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Accounting Information Systems of Construction Company

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Abstract

This study aims to design an accounting information system for construction companies in Indonesia. This research is a descriptive research that will describe problem analysis, needs analysis, and accounting information system design at one of the construction companies in Indonesia as a research sample. The results of the study have succeeded in contributing to the design of an accounting information system for construction companies and are expected to help and facilitate construction companies in Indonesia in handling every existing project and can provide the project information needed quickly and accurately.

INTRODUCTION

Many construction service sector companies in Indonesia are still implementing a manual accounting recording system (Endang 2022; Gunawan, et al. 2022; Fernanda & Devitra, 2021; Gofwan 2022 ; Cahya, et al. 2017; Martha & Violeta, 2019; Pramono, 2016). In fact, in terms of the revenue generated, construction sector companies are one of the companies in Indonesia that consistently grow faster than Indonesia's Gross Domestic Product (GDP) as a whole. The construction sector was able to grow and reached 6.97% in 2014 faster than the national GDP growth of 5.2%. That is, the construction industry makes a very important contribution to the national and regional economy (Afriza & Daryanto, 2019).

The high revenue of construction sector companies in Indonesia should be supported by a computerized accounting information system. A system is a

network of interconnected procedures, gathering together to carry out an activity or complete a certain goal (Jogiyanto, 2017). Meanwhile, a computerized accounting information system is a system used for the compilation, storage and analysis of financial and accounting data by decision makers (Al-Hashimy & Yusof, 2021). Susanto, (2013) explained that the quality of the accounting information system is an integrated system of an information system consisting of interrelated elements and subsystems. The quality of accounting information systems helps determine whether a project succeeded or failed. Managers can take the right decisions and according to the conditions of the project. Therefore, the quality of a good accounting information system in a company can help the smooth running of the company's operations (Ta & Nguyen, 2020).

In this era of globalization, the development of the construction industry in Indonesia is marked by the opening of the domestic market to foreign investment (Kesai, et al. 2018). This development should be in line with the fundamentals of organizational efficiency that have advanced towards the focus of computerized accounting information systems. But in fact, internally the business processes that occur in construction sector companies in Indonesia sometimes there are still problems such as when creating consumer data, materials, making budget details, scheduling or when monitoring a project that is still done manually using the Microsoft Excel application stored in folders and archived, making it difficult to find material price data or heavy equipment data used (Pramono, 2016). Therefore, it is necessary to design an accounting information system that can generally be used in construction companies in Indonesia.

Awosejo, et al. (2013) said that accounting information systems help business units and solve managers' long-term problems in accounting through the provision of information to support and supervise companies in a dynamic and competitive environment, as well as to assist company integration and operational considerations in a profitable way. Hla & Teru, (2015) added that construction companies that still use manual processes in accounting records should adopt the use of accounting information systems because an efficient Accounting Information System ensures that all levels of management get sufficient, adequate, relevant and correct information for planning and controlling the company's business activities. Accounting plays an important role in providing information

for making economic and financial decisions. Incorrect design of accounting information systems can affect a company in a very negative way and can sometimes lead to bankruptcy (Hanifi & Taleei, 2015).

Design itself is an activity to find and develop new inputs, collections of files, methods, procedures and outputs in processing data so that the goals of an organization can be achieved (Cahya et al. 2017). Accounting information system design tools in this study include problem analysis, needs analysis, and accounting information system design. With this design, it is hoped that it can help and make it easier for construction companies in Indonesia to handle every existing project and can provide the project information needed quickly and accurately.

METHODS

The type of research conducted is descriptive research. Descriptive research is research that describes and interprets something, for example existing conditions or relationships, evolving opinions, ongoing processes, consequences or effects that occur, or about ongoing tendencies (Sukmadinata, 2018). In this case, this research will describe the problems and needs of accounting information systems in general in construction service companies in Indonesia. Our main strategy in research analysis is case study analysis, which can be a good way to develop and improve understanding of the design of accounting information systems and can add more experience and opinions to the knowledge gained in previous studies. However, our goal is not to describe generalizations or conduct this research using several cases (Hanifi & Taleei, 2015). Instead, we want to observe one company, PT MATRA and find out about the accounting flow in this particular organization which we will further design an accounting information system that suits the construction services company. The reason for taking PT MATRA is the object of research is because this company has problems, most of which are also experienced by other construction service companies in Indonesia. In addition, PT MATRA is also one of the large-scale construction service companies in Indonesia, so that the design of the accounting information system that will be carried out in this study can be used later not only for large-scale construction service companies as well, but can be adopted by medium and small-scale construction service companies.

