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INFLUENCING FACTORS ON PROJECT OVERRUN: IS IT INTRAPRENEURSHIP?

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Abstract

Project management has been studied extensively in many schools around the world. Any kinds of projects are often started by an individual, or group of individuals, who once have dreams to tackle on particular issues, in order to make it better, faster, and certainly more efficient. Of course, the world of project management is full with idea and lots of creative thinking, just like the world of entrepreneurship. Hence, though project management is regarded as an important field in management studies and management practices, with lots of available measuring tools, it is often wondered if, in fact, project management has anything to do with intrapreneurship of the project team members.

The purpose of this study is to evaluate the factors that may lead to project overrun. Qualitative and quantitative methods are incorporated in this study to understand underlying causes of the project overrun. Primary and secondary data searches are included in this study, which cover interview sessions and data attainment from PT. XYZ, an automotive manufacturer in Indonesia. The analyses cover the overall planning and actual project. The research attempts to make comparison between the actual and the planning of the project. It is expected that the findings are able to support the notion on the role of intrapreneurs in proper handling on the project management.

Keywords: entrepreneurs, project management, intrapreneurs, project overrun

1. INTRODUCTION

Projects are one of many business activities in organizations, especially in manufacturing firms. To achieve the successful purpose, projects must be well defined and analyzed carefully. Project planning, project control and monitoring are extremely important to make sure the success of a project.

Given the dynamic nature of various projects, a close evaluation on project becomes an interesting issue to study. This is simply due to the fact that understanding potential factors that may affect certain activities, and how the domino effect could occur that potentially delay the continuation of any project tasks, may eventually increase the

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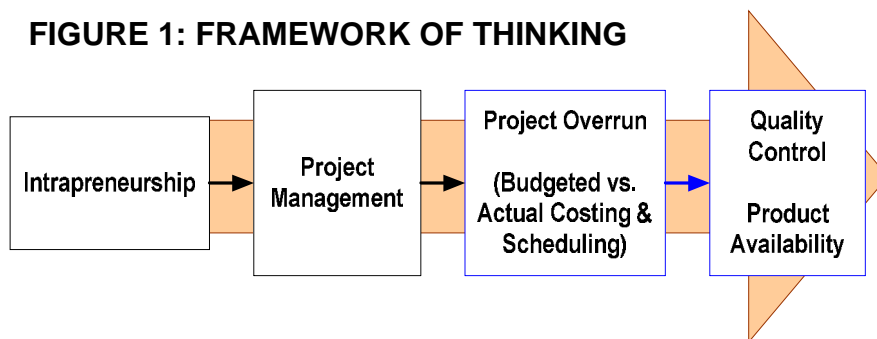
project cost. The major concentration of this research is to find out the planning and controlling process of the overhauling pilot project, mainly in stage of planning and controlling of budget, especially in terms of labor cost, and time schedules. Findings the influencing factors on the budget and schedule overrun may help PT XYZ in handling similar upcoming projects. It is expected that this study can enhance the preparedness of project committee members for upcoming similar issues.

Although there are varieties of projects in PT XYZ, the focus on this study is focused on an overhauling project. This project is part of the equipment or system installation project. In this particular project, two prominent activities include; examination of the vehicles' engine, and physical repair of the vehicle. Although every project may have been well prepared prior to execution, it does not mean that time and cost elasticity will always be under control without any sudden affecting modifications, either internally or externally.

In this study, the project analysis starts with planning analysis to ensure whether there could be any factors in planning process that may contribute to project delay. Next step is the analysis on project process with the same objective as the first step. To ensure that the whole project is run properly, project evaluation is deemed necessary. Therefore, irrelevant factors (internal or external) could be recognized early, and can be resolved with the appropriate actions.

The figure below illustrates the framework of thinking in this study. Although the project covers technicalities on engine examination and repair, however, this research focuses only on the project management's scheduling and budgeting analysis only.

FIGURE 1: FRAMEWORK OF THINKING



2. THEORETICAL REFERENCES

2.1. Project Management

Every project, regardless of size, possesses its own characteristics; from its importance to the organization, or to external parties, specific-end results to aim for, interdependencies, and access to available resources. Projects also have their "temporary" characteristic, such as; team members and personnel, who may be dismantled once the projects are completed (Ahsan and Gunawan, 2009). Stakeholders on particular projects can include numerous individuals, from internal managers, as well

as contractors, vendors and the clients themselves. Generally, the sole purpose of projects is to come up with solutions, whatever they are.

For that reason, project management is essential as it covers a wide range of activities. From the process of planning, organizing, and managing task and resources to aim for the project objectives within specific constraints, particularly in time, resources and cost (Kumar, 2005). Two basic measurements used and closely monitored are time and overall cost. As delay occurs during the project handling, costs tend to rise accordingly. Meredith and Mantel (2006) indicated primary forces behind project management, which are the growing demand for customized products, the exponential expansion of human knowledge, and global production-consumption. These forces suggest that every project management encounters intricacies to find the best possible way toward completion.

