PROJECT MANAGEMENT INFORMATION SYSTEM IN PT. DALIMA PUTRA PERDANA

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ABSTRACT

PT. Dalima Putra Perdana is a company engaged in General Contractor and Supplier. Many projects are experiencing some barriers in workmanship not in accordance with the scheduled one example is project SUTT Unggaran. SUTT's project Unggaran work often experience delays, the delay is caused by several factors, namely: the many activities undertaken project work not in accordance with the schedule of planning, the lack of record-keeping would risk faced and how to handle, as well as the lack of control of the project cost and time.

Based on the problems that arise, then the required analysis of scheduling, approach the possibility of risks that will appear, as well as an analysis of the estimated time and cost of projects to tackle projects that would be carried out. The method of Critical Path Method (CPM) is used for scheduling the project and determine the critical path of the project activities, to conduct an assessment of the risk of the emergence of opportunities by combining and its effects used methods of Probality Impact Matrix method (PIM), as well as methods of Earned Value Management (EVM) is used for controlling the time and cost of the project and the estimated cost and time, EVM is used because this method is able to perform the calculations for cost control and project time.

Based on the description of the test results has been done, based on the calculation method of the CPM, PIM and EVM, SUTT Unggaran project, this system can help project managers in scheduling, helping create the risk so that barriers could emerge that project identification in advance, as well as the estimated costs and time in order for the planned cost and time can match the craftsmanship of the project until completion.

Keywords: project management, critical path method, cpm, earned value management, evm, probality impact matrix, pim..

INTRODUCTION

1.1 Background Problem

PT. Dalima Putra Perdana the company is one of the General Contractor and the Trading in particular in the field of construction services and sub field of Mechanical Electrical & dating back to 1992. The main business of PT Putra Perdana Dalima is working on the construction of high-voltage air duct (SUTT) as a means to transmit electric power in an effort to meet the needs of electricity supply. PT. Putra Perdana Dalima is a company that has experienced working on 47 projects since 1992 until 2013.

Based on the results of the interview with Mr. Ucu Sadeli as project manager, construction of the tower type DDR6, BB6, DD6 and on Unggaran in Purwodadi SUTT project began to be undertaken in 2011 and the planned operation in 2012. But the new tower type third operational recently began operating in September 2013. Many of the tenants work activities not in accordance with the planning schedule. One is at the time of starting the construction of the tower DDR6 completed in June 2011 is not as planned, i.e. in April 2011. This has an impact on the working of the two other tower so it can't be dikerjaan just in time has been planned.

Workmanship construction project SUTT in Ungaran Purwodadi in may 2013, noted there are 8 Foundation has not yet been completed and 38 process of stringing conductors or the withdrawal is not yet completed, because a lot of land which has not been free, the contours of the land are difficult to predict and delay the needed materials. The risk always appear during project work project work experience which results in delays, which consequently expenditure budget cost of work that exceeds weights predetermined budget, thus affecting estimates of cost and time.

Project Unggaran Mr. SUTT Ucu Sadeli as project managers also experienced difficulties in the control of waku and project costs, because of the work that are experiencing delays to coincide with the work of other projects that should be carried out on the same date. This result is also the project manager of the difficulty in controlling project cost and time when the work of the project is underway.

Based on problems that have been presented in the interview, a solution that can be done is the need for proper scheduling so that project managers can reduce the chances of delays that occur by means of two or more project activities can be completed simultaneously. This can speed up the work of the project before the end date specified projects workmanship. The next solution is the need for risk management at the time of project planning to project work. Risk management is required in order for the possibilities of risk that arise can be minimised. Project management is carried out starting from the identification of risks to the mitigation of risk of the project so that the risk of appearing dimitigasi can properly and do not experience barriers. The next solution is the need to control costs and project timing on when the project is underway, so that when the work of the project suffered delays or workmanship not in accordance with the project specification work, projects can be dikendalian by way of doing evaluation periodically. Evaluation of the costs and the time required for the project project manager can do the estimated project cost and time until the project ends.

1.2 Outline Of The Problem

Based on the background that had been featured on a number of 1.1 then the formulation of the problem is how to build a management information system project at PT. Dalima Putra Perdana.

1.3 Purpose and Objectives

The intent of the research done that is, membanguna project management information system in PT. Dalima Putra Perdana.

