

ERPNext for Effective Budgeting: Overcoming Project Financial Management Challenges in System Integrator Company

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Abstract

The process of implementing system integration by a system integrator company is a complex activity and requires good coordination between the various departments involved. The use of Enterprise Resource Planning (ERP) systems can help system integrator companies to improve the efficiency and effectiveness of the system integration implementation process. The purpose of this study focuses on examining the benefits of using ERPNext in the budgeting implementation process by system integrator companies. This study analyzes primary data in the company through an applied research approach. Data was collected through in-depth budgeting implementation interviews with key informants at system integrator companies that will use ERPNext. The results showed that the use of ERPNext in the budgeting process has several benefits, including: increasing the efficiency and effectiveness of the budgeting administrative process, improving collaboration and communication between departments involved in the project, increasing transparency and accountability of the project process, and improving the quality of project results.

Keywords

Accounting Information System, ERPNext, Integrator Company

1. Introduction

Planning according to (Nafarin, 2007), is an action taken based on factual information and forecasts about activities that will occur in the future in order to achieve the desired goals. A budget is a financial picture that details management's expectations related to revenues, expenses, and other financial transactions that are expected to occur within the next one year (Basri, 2012).

In a competitive and ever-changing business world, project financial planning and management are critical to the continuity and success of companies effectively and efficiently (Sasoko, 2022), especially system integrator companies such as PT ABC. PT ABC has played a significant role in the technology industry by providing innovative information technology solutions and integration services to their clients.

PT ABC is a System Integrator service provider that has competence in the field of installation, integration and maintenance of ICT (Information, Communication and Telecommunication) networks both hardware (Hardware / Infrastructure) and software (Software). Currently, PT ABC has not implemented budgeting to optimize financial management. The absence of budgeting is feared that the company has the potential to cause ineffectiveness of project financial management carried out by the company. Ineffective project financial management can result in serious financial losses, misuse of resources, and potential project failure. One of the key elements in effective project financial management is the development and implementation of proper budgeting (Gunawan, 2016).

Until now, PT ABC does not have budgeting guidelines that match the characteristics of their projects, which may vary in scale, complexity, and duration, and the budgeting process is still manual with the potential for errors and is not well controlled. The absence of guidelines or guidelines that do not match the needs of the company can hinder the effective decision-making process, disrupt cash flow, and potentially result in the project exceeding budget or not achieving the financial goals set. Every company must do business planning as well as possible, such as tax planning (Febrina & Rachmawati, 2023; Lastiati et al., 2020; Rachmawati & Martiani, 2014; Rachmawati & Martiani, 2017; Rachmawati et al., 2019; Rachmawati et al., 2020b; Rachmawati et al., 2023; Soraya & Rachmawati, 2021) financial

planning (Sahri & Novita, 2019; Fitria et al, 2020; Wahyuni & Novita, 2021; Zamzami & Novita, 2021), including budgeting (Rachmawati et al., 2017; Ramayanti et al., 2023).

In this context, concrete steps are needed to develop budgeting guidelines that are in accordance with PT ABC. These guidelines should take into account the needs of companies in managing different types of technology projects and should optimize the use of financial resources.

The development of budgeting guidelines to optimize project financial management at PT ABC using the ERPNext application is very important because ERPNext provides an organized workflow that can be tailored to the needs of the company, enables more accurate financial planning with project data integration, eliminates administrative work with reporting automation, and provides real-time up-to-date information that is crucial for fast decision making and Effective in large and complex projects.

In addition, in a rapidly changing business environment, companies must also be prepared for challenges that may arise in the future, such as regulatory changes, market fluctuations, or new technological developments. Therefore, budgeting guidelines developed must be flexible and can be adjusted to changes that may occur.

By introducing proper budgeting guidelines, PT ABC can optimize the financial management of their projects, reduce the risk of loss, increase transparency, and help companies achieve better financial goals. In addition, the guidelines that will be generated later allow companies to be more competitive in an increasingly tight and dynamic market. Therefore, the development of optimal budgeting guidelines is an important strategic step for PT ABC.

1.1 Objectives

The object of study is the object that is researched and analyzed. The scope of the research object set by the author in accordance with the problem to be studied is about *project costing* by applying *budgeting* through the creation of *standard operational procedures* (SOP) to reduce company losses in this study is PT ABC. PT ABC is an information technology company established in 2005 that is committed to being a leading partner in providing innovative technology solutions for customers, helping its customers to achieve a competitive advantage in the digital era. With headquarters located in Central Jakarta, it provides a wide range of services, including custom software development, system integration, technology consulting, technical support, and cybersecurity solutions. PT ABC's excellence lies in its experienced team, continuous innovation, commitment to quality, and strategic partnerships with major players in the industry. PT ABC was used as the object of research because this organization does not yet have budgeting guidelines that match the varied characteristics of their projects, which can vary in scale, complexity, and duration. In addition, the budgeting process that is still done manually can cause potential errors and is not well controlled. Lack of guidance or guidance that does not match the needs of the company can hinder the effectiveness of decision making, disrupt cash flow, and risk causing the project to exceed budget or fail to achieve financial goals that have been set.