In project planning, though every aspect should be carefully prepared, one must also estimate the amount of risks involve during the period of the project. A close attention should be paid into direction, guidance, and timeline (Kumar, 2005; Nazeni, 2010). In addition, system integration, agreed-upon methods, and action steps should be communicated clearly among team members.

Although the actual steps will vary across organizations, however, Meredith and Mantel (2006) pointed out some key elements, such as; objectives, general approach, agreements with internal personnel/division and external parties, schedules, resources (on-hand and to be ordered from vendors), personnel job descriptions and responsibilities on the project, risk management, and evaluation on project.

To increase the complexities in the project management, a particular and specific project budgeting should also be prepared by noting the estimated monetary measurements. In this case, a thorough forecasting on what would be happening in the future is considered essentials (Meredith and Mantel, 2006). In relation to the project budgeting, cost calculations are vital. Though all project elements are important, nonetheless, project costing is definitely one issue that can significantly affect the overall project performance. The estimation of various costs should be accompanied the project management, not only by simply segregate fixed and variable costs, but also direct materials, overhead charges, direct labors, marketing costs, and administrative costs.

Kerzner (2001) has stated that cost overruns are very common incidents in any phase of project development. Some common causes of cost overruns include; misunderstanding the customer requirements, misappraisal of in-house capabilities, underestimating time requirements, inaccuracy of details in work-breakdown, misinterpretation of information, inappropriately used of techniques/approaches, misidentification of cost elements, inaccurate forecasting, inaccurate specification, and other macro economic conditions that are beyond management control. For this reason, it is obvious that project budgeting may hold the ultimate position on importance. If the project budgeting were inaccurate, it would throw-off the project successfulness. Microsoft has suggested few guidelines in managing cost control, such as; adjusting resources requirements to costs/budget, reducing project scope, altering the outcome of

project, and replacing resources assignments.

2.2. Project Resources and Scheduling

Resources management, or often times is also called “material management”, is also considered as one key success factor in field of project management. This is simply due to the vast variations of resources; from tangible resources to intangible resources, from productive resources to unproductive resources, and from fast moving resources to slower moving resources, for instance. Variations of resources include; labor, machinery, locations, capital, information, and entrepreneurship (Anantadjaya, 2007; 2009; Ebert and Griffin, 2005; Meredith and Mantel, 2006). In relation to the large variations of resources, scheduling complexities are just the next issue to handle. If noting the general overview of the overall schedule were not a problem, inserting details of tasks and project elements are (Kumar, 2005). In order to track on the progress of the project, computer tools, such as; Gantt chart and critical path, are commonly used. As one could probably imagine, simply trying to manage the required resources on a particular project, coupled with the intricacies on scheduling issues, the overall costs on the project could potentially jump drastically. This is the basic reason why close control and monitoring on projects are deemed necessary.

2.3. Project Controlling, Monitoring and Evaluation

Aside from the technicalities of the project tasks and work-breakdowns, a project control is important to monitor progress, by simply comparing the project planning with the actual run-down of the project, and justifying any deviations toward the project's objectives (Cleland and Ireland, 2006; Flores and Chase, 2005). This simply means that the actual monitoring activities and constant evaluation should be administered during the entire project life cycle. This is the stage where aligning accumulated costs with the project planning may turnout to be very alarming for the project team and its management. A relatively basic measuring stick in project performance is Earned Value Analysis (“EVA”). This measurement is used in this paper. The formulas are as follows (Meredith and Mantel, 2006);

- Cost variance = earned value of the budgeted cost of work performed – actual cost of work performed. This cost variance is negative when project overrun occurs.
- Schedule variance = earned value of the budgeted cost of work performed – planned value of the budgeted cost of work scheduled. This schedule variance is negative when the project falls behind schedule.
- Time variance = scheduled time for work performed – actual time of work performed. This time variance is negative when there are any delays during the project run-down.

2.4. Intrapreneurship in Project Management

As indicated previously from the perspective of project management, it becomes interesting whether the actual run-down of the projects is related to the world of entrepreneurship. Entrepreneurial activities do not seem to be far apart from risks.

Perhaps, the word “entrepreneurship” can be freely defined as one’s willingness to take and assume risks in relation to one’s available and/or potential resources, situations, and conditions (Anantadjaya, 2007; Iyigun and Owen, 1997; Krug and Metha, 2001; Earle and Sakova, 2001; Yogaswara, et al, 2005). This definition is further polished by Hisrich, et al (2005), who say that the word “entrepreneurship” represents the processes of trying to create something new. In doing the actual sets of process, entrepreneurs often required to assume, both risks and rewards (Anantadjaya, 2007; Hisrich, et al, 2005). This definition appears simple to implement. Everybody wants to create something new; at least creating something different from what the market offers today, is perceived sufficient. It is also believed that by creating something new and different, it is equal to creating value for themselves and their surroundings (Anantadjaya, 2007; Venkataraman and Sarasvathy, 2001).

