

Factors Affecting the Efficiency and Effectiveness of the Budgetary Management of Traffic and Transportation Department, Bangkok Metropolitan Administration

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Abstract

The objective of this research was to (1) study the factors affecting the efficiency and effectiveness of the budgetary management of Traffic and Transportation Department, Bangkok Metropolitan Administration; and (2) study the correlation among factors affecting the efficiency and effectiveness of the budgetary management of Traffic and Transportation Department, Bangkok Metropolitan Administration. This was the survey research. Population and samples were the officers of Traffic and Transportation Department, Bangkok Metropolitan Administration, total of 400 samples. The research tool was questionnaire, which was tested the content validity with the experts by the measuring Index of Item-objective Congruence (IOC) and test the try-out reliability with 40 officers of Department of Public Work and Department of City Planning by the statistic of Cronbach's Alpha of 0.722. The statistics used in this research were arithmetic mean and standard deviation to measure the opinion level for each factor; correlation coefficient and the method of Multiple Regression Analysis to find out the correlation between these factors affecting the Efficiency and Effectiveness of the Budgetary Management of Traffic and Transportation Department, Bangkok Metropolitan Administration at the statistical significance of 0.05. The researcher used the computer program to process the data. The research findings were as follows: (1) they were found 4 factors affecting the efficiency and effectiveness of the budgetary management of Traffic and Transportation Department, Bangkok Metropolitan Administration which were the factors of working environment, the management process within the organization, the organizational competency, and the organizational development and; (2) Regarding, the correlations between those factors, it was found that the factor of working environment, the management process within the organization, and the organizational development all contributed to the correlation coefficient (R) statistic of 0.869.

A group of these factors could explain the variation of the efficiency and effectiveness of the budgetary management of Traffic and Transportation Department, Bangkok Metropolitan Administration at 75.50% (illustrated by the statistic of “Coefficient of Multiple Determinants (R-Square: R²) of 0.755. The predicted equation derived could be written as follows:

$$Y = a + B_1X_1 + B_2X_2 + B_3X_3 + \dots + e \text{ COM}$$

$$Y = 0.640 + 0.397 \text{ EVN} + 0.388 \text{ PRO} + 0.170 \text{ RES}$$

Keyword: Factors Affecting; The Efficiency and Effectiveness; The Budgetary Management; Traffic and Transport Department; Bangkok Metropolitan Administrator

Introduction

Bangkok is the capital city of Thailand. It's province that has the highest numbers of population in Thailand. The information of Bangkok population (derived from the Center Register Office, Ministry of Interior, as of Dec 30, 2017) was shown the total number of approximately 8 billion, comprising the 5,682,435 registered population and the 2,770,900 non-registered population. Bangkok has the form of government (consisting of both the administrative sectors [governor of Bangkok] and the legislative sector [Bangkok Metropolitan Council]) which is distinctively differentiated from the other provinces, therefore, budget of Bangkok would be considered by the representatives of public sector more than the other forms of local government. Bangkok is growing with expansion in every aspect, as a result, there gradually arises such the problems of being community as traffic congestion, waste disposal, and overcrowding, therefore, Bangkok has to allocate the large number of budgets to solve those problems. Statistical number of every types of vehicles registered in Bangkok (as of Jan 31, 2017) was 9,395,483. (Traffic and Transportation Department, Bangkok, 2017). It could be seen that such a large number of vehicle varies in the same direction as the increased number of Bangkok population. According to the “Bangkok Government Organization Act, B.E. 2528 (1985)”, Article 5 regarding the Authority of Bangkok Metropolitan Administration, including section 89(7): Traffic Engineering and section 89(8): Transportation; the unit called “Traffic and Transportation Department” (the regulatory government agency under Bangkok Metropolitan Administration) is directly responsible for serving such Act statement. Scope of the responsibility of Traffic and Transportation Department were to (1) study, explore, collect data; analyze, plan, design including the issuing the measurements for the traffic and transportation system; (2) establish the job standard for traffic engineering, transport engineering and safety engineering; (3) implement the modernized technology and intelligent traffic system to increase the effectiveness, including management and control; (4) develop the road network and mass transportation system and; (5) educate, train, and promote the campaigns of traffic discipline. Traffic and Transportation Department is allocated the budget, approximately 4 billion each year (budget in 2015 was 4,047,333 baht). Target of the accumulated budget disbursement was 96%, while the actual performance was 84.40%, resulting in the below target attainment. Goal attainment of budget disbursement could be coming from many external and internal factors, therefore, the researcher was interested in exploring that which factors would affect the effectiveness of the budget disbursement so that the research finding could be used to help improve the process of the budget disbursement to be more effective in the next fiscal year and to evaluate the worthiness for the use of budget.