2. Literature Review

2.1 Basic Budgeting Concepts

According to Bastian (2021), budgeting is the core of effective financial management in organizations. It involves planning, budgeting and monitoring the use of company funds to achieve certain goals. Budgeting describes a financial plan that includes projections of revenue, costs, and allocation of financial resources over a period of time. While according to Nafarin, (2007) stated, "A budget is a written plan regarding the activities of an organization that is expressed quantitatively for a certain period of time and is generally expressed in units of money." Then according to Garrison, et al. (2007), "A budget is a detailed plan of the acquisition and use of financial and other resources over a period of time."

According to Mahsun (2019) stated that the basic concept of budgeting has the following characteristics: a) Plans that project future financial plans, b) Covering overall organizational activities related to income, expenditure, and financing, c) Expressed in monetary units in certain estimated amounts, d) Certain future periods, generally 1 year. Thus, the budget is a plan implemented by an organization for the future within a certain period of time and expressed in units of money.

2.2 Project Financial Management

Project management is the application of the best knowledge, expertise, skills, and technical methods with limited resources to achieve predetermined goals, with the aim of achieving optimal results in terms of cost, quality, time, and work safety (Kiswati, 2019). Effective project management requires reference to best practices and proven standards. One of the internationally recognized standards in project management is the "Project Management Body of Knowledge" (PMBOK) published by the Project Management Institute (PMI) in the United States. PMBOK is a framework that has been adopted by many countries around the world. According to PMI-USA's definition, project management is the application of knowledge, expertise, tools, and techniques in project activities to meet project requirements.

2.3 Budget Control

Budget control or budget supervision is a system of use that has been established to supervise managerial activities by comparing real implementation with planned implementation (Handoko, 1984). It can also be explained that budget control is a control mechanism to evaluate company performance by considering budget figures with actual numbers (Hensing & Baker, 2013). Meanwhile, according to Karubaba, et al. (2012) Budget control is a form of action to ensure financial management can run in accordance with objectives and plans also serves as a guideline to assess the conformity between budget implementation and applicable regulations.

2.4 Accounting Information System

The accounting information system as an information provider has a close relationship to help management to collect financial data, transaction activities and process the information into a series of reports that can be used for users (Agustina, 2021). A qualified information system can provide precise and accurate information, such as the number of assets owned, how much debt must be paid, and the number of dividends that need to be paid. Reports produced by accounting information systems must be easy to understand, reliable, their presentation is inseparable from accounting equations and accounting cycles (Agustina, 2016). Software components become one of the components used in the accounting process, namely processing data (Romney & Steinbart, 2013). The use of accounting software can shorten data processing time and with a high level of accuracy.

3. Methods

This study analyzes primary data in the company through an applied research approach with the meaning that this research is carried out to find solutions to existing problems and is applied directly to reduce the impact that occurs on the company (Sudaryana, 2022). The author identifies the problems faced by the company which will be continued by finding solutions to these problems. If the solution provided by the author is approved, then the author will make an output design that will be used by the company.

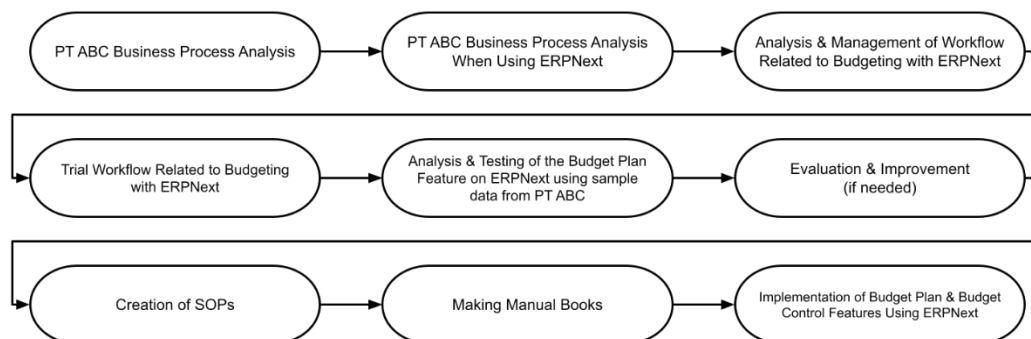


Figure 1. Research Methodology

4. Results and Discussion

PT ABC's Business Process is divided into four activities, including Administration, Initiation and Planning, Realization and Control, and Project Completion. In the sub-chapter below, we will describe PT ABC's *business process* before and when using ERPNext for each of its activities.

4.1 Administration Process

At first, the process begins with the negotiation stage between the system integrator company and the potential client. The outcome of these negotiations is recorded in the Bid Proposal document, which includes details about the client's needs and the solutions offered by the company.

After an agreement was reached through negotiations, both parties agreed to proceed to the contract stage. This stage involves drafting and signing a Service Contract or Project Contract that contains details related to the project scope, implementation schedule, costs, and other clauses related to the responsibilities and obligations of both parties.

