

## **INFORMATION MODEL OF BUDGET MANAGEMENT FOR RAJAMANGALA UNIVERSITY OF TECHNOLOGY**

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### **ABSTRACT**

The purpose of this research was to study factors related to budget information, create a suitable model for managing the modern state budget of Rajamangala University of Technology. This research is a qualitative study, conducted using the Delphi Technique, collecting data from key informants directly involved in budget management at the university, including Vice Presidents, and Directors of Policy and Planning, totaling 17 individuals throughout 9 campuses of Rajamangala University of Technology. NVIVO software was utilized in data analysis. Primary data contributors were gathered through purposive sampling using in-depth, open-ended interviews as the data collection technique. The statistical measures employed included percentages, means, medians, modes, standard deviations, and interquartile ranges. The research findings indicate that the budget management information system model for Rajamangala University of Technology comprises four processes as follows: (1.) Budget Request Preparation Process; 1.1) Aligning national, ministerial, regional, provincial, and university-level strategic policies plan and prepare the budget to ensure compatibility, 1.2) Utilizing university group policies and analyzing essential internal and external environmental data to develop comprehensive project plans, aligned with long-term strategies, meeting the organization's mission, 1.3) Considering and selecting suitable items as guidelines for budget preparation, 1.4) Appointing a budget committee with clear roles and suitability in terms of policy, focus areas, indicators, prioritization, and/or integration of plans/projects to be implemented. (2.) Budget Allocation Process;

2.1) Departments are designated to develop operational and budgetary plans under efficiency-enhancing measures, 2.2) Budget committee meetings are required to formulate operational and budget plans, 2.3) Criteria are appropriately specified for budget allocation, 2.4) Budget is allocated according to the goals of University Group, 2.5) The process defines for reviewing and approving the operational plans, allowing units to select projects based on the specified criteria, 2.6) The department chooses projects based on the goals of University Group 2. (3.) Budget Expenditure Process: Budget Expenditure Process According to Project/Program and Budget Changes; 3.1) Organizing a process for proposing project approval before expenditure, with steps for adjusting expenditure details if necessary, 3.2) Setting up a process for monitoring budget expenditure on a quarterly/half-yearly basis, 3.3) Specifying the creation of projects for budget approval considerations before project implementation, 3.4) Committees are required to prepare a summary of the follow-up results for management decision-making, 3.5) Preparation of reports tracks expenditure/payment quarterly/half-yearly, 3.6) Establishing guidelines for managing remaining funds and requesting cross-plan expenditures, focusing on the needs and necessities of the departments, 3.7) Specifying methods for managing remaining funds and requesting cross-plan expenditures. (4.) Process for Monitoring Budget Expenditure According to Project/Program: Presenting to the University Management Committee (Chief Executive Officer: CEO) and the University Council; 4.1) Operational reporting results in cases where operations deviate from objectives, 4.2) Creating periodic reports on budget expenditure tracking results, 4.3) Appointing a committee overseeing budget expenditure, defining roles and responsibilities clearly, and implementing a monitoring mechanism to align with the goals of University Group 2, 4.4) Implementing oversight measures in cases where operational results deviate from objectives on a quarterly basis, 4.5) A system and mechanism establishment reports operational and budget expenditure results, in accordance with the measures for overseeing budget adherence, on a quarterly basis.

**Keywords:** Budget Management, Information Model, Budget Information

### **Introduction:**

In the current era, the world is undergoing rapid and dynamic changes, characterized by volatility, uncertainty, complexity, and ambiguity. These changes are the result of advancements in science and technology, giving rise to new innovations that support and enhance the convenience of people's lives in society. Consequently, this has led to significant transformations in the way people conduct their daily lives, often described as disruptive changes for example; the adoption of online services, electronic transactions, and the use of communication technologies to connect individuals in society. The altered individual behaviors in the society, coupled with technological developments, bring both positive outcomes and challenges to the operations of the Thai government and administrative systems. From the outstanding situation, positive outcomes arise from the timely adoption of innovative technologies (Channuwong, 2018; Wongmajarapinya et al., 2024; Office of the Secretary-General of the National Security Council, 2018).