Research Objective

1. To study the factors affecting the effectiveness and efficiency of management of Traffic and Transportation Department, Bangkok Metropolitan Administration
2. To study the correlation among factors affecting the effectiveness and efficiency of Management of Traffic and Transportation Department, Bangkok Metropolitan Administration

Literature Review

Concept of Budget Sherwood (as cited in Narong Sajpanroj, 1996) defined the meaning of budget as the comprehensive plan which illustrated all the operating projects during a certain period of time, including the projection (in terms of figures) and management of the project activities, expenditures, and all necessary resources to support the plan attainment. Processes relating to plan were preparation, authorization, approval and execution. Government effectively uses the government spending and budget allocation as a tool for the country development through the prospective projects which required a large amount of capital expenditures

Van Horn and Van Meter (1975) defined the important characteristics of good plan which should have the precise identification of objectives and goals so as to attain the results-based management, empirically.

Concept of Effectiveness Paranee Mahanont (1986) shared the same explanation of effectiveness in common with Sompong Kasemsin (1971) in that effectiveness could be divided into 3 levels, accordingly:

1. The individual effectiveness

The individual effectiveness is the degree to which objective were achieved. Normally, the supervisor will be the one who conduct the performance evaluation of their employees for considering reward and compensation. Factors contributing to attain the individual effectiveness were the ability, skill, knowledge, attitude, motivation, stress, etc.

2. The group effectiveness

The group effectiveness is the combined power of a group of people when they work as a team, their results were more productive than what achieved by the individual. Such multiplier effect could be called in another name as “Synergy”. Factors contributing to attain the group effectiveness were cohesiveness, leadership, structure, status, roles and norms.

3. The organizational effectiveness

The organizational effectiveness was consisted of the individual and the group effectiveness. However, it could exploit the synergistic effects, therefore, the level of its effectiveness would be much more distinctively than the other two. Factors contributing to attain the organizational effectiveness were environment, technology, strategy, structure, process, and culture.

Effectiveness could be evaluated by (1) the goal attainment which was able to compare the actual performance with the expected objectives, targets and goals (2) the satisfaction of the clients and service users and (3) the service quality.

Allison (1971, p. 101) stated that the objectives and the goals were the associated variables with either/both outputs in terms of the highest achievement or/and outcomes in terms of the highest quality. There were three different models of Classic model, Organization Process model, and Government Politics model to help judge whether which alternatives should be adopted by which the classic model or the rational actor was developed from the Economic theory in the concept of the objectives and goals of the organization.

National Government Organization Act According to Royal Decree on Criteria and Procedures for Good Governance, B.E. 2546 (2003), it identified the performance and its worthiness evaluation with each other as follows:

In section 45-49, performance evaluation aimed at goals and unit strategy as the evaluation framework which covered the goals attainment in terms of units of production.

Regarding the worthiness evaluation, section 21 required the government units providing for the public services to prepare cost accounting in order to compare the worthiness between the input and output and between government spending of their units and the other comparable units to plan for cost reduction and improve their operation. Section 22 were the evaluation at the impact level which was escalating from the performance and worthiness evaluation. It emphasized the analyzing of the feasibility including the expected and unplanned outcomes both positive and negative side. Section 23 identified that government should operate with transparency, upright, and verifiability to show the concerns about the benefits of general interests in the long run.

Research Methodology

This was the survey research.

Sources of data were as followed:

1. Primary data. Researcher used the questionnaire as a tool to collect the primary data

and researcher accomplished the collection of primary data himself.

