Development of Account Receivable and Payable System for Travel Bureau Company

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Abstract. Sales and purchases of products on credit made by travel bureau companies require serious handling because it involves a lot of money and many parties. This research aims to build information systems to handle account payables and receivables related to the purchase and sale of tour packages on credit. The methodology is object-oriented approach, by using MS. Visual Basic.Net as a programming language and MySQL as its database package. As the results are the Account Receivable information system that is used to handle accounts receivable on agents who have purchased a tour package on credit for the guests it sends, and the Account Payable information system that is used to handle company's account payable to suppliers who provided products or services to guests who purchase tour packages. Both of these systems handle the interrelated matter of a particular guest. Therefore, if both systems are integrated with the reservation system will be able to provide income statement on the reservation of certain guests.

1. Introduction
Travel Bureau Company is a company that sells tour packages to tourists through agents outside the country. Tour packages are sold is a packaging of various products obtained from a number of suppliers. The products include hotels, restaurants, transport and so on. In addition to the tour packages that have been prepared, agents can also determine the combination of products they want. Booking this tour package from an agent is usually done for the group [1]. At the end of the service to the group, the company will issue an invoice. The invoice is given to the agent who sent the group. This invoice will be recognized as an account receivable by the company because the payment is made on credit. On the other hand, the company will also receive invoices from suppliers associated with the services enjoyed by the group concerned. This invoice is also not paid in cash and will be recognized as account payable [2]. The amount of money handled and the volume of work associated with this activity, is certainly very difficult if handled manually, especially when associated with the speed to get information about account receivable and account payable.

The development of social media has a broad impact on people's lives. Social media provides multiple sources for searching travel information. Social media information covers only 24% of all search results and only some social media sites appear between search results according to keywords and search results. Actually, the proportion of social media information on the internet is much greater [3]. This fact encourages business people to invest in information technology to support their business operations. The S-shaped curve can be used to gain insight about the relative payoff of investment in competing technologies, as well as to provide more insights about when and why some technologies overtake others in the race for dominance as explained earlier. The implication of this finding is to
encourage enterprises to revisit their valuable services, to gain better market position, and to reevaluate the socio influences before investing more on information systems [4].

The empirical results of the study on the relation between accounting information quality and investment efficiency show that the proxy for accounting information quality is negatively associated with the investment inefficiency. Furthermore, for under-investment (over-investment) firms, the accounting information quality is positively (negatively) related to the firm’s future investment, that is, the improvement of the accounting information quality can alleviate the under-investment (over-investment) of the firm, suggesting that improving the quality of accounting information quality can improve the efficiency of capital allocation [5]. An increase in expected cash flows, coming from improvements in the quality of accounting information, leads to a reduction in the firm’s cost of capital. Overall, the study provides a direct link between accounting information and the cost of capital that does rely on the fact that accounting information along with improvements in its quality has real effects on capital allocation that governs firm’s cost of capital [6].

There are a number of factors that cause business failure in small business actors. These factors include inadequate recording ability and poor inventory control skills. This suggests that the businessperson needs recordkeeping, inventory control and skills in pricing for the success of his business operations [7]. In fact, the prices of travel agencies are not marketable, they are sold on the premise that there’s neither quality nor quantity guaranteed. It is lacking of standards at neither reasonable prices nor their quality supervision. It is generally known that tourism products include material and spiritual products, but travel agencies sell them lower than the cost of material products, without any considering at the cost of spiritual products at all. So chaotic price lead to poor quality in tour guides’ service and also lacking of honesty, cause lots of tourist complaints, even increase difficulty on tour guides’ taking groups [8].

Considering the results of the study indicate that firms which use Accounting Information System (AIS) for the whole of their management obtain a higher, more positive figure with regard to the other groups of firms which show a negative average. This means that the effort made by small and medium-sized businesses to implement, invest and improve their AIS is related to their economic and financial results, since firms not using AIS or only partly using it obtain losses [9].