Rajamangala University of Technology is an educational institution that focuses on producing graduates in professional and technological fields. The university aims to promote advanced education and professions with an emphasis on practical teaching, research, and the development of professional educators. The commitment provides academic services in the fields of science and technology to society, fostering arts and culture, and conserving the environment. The educational mission includes offering vocational education opportunities for further professional studies primarily at the degree level. In alignment with the objectives, the institution is organized into groups, as outlined in Article 24, Paragraph Three, of the Act on Higher Education Institutions, B.E. 2562. This legislation mandates the establishment of educational institutions organized into groups, taking into account the mission, strategy, potential, and past performance of each group. The process involves defining measures to promote, support, assess quality, oversee, and allocate budgets in line with the Ministry's regulations on the grouping of educational institutions, according to the Ministry's regulations on the grouping of higher education institutions, B.E. 2564, under Section 1, Criteria, Methods, and Conditions for Grouping Higher Education Institutions. These regulations emphasize that educational institutions should consider their internal capabilities and readiness, categorizing them into six groups based on the potential and readiness of their internal operations. Rajamangala University of Technology, classified in Group 2, focuses on technology development and innovation promotion. The university recognizes the importance of a modern information management system for public budget management. One key factor for effective management is having up-to-date information and an efficient budget management information system for decision-making. Moreover, various forms of information technology systems have been employed for diverse management functions (Benja, 2014; Khuenkaew, 2010). However, challenges persist in several aspects, such as the inadequate utilization of existing information technology, insufficient improvement in institutional efficiency, a shortage of personnel with knowledge in computer technology, and a lack of budgetary support and clear organizational structure (Channuwong et al., 2024; Yu Zhang; 2022). Recognizing these challenges, the university has prioritized budget management within its internal units. This aligns with government policies, aiming to develop a new information system for public budget management within the university. The goal is to enhance expenditure efficiency, enabling administrators to quickly access current information for decision-making and approval of budgets for various plans and projects. Additionally, the university aims to facilitate easy and rapid retrieval of budgetary information.

Addressing the issues and developing an information system for budget management in the new direction of the Rajamangala University of Technology to align budget management with the categorization of higher education institutions as a systemic tool for state governance. This is aimed at enhancing the country's competitiveness in line with national strategies and the direction of tertiary education development in the long-term 20-year framework. The concept is to create a model of information management for budget management in the public sector, tailored for Rajamangala University of Technology, coordinated through the policies and plans of the

university's policy and planning office, which controls the university's budget expenditures. The development of an information model for budget management will support decision-making information for budgeting and facilitate the convenience of staff in their work, resulting in efficient and effective budget management at the university that aligns with government policies.

### **Research Objectives**

1. To study the factors related to budgetary information.
2. To develop a suitable model for managing the modern state budget of Rajamangala University of Technology.

### **Research Procedure**

1. Target Group and Key Informants: The target group and key informants for the research consist of experts in budget management from all 9 campuses of Rajamangala University of Technology, including the Vice Presidents of each 9 campuses and 8 Directors of Policy and Planning of the university.

#### 2. Research Tool Development

2.1 Prepare the research methodology by studying relevant documents, textbooks, and literature related to concepts, theories, and foundational information related to the budget information model. Create an interview form.

2.2 Develop an interview form to collect data in the first round. Subsequently, the researcher processes the data obtained from the first-round interviews using the NVIVO software for classification, grouping, and content analysis.

2.3 Create a questionnaire to collect data in the second round. Design the questionnaire concerning the budget management process, including four processes: budget request preparation, budget allocation, budget expenditure according to plans/projects, and budget expenditure monitoring according to plans/projects.

2.4 Take the responses from the experts in the second round and calculate the median and interquartile range. Present these results in the questionnaire for the third round, where experts review their opinions from the second round and provide feedback regarding the alignment of their answers compared to the overall expert positions. If there is a lack of alignment, experts must provide additional reasons to confirm the clarity of the data used, which is valuable for accurate and reliable research findings. Develop a suitable model for managing the modern state expenditure at Rajamangala University of Technology.