The study and general discussions on entrepreneurship are commonly encircled around business plans. Though it is called business plans, generally, business plans consists of what project planning is all about - the prediction on overall operations in the future. With a business plan, it is said than an entrepreneur would have a formal documentation in writing, which indicates the path toward future destinations later. Thus, a business plan provides the general view into the future. A business plan also entails constant reviews and evaluations, not only on deviations from the prescribed paths, but also on the current stage (Anantadjaya, 2007; Stutely, 1999). Some people refer to business plans as strategies toward the future. Again, this mirrors the context and content of a project planning.

From the standpoint of entrepreneurs, a business plan is regarded as a mere documentation of notes on what those entrepreneurs are planning to do. In most cases, the successful attainment of goals is based on the entrepreneurial spirit of entrepreneurs themselves. With regards to project management, it is wondered whether the entrepreneurial spirit, or otherwise referred to the intrapreneurship of project members, toward growth and reach the satisfactory outcome may contribute to the successful completion of particular projects. It is expected that the embedded intrapreneurship in the project team members would eventually push every project toward triumphant ends (Yogaswara, et al, 2005). At least, due to hyper-competition among projects within an organization, or competing projects with different organizations, including challenges in technological advancement, shorter product life-cycle, and innovation, intrapreneurship can reveal its true identity in contributing to the victorious achievement, and avoiding project overrun (Anantadjaya, 2007). These factors are integrated to hypothesize the probable cause in project overrun in PT XYZ.

In today’s economy, not only in Indonesia, but also in many other countries, there are few affecting factors that entrepreneurs must acknowledge. These factors are considered separate from any risks entailing the initial set-up of organizations. When entrepreneurs forget to integrate such factors, revisions on business plans could be a major task, and thus, time-consuming. The same is true for project planning. Once the initial predictions overlooked such factors, revision on project planning, including formulations on project budgeting may become a major task and time-consuming.

2.4.1. Hyper-competition

The first troublesome factor is hyper-competition (Anantadjaya, 2007; Hisrich, et al, 2005; Kotler, 2000). In this paper, hyper-competition is referred to competing projects within the same organization, and competing projects handled by different organization in similar product/service lines. Hyper-competition is commonly seen in today's business practices as entrepreneurs face difficulties in trying to match the current stage with what they have planned previously. Hyper-competition is a period where business establishments face constant ups and downs on their cycles as compared to past periods. In order to manage those variations in the business cycles, however, many entrepreneurs must act accordingly to utilize the available resources properly. What those entrepreneurs may have planned before, may have to be totally revised to account for dynamics in the business environment. Often, what is happening across the Indonesian borders can substantially bring major impacts to the domestic business environment. Failure to take on considerations, unnecessary delays in business creations or business developments may result. This is to say that entrepreneurs must take into account all the available resources at the start-up stage; not only to use the funds wisely, but also to minimize exposures toward uncertainties in the near future. In order to face the reality of hyper-competition, it may be that entrepreneurs should use the framework of thinking as in resource-based model. It simply means that entrepreneurs should start with what they already have on-hand. Such conditions definitely experienced also in project planning. Multiple revisions, modifications, and various updates are potentially put any projects into a risky situation of being overrun.

2.4.2. Technological Advancement

Technological advancement is also another important factor to consider by entrepreneurs (Anantadjaya, 2007; Hisrich, et al, 2005; Haag, et al, 2004; Kotler 2000). With the presence of technology, entrepreneurs must act fast as if they have incorporated such technological advancement in their own business establishments. This is not a simple task to do since technology often carries premium price tags. Dauphinais and Price (1998) indicated that technology must be well understood since sizeable leverage can be automatically obtained whenever technology is fully utilized in organizations. Thus, this is to say that entrepreneurs cannot just simply hope for the best for their organizations without actually doing anything, if they are not paying close attentions toward technological advancement in today's market. The traditional delegation style of leading an organization is considered obsolete. Entrepreneurs must involve in any organizational technological absorption and transformation processes. This may reduce the likelihood of potential deviations from the original paths. This condition also contributes to the successful run-down of any projects. With the aid of technology, project run-down may be enhanced, at least from several factors, such as; time, speed, quality, accuracy, ability to perform data mining and data warehousing, forecasting, and potential modifications, for instance.

2.4.3. Shorter Product Life cycles

In contrast to the past periods, product life cycles today are much shorter (Anantadjaya, 2007; Hisrich, et al, 2005; Kotler, 2000; Haag, et al, 2004; Yogaswara, et al, 2005). The hyper-competition has certainly shown its impact on the overall product life cycles. As the competition level rises, organizations are competing themselves to constantly provide new and better products, though mostly with only minor modifications to set their products apart from competitors. This includes superb services toward customers as well as potential customers. As market shifts its objective toward customer-orientation, organizations are forced to pay more attention on the needs and wants of customers. As customers are more demanding than ever, organizations must also strive to meet their demands to stay in business. Doing a good job may not buy customers' loyalty these days (Anantadjaya and Nawangwulan, 2006). Thus, entrepreneurs must put sufficient efforts to ensure that their products are safe in the market, while trying to launch another product in the near future. Having said that, it is apparent that today's entrepreneurs must always be alert of the new product introductions by competitors. Failure to do so may endanger the viability of the business in years to come. Like it or not, project team members also experience this situation. As the project enters different stages in the project life cycle, customizations and special requests from customers may add intricacies in delivering acceptable results. To add the complexities, customizations and special requests may also throw-off the initial project planning and budgets.