4.2 Project Initiation and Planning

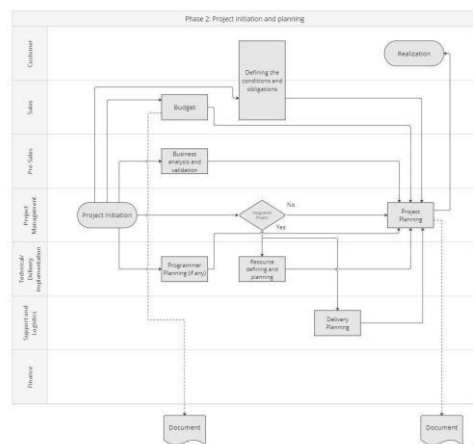


Figure 2. Project Initiation and Planning Diagram before Using ERPNext

The project begins with an initiation phase initiated by the project management team. Project initiation involves intensive collaboration with the sales department to determine the required budget. At this stage, a business needs analysis is also performed by the pre-sales department to validate and thoroughly analyze the project. After that, the technical and implementation team (technical/delivery) is involved to develop the project implementation plan. The results of the initiation of this project became the basis for delivery planning which was finally implemented and realized to customers. Collaboration between the sales, pre-sales, and technical teams makes the initiation and planning stages a solid foundation to ensure the smooth and successful implementation of the project as a whole.

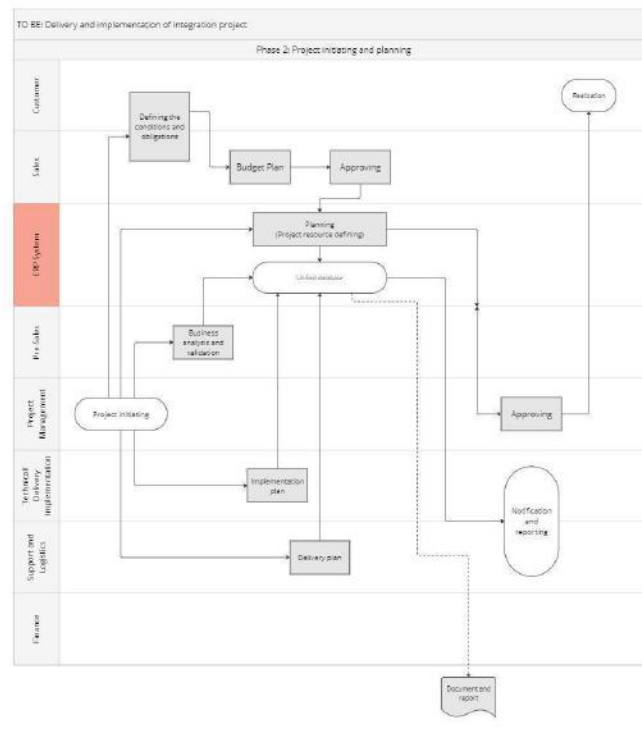


Figure 3. Project Initiation and Planning Diagram Using ERPNext

The project begins with an initiation phase carried out through the ERPNext system by the project management team. The initiation of this project involves collaboration with the sales department to establish the required budget, and all project-related data is registered and stored in the ERPNext database. At this stage, the pre-sales department uses this system to conduct a business needs analysis, as well as validate and thoroughly analyze the project. After that, the technical and implementation teams are involved in the same process through ERPNext to develop the project implementation plan. The results of this project initiation were integrated into the ERPNext system, which then became the basis for delivery planning. By using ERPNext, project execution plans are realized and realized to customers with higher efficiency, since all project information and steps are stored and well managed in a centralized database. Collaboration between the sales, pre-sales, and technical teams is well executed through this system, forming a strong foundation to ensure smooth and successful overall project execution.