### **Research Summary**

The study, based on relevant concepts and theories, is connected to data obtained from interviews with key informants directly involved in budget management at all nine Rajamangala University of Technology campuses. The key informants include vice chancellors and policy and

planning directors, totaling 17 individuals. The analysis employed the NVIVO software to examine factors related to budgetary information in the four budget management processes:

- 1) Budget Request Preparation
  - 1.1 Study various government policies for budget request preparation.
  - 1.2 Guidelines for budget request preparation.
  - 1.3 Information for budget analysis.
  - 1.4 Formation of the committee to review budget proposals.
- 2) Budget Allocation
  - 2.1 Criteria for budget allocation for expenditures.
  - 2.2 Allocation of the budget according to the goals of the University, Group 2.
  - 2.3 Development of operational and budget utilization plans.
  - 2.4 Annual government operational plan preparation.
- 3) Expenditure of Budget According to Plans/Projects and Budget Transfer
  - 3.1 Development of plans/projects.
  - 3.2 Assignment of responsible personnel for expenditure control.
  - 3.3 Financial management of remaining/excess funds and cross-plan fund utilization.
  - 3.4 Utilization of remaining/excess funds to achieve the goals of University Group 2.
- 4) Monitoring of Budget Expenditure According to Plans/Projects
  - 4.1 Appointment of a committee to oversee monitoring.
  - 4.2 Reporting systems for operational activities and budget expenditure.
  - 4.3 Measures to oversee budget alignment with the goals of being a University, Group 2.
  - 4.4 Measures to oversee cases where operations deviate from the set objectives.

5.1.2 From the study, the researcher conducted data analysis by considering the alignment of opinions from the main data providers regarding the budget management process at Rajamangala University. Using an interquartile range less than or equal to 1.5 (Thanin, 2020: 109), which follows the guidelines of qualitative research utilizing the Delphi technique, the researcher summarized as follows:

Basic information about the main data providers and the results of studying the general status of the main data providers revealed that Deputy Vice Presidents of Policy and Planning, totaling 9 individuals, accounted for 52.9%. Additionally, Directors of the Policy and Planning Division, totaling 8 individuals, accounted for 47.1%. Most interviewees had more than 10 years of experience in their roles, totaling 8 individuals (47.1%). Those with 6-10 years of experience were 4 individuals (23.5%), those with 1-5 years of experience were 3 individuals (17.6%), and those with less than 1 year of experience were 2 individuals (5.9%), respectively.

1. Content Analysis Results of the Main Data Providers' Opinions on the Budget Management Process of the Organization in Round 1 are categorized as follows:

1.1 Budget Request Preparation: The process of budget request preparation involves incorporating national/ministry/region/province/university-level policies in all 9 campuses. Additionally, Group 2 university policies are integrated into the budget request preparation. The analysis of basic data is used as a guideline for preparing budget requests. The analysis identifies weaknesses and reasons for not receiving the requested budget in previous years, serving as a guide for future budget request preparation. For instance, proposing projects in the form of holistic budgets or important projects without additional government budget support but within the approved university budget framework. However, the allocated budget received by the university is primarily designated for basic operational functions and may be insufficient for local community-oriented work.

In 6 of the 9 universities, a suitable budget committee is appointed, with clear responsibilities and tasks. The committee is responsible for setting policies, focusing areas, defining indicators, prioritizing, and/or integrating plans/projects to be implemented. One of the 6 universities practices budgeting, but the effectiveness of some projects is limited, with some unable to deliver results to achieve their goals. Some projects face challenges in local community work. Two out of the 6 universities do not actively engage in budget allocation, relying on the university's executive committee to make policy decisions. No issues are found in the implementation process, and the university utilizes the executive committee's authority for operations.

1.2 Budget Allocation: In the area of budget allocation, all 9 Rajamangala University of Technology campuses have a work process related to budget allocation, including the following:

Each university conducts meetings for the approval of annual operational plans within their respective departments. There is a budget committee that establishes appropriate criteria for budget allocation, and units select project items based on the specified expenditure criteria.

Among the 8 universities, there is no practice related to budget allocation that aligns with the goals of being a Group 2 university. The Budget Office has not categorized the university's budget expenditure into the specified groups related to the goals of becoming a Group 2 university. Additionally, the allocated budget has been reduced without specific items related to these groups.

All 9 universities have a selection process for projects based on the allocated budget that aligns with the goals of being a Group 2 university. It is noted that only one university considers this selection process to be of significant importance.