2.4.4. Innovation

To successfully take advantage of the above factors, certainly innovation efforts cannot be overlooked (Dauphinais and Price, 1998; Burlton, 2001; Dunham and Venkataraman, 2002; Galliers and Leidner, 2003; Gamsey, et al, 2004; Haag, et al, 2004; Hisrich, et al, 2005; Knyphausen-Aufsess and Bieger, 2006; Irawanto, 2006). People often referred to new product development whenever a word "innovation" is mentioned. At least, this is what most universities, including business schools, are mainly concerned about. Because this appears to be the main agreement toward innovation, courses and curriculums are targeted into product development systems, which gear more toward engineering perspectives. A popular diagram in management, often illustrates the funneling process, which starts from the top of the funnel, but ideas on new products and services emerged from the bottom. In reality, this funneling process may have shown what is really happening. In today's era, however, this funneling process may not be exercised, or even does not exist anymore (Anantadjaya, 2006; 2007).

Dauphinais and Price (1998) indicated that innovations are closely tied into long-term view of strategic outlook. Innovations are often performed by members of top management, which is in contradiction to the popular practice on brainstorming over variety of alternatives. This is logically true since a mere brainstorming with random people in any organizations may not reflect and/or otherwise support the strategic view on organizational objectives. This is to say that those people, who are usually involved with brainstorming sessions, may not have the strategic insights of the organizations. Thus, they may fail to relate the organizational core competencies with the strategic outlook of an organization.

Innovation cannot be considered as a mere outcomes of intelligent individuals. Rather, integrative approaches across divisions in an organization; from organizational strategies, to all departments, such as; research and development, finance, marketing, and production. The ability to manage intellectual and imagination in exploring options, and transform those imaginary ideas into marketable products and/or services, are the assimilated process toward successful innovation. The presence of technology provides an ample leverage toward innovation (Dauphinais and Price, 1998; Kotler, 2000; Burlton, 2001; Dunham and Venkataraman, 2002; Galliers and Leidner, 2003; Gamsey, et al, 2004; Haag, et al, 2004; Hisrich, et al, 2005; Yogaswara, et al, 2005, Knyphausen-Aufsess and Bieger, 2006; Irawanto, 2006).

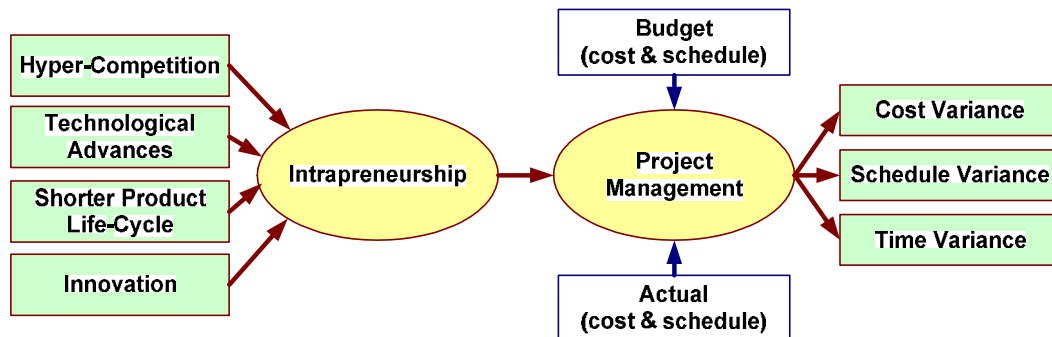
For those reasons, it is obvious that project management, including its project planning and project budgeting, follows the same framework of thinking in innovative actions in handling projects. The satisfactory completion of projects is an integrative approach across divisions. This means that project team members must be integrated their work together in transforming ideas, methods, and other predictions into successful results in delivering projects.

3. RESEARCH METHOD

3.1. Research Model

This paper focuses on a particular organization to study the details on project management. In fact, one particular overhauling project was chosen since it was completed, but well overrun in terms of schedule and costs. PT XYZ has agreed to provide all pertinent information on the overhauling project. PT XYZ is an automotive firm in Indonesia that manufactures vehicles, distributes vehicles and spare-parts. The head office is in Jakarta, and the production plant is located in the outskirts of Jakarta. PT XYZ is considered as a foreign direct investment firm, and it is the sole agent, assembler, and manufacturer of a certain brand of vehicle. For the purpose of this paper, after-sales services (spare-parts) become the focus in trying to learn the causes of project overrun.