As for the goal to be achieved from the results of this research are:

1. Assisting project managers in project scheduling so that the machining process of the project according to the schedule already planned before.
2. Assist the project manager in risk management so that the risks that arise can be dealt with better.
3. Assisting project managers in the control of project cost and time so that the project can be carried out in a timely manner to the end of the project.

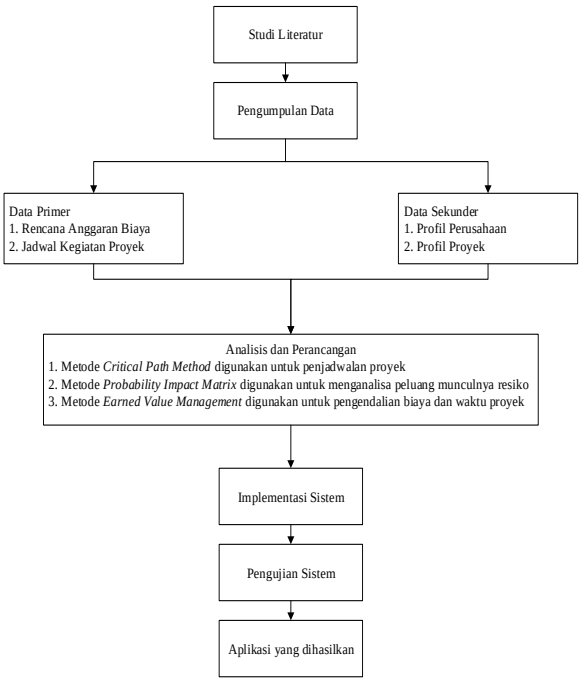
1.4 Limitation Problem

Limitations of the problem done so that focusing the research so that research conducted with targeted advertising. The limitations problem in project management information system in PT. Dalima Putra Perdana, is as follows:

1. The Data used is a data development project SUTT and data Details cost budget (RAB) in January 2013-December 2015.
2. Data processed form input project data such as Actual Cost, Ordinari Date, identification of risk projects, long a work project, and the project name.
3. The process that will be carried out in the form of input data processing risk management projects, project planning, data processing and supporting data for the control of project cost and time.
4. Project Scheduling method using Critical Path Method (CPM).
5. Control of the project, project cost and time using methods of Earned Value Management (EVM).
6. Analyze the opportunities the emergence of risk Probability Impact Matrix method (PIM).
7. The results of the project management information system output PT. Dalima Son Prime form of client Information, project information, information, information project activities project scheduling, project control information, information risk management, information URproyek.dan progress report was presented in the form of a Gantt Chart, MS. Excel and MS. Word..

1.5 Research Methodology

We used in this research is descriptive method. The descriptive method is a method in researching the status of a group of humans, an object, a set of conditions, a system of thought, or a current events class. As for the methodology of the research done on this research can be seen in Figure 1.1 below:



Picture 1.1 Flow Research

1. Study Of Literature
   Study of literature is a method of data collection by way of collecting literature in the form of journals, papers, e-books and other readings related to research done regarding project management software.

2. Data collection
   Data collection techniques used in this research are:
   a. Interview
   Interview done by asking the question directly with Mr. Ucu Sadeli as project managers who are involved directly with the system to be built in order to obtain precise and accurate data.
   b. Observations
   The technique of data collection with the review directly against a things related to issues that are examined.
3. Primary Data
   Primary data is the data subject must exist on the research gained from the results of the data collection steps, of which the primary data include data clerk, data plan costs, schedule project activities, and the implementation of the project activity data.
4. Secondary Data
   Secondary data is data supporting this research, secondary data include data completeness of company data and company profile. Secondary data obtained through the collection of data.
5. Analysis and Design
   At this stage is doing analysis and design of the system. The first phase is done, namely analysis and starting from the analysis of a system that is running is running (the analysis of the problem, an analysis of the running procedures, and analysis of business rules). Further analysis i.e. analysis method (critical path method, the probability of the impact matrix, and earned value management). Subsequent analysis i.e. analysis of Non-functional requirements (user needs analysis, requirements analysis, software and hardware needs analysis). After the Non-functional needs analysis is the analysis of functional needs (SKPL and UML consisting of usecase diagram, usecase scenario, activity diagrams, class diagrams, sequence diagrams). The next stage after analysis that is the design. The design of the first database (table strutktur tables and relationships), the latter designing the structure of the menu interface design, third, fourth, fifth design message design semantics, and the last procedural design.
6. System implementation
   At this stage it does application into the system of design and analysis of the results has been done on the previous stage.
7. System Testing
   At this stage of the testing done against a system that was built so that the system can function in accordance with the research objectives.
8. Resulting Application
   At this stage is the final stage of research, namely implementing systems that have been built in PT.Dalima Putra Perdana. The system can help project managers in project scheduling, risk management and control of project cost and time. next..