This study aims to help travel bureau companies to implement the application of information technology in handling the problem of accounts receivable and payables company. This is important for companies because it involves a lot of money and involves many others. Accounts receivable due to the purchase of tour packages by agents from overseas for guests who sent. This tour package consists of various products and services purchased from the supplier. Handling the sale of tour packages and purchases of these products or services is generally handled in a reservation upon certain guests. This issue is handled by the reservation section. All sales and purchases are made on a credit basis recorded on behalf of an agent or supplier and handled by the accounting department.

2. Methodology
To build information system required a proper software development methodology. In this research will be used object-oriented approach, with 3 (three) stages that is OOA, OOD and OOP. The OOA (object-oriented analysis) stage aims to find out what the needs of the system. The objective of OOA is to develop a series of models that describe computer software as it works to satisfy a set of customer-defined requirements [10]. The analysis emphasizes on investigation of the problem and requirements, rather than a solution [11].

Based on the results of the analysis, and then proceed with making the system design. The OOD (object-oriented design) stage do transformation of analysis model of OOA stage result into model of design which is component of system to build its software. Major system component are organized into system-level modules called subsystem. Data and the operation that manipulate the data are encapsulated into objects [10]. Design emphasizes a conceptual solution (in software and hardware) that fulfill the requirements, rather than its implementation [11].

Programming with the OOP (object-oriented programming) paradigm is done by combining data and procedures into an object. Data known as attributes and procedures are known as methods. A
feature of objects is that an object's procedures can access and often modify the data fields of the object with which they are associated (objects have a notion of this or self). In OOP, computer programs are designed by making them out of objects that interact with one another [12].

3. Results and discussion

3.1 Analysis of the System

In general, the main activities in a company can actually be grouped into two, namely the front office and back office. This front office activity is directly related to activities related to consumers or customers, while the back office is more to internal affairs and finance. For travel bureau companies, front office activities are more emphasized on sales activities, reservation and handling of guest activities, that handled by Reservation Section. While back office is more to the financial affairs that handled by cashier on Accounting Section. Front office activity usually deals directly with the back office.

The main activities in the front office are dominated by the booking activities of tour packages from overseas agents handled by the reservation section. This tour package usually only describes briefly the desired form of service within a certain time. Sometimes it already equipped with a price agreement based on a contract that has been agreed previously. Furthermore the reservation section will follow up this reservation with various actions. The most important action is booking the product or service to the suppliers. The first thing to do is making a reservation to the hotel, and then followed by making an itinerary that contains the activities of the guests during their holiday in Bali. In details the activity will be completed with the name of the place visited, lunch and dinner plans, and entertainment. In the itinerary also included the name of the transportation company and guide who will handle it. At the time of preparation of this itinerary is simultaneously made ordering products or services required in handling the guest.

Upon arrival, guests are served by a guide based on a pre-arranged itinerary. Sometimes guests bring additional requests for services they want with the approval of the agent who sent them. In addition to the agreed tour packages, guests are also possible to buy optional tour, outside the existing package. This optional tour is a guest deal with guides, with the approval of the company, and is paid in cash by the guest. Upon the service of the tour package in accordance with the reservation made and other additional services, the reservation department or the appointed officer shall make the invoice to the guest. After the guest's return to his / her place of origin, all billing matters, other than those already paid in cash by the guest, are paid by the agent who sends them. The company will send the invoice to the related agency. This invoice will be recorded as accounts receivable from the relevant guest agent.

It is very difficult for a company to handle this collection of accounts, because of the large number of guests sent by an agent at almost the same time, as well as the number of agents that the company has to serve. It needs good records and management, to avoid the possibility of uncollectible account receivables to agents. All billing affairs of this account receivable will be fully handled by the account receivable division (AR), with coordination of the Accounting Section.

Products or services enjoyed by the guests listed on the reservation are products or services provided by other companies, called suppliers. These suppliers, according to the existing contract, usually do not ask for cash payments for the products or services they provide. The Supplier will send invoices on the sale of products / services to the company on behalf of the concerned guest. This invoice is then recognized as an account payable to the supplier by the company.