4.3 Project Realization and Handling

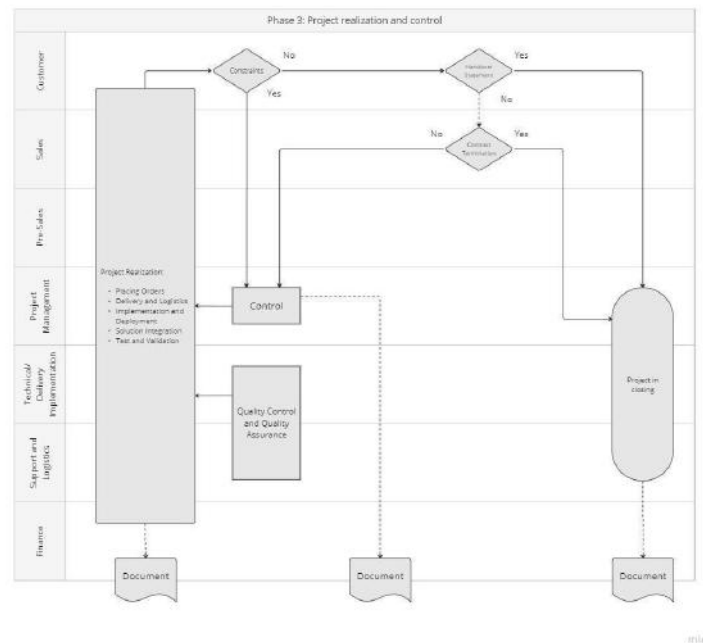


Figure 4. Project Realization and Control Diagram before Using ERPNext

The stages of project realization and control begin with the deployment of all departments involved in the implementation of the project. Each department is responsible for carrying out its duties in accordance with the project plan that has been prepared. During this stage, every step and activity performed by the department is integrated in a flowchart to visualize the process clearly. Once realization begins, the next task falls on project management. Project management plays a key role in controlling all project realization activities. They ensure that each department follows a predetermined schedule and achieves predetermined targets. In addition, project management is also responsible for controlling the quality of each stage of the project. The quality control process includes continuous monitoring and evaluation of the outputs produced by each department. Project management also plays an important role in ensuring the quality of project deliverables by implementing corrective measures if necessary. Thus, the project realization and control flowchart become the main guide to ensure the project goes according to plan and produces a high-quality product or service.

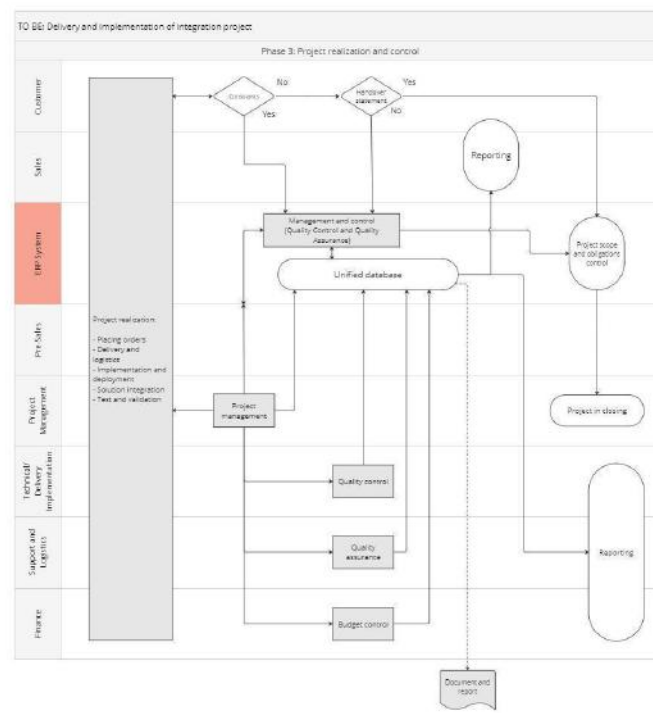


Figure 5. Project Realization and Control Diagram Using ERPNext

The stages of project realization and control begin with the deployment of all departments involved in project implementation, which are communicated and integrated through the ERPNext system. Each department leverages ERPNext functionality to centrally access and store data, ensuring information cohesiveness and efficient coordination. During the realization process, every step and activity performed by the department is recorded and documented in the ERPNext system, forming a flowchart that visualizes the process in detail. Project management, with the support of this system, can control all project realization activities more accurately. Project management leverages ERPNext's project control features to monitor progress, analyze performance, and ensure that all departments are on schedule and achieving set targets. The ERPNext system also plays a role in quality control by providing real-time information about each stage of the project, enabling project management to quickly respond to and address potential quality issues. With the integration of database systems through ERPNext, projects can be run more efficiently and are guaranteed to produce high-quality products or services in accordance with established standards.

4.4 Project Completion

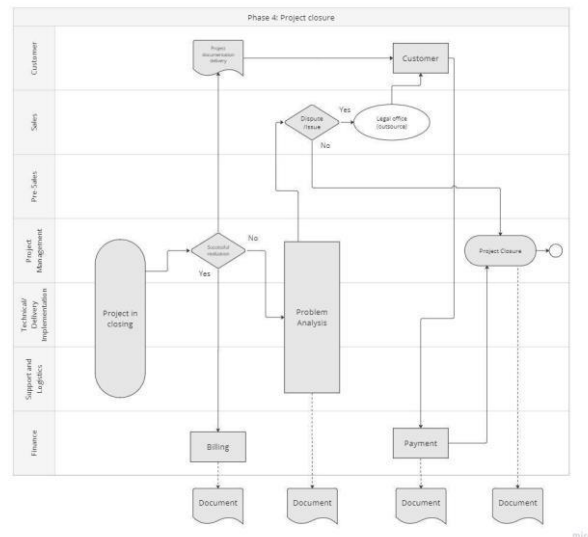


Figure 6. Project Completion Diagram before Using ERPNext

First of all, after the project is completed, project management begins the closing phase of the project by conducting an analysis of problems that may arise during project execution. This step is intended to ensure that all aspects of the project have been completed in accordance with the desired objectives and needs. This process is done by detailing each step taken, obstacles faced, and solutions implemented in a project analysis document.

Once the problem analysis is complete, an evaluation of the project results is carried out to ensure that all deliverables have been met. At this stage, the project results document is used to evaluate the success of the project and ensure that no aspects are lacking or inappropriate. If nonconformities or deficiencies are found, corrective measures are identified and documented.