1.6 Systematics of Writing

Systematics of writing is organized to provide a general overview of writing a final assignment against will be done. As for the writing of the final report of Systematics as follows:

Chapter 1 INTRODUCTION

Chapter 1 outlines the background, formulation of the problem, the search for solutions to the problems that exist, the mengedintifikasi the problem, determine goals and purpose, the boundary problems, research methods, and Systematics of the writing.

Chapter 2 LITERATURE REVIEW

This chapter discusses the various basic concepts and theories related to the topic of the research done and the things that are useful in the process of analysis of the problem.

Chapter 3 ANALYSIS and DESIGN

This chapter outlines the results of the analysis of the object of the study to find out what problems will emerge and try to solve the problem with applying and modeling tools are used.

Chapter 4 IMPLEMENTATION and TESTING

This chapter discusses implementation, comprising the implementation of hardware, software implementation, application, implementation and testing.

Chapter 5 CONCLUSIONS and SUGGESTIONS

This chapter outlines the conclusions from the results of research as well as suggestions for future development.

1. ISI PENELITIAN

2.1 Theory

2.1.1 Understanding Project Management

Project management is the application of knowledge, expertise and skills, the best technical way and with limited resources, to achieve the goals and objectives that have been determined in order to get optimal results in terms of performance to cost, quality and time, as well as safety. Understanding management in planning and controlling the project is planning, organizing, leading and controlling the company's resources to achieve the goals of the company.

Project management encompasses three phases (Heizer and Render, 2005), as follows:

1. Planning
   This phase includes goal setting, defining the project, and his team.
2. Scheduling

This phase connects people, money, and materials of special activities and uk unt connect each activity to each other.

3. Control

The company oversees resource, cost, quality, and budget. The company also revised the plan and shift or change or manage resources so that it can again meet the needs of the time and cost.

The goal in menajemen project are as follows:

a. on time (on time) as to the time or schedule that is one of the main goals of the project, the delay will result in losses, such as the addition of costs, lost opportunity products enter the market.

b. Appropriate budget (on the budget) that costs must be issued in accordance with a predetermined budget.

c. specification (on spesification) where a project must comply with the specifications.

2.1.2 ***Critical Path Method***

The process of identification of critical path there are a few terms as follows:

a. TE = E (Earliest Occurrence of Event Time)

The earliest or fastest time events can occur, which means that the earliest time an activity derived from the nodes can be started, according to the basic rules of job network, a new activity can be initiated when a previous or previous activity has been completed.

b. TL = L (Latest Event Occurrence Time)

The slowest time still allowed for an event to occur.

c. the Earliest Start time (ES)

Earliest start time is the time the earliest of an activity can be initiated, by showing the expected activity time and the requirements of the order.

d. the Earliest Finish time (EF)

Earliest finish time is the earliest time an activity can be completed, or the same with ice plus the expected activity time.

e. the Latest Start time (S)

Latest start time is the time the slowest to start an activity without delay the whole project.

f. Latest Finish time (LF)

Latest finish time is the time the slowest to complete an activity without delay completion of the project as a whole, or the same with LS plus the expected activity time.

g. D (Duration Time)

Duration is the span of an activity.

CPM is also used in the calculation of the three basic assumptions, namely the project has only one initial event (start) and a terminal event (the finish). Second, the fastest time of occurrence of the initial event is day zero. Third, the slowest time of the occurrence of the event is the terminal LS = ES. As for how the calculation in determining the timing of the settlement consists of two phases, namely the forward calculation (forward computation) and calculation of the retrograde (backward computation). The following explanation of the stages.