2. Secondary data. Secondary data came from the collection of the academic documentations (i.g. theory and concept from textbook/e-journal, the literature review from thesis and dissertation, statistics from the electronic media)

Population in this research were the personnel of Traffic and Transportation Department, Bangkok Metropolitan Administration (which was composed of the Office of Traffic Engineer, Department of Transportation, Department of Traffic System Development, Department of Policy and Plan, and the Office of Secretary), total number of 400. Every unit had the operational plans and the controlled budget. In this research context, the researcher had studied the whole population.

Research Tool in this study was questionnaire which the data measured was the Likert 5-scale rating. Open-ended questionnaire was designed to draw the respondents' suggestion to improve the effectiveness and efficiency of the budgetary disbursement. Researcher constructed the questionnaire item by reviewing the concept, theory, and the related literature and brought it to consult the content validity (including comprehensiveness and language) with the 3 experts who were in the position of chief executives and their advisors. Researcher assessed the content validity by the Index of Item-objective Congruence—IOC. Researcher also assessed the reliability by collecting the data from 40 respondents who had the qualifications similar to the target samples as the try-out and brought it back to compute the Cronbach's alpha Coefficient. The alpha coefficient for all items, in overall factors, was 0.722, for the factor of Working Environment (3 items) was 0.722, for the factor of Management Process within the Organization (8 items) was 0.873, for the factor of Organizational Development (11 items) was 0.889, and for the factor of the Effectiveness and Efficiency of Budgetary Management (3 items) was 0.781.

Statistics Researcher applied the descriptive statistics of means and standard deviation to analyze data. Researcher used Pearson's Correlation Coefficient to find out the correlation between factors affecting the effectiveness and efficiency to the budgetary management. And researcher applied the inferential statistic of multiple regressing analysis for hypothesis testing. All data was processed by the computer program.

Research Finding

Most respondents were (1) male (264 persons, accounted for 66%), (2) hold the job title of technician (165 persons, accounted for 41.25%), and (3) working experience during 5-10 years (107 persons, accounted for 26.75%)

1. Factors affecting the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration

There were 4 factors affecting the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration in the fiscal year 2017 as follows: (1) the Working Environment (2) the Management Process within the Organization (3) the Organizational Competency and (4) the Organizational Development

Table 1: Mean and Standard Deviation for Factors Affecting the Effectiveness and Efficiency of the Budgetary Management of Traffic and Transport Department, Bangkok Metropolitan Administration

Factors Affecting the Effectiveness and Efficiency of Budgetary Management	Mean	Standard Deviation	Rank
Working Environment	3.8067	.77833	2
Management Process within the Organization	3.8778	.65736	1
Organizational Competency	3.6370	.55249	3
Organizational Development	3.2920	.47391	5
Effectiveness and Efficiency of Budgetary Management	3.6283	.64775	4

Result from table 1 was shown that the opinion level of respondents giving to the factors affecting the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration from the highest to the lowest level were ranking in the following orders: (1) Management Process within the organization (mean = 3.8778, $SD = .65736$) (2) Working Environment (mean = 3.8067, $SD = .77833$) (3) Organizational Competency (mean = 3.6370, $SD = .55249$) (4) Effectiveness and Efficiency of the Budgetary Management (mean = 3.6283, $SD = .64775$) and (5) Organizational Development (mean = 3.2920, $SD = .47391$)

2. Correlation between factors affecting the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration

Researcher used Pearson's correlation as the statistic to analyze the correlation between the independent and dependent variables whether they were varied in which direction either in the positive (same) direction or the negative (inverse) direction; and (2) the degree (size) of their relationship.