After ensuring that all problems have been addressed and the project results are in line with expectations, the closure process continues with the payment stage. Final documents such as project final reports, outcome documents, and evaluation documents are used as the basis for calculating and determining final payments to parties involved in the project. This payment process involves accurate and transparent documentation to ensure that all parties involved receive compensation according to the contract and their contribution to the project.

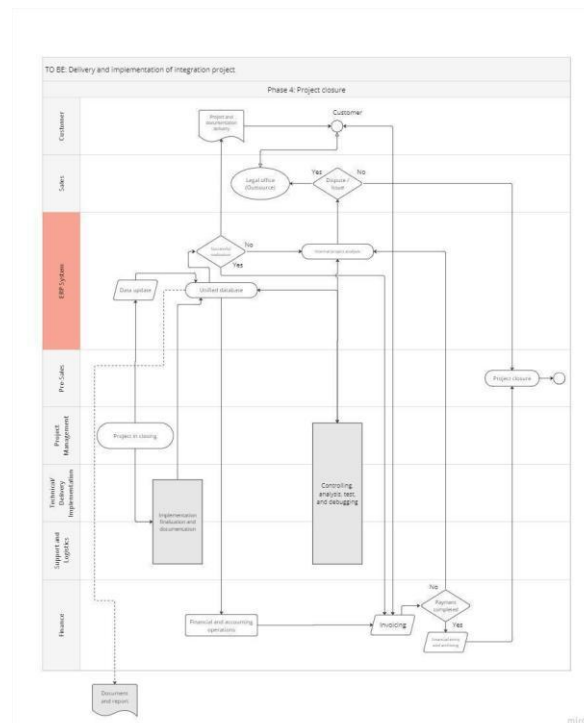


Figure 7. Project Completion Diagram Using ERPNext

In the project closing stage after project in closing by project management, ERP systems such as ERPNext play a key role in integrating the entire process. The process begins with a problem analysis held through the ERPNext project analysis module, where detailed records of each constraint, solution, and step taken are automatically integrated into a centralized database system.

After the problem analysis is complete, the evaluation of the project results is carried out through the ERPNext project evaluation module. Project outcome documents are automatically organized based on related data, providing clear visibility into project milestones. The module also ensures that every aspect of the project conforms to set specifications and objectives, while suboptimal evaluation results automatically direct the system to identify necessary corrective measures.

After ensuring that all issues have been addressed and the project results are in line with expectations, ERPNext facilitates the payment process. The ERPNext finance module processes the final payment based on the data contained in the project final report and outcome documents. This ensures that the entire payment process is carried out in accordance with the terms of the contract and the contributions of each party involved, with optimal transparency through the integration of a centralized database system.

4.5 Business Process Analysis

In PT ABC, there are two core value chains that are interrelated with specific business processes. First is the Solution and Services value chain involving the Hardware process, where the primary focus is on the delivery and implementation of "hardware" related projects. This process covers all hardware-related aspects, from procurement to segmented project deployment. In addition, there is also Process Services which focuses on service delivery, technical support, and maintenance both in the context of the project and according to the customer's specific requests.

In addition to the Solution and Services value chain, PT ABC also identifies value chains related to bid management, which include Bid Management, Pre-Sales, and Sales. The Bid Management process is responsible for managing and responding to project bids, while Pre-Sales and Sales play an important role in the process of marketing and selling a company's products or services to potential customers. Thus, this business process structure reflects PT ABC's efforts in developing coordinated strategies to meet customer needs and manage projects efficiently.

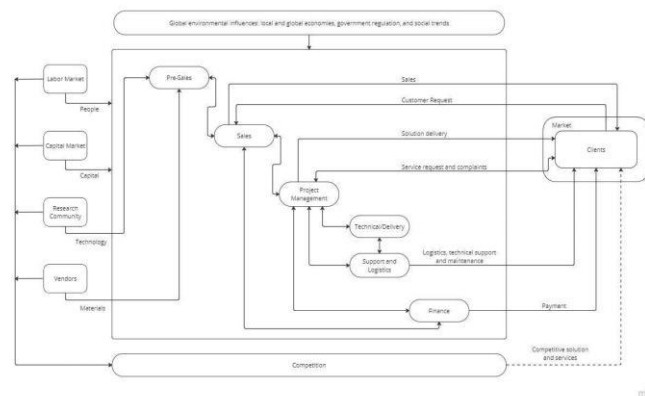


Figure 8. Enterprise Organization Diagram of Solutions and Service Delivery

PT ABC acts as the main responsible entity in providing leading information technology solutions and services. With a commitment to provide innovative and competitive solutions, the company has a crucial role in supporting the needs of information technology and system integration for its clients. Through extensive expertise and proven experience, PT ABC is able to present tailor-made solutions in accordance with the demands of its customers' businesses and industries. With a focus on efficient system integration, information security, and the application of the latest technology, the company not only meets customer expectations but also contributes positively to technological advancements in various industrial sectors. PT ABC has a central role in the organization's first value chain. This first value chain includes a series of important activities and processes aimed at providing solutions and services to customers. To visualize the organizational structure and important role of PT ABC, figure 4.10 presents the company's organizational diagram of PT ABC's solutions and service delivery as the core of our overall operations in providing quality solutions and services.