RESULTS AND DISCUSSION

Result

The role of the system is carried out to describe the development of the system that is currently running with the new model to be created, (David Kocsis, 2019). In design, system analysis is needed to evaluate the current system in order to find obstacles, shortcomings and needs so that solutions can be found from the current system and can be determined the goodness of the system in the future (Rosa & Purfini, 2019).

System analysis aims to find out more clearly how the system works which is the object of research and the problems faced by the system that will be used as the basis for the proposed system design (Anouar. H. 2020). Based on observations of system management activities at PT MATRA, it is still found to use conventional systems. For example, there is still data recording related to accounting that is done manually, so a system is needed that will make it easier for companies to provide the project information needed quickly and accurately. To be clearer about the information system designed for PT MATRA, this study uses problem analysis, needs analysis, and accounting information system design.

The following are the stages that will be passed starting from the analysis of problems to entering the design section of the accounting information system:

1.1 Problem Analysis

Problem solving is part science and part art. This is a state of mind that requires a lot of thought and analysis. The solution to the problem requires a logical approach to sorting out a lot of data. Keep in mind, the solution is never clear. PIECES itself stands for Performance, Information, Economics, Control, Efficiency, Service. These PIECES have six sections, each of the six checklist sections is created, each checklist in the name will cause problems (Nugraha, et al. 2021). The problem analysis in this study uses PIECES analysis which will be adjusted to the problem in one of the research objects, namely PT. MATRA as follows:

Table 1. PIECES Framework

No.	PIECES Analysis	Old System Problems
1.	Performance	Having difficulty in finding documents because they are not well archived, so it takes a long time to prepare one document. In the end, it lowers the company's performance.
2.	Information	Funds for material purchases are less detailed and the stages are not clear from the selection of vendors to the purchase. The criteria required in vendor selection are also not well mentioned.
3.	Economics	Operational costs are quite high in the use of paper because it does not adhere to a paper less system. All reports and approvals must be printed.
4.	Control	There are no restrictions on data access where all employees can access company data, even sensitive payroll data.
5.	Efficiency	Making reports for directors still takes a long time because they still use a manual system, so they cannot be automatically integrated into reports.
6.	Service	The resulting information is still difficult to use in decision making due to the absence of a financial analysis system that automatically shows the financial condition concisely.

By using PIECES as a tool to analyze the old system in detail and comprehensively, it will receive special attention so that the problems of the system can be known so that it can be used as a reference for further development of the company's accounting information system design (Muslih, et al. 2021). Thus, the analysis of the need for an accounting information system for construction companies can refer to the analysis of the problems already described using the above PIECES analysis.

1.2 Needs Analysis

System needs analysis is one of the main points needed to improve and support system performance, in addition, needs analysis can define and prioritize company needs, reduce errors and omissions in needs analysis that can result in

user dissatisfaction with the final system (Wiwit & Harry, 2021). The following is a flowmap designed by PT MATRA as one of the contractor companies working on the project.

1.2.1 Project Submission Flowmap

This chart describes the document flow or also called the form flow which shows the flow of incoming reports and forms from customers in the form of copies of documents for goods to be ordered (Fahriza, et al. 2019). For more details, you can see the following flowmap image:

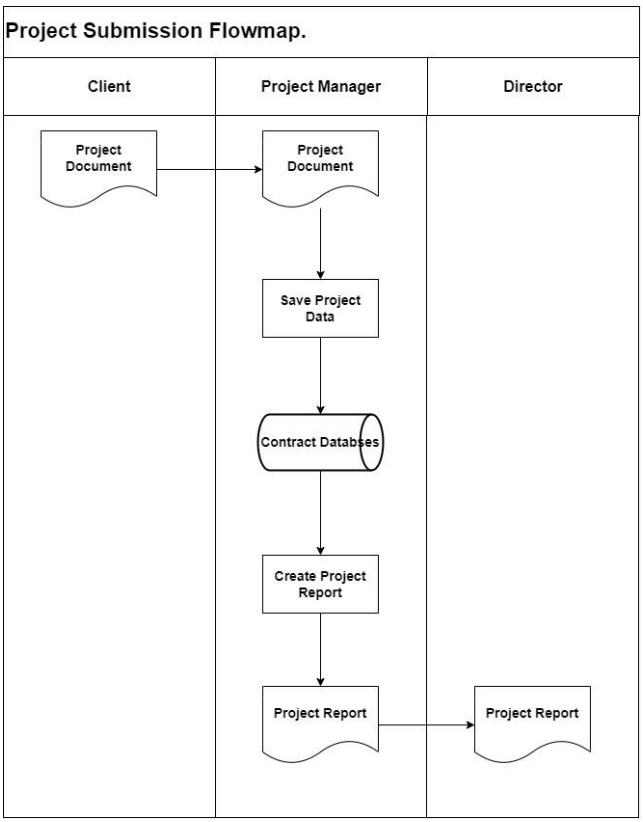

Figure 1. Flowmap Project Submission Flowmap

Figure 1 mentions the pipeline for the initial project which consists of:

a. On the initial page of the web Client is asked to do sig up using email or mobile number, then fill in complete personal data, after doing sig up the client will get an OTP code that has been sent via email or mobile number used when verifying personal data. Verification is carried out to ensure the correctness of the client's personal data. After verifying the client will get access to use the application by logging in first and the client can access all the features in the application according to client needs and can place

procurement orders, other activities online easily and without waiting for a long time.