FIGURE 2: RESEARCH MODEL



Research was conducted directly in the premises of PT XYZ, including direct observation of common practices in project management, and attainment of secondary

data to support the study. As prescribed, firms strive for minimizing project overrun. Based on this notion, variables chosen to measure the intrapreneurship in project management are; “hyper-competition”, “technological advancement”, “shorter product life-cycle”, and “innovation”. With regards to the intrapreneurship variables, this paper relies heavily on direct observation in the premises of PT XYZ, including interview sessions with the project team members and management of PT XYZ, including the project members, who were directly involved with the project on daily basis. Variables chosen to measure the successful project management are; “cost variance”, “schedule variance”, and “time variance”. Concerning the project management variables, this paper utilizes the available data from PT XYZ. It is expected that this study would be able to reveal the influencing factors on project overrun, whether it is mainly due to technical issues, or more on human soft skills, such as; intrapreneurial spirit.

3.2. Research Variables and Measurements

3.2.1. Variables on Project Management

In terms of project management, variables chosen follows earned value analysis (“EVA”), specifically on “cost variance”, “schedule variance”, and “time variance” (Meredith and Mantel, 2006).

The variable “cost variance” is used to show the comparison between earned value of the budgeted cost of work and actual cost. It is expected that this cost variance is positive to indicate a successful project management (no overrun).

The variable “schedule variance” is used to show the comparison between earned value of the budgeted cost of work and planned value of the budgeted cost of work. It is expected that this schedule variance is positive to indicate a successful project management (not behind schedule).

The variable “time variance” is used to show the comparison between scheduled time for work performed and actual time. It is expected that this time variance is positive to indicate a successful project management (no delay).

3.2.2. Variables on Intrapreneurship

As mentioned earlier, variables chosen to measure the intrapreneurship follow the concepts on entrepreneurship from Hisrich, et al (2005), specifically on “hyper-competition”, “technological advancement”, “shorter product life-cycle”, and “innovation”.

The variable “hyper-competition” is used to show whether the competing conditions internally and externally impact the level of intrapreneurship in project management. It is expected that as project members realize the level of competition, they can potentially show their intrapreneurial spirit in better handling of the projects.

The variable “technological advancement” is used to show whether the availability of

technology and its advancement impact the level of intrapreneurship in project management. It is expected that as technological advancement becomes more dominant, project members can potentially show their intrapreneurial spirit in better handling of the projects.

The variable “shorter product life-cycle” is used to show whether the shortening period on product life-cycle impact the level of intrapreneurship in project management. It is expected that as product life cycle shortens, project members can potentially show their intrapreneurial spirit in better handling of the projects.

The variable “innovation” is used to show whether innovation, including creativity, integration, or continuously searching for best practice methods, impact the level of intrapreneurship in project management. It is expected that as project members increase their innovative thinking and actions, they contribute to the better handling of the projects.

4. RESULTS & DISCUSSIONS

4.1. Overview of Study

The comparison study between the project planning and actual shows that the project overrun happened because a particular spare part was unavailable (axle spare parts). Based on the interview with the overhauling pilot project manager, this unavailability occurred since the vehicle to be re-manufactured was a relatively old vehicle. The non-readiness of spare-parts for old vehicles put this re-manufactured project into delay.

Based on the comparison analysis and discussion, the summaries of differences on each of the tasks within the project run-down and project planning are shown below;

- Dismantling process in the actual project was taken about two more days as compared to the initial planning. This was due to the inaccurate risk assessment on axles dismantling work.
- Investigation in the actual project was occurred during the actual project because the project members execute the project based on technicians’ experience, instead of fully conforming to the planning guide.
- The actual cleaning process took longer than it was originally expected. This is due to the total amount of resources during the actual run-down of projects were less than it was originally estimated. Originally, the cleaning was planned with three resources. However, during the actual project run-down, project members use only one resource for cleaning. This was decided to reduce cost.
- The actual engine project took longer time than it was originally expected as the project included semi-skilled workers. This increases time required for project completion.

- The actual transmission project took longer time than it was originally expected. Similar to the above, this was due to the involvement of semi skilled workers only. As a result, this increases time required for project completion.
- The actual axle project took longer time than it was originally expected since the project only utilized two skilled workers, who are accompanied by two semi-skilled workers. Originally, this project was planned by utilizing four skilled workers.
- The actual engine installation project took longer time than it was originally expected since all required tasks were performed by semi-skilled workers only. This increases the time required for project completion.
- The actual steering project took longer time than it was originally expected since all tasks were performed by the semi-skilled workers. This increases the time required for project completion.
- The actual brake mechanic project took longer time than it was originally expected. This is due to the involvement of only semi-skilled workers. This increases the time required for project completion.
- The actual brake pneumatic and aux project took longer time than it was originally expected since the tasks were performed by semi-skilled workers. As a result, time required for project completion increases.
- Based on the interview and data analysis, one day longer of quality control during the actual project run-down was required due to extra quality audit prior to finishing and approval processes by the management of PT XYZ.

4.2. The Overrun Evaluation

Based on the analysis and comparison of the project planning and the actual project, the schedule overrun may occur because of:

- Unavailability of a spare part, particularly axles, had proven that project overrun occurred in the phase of production stage. Axles are an important part in this overhauling project, without axles, other subsequent processes had to be postponed.
- Another problem was the investigation schedule during the project, which included the physical checking on the spare part availability, took longer time. This portrayed a bigger threat on project overrun.
- During the project planning, workers are assigned to perform specific tasks in a day. In reality, workers can do multitasking to improve the project efficiency.
- In the actual schedule, it also shown that the work sequence was worse than it was originally planned. The time was longer simply because of the postponement of the

previous processes. Undoubtedly, as the tasks were not in sequence, it impacted the overall time efficiency.

