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INFORMATION PROCESSING THEORY IN BUDGETARY PARTICIPATION

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Abstract
This study analyzes the role of the Information Processing Theory (IPT) in the budgetary participation with antecedent variables namely environmental dynamism (ED) and the consequence is performance (P) in the company. IPT used in this study as an effort to overcome the gap between the dynamic environments, information management, budgetary participation and performance. Participation in budgeting is important because it reflects the efficiency of the process, execution, achievement, and evaluation of a plan. Questions that arise include how information technology is used in the state-owned organization? Is the technology adequate? And these need further analysis in the study.

Keywords: Process, Information, Participation, Budget, Performance

BACKGROUND

Introduction

Companies today are confronted with dynamic and competitive environments that will hopefully improve their sensitivity to and readiness for any environmental changes. External conditions such as these dynamic environments require the availability of multiple sources of information to cope with them and to survive in the competition. Information to be obtained consists of the things that need to be discussed at the internal level to maintain and improve performance in competition. The phenomenon that occurs is that the State Owned Enterprises (SOEs), which constitute business entities the capitals of which are wholly or largely owned by the state through direct investment from separated state wealth (Act No. 13, 2003), are mostly not ready or even tend to be less responsive in the face of a dynamic environment.

SOEs felt that by being part owned by the government, competitiveness is not necessary and, consequently, their efficiency and performance are minimal so that they are far left behind in professionalism when compared with those in private sector. SOEs are frequent to ignore the development of information processing that enables information to be processed properly within the organization and can be used in decision making. This study analyzes how the SOEs deal with environmental dynamics through the application of information processing (IP) in the bugetary participation.

IP is a way to develop structured information and to facilitate the users to use the information for decision making. Mia (1987) conducted a study concerning the information processing and described that staff participation in conveying information about their work will make them better understand what

they should do when working. IP plays an important role as input and process in decision making that closely related to the resulting output decisions, as well as in budgetary participation. Questions arise as to How IP is organized in a State-Owned Enterprise environment? Has it been able to accommodate the dynamic environment to produce relevant information? Would it be able to connect and facilitate the participatory budgeting and finally resulted in performance and efficiency improvement?

Budgetary participation has been a much discussed topic of research in the field of Management Accounting because it remains an interesting and applicable topic in the practical world, especially the public sector (SOEs) that are learning to participate in various ways in order to be able to compete equally with those from private sector. Earlier studies were mostly examined the psychological aspects of individuals and organizations, but have not yet include the aspects of information processing involved in participatory budgeting processes. Iskar (2012) acknowledged that the draft budget of the Ministry of SOE for Fiscal Year of 2012 was just a copied version from that of previous years, even the allocation was not creative, less productive, and merely replacing the year and the numbers. Participation in budgeting is important because it reflects the efficiency of the process, execution, achievement, and evaluation of a plan. Questions that arise include how information technology is used in the state-owned organization? Is the technology adequate? And these need further analysis in the study.

Problem Formulation

Based on the above description, we formulate the problem as follow: Does task analyzability, task exception, task complexity, and information technology influence the budgetary participation?

Research Contributions

This study is expected to contribute to academicians and practitioners:

1. For academicians
   To encourage them to test the theory of information processing (that includes *task analizability*, *task exceptions*, *task complexity*, and *information technology*) in budgetary participation.
2. For practitioners
   a. The test conducted will solve many problems in the budgetary participation that are not only related to psychological factors of individuals and organizations but also to the information process.
   b. Finding the answer as to how information processing plays a role in an organization which relates to budgetary participation.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Literature Review

Information Processing Theory

A process, according to KBBI (Comprehensive Indonesian to Indonesian Dictionary), is a sequence of events in the development of something, a series of actions, activities, or processing that generates product(s). Information, according to Hall (2008), is the processed data that can be used in decision-making, conflict resolution, and/or in reducing uncertainty. Information can make the user performs a specific action based on his/her understanding or acceptance of it. Information is a resource for business activities or any activities that must be properly managed, and it became a vital need for every one of us because it is required in any decision-making, especially in unstable or dynamic condition. As indicated by the two definitions above, the information processing is an effort to assemble or manage data to produce particular decision. Information-processing (IP) theory developed by McGuire (2011) is a model that is expected to change attitudes and behaviors in response to a communication, i.e. how a message or information presents a problem in an agenda, attracts attention, being appreciated, accepted, and defended.