b. After doing this log the client will have access to create project documents through the company's application, project documents consisting of personal data, selection documents including project budgets, project drawings complete with specifications of desired construction materials, including specifications of tools that must be used, project location, implementation time, and qualification documents for project administration needs.
c. The project documents created by the customer will be forwarded by the system to the Projeck Manager for study. The Projeck Manager will confirm the documents, if the documents are appropriate, a project report is made consisting of details of the bid price (a list of quantities and prices to be submitted to the client), preparing a draft letter of agreement and a technical offer letter. Project reports will be saved automatically by the system and asked for approval from the director.
d. Project reports that have been stored in the system will be forwarded to the director, the director will check the report again, if it has been adjusted then the director will give approval to the project that has been designed.

1.2.2 RAB Creation Flowmap and Project Schedule

The purpose of the system is to produce a design that can later help the process of managing project data on goods data and project work data as well as detailed data on cost budgets (RAB) and reports that are expected to be well integrated in the database (Aji & Heri 2022). It is hoped that this design can achieve the target needs and make it easier for PT MATRA to carry out its business. The following is a flowmap designed to make it easier to make RAB and Project Schedule, namely:

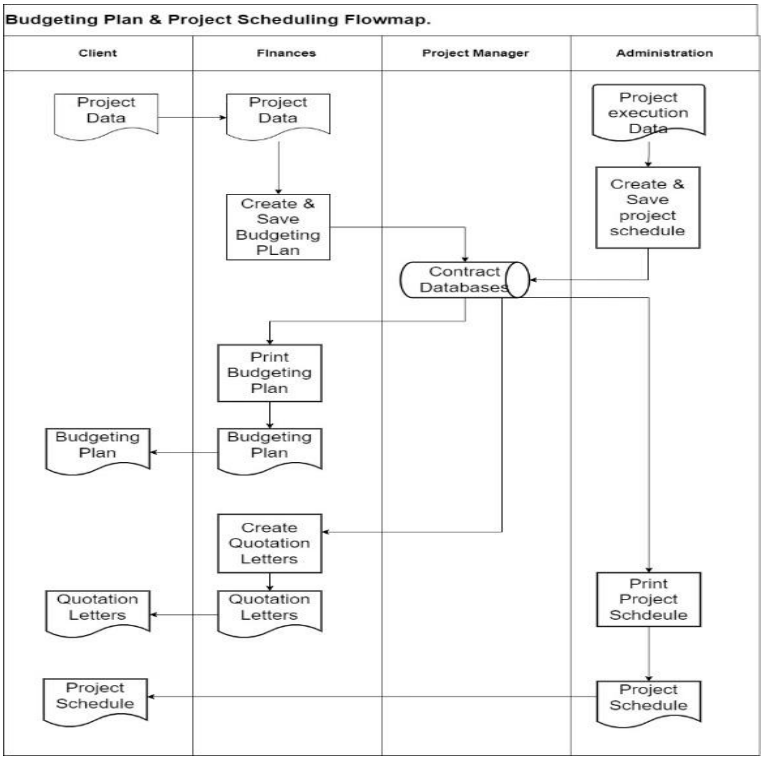

Figure 2. Budgetting Plan & Project Scheduling Flowmap

Figure 2 illustrates the relationship between objects that have a role in the cost management process in the system. The client has a role to register data again, the client can see the products offered, can access the ordering system and fill out the form according to the client's integrity. Finance has a role to design the costs that must be incurred by the client according to the order. The project manager has a role to check reports and archive client data and the administration has a role to receive order data from the client, provide notifications to the client and process submission documents from the client. The following is an overview of the system process that is designed and developed using programming languages as follows:

a. Customer project data is forwarded to the financial division, from the project data received by the financial division to prepare a Cost Budget Plan (Project RAB) which consists of preparing the cost of the type of worker, type of work stage, material resources, expert resources, shipping costs, as well as determining the amount of volume and unit price for each material resource and expert resource to be used.
b. Continued to the administrative department, the administrative department compiles and inputs data on the realization of all forms of procurement

and use of resources in accordance with the Cost Budget Plan (Project RAB) made by the financial division, then the administrative division makes a project schedule to be submitted to the client.

c. The data inputted by the finance and administration department is forwarded by the system to the project manager for evaluation if it has been approved then the project manager, if it is not appropriate it will be returned to each division, if the data is appropriate then the financial division will print the RAB and send it back to the customer and the administrative division will print and input the approved project schedule.
d. If the customer has approved the RAB that has been designed by PT MATRA, the financial division will print the SPH (Price Quotation Letter) and send a Price Quotation Letter to the client.
e. After the Quote Letter is approved by the client, the administrative division sends the designed project schedule to the client in accordance with the agreement.
f. The project schedule is passed on to the customer through a pre-designed system.