4.6 Analysis and Setup

Workflow pada ERP memainkan peran krusial dalam memastikan efisiensi, transparansi, dan integritas operasional suatu perusahaan. Sistem ERP dirancang untuk mengintegrasikan berbagai fungsi bisnis dan departemen dalam satu platform terpusat, dan workflow menjadi tulang punggung dalam menjalankan proses-proses ini secara mulus. Pertama-tama, workflow dalam ERP system memungkinkan otomatisasi, menghilangkan kebutuhan untuk proses manual yang memakan waktu dan rentan terhadap kesalahan manusia. Hal ini meningkatkan produktivitas, menghemat waktu, dan mengurangi risiko kesalahan.

Workflow untuk budget plan dan control melibatkan beberapa tahap yang melibatkan sales, sales manager, dan sales director. Pertama, budget dapat dibuat oleh tim sales atau oleh sales manager. Jika dibuat oleh tim sales, maka akan melewati proses review dan persetujuan oleh sales manager. Namun, jika budget dibuat langsung oleh sales manager, maka akan direviu dan disetujui oleh sales director.

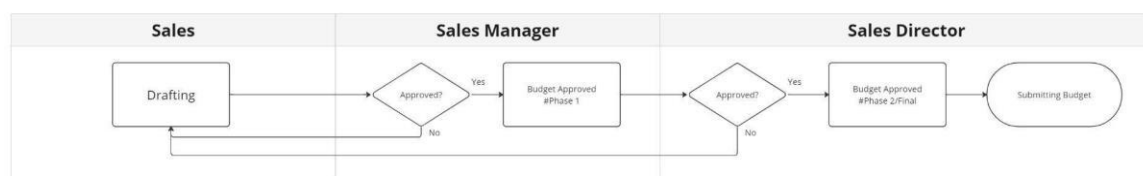


Figure 9. Diagram Workflow Budgeting Plan

Furthermore, if the budget is rejected by the sales manager, then the sales have the authority to change it and the budget will go through a review process again. However, if the budget is rejected by the sales director, there is an opportunity for sales and sales managers to make immediate changes to the budget

In scenarios where rejection occurs, the budget revision and improvement process can be carried out by the sales team with guidance or approval from the sales manager or sales director, depending on which stage the rejection occurs. This ensures that there is collaboration between different levels of management in drafting and controlling budgets, while providing an opportunity for the sales team to correct and refine budgets if they are rejected. In detail, workflow settings can be seen in the guide which can be accessed at the following link: <https://s.id/Panduan-Pedoman-Budgeting-ERPNext>

If the entire budget has received approval from the sales director, then the budget is handed over to the finance department for budget control. Budget control is useful to ensure that the budget that has been prepared by the Sales department is appropriate. If the budget submitted is greater than what has been determined, a warning will be given that the budget has exceeded the stipulated provisions.

As long as the budget is used during the project, the finance department records expenses and then processes and reports to the project manager and other stakeholders. The report contains information about actual expenses, budgets, and the difference between the two. This information can be used to monitor the project and take necessary actions in case of deviations.

Therefore, a workflow is essential for the financial success of an organization or company. This workflow can help organizations or companies to improve budget efficiency and effectiveness. A good workflow will ensure that budgets are drawn up accurately and according to the needs of the organization or company. This will help the organization or company to use its financial resources efficiently and effectively, identify and address budget deviations as early as possible. A good workflow will have mechanisms to monitor and track budgets. This will help organizations or companies to identify budget deviations as early as possible so that they can be acted upon immediately, as well as increase budget transparency and accountability. A good workflow will ensure that the budget process is accessible and understandable to all stakeholders. This will increase budget transparency and accountability, thereby increasing stakeholder trust.

4.7 Budget Plan & Control

The flowchart for the budget plan and control process begins with the project initiating stage by the project management team. At this stage, based on the needs of the project, the sales team makes a budget plan.

If the budget to be disbursed by the sales or project management team does not exceed the predetermined limit, it will be used for project realization. If the budget to be disbursed exceeds the predetermined limit, the finance team will carry out budget control as a security measure, so that the next stage will be approving accompanied by a note that the amount of funds approved to be disbursed exceeds the predetermined limit.

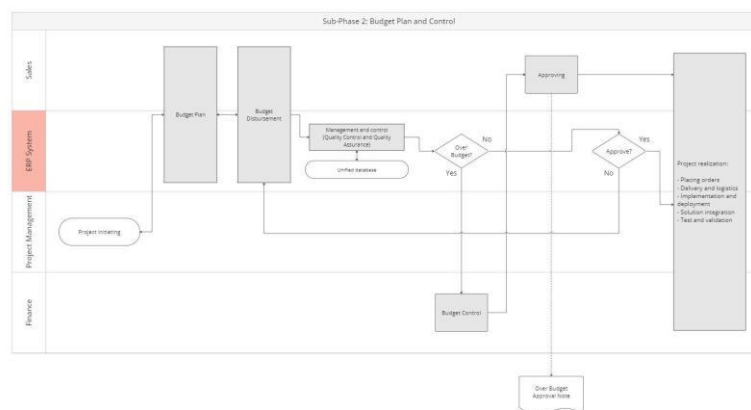


Figure 10. Diagram of Budget Plan and Control Using ERPNext

If the budget to be disbursed exceeds the limit, then there is a warning, then the finance team asks the sales team to provide an explanation why the realization of the budget exceeds the limit. This is the right step from the finance team. By asking for an explanation from the sales team, the finance team can understand the cause of budget deviations. The causes of budget deviations can be things that can be controlled, such as errors in budget planning, or things that cannot be controlled, such as changes in economic circumstances.