Table 2: *Correlation between Independent and Dependent Variables Affecting the Effectiveness and Efficiency of the Budgetary Management of Traffic and Transport Department, Bangkok Metropolitan Administration*

	1	2	3	4
Working Environment	1.000			
Management Process within the Organization	.703	1.000		
Organizational Competency	.364	.524	1.000	
Organizational Development	.416	.510	.453	1.000

Table 3: *Analysis of Relations among Factors Affecting the Effectiveness and Efficiency of*

Factors Affecting the Effectiveness and Efficiency of Budgetary Management of Traffic and Transport Department, Bangkok Metropolitan Administration	Pearson Correlation	Sig.
Working Environment	.803***	.000
Management Process within the Organization	.789	.000
Organizational Competency	.429	.000
Organizational Development	.520	.000

the Budgetary Management of Traffic and Transport Department, Bangkok Metropolitan Administration

Result from table 3 was shown that (1) Working Environment had the positive correlation with the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration at the high degree of 0.803 (2) Management Process within the Organization had the positive correlation with the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration at the high degree of 0.789 (3) Organizational Competency had the positive correlation with the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration at the moderate degree of 0.429 and (4) Organizational Development had the positive correlation with the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration at the moderate degree of 0.520.

Table 4: *Factors Affecting the Effectiveness and Efficiency of the Budgetary Management of Traffic and Transport Department, Bangkok Metropolitan Administration*

Factors	B	Beta	<i>t</i>	Sig.
Working Environment	.397	.476	13.540	.000
Management Process within the Organization	.388	.394	10.038	.000
Organizational Competency	-.009	-.008	-.253	.801
Organizational Development	.170	.125	4.143	.000

*Statistically significant at .05

** Statistically significant at .01

***Statistically significant at 0.00

$R = 0.869 / R^2 = 0.755 / \text{Adjusted } R^2 = 0.753 / \text{SEE} = 0.322 / F = 304.363 / \text{Sig.} = 0.000$

From table 4 it was found that: First, the correlation level between a group of these factors—Working Environment, Management Process within the Organization, Organizational Competency, and Organizational Development—was illustrated by the Correlation Coefficient (R) statistic of 0.869. Second, a group of these factors—Working Environment, Management Process within the Organization, Organizational Competency, and Organizational Development—can explain the variation of the effectiveness and efficiency of the budgetary management of Traffic and Transport Department, Bangkok Metropolitan Administration at 75.50%. Third, the prediction equation derived could be written as follows:

$$Y = a + B_1X_1 + B_2X_2 + B_3X_3 + \dots + e$$

$$Y = .640 + .397 \text{ EVN} + .388 \text{ PROC} + .170 \text{ RES}$$

$$(13.540) \quad (10.038) \quad (4.143)$$

From the above equation, factors (variables) which could best explain (predict/influence) the effectiveness and efficiency of the budgetary management of the Traffic and Transport Department, Bangkok Metropolitan Administration were Working Environment, Management Process within Organization, and Organizational Development, respectively (see figure 1)