1.2.3 Project Submission Flowmap

The difference between the old project procurement information system and the one to be proposed is in the processing of the data, if the old one uses manual methods and documents or data in the form of books while the new information system uses computer tools and is carried out automatically so that it is computerized (Herman, 2020). This will make it easier for PT MATRA in the process of making data, storing data and being able to reach customers throughout Indonesia. For customers do not need to come directly to the company, project procurement needs and payments can be made online through the system that has been designed. The following is a flowmap scheme at the time of payment.

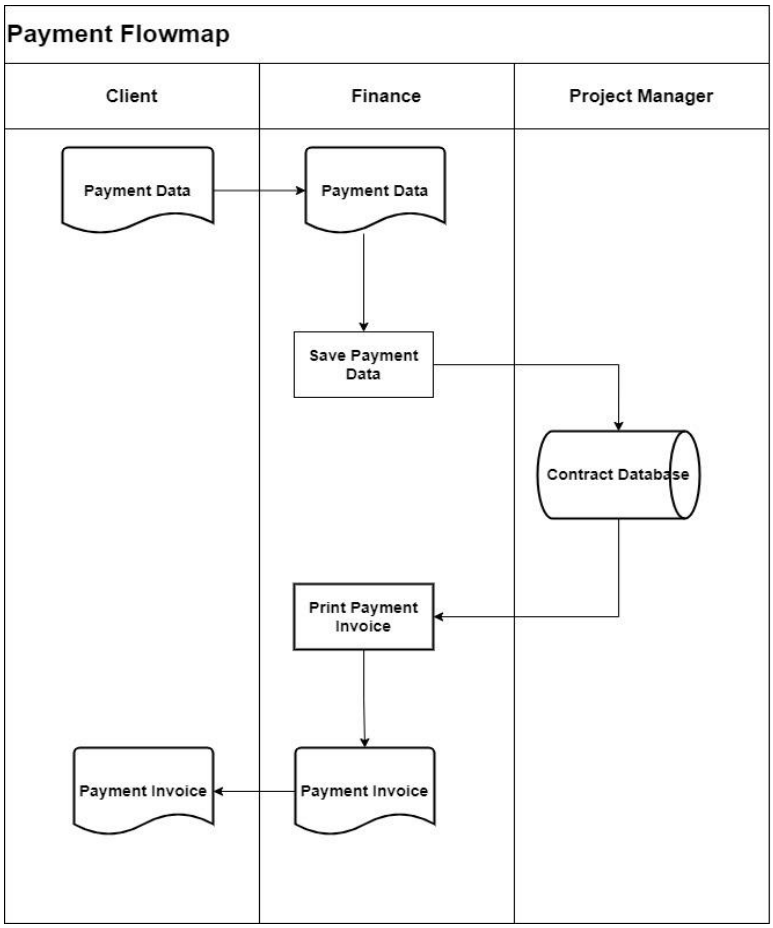

Figure 3. Payment Flowmap

Figure 3 illustrates the scheme of how the payment process is between the customer and PT MATRA.

1. After the customer data is entered into the company database, the system will make a list of payments, in the form of payment dates, forms of cash/credit payments, and payment nominals.
2. The payment list made will be forwarded by the system to the project manager division for cross-check and to get approval and data will be archived.
3. After obtaining approval from the Project Manager, the system automatically prints the payment invoice.
4. The Finance Department will send payment invoices to customers through the system and the payment invoices are input and saved into the database.
5. The customer obtains proof of payment invoice and makes a payer with the nominal as stated on the invoice.

1.3 Accounting Information System Design

At this stage, the company, namely PT MATRA, made a proposed system design to meet the needs of users, namely clients. This data design is carried out after there is an overview of the needs of the system from the user's point of view, namely the client. The construction of the system begins with. The following is the system design for PT MATRA as follows.