1. Calculation Of Forward And Backward On A CPM

On the Critical Path Method, also known as forward and backward calculation to calculate the length or the working time of the project. Calculation of forward and backward on the CPM can be explained as follows:

a. calculation of the Advance on CPM

The purpose of the calculation of the advance on the CPM is to determine the earliest start time (early start) happened. Some of the principles used in a matter forward:

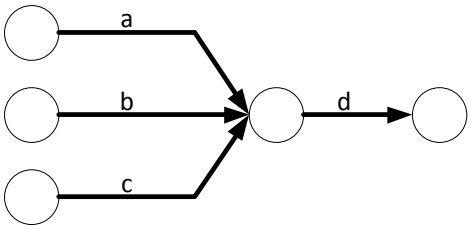
1. Except for the early activity, then a new activity can be started when the finished the preceding activities

ES= 0 ..... (2.1)

2. the earliest finish Time an activity is equal to the earliest start time, plus the activities concerned.

EF = ES + D..... (2.2)

3. If an activity has two or more previous merging activities, then the earliest start time of the activity of the same ICE with the earliest finish time is the greatest EF of previous activities. For example, the calculation of activity in advanced network in Figure 2.3 below:



Picture 2. 3 Advanced Calculations

b. Calculation Of The Backward On CPM

Backward calculations solved by calculating the duration from right to left of the diagram. At the time of doing the calculations backwards, the Late Start and Late Finish would be filled. Some of the principles that are used in the calculation of the retreat were:

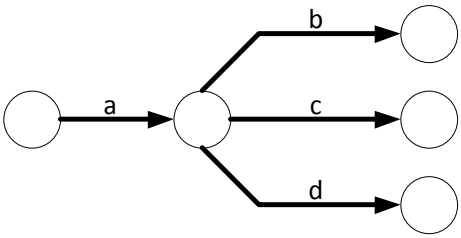
1. Start time end time an activity is equal to the most recently completed period reduced the activity in question.

LS= LF– D ..... (2.3)

2. The earliest finish Time an activity is equal to the earliest start time, plus the activities concerned.

LF= ES + D ..... (2.4)

3. If an activity is split into two or more events, then the final time (LF) the same activities with the late start time (LS) the next smallest activities.



Gambar 2. 4 Backward Calculations

2. Total *Float Calculationt* (TF)

Total Float (TF) as to the amount of time an activity that can be delayed without affecting or delaying the overall project completion time. Total Float showed the amount of time an activity is allowed to be postponed, without affecting the overall project schedule. The total float is calculated with the following formula:

TF = LF – ES – D..... (2.5)

The benefits of the application of the CPM on planning are as follows:

a. in planning and analyzing a project activity with CPM, planners project must have vast knowledge so as to anticipate difficulties in implementation activities.

b. in the completion of the critical path and critical not shown clearly by a diagram of the CPM, so that it can organize the execution of the activities.

c. the existence of communication between implementers with a clearer construction.

2.1.3 *Probability Impact Matrix* (PIM)

Probability Impact Matrix (PIM) s an approach developed using two criteria that are important to measure risk, namely:

1. Possibility (Probability), is the possibility (Probability) of an unwanted incident.
2. Impact (Impact), is the level of influence or the size of the impact (Impact) on the activities of the other, if the unwanted event occur.

Risk assessment basically refers to two factors, namely the quantity of risk and quality risks. The quantity of risks associated with how much value, or impact, which is susceptible to the risks associated with risk of quality while the possibility of an emerging risk. The purpose of risk assessment is to obtain a list of the risks have been assessed based on the levels of impact and likelihood of occurrence. Risk assessment results are then mapped to find out the main risks which should be a priority to be addressed.

a. identification of Risk

Risk management process begins with the identification of the risks as well as identify which aims at creating a list of risks that may occur. This identification process is carried out by means of direct interviews with the company. Identification of risks grouped based on the type of risk.

b. determine the value and impact of the risk

After the stage of identification of risks might be going, then the risk shall be assessed by giving the scale of values using a matrix of quadrilateral Boston (Boston Square Matrix).

Based on the boston matrix assessment of any impact of the risks and opportunities posed to be made in a scale of 1 to 25, where the scale of the stated level of low, medium and high, as described in table 2.2..

Table 2. 1 The Scale Of Risk Level

Skala	Nilai Resiko
1 - 5	Rendah
6 - 14	Sedang
15 – 25	Tinggi

Impact assessment criteria (impact factor) and measurement of the odds (probability) is shown in table 2.3 and table 2.4 here.