- The schedule comparisons between the time schedule in initial working instruction, project planning, and actual project run-down are listed below.

TABLE 1: COMPARISONS ON TIME SCHEDULE (IN DAYS)

SOURCE: PT XYZ, 2010

Working Instruction	Project Planning	Actual Project
50.2 Days	16 Days	37.5 Days

Based on the table above, it is clearly shown that the project planning was not even following the working instruction guidelines. The working instruction is formulated based on the semi-skilled labors. It appears to be using the most pessimistic approximation in viewing the projects. Hence, in this case, the safest allowable time to handle the project is by simply following the working instruction. Based on discussion and interview session with the management, the vastly difference between working instruction and the original project planning was due to the assumptions used in terms of technicians' level of experience. From the above table, it is apparent that the project planning was originally developed based on a lot more skillful technician. It is also clear that the project planning was based on a lot more optimistic approximation in tackling the project. The project members believed that there was nothing wrong with an attempt to save-up time. If time can be reduced, it is also expected that the overall costs in completing the project is also minimized.

Therefore, one perspective can certainly refer to all comparisons between working instruction and project planning, including the actual project. If this perspective was used, it showed that the actual project had saved 12.7 days. The total cost savings can certainly be calculated. Nonetheless, one would argue that a comparison between project planning and the actual project run-down should have been used. If this perspective was used, it showed that the actual project has been overrun by 21.5 days. Again, the total additional costs can be calculated.

From the perspective of project management, the second comparison is commonly used. Regardless of what was actually prescribed in the working instruction, the calculations on project overrun will only be based on the difference between project planning and the actual project run-down. If one would able to step back and look into the whole situation again, it would be clear that the project members were independently trying to take on a more optimistic approach in handling the project. Rather than take the working instruction for granted as 50.2 days, the project members have taken multiple steps forward by cutting the working instruction into a mere 16 days. If this were realized, the actual project would have saved 34.2 days. This should have been a remarkable achievement, indeed. Even with the outstanding of 37.5 days on the actual clock in tackling the project, the total working days saved were enormous. This showed that the project members were willing to take on more risks by formulating shorter project planning, with the expectation that the total accumulated days savings would

reduce the total cost on the project substantially. Hence, the project members attempted to avoid project overrun, delays, and running behind schedule.

Based on the perspective of project management, the difference cost and duration of the project planning and actual is shown below;

TABLE 2: COMPARISONS ON TIME SCHEDULE (IN DAYS)
SOURCE: PT XYZ, 2010

Project	Total Duration (in days)	Total Cost (Rp)	Average Cost per day
Planning	16 days	17,080,000	1,067,500
Actual	37.5 days	21,550,000	574,667
Difference	21.5 days	4,470,000	207,907

Referring to the above table, the difference in total duration of the project is 21.5 days, at a total cost of Rp. 4.47 million. The above table shows the cost inefficiency of PT XYZ of about Rp.207, 906 per day. Nonetheless, this table reveals another important issue. Looking at the average cost per day, the initial project planning was estimated at about Rp. 1 million/day, for an estimated of 16 days. The actual project lasted for 37.5 days, but at approximately 50% lower than it was originally budgeted. This was a clear indication that cost savings, in any means of resources utilization, have actually impacted the total duration of the project. Interview session indicated that the management decision in utilizing semi-skilled labors may significantly contribute to such delay.

This finding supports the notion mentioned above. Since the project planning was actually formulated more optimistically, it cut down the total numbers of days from 50.2 days to 16 days. With 37.5 days outstanding on the clock, and a total cost of Rp. 21.55 million, the average cost per day remains cheaper than it was originally calculated. Though the actual project run-down lost the competition in terms of duration of the project by 21.5 days, it won by far in terms of the overall project costs. These finding shows the willingness of the project members to reduce cost in anyway they possibly can. Unfortunately, the calculations on cost, based on the working instruction of 50.2 days, were not revealed by the management. It would have been interesting to note the difference between working instruction costs and the actual project cost upon completion.

4.3. Earned Value Analysis

Earned value analysis in this study is very useful to measure the overall performance of the project. Based on the interview sessions with the management of PT XYZ, this earned value can be calculated while PT XYZ had only completed about two-thirds of all project tasks. Hence, following the suggested formula, as previously mentioned, the ingredients to be used are as follows;

- Earned value is 2/3 of the total estimated cost as initially calculated in the project planning.

- Actual cost is the total accumulated cost in actual project run-down.
- Planned value is the estimated cost in project planning.
- Scheduled time for work performed is the estimated duration of project, during the initial project planning.
- Actual time of work performed is the total accumulated duration of the actual project run-down.

