can directly use advanced accounting functions such as adjusting entries, bank recapitulation, and others because it's provided by Accurate.

5) Internal control can be maintained properly because Accurate has security matrix that can grant and revoke individual rights in using Accurate.

6) Users don't have to be afraid about data loss, because Accurate data is stored in 3 (three) places. First in a computer that uses Accurate, second in the computer server, and the third is in Accurate enterprise database. So if there is a disaster, user can still request data to Accurate company by including the complete data.

7) System can retrieve data any time without need to search the data again, and it takes a short time, because all the data in the system already integrated each other.

By implementing Accurate software, the company can overcome the obstacles that exist in Microsoft Excel, and clearly reduce time required to perform the company financial process.

REFERENCES

[1] Puksta, K., & Nedelea, A. (2012). Using Information Technologies to Raise the Competitiveness of SMEs. *The USV Annals of Economics and Public Administration*, *12*(15), 74-83. Retrieved from http://www.seap.usv.ro/annals/ojs/index.php/annals/article/viewFile/458/488

[2] Mahdi, S., Rostami, V., and Mogadam, A. (2010). Usefulness of Accounting Information System in Emerging Economy: Empirical Evidence of Iran. *International Journal of Economic and Finance*, *2*(2), 186-195. Retrieved from http://journal.sapub.org/ijfa

[3] Hailu, H. (2014). *The Threat of Cybercrime in Ethiopia: Legislative, Policy and Institutional Responses*. Saarbrücken: LAP LAMBERT Academic Publishing.

[4] Soudani, S.N. (2012). The Usefulness of an Accounting Information System for Effective Organizational Performance. *International Journal of Economics and Finance*, *4*(5), 136-145. Retrieved from http://dx.doi.org/10.5539/ijef.v4n5p136

[5] Wagenhofer, E., Mongrel Media,, & Criterion-on-Demand (Firm). (2013). *Let's make money*.

[6] Maziyar Ghasemi, V. S. (2011). The impact of Information Technology (IT) on modern accounting systems. *Procedia - Social and Behavioral Sciences*, 112-116.

[7] Trigo, F. B. (2013). Accounting Information Systems : Tradition amd Future Directions. *Procedia Technology*, 537.

[8] Abdipour, M. S. (2013, February 7). Acounting information system's barrrier : Case on an emerging economy. *African Journal of Business Management, 7(5)*, 298.

[9] Antonio Trigo, F. B. (2016). Accounting Information Systems : evolving towards a business process oriented accounting. *Procedia Computer Science*, 987-994.

[10] Sori, Z. M. (2009). Accounting Information Systems (AIS) and Knowledge Management: A Case Study. *American Journal of Scientific Research*, 38.

[11] Gimzauskieneb, L. K. (2015). The Effect of Information Technology on Accounting System's Conformity with Business Environment: A Case Study In Banking Sector Company. *Procedia Economics and Finance*, 1707-1712.

[12] Güneya, A. (2014). Role of technology in accounting and e-accounting. *Procedia - Social and Behavioral Sciences, 152*, 852-855.

[13] Salehi, M. (2010, May). Usefulness of Accounting Information System in Emerging Economy : Empirical Evidence of Iran. *International Journal of Economics and Finance, 2*, 187-195.

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