Tabel 2. 2 Criteria For Impact Assessment

No	Penilaian	Dampak
1	Sangat rendah (*slight*)	Dampak tidak signifikan dirasakan, kerugian keuangan tidak berarti
2	Rendah (*minor*)	Perlu penanganan langsung ditempat, kerugian keuangan menjadi biaya pengeluaran tambahan (*over head*)
3	Sedang (*significant*)	Perlu ditangani oleh pelaksana, kerugian keuangan cukup berarti
4	Tinggi (*severe*)	Adanya kegagalan, produktifitas menurun, kerugian keuangan cukup berarti
5	Sangat tinggi (*mayor*)	Kesalahan berdampak pada lainnya, perlu penanganan oleh direktur, kerugian besar, perlu penanganan khusus

Table 2. 3 Criteria For The Assessment Of The Likelihood

No	Penilaian	Kemungkinan
1	Sangat rendah (*very unlikely*)	Jarang terjadi, hanya pada kondisi tertentu
2	Rendah (*unlikely*)	Kadang terjadi pada kondisi tertentu
3	Sedang (*possible)*	Terjadi pada kondisi tertentu
4	Tinggi (*likely*)	Sering terjadi pada setiap kondisi
5	Sangat tinggi (*very likely*)	Selalu terjadi pada setiap kondisi

a. determine the level of Interest Risk

The importance of a risk is the multiplication of the values of probability and impact rating obtained from respondents. The value of risk is the multiplication of the values of probability and risk impact rating, the value obtained from the respondents. Where value consists of a scale is 1 to 25 stating the level of low, medium and high probability and impact of each risk. To measure the importance of a risk can use the following formula:

Risk Exposure = probality (outcomes) * Loss (outcomes) ... (2.6)

Where:

Risk Exposure = risk importance probality (outcomes) = value of the probability of the risk

Loss (outcomes) = risk impact Rating

b. handling of Risks

Handling risks is the action that is the processes, techniques and strategies to cope with risks that will probably arise. The response can be a risk avoidance actions, actions to prevent losses, minimize the negative impact of the Act, including procedures to increase understanding and awareness of personnel in the organization. The planned handling should be right against the significant risks, the appropriate cost, timely, realistic in the context of the project must be approved by the parties involved.

2.1.4 *Earned Value Management* (EVM)

Earn Value Method (EVM) Value method or the result is a concept of cost budget calculations in accordance with the work that has been completed. (budget cost of works performed). In other words, the concept of measuring the magnitude of a unit of work that has been completed, at a certain time, when judged on the amount of the budget available for the job. For that would later be known the connection between physically has achieved against the amount of the budget that has been issued.

This method uses the curve S as display information with the X axis indicates the duration of the project and the y-axis for the cumulative costs stated. Where is the advantage of this method is as follows:

1. Information Display method of earned value is more progressive than the conventional S curve.
2. This method could predict the costs and loss of time based on the progress of work tend to be slow, so the additional cost and project duration the end can be calculated with a systematic approach.
3. Information from the predikisi the cost of finishing and finishing time predictions can be used to perform the Act of correction in the form of speeding up the progress of the Exchange project with cost and time or with the addition of labor or overtime as well as scheduling back resources such as manpower, equipment, and materials.

While the weight work is calculated based on unit price jobs according to the value of the contract (excluding VAT of 10%). As for the formula used is as follows:

= ( ) % ..... (2.5)))

The terms used in EVM method is as follows:

1. the Planned Value (PV)

PV or previously known with the budgeted Cost for Work Scheduled (BCWS) is budgeted cost for work that is expected to be within a certain period and is set in the budget. Obtained by multiplying the percentage of the progress of the plan with a budget of total project Budget at Completion (BAC).

PV = (% progress plan) x BAC..... (2.6)

2. Earned Value (EV)

EV or Budgeted Cost of Word Performed (BCWP) budgeted costs is for work already completed. Obtained by multiplying the percentage of progress between that has been implemented with a budget of total project Budget at Completion (BAC).

EV = (% of actual progress) x BAC..... (2.7)

3. Cost Varience (CV)

CV is the difference between the values obtained after completing work with actual costs that occur during the execution of the project.