The 9 universities have a practice of setting a timeline for the budget committee to conduct meetings to allocate the budget into work plans/projects. Once the budget amount is received from the Budget Office, the project leader is assigned the responsibility to organize the meeting or develop project plan details. There is a budget preparation calendar for the annual budget, highlighting the processes of preparation, analysis, and budget follow-up. This is carried out within the first two weeks of the budget year. Meetings are held to develop work plans and budget expenditure plans for the year, ensuring that the budget is controlled under efficiency improvement measures by the working group and proposing it to the university for approval.

1.3 Budget Expenditure: In the realm of budget expenditure, all 9 Rajamangala University of Technology campuses have processes related to spending budgets according to plans/projects and budget amendments, which include the following:

Each university prepares project proposals for approval before initiating any project. The activities are carried out according to the specified plans, and adjustments to the plans are made based on approved changes. The adjustments primarily focus on the detailed expenses within the project plan, without modifying the project objectives. The process involves presenting to the management for approval, and a task force is established to expedite budget utilization.

Responsibilities are assigned to individuals to control budget allocations, ensuring that expenditures fall within the allocated amounts. Periodic checks on expenditures are carried out by the task force, and reports on disbursements and expenditures are submitted monthly to the Financial Policy and Asset Committee of the university. Additionally, quarterly reports are presented to the university council. In cases of surplus budget utilization or requests for cross-plan expenditures, the university has established procedures. For expenditure from the annual budget, funds are initially transferred to cover public utility costs, and for revenue expenditures, considerations are made based on the needs of respective units, all aligning with university regulations and strategies. Units do not have the authority to carry out these actions independently, and decisions regarding surplus budget utilization are made centrally, involving university departments such as the treasury, following university regulations.

1.4 Budget Expenditure Tracking: The process of tracking budget expenditure according to plans/projects at all 9 campuses of Rajamangala University of Technology involves the following steps:

Rajamangala University of Technology, in all 9 campuses, appoints a committee to oversee budget expenditure. The committee comprises the Vice President (Planning) as the chairperson, along with the Deputy Head of the Planning and Budgeting Unit, unit officers, the Director of the Treasury Department, and procurement officers as committee members. The Unit of Policy and Planning serves as the secretariat for the committee.

Rajamangala University of Technology, across all 9 campuses, has a comprehensive budget expenditure reporting system with accurate data provided at least once a month. The expenditure reports are presented to the management to inform them of the current budget spending situation. Monthly reports are submitted to the Financial Policy Committee, and quarterly reports are submitted to the University Council. If any unit is found to be lagging behind or not following the plan, the reasons for the deviation are specified in the reports. The university has a monitoring mechanism to ensure that the operations align with the goals of the budget oversight measures, especially in the context of University Group 2.

The universities have established a mechanism to track the outcomes of operations according to the goals set for budget management, especially in achieving the objectives of being a Group 2 university. Three universities actively monitor and assess the performance and budget utilization in

driving and promoting the development of students and the university as a Group 2 institution. The evaluation is conducted annually based on the indicators set by the Group 2 university.

The universities have implemented measures for supervision, warnings, or penalties in cases where operations deviate from the goals or are delayed. Regular reports are submitted to the university president and relevant personnel to expedite corrective actions. Meetings are conducted to address and explain reasons, problems, and obstacles in operations, seeking joint solutions to ensure that budget expenditures align with the established plans. Each of the 9 universities prepares and submits an annual summary report of the performance outcomes, providing a comprehensive overview of the year's activities and achievements.

2. Analysis of opinions on the budget management process of the organization, Round 2, categorized by aspect:

2.1 Process of preparing budget requests: The main data providers expressed their opinions on the work process as follows:

Incorporating national/ministry/region/province/university-level policies into budget preparation: The main data providers had a high level of agreement with an average score of 4.17, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-5.00, while 2 people gave opinions below this range.

Utilizing University Group 2 policies for budget preparation: The main data providers expressed a high level of agreement with an average score of 3.94, a median score of 4.00, and a mode of 4. The majority (12 people) provided opinions within the range of 4.00-4.00, while 3 people gave opinions below this range, and 2 people provided opinions above this range.

Analyzing basic data for budget request preparation: The main data providers expressed a high level of agreement with an average score of 3.88, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-4.00, while 2 people gave opinions below this range.

Considering and selecting appropriate items as guidelines for budget request preparation: The main data providers expressed a high level of agreement with an average score of 3.88, a median score of 4.00, and a mode of 4. The majority (14 people) provided opinions within the range of 3.00-4.00, while 3 people gave opinions above this range.