TABLE 3: COMPARISONS ON TIME SCHEDULE (IN DAYS)
SOURCE: PT XYZ, 2010

EV = Rp.17,080,000 (2/3)	ST = 16 days
AC = Rp.21,550,000	AT = 37.5 days
PV = Rp.17,080,000	
Cost Variance = EV – AC = Rp. 17,080,000 (2/3) - Rp.21,550,000 = Rp (10,163,333) The negative cost variance means that the actual project had been overrun	
Schedule Variance = EV – PV = Rp. 17,080,000 (2/3) - Rp. 17,080,000 = Rp (5,693,333) The negative schedule variance means that the actual project had been behind schedule	
Time Variance = ST – AT = 16 days - 37.5 days = (21.5) days The negative time variance means that the actual project had been delayed .	

The above calculations provide evidence that the project had been overrun, behind the original schedule, and had experience some delay during the duration of the actual project run-down.

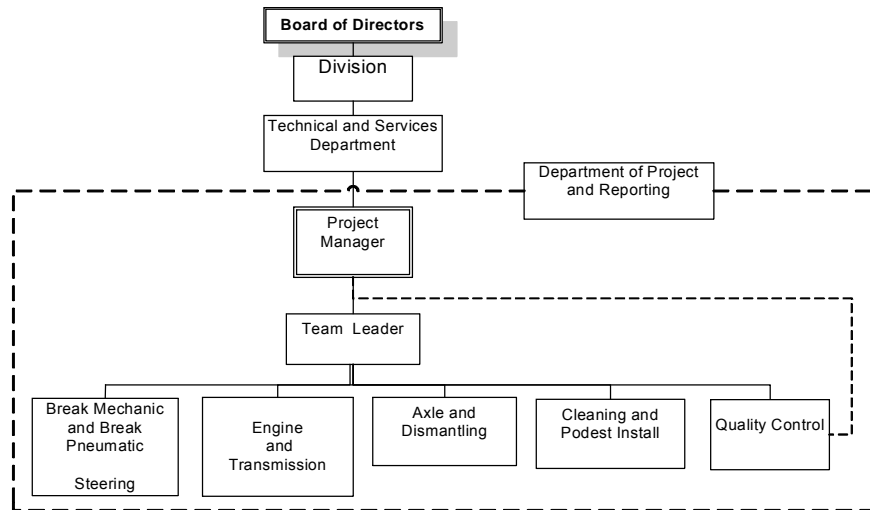
4.4. Project Control and Monitoring

This project was closely controlled and monitored weekly by the project manager. After the second week monitor and control, the project members realized that there were unavailable spare-parts. This required more lead-time for ordering process and delivery. The control and monitoring processes were considered as bad since the overhauling project covered only an estimated duration of 16 days. In short-term project like this, control and monitoring should have been scheduled more frequently. Also, contingency planning should have been formulated carefully for short-term projects.

Some findings on controlling and monitoring processes include;

- Performance control problem occurred as unexpected parts unavailability. The project had to wait for the parts prior to its continuation with the next processes.
- Cost control problems occurred as cost was overrun during the production phase.
- Though the execution of contingency planning was the ultimate solutions of the problems, it was not able to fix the sequencing problem because the sequencing during the actual project was still inefficient as the planned project.

Figure 1: Project Team Members in Overhauling Project
Source: PT XYZ, 2010



4.5. Intrapreneurship

As previously mentioned, the variables used in relation to intrapreneurship are solely based on the direct observation in the premises of PT XYZ, including interview sessions with the project members. The following list is the summary of results;

- “Hyper-competition” appeared to exist between the competing projects within PT XYZ. In particular, similar projects posed significant threats as skilled workers are relatively limited. In terms of competition with other organizations, it was basically inexistent since PT XYZ is the sole distributor and handles only a particular brand of vehicles in Indonesia. This status means that every available overhauling project will be directly to PT XYZ, and no other organizations would perform such projects. In addition to the limited availability of personnel, competition in resources management is also obvious. Though there will be numerous parts involved in overhauling projects, but as similar or even the same parts are arriving into the premises of PT XYZ, distribution of parts may pose some threats as well among the similar projects that are running simultaneously.
- “Technological advancement” appeared to have been fully satisfied by the management. This means that all available machine, equipment, and necessary tools to handle the overhauling projects have already conformed to the latest technology that is currently available in the market. With this condition, it means that project members should have been able to handle the project effectively. As stated earlier, with the availability of latest technology, project members can actually perform their tasks easier. This means that the use of time should have been much efficient.
- “Shorter product life-cycle” did not seem to exist in the overhauling project at PT

XYZ. Despite numerous new products in the market, customers tend to place special orders to have the overhauling projects done by PT XYZ. Hence, this indicates that PT XYZ, and its overhauling project does not experience a shortening on its product life cycle. In fact, PT XYZ experiences a prolonged product life cycle. Customers tend to stick on using the old vehicles, and bring those vehicles back again to PT XYZ for overhauling purposes, rather than purchasing a brand new one.