1.3.1 Context Diagram

A context diagram is, a diagram that illustrates the relationship between the external entities, inputs and outputs of a system. In other words, in the context diagram there is an explanation of what systems will be built and what external entities are involved, in the context diagram there is also an explanation of the incoming data flow and the outgoing data flow (Wati & Albert, 2022). From the identification that has been carried out, a context diagram can be designed that will illustrate the relationship between external entities and the PT MATRA project procurement provision system.

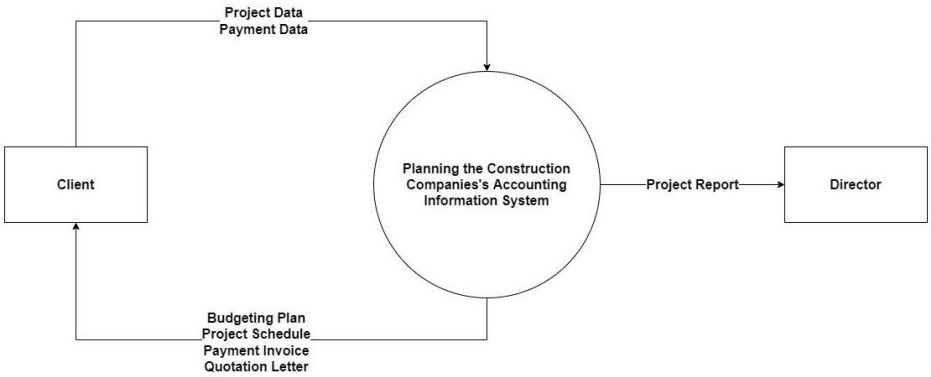

Figure 4. Context Diagram

Figure 4 above explains that consumers provide input or input into the information system in the form of data related to mortgage projects. The data entered starts with login, project data, payment plan data. Registration and login and ordering of project procurement carried out by consumers will enter the company's information system then will be confirmed and received by the projeckt manager from the data obtained will be designed e-business related to project pawnshops, project design data will then be forwarded to the company director for evaluation and cross check. After cross-checking if it is appropriate, the director will give approval to the project that has been designed, otherwise the

data will be returned by the system to the manager's procet department for revision in accordance with the provisions of the director. If the data is appropriate, the system will send it back to the project manager and forwarded to consumers in the form of a budgeting plan, project schedule, payment invoice and quotion letter.

1.3.2 DFD (*Data Flow Diagram*)

DFD is a data diagram that is made to describe the origin of the data and where the data will be passed by the system, where the data is stored and what output the data produces (Dahlan, 2015). The context diagraph designed for PT MATRA will be broken down into 3 (three) processes and multiple data streams. For information on each of them, it can be seen in the following data design:

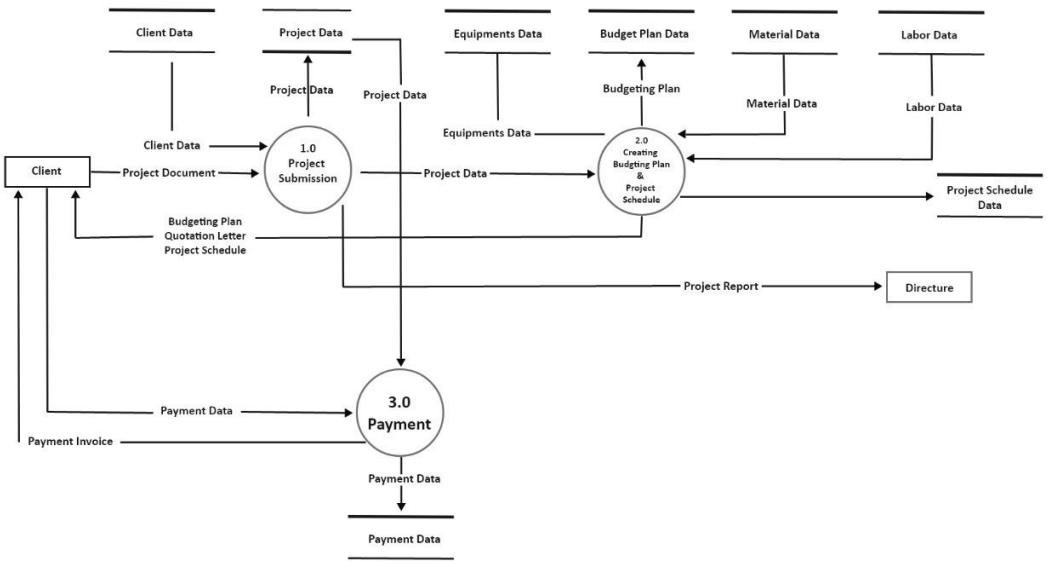

Figure 5. Data Flow Diagram

Figure 5 illustrates the scheme of how to process payments between customers and PT MATRA:

a. Project submission. Input data in the form of consumers registering and logging in, then inputting data in the form of project procurement documents into the system. The output that is produced is in the form of login data info and project procurement data info, which will be processed to manage project master data.
b. Creation of RAB and project schedule. Input data in the form of RAB data

(tool data, material resource data and labor data, from existing data is made detailed data on project schedules that will be input into the system. The resulting outpuk is in the form of RAB data info (Tools needed, material resources, and labor data) which will be processed to create a project report consisting of schedules and project plans that will be forwarded to the director to obtain project procurement approval.

c. Payment. From the project report that has been designed, payment data is made in the form of payment invoices by the finance department which is then inputted into the system and will be forwarded to consumers. The resulting output is payment data that will be received by consumers.