Establishing and appointing a suitable budget committee: The main data providers expressed a high level of agreement with an average score of 3.64, a median score of 4.00, and a mode of 4. The majority (17 people) provided opinions within the range of 3.00-4.00.

Defining the roles and responsibilities of the budget committee clearly: The main data providers expressed a high level of agreement with an average score of 3.88, a median score of 4.00, and a mode of 4. The majority (13 people) provided opinions within the range of 4.00-4.00, while 3 people gave opinions below this range, and 1 person gave an opinion above this range.



2.2 Allocation of Budget: The main data providers expressed their opinions on the work process as follows:

Approval process for operational plans: The main data providers had a high level of agreement with an average score of 3.76, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 3.00-4.00, while 2 people gave opinions higher than this range.

Budget Committee setting appropriate criteria for expense allocation: The main data providers had a high level of agreement with an average score of 3.88, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-4.00, while 2 people gave opinions lower than this range.

Units selecting projects based on allocated expense criteria: The main data providers had a high level of agreement with an average score of 3.76, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 3.00-4.00, while 2 people gave opinions higher than this range.

Budget allocation according to university goals: Group 2 main data providers had a high level of agreement with an average score of 3.52, a median score of 4.00, and a mode of 4. The majority (12 people) provided opinions within the range of 3.00-4.00, while 3 people gave opinions lower than this range, and 2 people gave opinions higher than this range.

Units holding meetings to develop operational and budget utilization plans: The main data providers had a high level of agreement with an average score of 4.11, a median score of 4.00, and a mode of 4. The majority (14 people) provided opinions within the range of 4.00-5.00, while 3 people gave opinions lower than this range.

Developing plans for operations and budget utilization under efficiency improvement measures: The main data providers had a high level of agreement with an average score of 4.23, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-5.00, while 2 people gave opinions lower than this range.

2.3 Expenditure of Budget According to Plans/Projects and Transfer of Changes: The main data providers expressed their opinions on the work process as follows:

Writing projects for budget consideration: The main data providers had a high level of agreement with an average score of 4.17, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-5.00, while 2 people gave opinions lower than this range.

Submission of project approval requests before expenditure: The main data providers had a high level of agreement with an average score of 4.32, a median score of 4.00, and a mode of 5. The majority (15 people) provided opinions within the range of 4.00-5.00, while 2 people gave opinions lower than this range.

Process for adjusting expenditure details: The main data providers had a high level of agreement with an average score of 4.29, a median score of 4.00, and a mode of 5. The majority (14

people) provided opinions within the range of 4.00-5.00, while 3 people gave opinions lower than this range.

Task force to expedite budget expenditure: The main data providers had a high level of agreement with an average score of 4.11, a median score of 4.00, and a mode of 4. The majority (13 people) provided opinions within the range of 3.50-5.00, while 4 people gave opinions lower than this range.

Preparation of quarterly/half-yearly budget spending reports: The main data providers had a high level of agreement with an average score of 3.94, a median score of 4.00, and a mode of 3. The majority (17 people) provided opinions within the range of 3.00-5.00.

Monitoring budget expenditure on a quarterly/half-yearly basis: The main data providers had a high level of agreement with an average score of 4.17, a median score of 4.00, and a mode of 4. The majority (14 people) provided opinions within the range of 4.00-5.00, while 3 people gave opinions lower than this range.

Task force summarizing expenditure monitoring results for management presentation: The main data providers had a high level of agreement with an average score of 4.17, a median score of 4.00, and a mode of 4. The majority (12 people) provided opinions within the range of 4.00-4.50, while 1 person gave opinions lower than this range, and 4 people gave opinions higher than this range.

Management of surplus funds/requests for cross-plan funding: The main data providers had a high level of agreement with an average score of 3.76, a median score of 4.00, and a mode of 3. The majority (13 people) provided opinions within the range of 3.00-4.50, while 4 people gave opinions higher than this range.

Guidelines for managing surplus funds/requests for cross-plan funding, emphasizing organizational needs and necessity: The main data providers had a high level of agreement with an average score of 3.94, a median score of 4.00, and a mode of 4. The majority (13 people) provided opinions within the range of 3.00-4.50, while 4 people gave opinions higher than this range.