- “Innovation” did not seem to exist also in the overhauling project at PT XYZ. This is particularly true for all steps and procedures in handling the overhauling project. From the perspective of PT XYZ, it is a positive note since all processes and tasks must fully conform to the standardized specification of the organization. After all, PT XYZ is the sole distributor of a well-known brand of vehicles in the world. The strict conformance to the prescribed processes is beneficial in maintaining common standards around the world. However, as it was analyzed above, the project members may not have followed the prescriptions in PT XYZ. This is particularly true to creativity and finding ways to reduce the duration of projects. A combination of skills and level of experience from technicians, labors, and managers, were used to ensure that reduction in total days required to complete a project could be achieved. This showed innovativeness of project members. This type of innovation may not be in the forms of deviation from processes, steps, and tasks, but more to formulate the fine mixture of people and resources.

5. CONCLUSION & RECOMMENDATION

5.1. Conclusion

From the findings above, it can be concluded that this project was considered overrun (based on the initial project planning), including running behind schedule and had experienced delay. Nevertheless, there are some important points to note, as follows;

1. Project SWOT Analysis

Based on the analysis and further discussion with the management, the project’s

- a. Strengths are good quality control, which was due to good computerized systems and mechanical engineering.
- b. Weaknesses are the product unavailability, which was mainly due to the requirement to import some parts from other countries.
- c. Opportunities are the possibility in cost reduction.
- d. Threats are the delay, which resulted in higher cost.

2. Quality Control

There are two types of quality control test; function test and track test. Function test is to test whether everything are in function, whereas track test refers to the road test (to experience the results of overhauling project in motion). Both tests are beneficial to maintain safety and comfort of the finished products. Safety relates to the vehicle strength, loading ability and handling maneuverability. Comforts refer to the suspension and structure.

3. *Comparison between project planning and the actual project*

Based on the comparison analysis, the project can be concludes as follows;

- a. There was no risk management during this project.
 - b. The project members were too optimistic in formulating the project planning.
 - c. The project members skipped engine-dismantling process as it was prescribed in working instruction. The basic reason was simply due to the length of time required on the previous process, which was physical process. Hence, it resulted in a bit of rush situation, which ended in spare-part unavailability for axles. This could have been prevented if project members follow each of the steps in accordance with the agreed upon time schedules.
 - d. The project overrun was due to the spare part unavailability. Because of this unavailability, the project must wait for six days before the parts were delivered. Once the required parts are received, the project members decided to combine personnel with different skill levels to complete the project. This was done to minimize the idle time of the skilled labors. By minimizing the idle time of skilled labors, the overall costs of the project would be reduced.
 - e. The other factors that made the project overrun were the inefficiency of work sequences (one task per day). In reality, project members can actually perform more tasks in a day. Aside from the too optimistic time of completion, the control and monitoring were a bit disastrous as the estimated time span was only 16 weeks, yet the control and monitoring were scheduled weekly. In a short-term project like this one, control and monitoring should have been scheduled sooner to immediately learn the deficiency in the project.
4. In terms of intrapreneurship, it appears that though shorter product life cycle does not contribute to intrapreneurship, however, hyper-competition, technological advancement, and innovation qualitatively contribute to intrapreneurship. In addition, project members appear to maximally strive for time and cost reduction despite the prescribed guidelines by PT XYZ. Though this study only able to qualitatively provide evidence on the existence of intrapreneurship, at least, the findings provide support that project management is closely related to the spirit of intrapreneurship. This effort is very prominent in all steps of project management, from the initial project planning to the actual run-down of the project. In the sense, the optimistic view attempts to lower project risks.

5.2. Suggestion

Though this study is able to bring up evidence on the project overrun, this study is also able to show that the project is well under run. Hence, it is suggested that the organizational working instruction may have to be updated to reflect the current situation and condition of the firm, particularly in terms of portion of skilled and semi-skilled labors, availability of parts, and other materials requirements. In other words, it is essential to constantly updating the working instructions to mirror today's condition. This appears to be the tip of the iceberg. If the working instructions were to be updated, the project planning may not have been deviated significantly from such guidelines. As a

result, the actual project costs can be calculated more accurately though it is based on the project planning.

Some suggestions are listed below;

- Resources are closely tied into project budgeting. As these resources include special resource requirements, such as; special machines, test equipment, laboratory usage or construction, logistics, field facilities, and other special materials, resources management should be improved. This may reduce the likelihood of parts unavailability in the future.
- Risk management should be improved to include estimations of risks during planning, assessment (identification and analysis), handling and monitoring. Risk management should also include externalities, which may potentially delay the completion of the projects, such as; delivery time, availability of parts from vendors, availability of personnel as planned, and the macro economic condition of the country (inflation, interest, and exchange rate).
- Though it may entail risk of non-conforming, the spirit of intrapreneurship among project members should be cultivated. This may become the driving force toward cost efficiency, including time reduction and schedule conformation to the initial planning. If only everyone were willing to go the extra miles, the chances on project overrun would be drastically reduced.
- Future studies should include more variables, including more projects, and involving more firms. This would be essential in making a lot more proper comparisons; not only from the perspective of project management, but also on the intrapreneurship among firms.
- Future studies should include quantitative research to really quantify the relationship of intrapreneurship into the project management. At this time, at least, this study provides the preliminary work on such concepts.

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