Due to a lot of guests served by the company and a lot of products or services provided to guests, it is very reasonable a lot of suppliers that are handled. Many invoices will be received and prepared payment. So it takes carefulness and accuracy in the handling. All business registration and payment of account payables is fully handled by the account payable division (AP) with coordination of the Company Accounting Section.

Based on the above description of the activity, it can be concluded that it takes two different types of applications that are handling applications of accounts receivable and payable. Both of these
applications in general are actually doing more or less the same thing, but different in the use of the data. Receivable applications relate to agents, while payable applications are related to suppliers. In general the needs of the desired system can be modeled with a use case diagram as shown in Figure 1.

![Use case diagram of AR/AP System](image)

**Figure 1.** Use case diagram of AR/AP System

From Figure 1 can be seen the process or activities that can be handled by the system to be built. The system built will be operated by the user which is divided into 3 (three) types of users i.e. staff, manager and admin. These three users differ in the ability to manage data in the system. Staff users only have the ability to add data. User managers, in addition to adding data also have the ability to edit data. Admin users have the ability to add, edit and delete data. This system will deal with entities in the form of Agent / Supplier and Employee, and two systems namely Reservation System and Accounting System.

To operate this system, the user must login first. If successful, the user can perform 3 (three) main activities of the system that is handling master data, recording and creating reports. In the handling of master data, the user can perform data management agent or supplier and employee. The recording process is related to the recording of the invoice sent to the agent or from the supplier, and recording the receipt of payment from the agent or receipt of payment to the supplier. The creating reports process involves creating a list of invoices and reports of accounts receivable and payable by the company.

3.2 Design of the System
After successfully identifying the requirements of the system built, then we can do the next stage in system development which is the design of the system. At this stage we create a blueprint of the built system. Blueprint in the form of modules of the system can be determined by creating a class diagram of the system. A class is the description of a concept from the application domain or the application solution. Classes are the center around which the class view is organized; other elements are owned by or attached to classes [13]. The class can be divided into 3 (three) categories, namely Boundary class, a class that limits the interaction between systems with other worlds, Control class, which is the class that controls other class calls, which has rules of the business, and Entity class, a class that stores information that may later be stored on storage media [14].

![Class diagram of AR/AP System](image)

**Figure 2.** Class diagram of AR/AP System

Figure 2 shows a number of classes from the AR/AP System arranged in a class diagram. Class frmMainMenu is divided into 2 (two) classes frmARSysem and frmAPSystem is a Control class that controls interaction between classes. Employee, Agent, Supplier, Journal, Account and Reservation is Entity class that serves to accommodate data related to the system. Other classes are included in the category Boundary class. Class Employee is an entity class that is used to accommodate employee data as well as a system user. As described earlier, this user is partially separated into the user's Manager and Admin, in accordance with the class name.

All classes, other than those in the entity class category are the modules of the application to be built. The entity class will be translated into database of system.

### 3.3 Implementation of the System

After the OOD stage, the next stage is the OOP stage. At this stage, programming is done using an object-oriented approach. The programming language used is MS. Visual Basic .Net, and for the database used by MySQL.
The built system is two separate programs, though the whole is actually doing the same thing. As explained before, the difference is only in the data it handles. One deals with Agent, while the other deals with Supplier. Agent-related programs are accounts receivable programs, while those with suppliers are account payable programs.

The written program refers to the class diagram of the design stage results. Both programs (AR / AR System) will have a main menu that is Login, Master Data, Recording, Creating Report and Exit. Each of these menus is handled by an frmLogin, frmMasterData, frmRecording and frmCreatingReport modules, according to their function. Each module corresponds to the related data.

4. Conclusion

The program generated from this research is AR System and AP System. AR System is used to handle corporate accounts receivable issues to agents who have purchased tour packages for their guests. AP System is a system to handle corporate account payable problems to suppliers who have provided products or services to guests in accordance with existing reservations.

Both programs will actually be more useful when it can be linked to the reservation program and accounting. They will become an integrated and complementary pair. This will certainly facilitate the management in obtaining complete information, integrated and up-to-date.

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