2.4 Process of Monitoring Budget Expenditure According to Plans/Projects: The main data providers expressed their opinions on the work process as follows:

Appointment of a committee to monitor budget expenditure: The main data providers had a high level of agreement with an average score of 3.82, a median score of 4.00, and a mode of 4. The majority (12 people) provided opinions within the range of 3.50-4.00, while 4 people gave opinions lower than this range, and 1 person gave an opinion higher than this range.

Clearly defined roles and responsibilities of the budget expenditure monitoring committee: The main data providers had a high level of agreement with an average score of 3.82, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 3.00-4.00, while 2 people gave opinions higher than this range.

Quarterly reporting system for work performance and budget expenditure: The main data providers had a high level of agreement with an average score of 3.76, a median score of 4.00, and a

mode of 3. The majority (14 people) provided opinions within the range of 3.00-4.00, while 3 people gave opinions higher than this range.

Reporting mechanism for monitoring budget expenditure to the University's Chief Executive Officer (CEO) and University Council: The main data providers had a high level of agreement with an average score of 4.11, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-4.00, while 2 people gave opinions higher than this range.

Mechanism for tracking work progress to ensure budget compliance with University goals, Group 2: The main data providers had a high level of agreement with an average score of 3.52, a median score of 3.00, and a mode of 3. The majority (16 people) provided opinions within the range of 3.00-4.00, while 1 person gave an opinion higher than this range.

Mechanism for tracking work progress to ensure budget compliance with University goals, Group 2, for the University's Chief Executive Officer (CEO) and University Council: The main data providers had a high level of agreement with an average score of 3.70, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 3.00-4.00, while 2 people gave opinions higher than this range.

Measures for overseeing cases where work progress does not meet goals, quarterly: The main data providers had a high level of agreement with an average score of 4.17, a median score of 4.00, and a mode of 4. The majority (15 people) provided opinions within the range of 4.00-5.00, while 2 people gave opinions lower than this range.

Reporting system for summarizing annual work progress: The main data providers had a high level of agreement with an average score of 4.11, a median score of 4.00, and a mode of 4. The majority (11 people) provided opinions within the range of 4.00-5.00, while 2 people gave opinions lower than this range, and 4 people gave opinions higher than this range.

#### 4. Analysis of Feedback on the Budget Management Process of the Organization, Proportional Metric, Opinion Reflection, Round 3.

In the analysis of feedback from the main data providers regarding the budget management process of the organization in Round 3, the aspects were categorized into 4 dimensions, and the following findings were observed:

4.1 Budget Proposal Preparation Process: The main data providers unanimously expressed their opinions that align with the organization's budget management process. The feedback on the process of preparing budget proposals was rated highly. There are 6 key points that were prioritized based on the average opinion scores are: 1.) Incorporating national, ministerial, regional, provincial, university-level policies into budget preparation. 2) Integrating Group 2 university policies into budget preparation. This involves analyzing fundamental data to guide budget proposal creation and appointing an appropriate budget committee. 3.) Considering the selection of suitable items as a guideline for budget proposal creation. 4.) Establishing and appointing an appropriate budget committee respectively.

4.2 Budget Allocation: The main data providers share a unanimous opinion that the feedback on the organization's budget management process, specifically in the area of budget allocation, is at a high level. There are 7 key points, and these have been prioritized based on the average opinion scores, listed in the following order: 1.) Developing operational and budget expenditure plans under efficiency improvement measures. 2.) Organizing meetings to develop operational and budget expenditure plans. 3.) The budget committee establishes criteria for appropriate expenditure budget allocation. 4.) Allocating budgets according to the objectives of University Group 2. 5.) Following a process for the approval of operational plans, with organizations selecting projects based on the criteria for expenditure budget allocation specified. 6.) Organizations select project items based on the objectives of University Group 2.

4.3 Budget Expenditure according to Plans/Projects and Transfer of Changes. The main data providers unanimously agree on their views regarding the budget management processes of the organization, the expenditure according to plans/projects, and the transfer of changes. These opinions are mostly at a high level, with 8 points, and to a moderate level, with 1 point. The ranking is based on the average opinion on the importance of budget expenditure according to plans/projects and transfer of changes. The order of importance is as follows: 1.) The process of project proposal submission for approval before expenditure and the process in case of adjusting expenditure details. 2.) The process of tracking budget expenditure on a quarterly/half-yearly basis. 3.) The requirement to write projects for budget approval and the establishment of a task force to expedite budget expenditure. 4.) The task force expedites budget expenditure and prepares a summary of monitoring results for presentation to management. 5.) Preparation of a report plan for tracking disbursement/expenditure on a quarterly/half-yearly basis. 6.) Guidelines for managing surplus funds/spending requests across plans, emphasizing organizational needs and necessities. 7.) Methods for managing surplus funds/spending requests across plans.