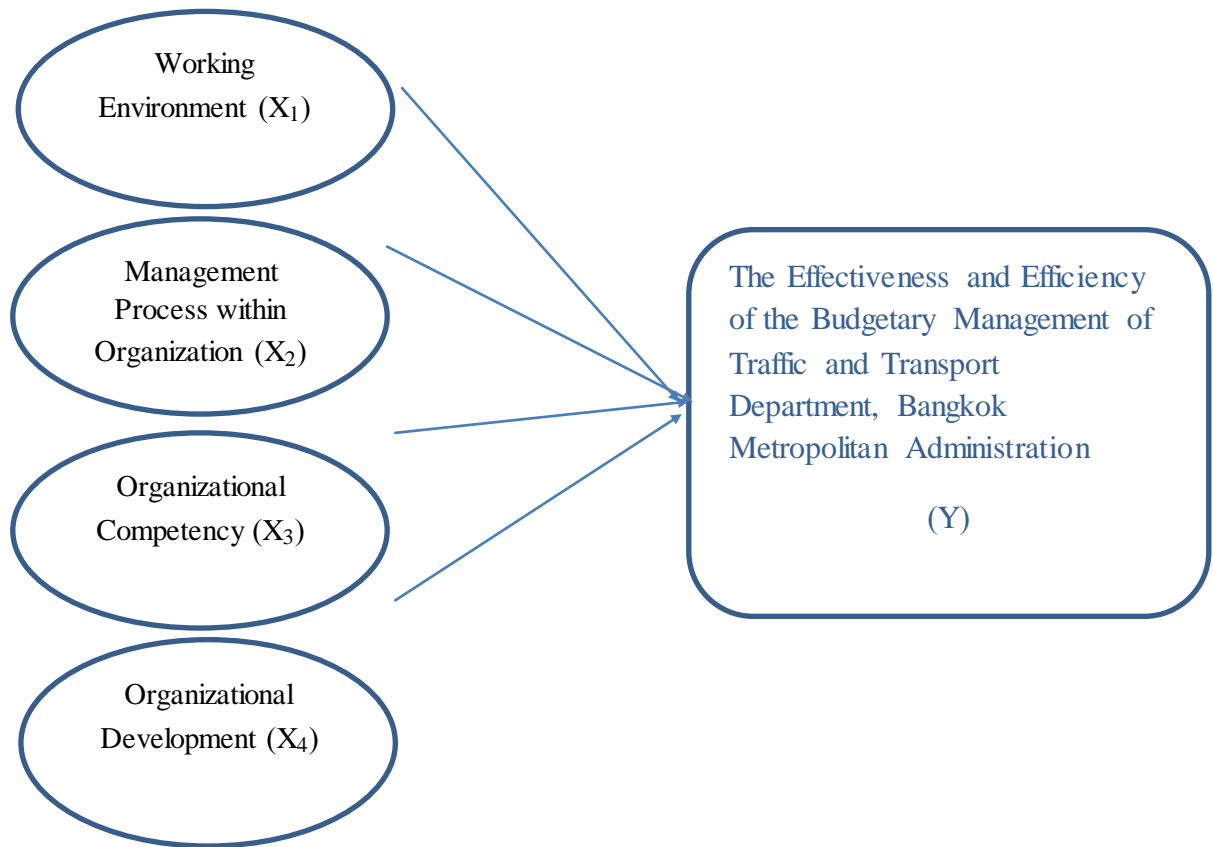


Figure 1 The Relation Among the Factors in this Research

Discussion

The research findings which revealed that facts that Working Environment had the positive correlation with and had the influential effect to the effectiveness and efficiency of the budgetary management of the Traffic and Transport Department, Bangkok Metropolitan Administration corresponded to the hypothesis statement, especially factors of Work Environment played the most significant role. Such result was in accordance with the concept of Chandarasorn (2005) who stated that Working Environment would be either contribute or obstruct the attainment of work operation. Working Environment would cover the aspects of the budget sufficiency, the proper budget allocation to plans and projects, including the budget disbursement as planned so that the performance evaluation would be done to judge whether the predetermined key performance index: KPI were achieved or not. The lower significant factors of Management Process within the Organization, and Organizational Development also had the influential effect to the budget management under the scope of the defined policy and the functional KPI.

Research finding was also revealed that factors of Management Process within the organization in the aspects of Authorization System, Control Checking and Recording the budgetary disbursement on the timely basis was received the first priority importance. The above statement corresponded to the Royal Decree on Criteria and Procedures for Good Governance, B.E. 2546 (2003) Section 21 which requires the government units to prepare the cost accounting in the public services so that the worthiness between the input and the output could be analyzed; and government expenditures of any units could be particularly compare with the others in order to review and improve their performance for the next fiscal year.

Research finding was also revealed the fact that factors affecting the Organizational Development in the aspect of the resources availability, especially in the case that the operating officers need to be relocated to the new job was received the first priority importance. The above statement corresponded to the theoretical concept of Effectiveness, belonging to Arnold and Feldman (1986, p. 10); Robins (1987, p. 26). Then, it could be concluded that human resources management was substantially important to let the operations be accomplished as planned, with the required KPI under the budget control.

Suggestion

1. To study and review the impact of changing rules and regulations, for example, the New launched Ministry of Finance on Government Procurement and Supplies Management Act, B.E. 2560 which would be effectively implementation since the fiscal year 2018 onward, on the effectiveness of the budgetary management.

2. This research applied only the quantitative methodology, therefore, the data on the Qualitative approach (i.e. the in-depth interview and other qualitative methodology) should be collected as well to enrich more value to the data analysis.

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