CV = EV – AC ..... (2.8)

4. Schedule Varience (SV)

SV used to calculate the deviation between EV with PV.

SV = EV – PV ..... (2.9)

To show the details of the analysis of an integrated Variant can be seen in table 1.6.

Table 2. 5 Integrated Variant

Varians Jadwal (SV)	Varians Biaya (CV)	Keterangan
Positif	Positif	Pekerjaan terlaksana lebih cepat dari jadwal dengan biaya lebih rendah dari anggaran.
Nol	Positif	Pekerjaan terlaksana sesuai jadwal dengan biaya lebih rendah dari anggaran.
Positif	Nol	Pekerjaan terlaksana lebih cepat dari jadwal dengan biaya sesuai anggaran.
Nol	Nol	Pekerjaan terlaksana sesuai jadwal dan anggaran.
Nol	Negatif	Pekerjaan terlaksana sesuai jadwal dengan biaya lebih besar dari anggaran.
Negatif	Nol	Pekerjaan terlaksana lebih lama dari jadwal dengan biaya sesuai anggaran.
Positif	Negatif	Pekerjaan terlaksana lebih cepat dari jadwal dengan biaya lebih besar dari anggaran.
Negatif	Negatif	Pekerjaan terlaksana lebih lama dari jadwal dengan biaya lebih besar dari anggaran.

The Schedule Variance
(SV) Cost Variance
(CV) description
Positive Positive Work done ahead of schedule at a cost lower than the budget.
Zero Positive Job done on schedule and costs lower than the budget.
Positive Zero Work done ahead of schedule at a cost within budget.
Zero Work done on schedule and on budget.
Negative zero Work done on schedule and costs more than the budget.
Negative Zero Work done over long periods of the schedule and costs within budget.
Positive Negative Work done ahead of schedule at a cost greater than the budget.
Negative to negative of the work done over long periods of the schedule with a cost greater than the budget.
Project managers often want to know the efficiency of resources, this is expressed with the productivity index or an index's performance. As for the formula used is as follows:
5. Cost Performance Index (CPI)
A factor cost efficiencies that have already been issued can be demonstrated by comparing the value of work that has been physically iselesaikan (EV) with costs that have been incurred in the same period.
CPI = EV / AC ..... (2.10)

6. Schedule Performance Index (SPI)
A factor of efficiency performance in completing the work that is shown by the comparison between the value of the work that had been completed physically (EV) with the spending plan costs incurred based on the plan of work (PV).
SPI = EV / PV ..... (2.11)
When performance results reviewed further, then it would look as follows:
a. performance index < 1 (less than one), then spending is larger than the budget or the execution of the planned schedule.
b. performance index > 1 (more than one), then the lower expenditure performance of budget implementation or ahead of schedule.
c. the greater the difference in performance index of number one, then the greater the deviation from the schedule or budget planning. Even if the value of the index is too high or too low, the possibility of planning budgets or schedules unrealistic.
For more details the assessment of the value of the results of the SV, CV, SPI and CPI can be seen in table 2.6.

Table 2. 6 Assessment Of The Results Values Of Elements

Indikator	Varian	Nilai	Kinerja	Nilai	Penilaian
Biaya	CV	+	CPI	> 1	Untung
	CV	0	CPI	= 1	Pengeluaran = biaya rencana
	CV	+	CPI	< 1	Rugi
Jadwal	SV	+	SPI	> 1	Lebih cepat dari jadwal
	SV	0	SPI	= 1	Sesuai jadwal
	SV	+	SPI	< 1	Terlambat dari jadwal

7. Prediction Of Final Settlement Cost (EAC)
Predikisi the cost of finishing the project Estimate at Completion (EAC) can be calculated by comparison between the Total budget (BAC) and the CPI.
EAC = BAC / CP..... (2.12)
8. The final resolution time Prediction (ETC)
Prediction of final project completion time Estimate to Completion (ETC) can be calculated by comparison of the duration of the project (OD) with SPI.
ETC = OD / SPI ..... (2.13)