#### **4.4 Budget Expenditure Monitoring Process:**

The key informants unanimously agree on their opinions regarding the budget management process of the department, specifically on the budget expenditure monitoring process. The responses are categorized into two levels: high and moderate. There are a total of 7 statements, with 7 statements ranking high and 2 statements ranking moderate. The ranking is based on the average opinion regarding the allocation of the budget, ordered from highest to lowest. 1.) The list of work results in case the operations do not meet the objectives presented to the University's Board of Executives (Chief Executive Officer: CEO) and the University Council. 2) The existence of a reporting mechanism for expenditure monitoring results to the University's Board of Executives (CEO) and the University Council. 3.) The appointment of a committee to oversee expenditure monitoring with a reporting mechanism to ensure compliance with budget oversight measures for University Group 2, presented to the University's Board of Executives (CEO) and the University Council. 4.) The existence of measures in place to oversee cases where operations do not meet the objectives on a quarterly basis. 5.) Clear definition of the roles and responsibilities of the committee overseeing expenditure monitoring. 6.) Reporting mechanisms for work performance and budget expenditure on

a quarterly basis, with a tracking system for work results in compliance with budget oversight measures for University Group 2, presented to the University's Board of Executives (CEO) and the University Council. 7.) Reporting mechanisms for work performance and budget expenditure on a quarterly basis.

### **Discussion**

Through a qualitative research approach, specifically utilizing the Delphi Technique, the opinions of key executives responsible for budget management at Rajamangala University of Technology were studied. The results provide insights into the budget management processes of the university. The research yielded a suitable model for the modern public sector budget management of Rajamangala University of Technology.

The information management model for budget management at the university comprises four processes:

#### **1. Budget Management Process within the Budget Request Preparation Process:**

1.1 Involves aligning with national, ministerial, regional, provincial, and university-level strategic policies to plan and prepare a budget that is in harmony with these guidelines.

1.2 Incorporates Group 2 university policies and analyzes essential internal and external environmental data to develop comprehensive project plans aligning with the organization's mission, supporting budget request preparation.

1.3 Establishes a process for considering and selecting suitable items to guide budget request preparation.

1.4 Involves the appointment of a budget committee with clear and appropriate roles in policy, focus areas, key performance indicators, prioritization, and/or integration of plans/projects for implementation.

#### **2. Budget Allocation Process:**

2.1 Specify that units create operational and budget utilization plans under measures to enhance efficiency.

2.2 Conduct budget committee meetings to develop operational and budget utilization plans.

2.3 Have the budget committee establish criteria for budget allocation of expenses appropriately.

2.4 Allocate the budget according to the goals of Group 2 universities.

2.5 Define the process for reviewing and approving operational plans and allow units to select project items based on the criteria for budget allocation of expenses as specified.

2.6 Empower units to be responsible for selecting project items.

#### **3. Budget Expenditure Process for Plans/Projects and Budget Changes:**

3.1 Establish a process for proposing project approval before expenditure, including procedures for adjusting expenditure details.

3.2 Implement a process for tracking budget expenditures on a quarterly/half-yearly basis.

- 3.3 Specify the creation of project proposals for budget approval to execute projects.
- 3.4 Task the working group with summarizing tracking results for managerial decision-making.
- 3.5 Develop a plan for reporting expenditure results on a quarterly/half-yearly budget cycle.
- 3.6 Define guidelines for managing surplus funds or requesting funds across plans, emphasizing the needs and necessities of the unit.
- 3.7 Outline the methods for managing surplus funds or requesting funds across plans.

4. Budget Expenditure Monitoring Process for Plans/Projects: Presented to the University Executive Board (Chief Executive Officer: CEO) and the University Council

- 4.1 Report operational outcomes when operations deviate from the set objectives.
- 4.2 Create a comprehensive report on budget expenditure monitoring outcomes.
- 4.3 Appoint a committee to oversee budget expenditure, clearly defining roles and responsibilities, and establish a performance monitoring system aligned with the goals of University Group 2.
- 4.4 Implement oversight measures in case operational outcomes do not align with objectives, on a quarterly basis.