1.3.3 *Entity Relationship Diagram* (ERD)

The Entity Relationship Diagram (ERD) describes the relationship between an entity and another, using a link, namely relationships. Entity relationship diagrams are a form of modeling to describe relationships, (Al-Hashimy & Yusof, 2021) (Nor & Mageswary, 2020). The symbols that are usually used in ERD are rectangles that express the set of entities, circles or ellipses that express attributes, rhombuses that express as the set of relations, lines as links that express the relationship between relationships with entities and between entities with their attributes, (Eka & Renaldo, 2020). The graph that identifies data objects and their relationships can be seen in the ERD, As for the ERD that is designed for PT MATRA is as follows:

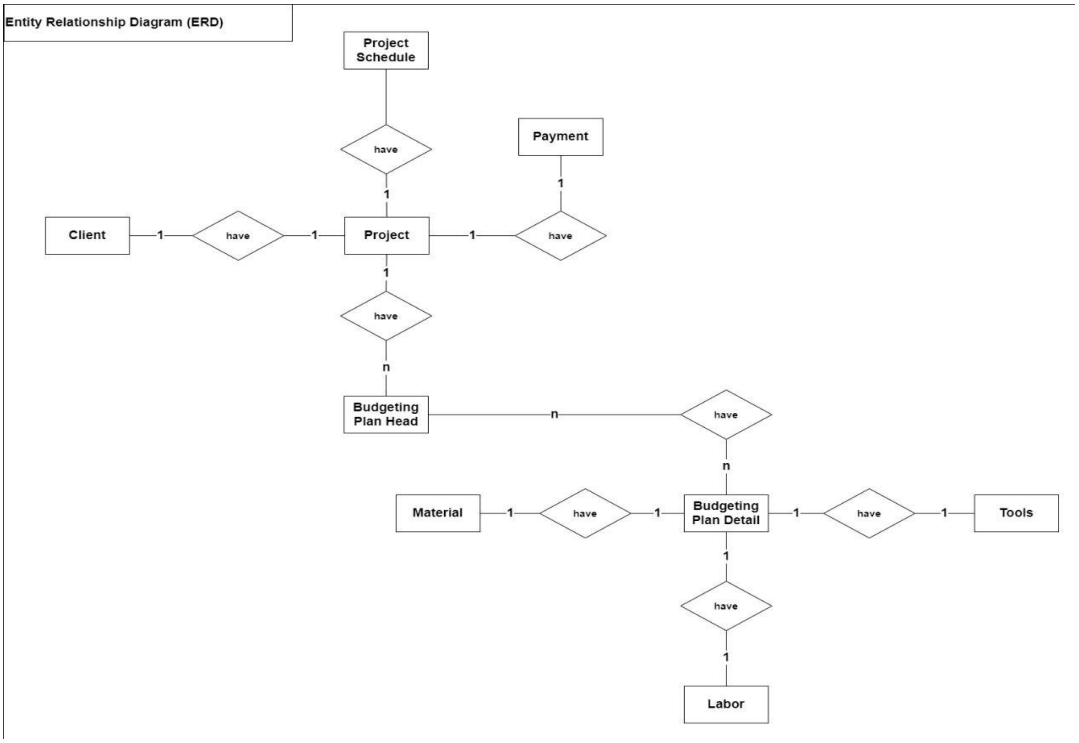

Figure 6. Entity Relationship Diagram (DFD)

Figure 6 above explains what entities, attributes, and processes occur when consumers experience it. The ERD can be used as an illustration to create a database system at PT MATRA. It can be seen in the diagram above that there are 8 entities in it, this system allows clients and PT MATRA to access the form on the main menu in which there is a menu and sub menu of each item. The client can open and access the menu contained in the system which consists of:

1. The project is a activity proposed by the client to PT MATRA.
2. Project schedule or project schedule made by the company to make it easier for clients and companies to run projects that have been designed.
3. Payment relates to the payment that will be issued by the client.
4. Budgeting plan head is one of the most important things in the system related to how much expenses will be incurred by the client, for the company to refer when meeting client needs so as not to lack or excess funds.
5. Detailed budgeting plan is related to a detailed budget plan made per item according to client needs, to find out the amount of expenditure for each item.
6. Materials are related to material management planning at the time of

procurement to avoid the occurrence of material shortages or unavailability at the project site or client needs, and in terms of safety it is expected to avoid any loss of material loss due to irregular storage.