During this entire planning process, ERPNext is used as an enterprise resource planning management system that allows project management to track budget status. This allows them to know whether the budget has been approved or not. After the budget is approved, the next process is project realization, where the project will be implemented in accordance with the agreed budget. ERPNext plays an important role in facilitating communication and transparency between sales, finance, and project management teams in managing and tracking budget status to ensure a smooth project implementation process.

4.8 Budget Realization

Budget realization is a comparison between the budget that has been set with the expenditure that has been done. Budget realization can be used to measure the performance of an organization or company in managing its budget. In ERPNext, the finance team has an important role in the budget realization process. The finance team is responsible for monitoring budget implementation, and conducting budget evaluations. In the budget realization process, the finance team has several tasks, namely collecting data, performing calculations, conducting analysis, and reporting the results of budget realization calculations to the management of the organization or company.

The budget realization stage includes a process in which the allocation of funds that have been budgeted will be realized or disbursed, with a note that if the requested amount does not exceed the predetermined limit (over budget), the process can take place without delay. However, in situations where the requested amount exceeds the predetermined limit, budget controls will be applied. At this stage, the finance team will conduct further review and evaluation, and if needed, approval steps will be involved to determine whether the disbursement of funds can continue or not. Thus, this stage is designed to ensure compliance with established budget limits, maintain the integrity of company finances, and provide effective control over the use of funds in accordance with the agreed budget plan.

By understanding the causes of budget deviations, the finance team can take appropriate action to address them. If budget deviations are caused by errors in budget planning, the finance team can ask the sales team to revise the budget. If budget deviations are caused by things that cannot be controlled, then the finance team can provide an explanation for why the budget deviations occur.

4.9 Profit and Loss Analysis

Profit and loss analysis is the process of assessing the financial performance of a company over a period of time. This evaluation is carried out by comparing the revenue and costs obtained by the company.

If the realization exceeds the limit, then there is a warning, then the finance team asks the sales team to provide an explanation why the budget realization exceeds the limit. This is the right step from the finance team. By asking for an explanation from the sales team, the finance team can understand the cause of budget deviations. The causes of budget deviations can be things that can be controlled, such as errors in budget planning, or things that cannot be controlled, such as changes in economic circumstances.

Profit and loss evaluation is important because it can help companies to measure the company's financial performance. Profit and loss evaluation can provide an overview of the company's overall financial performance. This can help the company to find out whether its performance is in accordance with the targets that have been set. Profit and loss evaluation can also help companies to identify any irregularities in their financial performance. This deviation can be caused by various factors, both controllable, such as errors in planning, and uncontrollable, such as changes in economic circumstances.

The results of profit and loss evaluation can be used by the company to determine the steps needed to improve its performance. These steps can be improvements in planning, implementing, or controlling budgets. Therefore, profit and loss evaluation must be carried out periodically, at least every month, quarter, or semester. This evaluation should be carried out by a competent team and use appropriate methods.

4.10 Analisis Budget Variance and Realization

Budget variance and realization analysis is a critical step in financial management that allows companies to evaluate their financial performance in depth. Budget variance refers to the comparison between the planned budget and the actual figure achieved. When there are deviations between the two, both positive and negative, this analysis provides valuable insights into the efficiency and effectiveness of managing company funds.

At the same time, the realization stage involves the implementation of the allocation of funds in accordance with the established budget plan. If the realization of funds is in accordance with the agreed budget, this process can run without

problems. However, when there is the potential to exceed the predetermined budget limit, this stage will trigger a process of approval and budget control to ensure compliance and financial balance.

The combination of budget variance and realization analysis allows management to quickly identify budget deviations, identify their causes, and take necessary corrective actions. With this approach, companies can improve financial resilience, plan budgets more accurately, and achieve better operational efficiency. The analysis also provides a basis for companies to make strategic adjustments, optimize resource allocation, and improve overall financial performance.

4.11 Budget Deviations

Budget deviation is an important part of financial statements that discusses the difference between the planned budget and actual realization or achievement. Budget deviation refers to the difference between estimated budgeted costs and revenues and the actual amount incurred during a given period. Analysis of budget deviations plays a key role in evaluating the effectiveness of enterprise financial planning and control.

Deviations can be positive or negative. Positive deviation occurs when the realization of costs is lower or revenues are higher than budgeted, while negative deviation occurs the opposite. Analysis of budget deviations helps management to understand why such discrepancies occur, whether they are caused by internal or external factors, and provides the necessary insights for better decision making in the future.