2.2 System Analysis

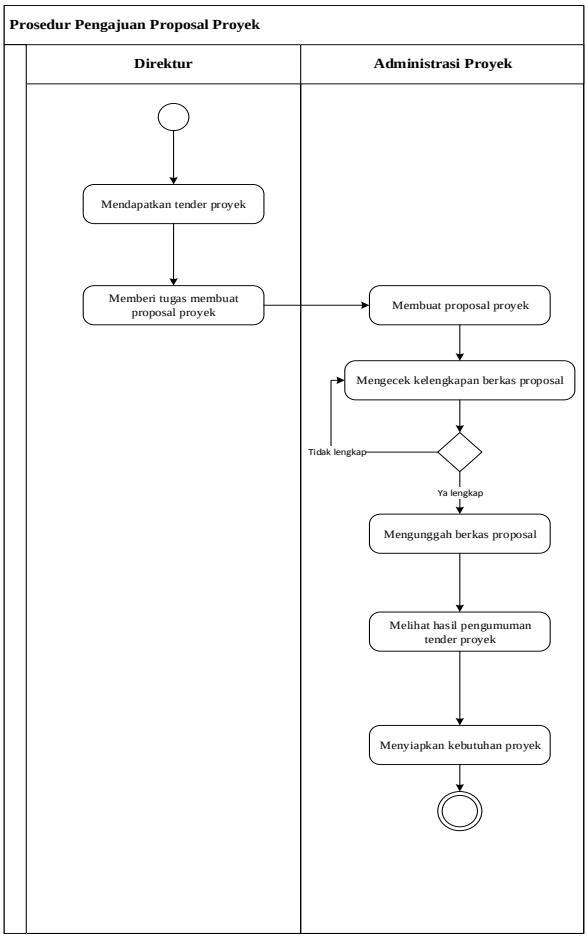
System analysis is the phase to study the interaction of system consisting of principals in the system processes, procedures, data, as well as information related in PT. Dalima Putra Perdana. Stages that are conducted in the analysis system consists of the analysis of the problem, an analysis of the running system, business rules analysis, analysis of requirements and specifications analysis method.

2.2.1 Procedure For Submission Of Project Proposals

Procedure for submission of project proposals is an activity to apply for project tenders as well as government tenders held by private companies. The proposals required for the provider of the tender figure out planning to work contractors in Government and private projects. As for the flow of such a procedure is as follows

1. The Director of Administration commissioned the project to create and prepare a tender proposal
2. Project Administration make proposals for the tender to be submitted. The proposal is the previous project proposals with the required data tailored to the project that is to be submitted.
3. check the completeness of the project file Administration proposals to tender
4. Project Administration project file-upload files to the site provider of tender
5. The results of the tender winner announcement coming out. If the company wins the tender, the company prepared a project needs

The following is a procedure for the submission of proposals the tender project of PT. Dalima Putra Prime can be seen in Picture 3.1.



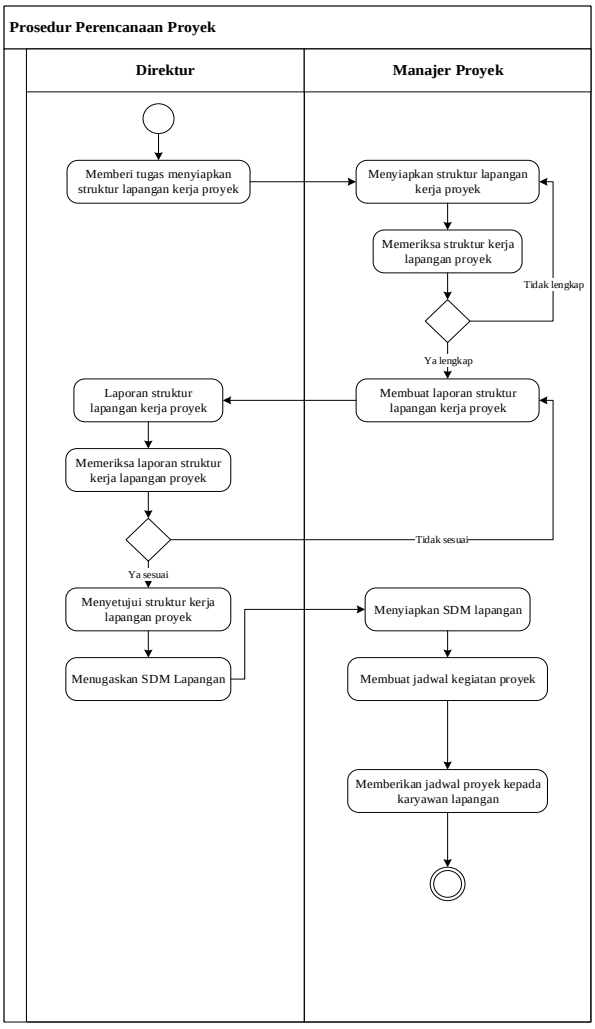
Picture 3.1 Procedure for submission of project proposals