7. Tools are tools needed in project management for the success of activities that have been designed related to the description of the job description structure, project baseline, plans in communication management and team building activities to ensure a regular and relevant flow of information between the proyeck team, clients and the company.
8. Labor relates to the manpower needed for the smooth running of the project. The workforce is determined when the project schedule is designed according to the size of the project and the budget that has been set.

Discussion

The use of an accounting information system will provide benefits for PT MATRA in conducting its business, namely it can save costs in the company's operational activities, facilitate the data transfer process, data is delivered faster, storage is guaranteed, information is processed and done directly so that there is no delay in information that will cause waiting time between clients and companies and between divisions in the company, and the company can manage production properly without any waiting time on the production side. With the system designed for PT MATRA, it is hoped that it will better support all operational activities that are already running, the company can control reasonable activities. Management also conducts periodic reviews to determine choices/decisions in the event of unwanted performance.

With the design of a system in the form of a project submission flowmap that will make it easier for clients when filling in personal data and project procurement documents, designing a flowmap system for making RAB and project schedules will help companies and process budgeting plans and schedules when the project can be done, planning a project submission flowmap system related to payments, designing context diagrams will make it easier for companies to describe input data that will be processed so as to produce output data (output), design data flow diagram describing the origin of data and the purpose of data

after processing and finally designing an entity relationship diagram (ERD) describing the relationship between each division and the task of each division.

CONCLUSION

Indonesia is ramping up infrastructure development in various regions. Therefore, many construction companies have sprung up ranging from small to large scale. However, the obstacle that often occurs is that there are still many companies that do not have a good accounting information system. Most of them still use a manual recording system even though their income is already considered high. This research succeeded in designing an accounting information system that in general can meet the needs of various construction service companies in Indonesia. It is hoped that this research can be continued at the stage of implementing an accounting information system in construction service companies.

REFERENCES

Afriza, Eka Sri Dana, and Wiwiek Mardawiyah Daryanto. (2019). "Measuring and Comparing the Financial Performance of Construction Industry: An Indonesia Experience." *International Journal of Business, Economic, and Law* 19(1): 59–73. http://repository.ipmi.ac.id/645/.

Aji, P., & Heri, H. (2022). "Aplikasi Perhitungan Biaya Pembuatan Bangunan Rumah Tinggal Pada CV. SANCITA. JEJARING." *Jurnal Teknologi dan Manajemen Informatika* 7(1): 38–45.

Al-Hashimy, H. N. H., & Yusof, N. A. (2021). "The Relationship between the Computerized Accounting Information System and the Performance of Contracting Companies." *Materials Today: Proceedings*.

Anouar. H., & Brahim. H. (2020). "System Analysis : A Literature Review." *Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management* 5(6): 2774–85.

Aris, Joko Pramono. (2016). "Sistem Informasi Manajemen Proyek Kontruksi Baja Pada CV . Kumis Kontraktor."

Awosejo, O.J, Kekwaletswe, R, M, Pretorius, P and Zuva, T. (2013). "The Effect of Accounting Information Systems in Accounting." *International Journal of Advanced Computer Research* 1(2): 21–31.

Cahya, Mulyani, and Indrayadi. (2017). "Rancangan Database Manajemen Material Pada Proyek Pembangunan Gedung (Studi Kasus : Proyek Pembangunan Hotel Ibis Pontianak)." *Teknik Sipil*: 1–9.

Dahlan, A. (2015). "Digital Library Information System Development at Malikussaleh University With SDLC (System Development Life Cycle)." *International Jornal of Computing and Technology* 2(7).

David Kocsis. (2019). "A Conceptual Foundation of Design and Implementation

Research in Accounting Information Systems." *International Journal of Accounting Information Systems* 34(1): 1–10.

Eka, Y. A., & Renaldo, P. (2020). "Rancang Bangun Sistem Aplikasi Penataan Barang Dengan Menggunakan Metode Naïve Pada Bengkel Usaha Laris." *Jurnal Sains dan Teknologi (JST)* 10(2).

Endang, A. H. (2022). "Perancangan Sistem Informasi Pemantauan Inventory Stock Pada Kalla Beton." *Notasi* 1(1): 30–35.

Fahriza, S., Mubassiran., & Virdiandry, P. (2019). "Sistem Informasi Weighing Berbasis WEB (Studi Kasus : PT. Kalbe Morigana Indonesia)." *IMPROVE Jurnal Ilmiah Manajemen Informatika* 11(2): 13–19.