In the process of analyzing budget deviations, corrective measures can be identified and implemented to address discrepancies between budget and actual performance. This includes adjustments to budget plans, improvements to operational processes, or changes to relevant business strategies.

By understanding budget deviations, companies can gain a better understanding of their financial dynamics, improve planning processes, and strengthen financial control. It also allows management to be more adaptive to changing external conditions and maintain the company's financial balance.

4.12 Application Functionality Testing

After ERPNext has been customized according to the business processes that occur at PT ABC, in the next stage the author conducts the ERPNext trial. ERPNext trials are carried out together with experts and research partners, where experts are qualified parties in the field of technology to help the author's understanding of the work of the ERPNext system. As well as research partners who are Vice President, Technical & Product at PT ABC to provide opinions, suggestions and inputs.

The above party is asked to assess whether the process carried out by the researcher is in accordance with the provisions of the existing business process at PT ABC. The above party provides assessment and input on the trial by filling out the ERPNext System Functionality Testing form, where the module looks from the side: User Project Management at the project initiation stage, User Sales (Sales, Sales Manager, Sales Director) at the budget creation stage, User Finance at the budget realization stage. The ERPNext System Functionality Testing Form can be accessed at the link: <https://s.id/Formulir-Uji-Fungsionalitas-Budgeting-ERPNext>

Based on the results of ERPNext testing, overall ERPNext customization can run in accordance with the provisions of PT ABC's business processes. However, the results of this ERPNext customization have input for future improvements. ERPNext trial results briefly in the table

Table 3.2 ERPNext Functionality Test Results

| No. | Testing Module | Trial Results |
|-----|--------------------------|---|
| 1 | Account Creation | Account creation successful |
| 2 | Role Settings | Role settings are appropriate |
| 3 | <i>Role Permission</i> | <i>Role permissions</i> are appropriate |
| 4 | <i>Workflow creation</i> | <i>The resulting workflow</i> is suitable |

| No. | Testing Module | Trial Results |
|-----|----------------------------------|---|
| 5 | Budget Making | The budget creation process is successful by <i>specific</i> roles |
| 6 | Changing the <i>Budget</i> | The process of <i>changing the budget</i> is successful by <i>certain</i> roles |
| 7 | Canceling a <i>Budget</i> | The budget cancellation process <i>is</i> successful by <i>certain</i> roles |
| 8 | Journaling | The process of journaling budget realization <i>is</i> successful by <i>certain</i> roles |
| 9 | View <i>Budget Usage Reports</i> | Budget usage reports <i>can</i> be viewed by <i>specific</i> roles |
| 10 | View the Income Statement | The income statement can be viewed by <i>certain</i> roles |
| 11 | View <i>Projects</i> | <i>Projects</i> can be viewed by <i>specific</i> roles |
| 12 | Create a <i>Project</i> | <i>Projects</i> can be initiated according to <i>specific</i> roles |

4.1 3 Creation of ERPNext Usage Guide

The next stage after evaluation and improvement based on the suggestions given, then the author compiles a Guideline for Using ERPNext with the aim of facilitating the use of ERPNext. The ERPNext Guidelines document can be accessed via the following link: <https://s.id/Panduan-Pedoman-Budgeting-ERPNext>

6. Conclusion

Based on the results of the study, it can be concluded that the use of ERPNext in the process of implementing an integrated system by a system integrator company such as PT ABC is able to increase the efficiency and effectiveness of the budgeting process. Therefore, this study developed a Budgeting SOP to ensure a consistent and documented budgeting process, and produced a Budgeting Usage Guide with ERPNext to assist users in using the budgeting feature in ERPNext.

6.1 Implications

The study recommends system integrator companies adopt ERPNext for management, planning, and budget control. ERPNext is predicted to be useful by increasing competitiveness through administrative efficiency and effectiveness, especially on the budgeting side per project, facilitating *budget control* through inter-departmental collaboration, and increasing *profitability through better project quality*.

In addition to ERPNext, some other ERP applications to consider are Odoo, SAP Business One, Microsoft Dynamics 365 Business Central, and NetSuite. Odoo is a free and open-source solution that is easy to use and configure, but its features are not as complete as paid ERP. SAP Business One offers an integrated and comprehensive ERP solution with strong technical support, but it is expensive and the implementation is complex. Microsoft Dynamics 365 Business Central is suitable for small and medium-sized companies with ease of use and integration with Microsoft Office 365, but it is expensive and less flexible than ERPNext. NetSuite offers an integrated and comprehensive ERP solution with a large selection of additional modules, but it is expensive and the implementation is complex.

6.2 Limitations

The results of this study are difficult to generalize widely because they are limited to one industry or company, namely system integrator companies. For companies that have different business processes, it is necessary to make adjustments to the use of ERPNext. This study only applies ERPNext in simple cases due to limited data obtained due to confidential data.

6.3 Suggestions

The suggestion for future research is to replicate this research in companies that have different business processes, such as manufacturing, retail, and other types of companies. Apply ERPNext to more complex and diverse business transactions, events.

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