2.2.2 Project Planning Procedures

The procedure of project planning is to determine the activities of a project work plan by setting up a schedule of work projects and organize resources after the company knowing it has won the tender of the Government. As for the flow of such a procedure is as follows:

1. Director of the commissioned project managers prepare the organizational structure of the field project and human resources needed in the working of the project based on the experience of previous projects.
2. Project managers schedule activities based on project work experience project that has been done before.
3. Schedule of activities submitted to the employee field project.

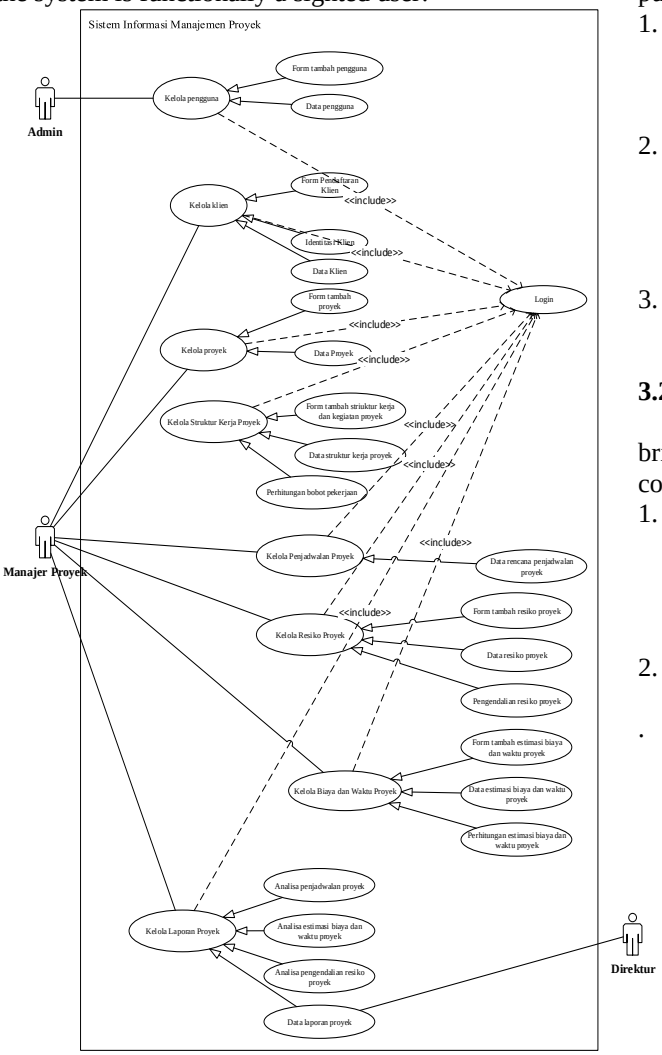
The following is a procedure for project planning in PT. Dalima Putra Perdana can be seen in Picture 2.2.



Picture 3.2 Procedure Project Planning

2.2.3. *Use Case Diagram*

Use case diagram diagram that shows the functionality of a system or class and how the system interacts with the outside world and explains the system is functionally a sighted user.



Picture 3.11 *Use Case Diagram*

3.1 Conclusions

Based on the results of the research and testing that has been done to the system project management in PT. Dalima Putra Prime, you can pull some conclusion as follows:

1. Systems to be built considerable help project managers in scheduling the project so that it can determine the critical path of the project well.
2. Help companies especially project managers in conducting risk analysis approach which emerged during the working of the project so that the obstacles that emerge can be identified and dimitigasi well.
3. System built self help project managers in the control of project cost and time.

3.2 Advice

Based on the results of testing the system, brings about some suggestions that can be made into consideration.

1. Project management systems at PT. Dalima Putra Perdana can be added a few additional features, such as a notification to the project manager when there are jobs that are not resolved.
2. In the absence of this research analysis if tenants are experiencing acceleration.

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3. PENUTUP

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