The researcher analyzed data from the successful school management practices, leading to the creation of an information model for budget management at the Rajamangala University of Technology, as illustrated in Figure 1.

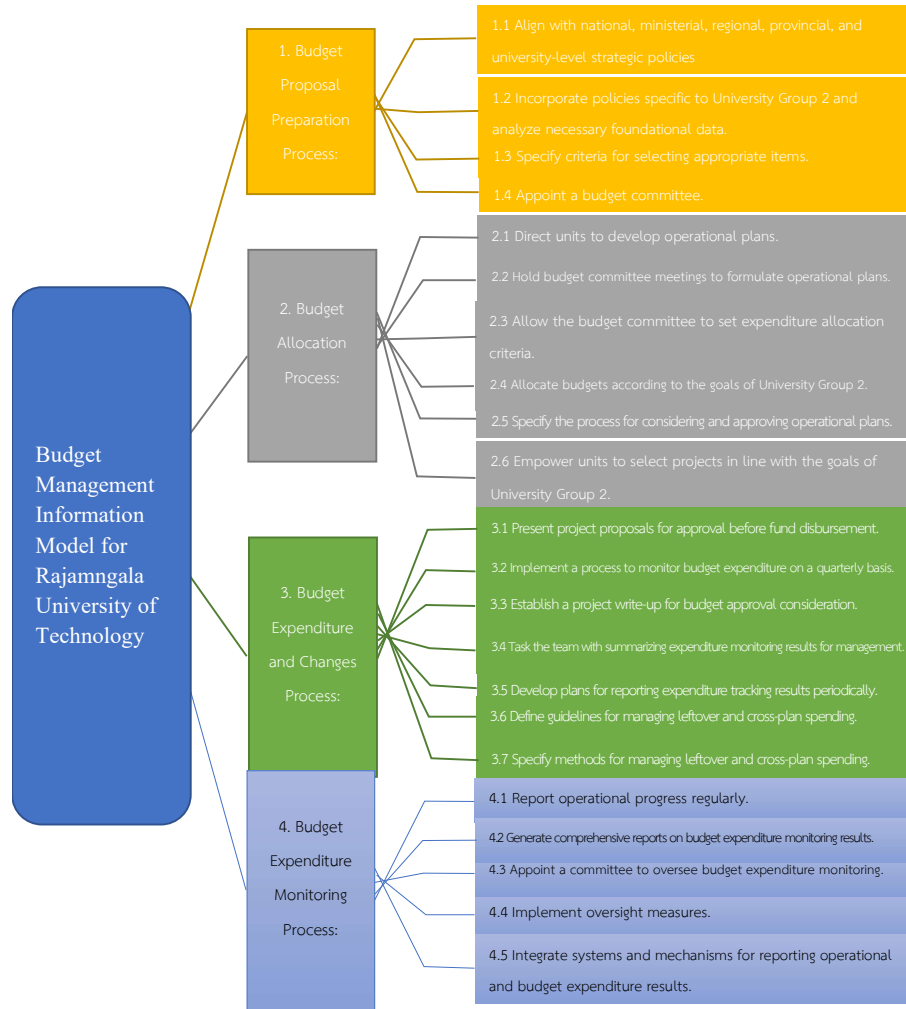


Figure 1. Budget Management Information Model for Rajamngala University of Technology

## Research Suggestions

1. It is crucial to seek collaboration from all relevant departments and units, including the Policy and Planning Office, and units under the jurisdiction of Rajamangala University of Technology in implementing the research findings in practical operations. The Information Model for Budget Management at Rajamangala University of Technology serves as a practical model that can be applied to enhance operational efficiency, convenience, and speed, with suitable processes for internal organizational contexts.

### 2. Recommendations for Future Research:

2.1 Conduct research to identify obstacles and opportunities in the practical application of the Information Model for Budget Management at Rajamangala University of Technology.

2.2 Perform comparative research among universities that utilize Information Models for Budget Management to analyze the efficiency and effectiveness of budget management practices.

2.3 Explore causative relationships between budget management using Information Models and the performance of the organization at Rajamangala University of Technology.

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