Fernanda, F., & Devitra, J. (2021). "Analisis Dan Perancangan Sistem Informasi Penggajian Karyawan Harian Pada PT. Sukaya Jambi." *Jurnal Manajemen Sistem Informasi* 6(1): 70–82.

Gofwan, Hassan. (2022). "Effect of Accounting Information System on Financial Performance of Firms : A Review of Related Literatures." *DEPARTMENT OF ACCOUNTING – 2nd Departmental Seminar Series with the Theme – History of Accounting Thoughts: A Methodological Approach Page*. 57–60.

Gunawan, D., Alfarizi, S., Ichsan, N., Basri, H., & Mulyawan, A. R. (2022). "Implementasi Metode Prototype Dalam Perancangan Sistem Informasi Upah Pasang Material Konstruksi." *Implementasi Metode Prototype Dalam Perancangan Sistem Informasi Upah Pasang Material Konstruksi* 9(1): 73–82.

Hanifi, Farhad, and Asgar Taleei. (2015). "Accounting Information System and Management's Decision Making Process." *Management Science Letters* 5(7): 685–94.

Herman, P. Z. (2020). "Perancangan Sistem Informasi Logistik Berbasis Web Pada PT Unitama Huting Mandiri Menggunakan Metode Waterfall." *Remik (Riset dan E-Jurnal Manajemen Informatika Komputer)* 2(2): 19–34.

Hla, Daw, and Susan Peter Teru. (2015). "Efficiency of Accounting Information System and Performance Measures – Literature Review." *International journal of Multidisciplinary and Current research* 3(Sept/Oct): 976–84. http://ijmcr.com.

Jogiyanto, H. M. (2017). *Analisis Dan Desain (Sistem Informasi Pendekatan Terstruktur Teori Dan Praktek Aplikasi Bisnis)*. Yogyakarta: Andi.

Kesai, Panani et al. (2018). "Indonesia Position in the Globalization of Construction Industry." *Journal of Physics: Conference Series* 1114(1).

Martha, Deny, and Vira Violeta. (2019). "Perancangan Sistem Informasi Akuntansi Pengeluaran Dana Kas Kecil Pada Pt Graha Sarana Duta (Telkom Property) Information Systems Design Accounting of Small Cash Withdrawal Funds At Pt Graha Sarana Duta (Telkom Property)." *Sigma-Mu* 2: 13–22.

Muslih, M., Wardhiyana, L., & Widianto, S. R. (2021). "Analysis and Evaluation of ERP Information System User Satisfaction PT Bozzetto Indonesia Using Pieces Framework." *Jurnal Mantik* 4(4): 2588–98.

Noori Hussain Al-Hashimy, Hisham, & Nor'Aini A. Yusof. (2021). "The Relationship between the Computerized Accounting Information System and the Performance of Contracting Companies." *Materials Today: Proceedings* (xxxx). https://doi.org/10.1016/j.matpr.2021.03.426.

Nor, A. M. S., & Mageswary, M. (2020). "The Reflections the Using of Oracle Data Modeler in Creating Entity Relationship Diagram (ERD)." *International Journal of Research Publish (IJRP.ORG)* 1(20): 26.

Nugraha, U., Rijayana, I., Samihardjo, R., Sapanji, R. V. T., & Lestari, S. (2021). "Analysis with the Pieces Framework in the Xyz Village Service Information System." *Education (RIGEO)* 11(6): 132–37.

Rosa. D., & Purfini, A.P. (2019). "Analysis Effect Quality of Accounting Information System to Support Company Perfomance." *IOP Conference Series : Materials Science and Engineering* 62(1): 1–6.

Sukmadinata, N. S. (2018). *No TitleMetode Penelitian Pendidikan*. Bandung: PT Remaja Rosdakarya.

Susanto, A. 2013. *Accounting Information Systems, Structure-Control-Risk-Development*. Bandung: Lingga Jaya.

Ta, Quang Binh, and Thi Thuan Nguyen. (2020). "Impact of Factors on the Quality of Accounting Information System in Civil Engineering Construction Enterprises." *Management Science Letters* 10(13): 2985–92.

Wati, W., & Albert, D. Y. W. (2022). "Design Data Flow Diagram for Supporting the User Experience in Applications." *International Journal of the Internet and Managemen* 25(2): 14–20.

Wiwit, I., Luh, M., Harry. B. (2021). "Analisis Dan Perancangan Sistem Informasi Akuntansi Industri Kecil Menengah (SIA-IKM) Menuju Masyarakat Ekonomi Kreatif." *Jurnal Ilmiah Akuntansi Universitas Pamulang* 9(1): 78–91.