Information processing is measured using the dimensions of task exception (TE), task analyzability (TA), task complexity (TC), and information technology (IT). TE is defined as the frequency of unanticipated or unexpected events in a coversion process and TA is defined as the extent to which activities or works can be reduced to several technically programmed steps (Brownell and Dunk, 1991). TC is uncertainty related to decision-making in selecting technological patform that supports *automation of billing*, design technique and the programming language to adopt, as well as the development of nethodology to use (McKeen *et al*., 1994). IT is the availability of facility and infrastructure for managing the existing data (Song *et al.*, 2005).

Hypothesis Development

Information Processing Theory and Budgetary Participation

Mia (1987) suggested, in her study, that employees participation in obtaining and processing information on their work will provide them with deeper insight and, therefore, reducing their uncertainty of their task. Information exchange in organisations will reduce the uncertainty of task to complete, in fact budgetary participation ensued when there is uncertainty of task (Shields dan Shields, 1998), and the latter will, therefore, improve budgetary participation.

Task uncertainty that includes TE and TA constitutes an antecedent in budgetary participation (Chong and Johnson, 2007). TA makes it possible for tasks to be completed in accord with the existing procedure and regulation and therefore budgetary participation in not necessary since everything have been well-programmed. Lower TA makes employees take a lot of time to think and find solutions outside the existing procedures and policies and require a lot of

information, which in turn demands higher level of participation. High TE makes it difficult for subordinates to predict the problems they are facing, and it is expected that high budgetary participation is higher in order to minimize the difficulty in predicting (Perrow, 1967; Withey et al., 1983, Chong dan Jonhson, 2007).

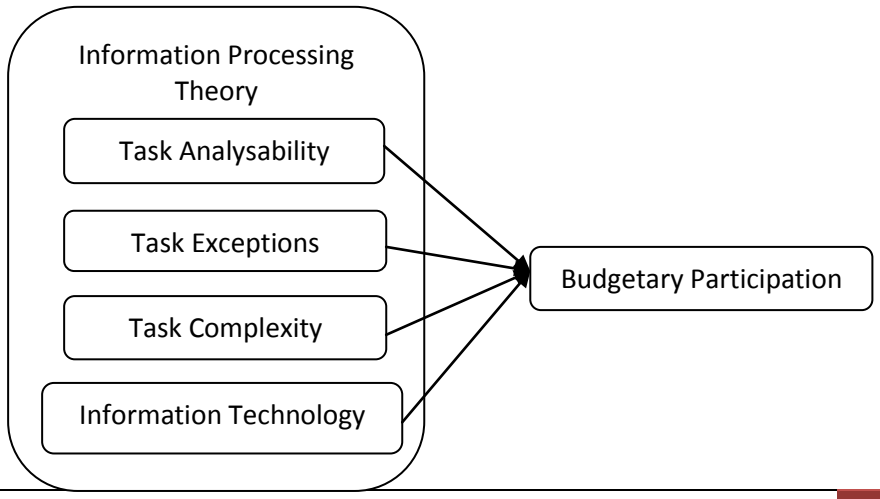
Doll and Torkzadeh (1989), McKeen *et al*. (1994), Choe (1996) investigate whether the complexity of the tasks is related to participation and user satisfaction, as well as how strong the relationship is. The study concluded that the relationship between complexity and user participation is consistently positive. Complexity shows how information systems are diversely constituted or, in other words, they are not simple. It requires user participation in order to be successful in the development of information systems. Complex tasks in budgeting make the employees not easily complete them so that budgetary participation is necessary to help reduce the complexity. Thus, the higher the complexity, the higher the need for budgetary participation will be.

Information technologies that support information processing have made the budgetary participation increasingly improved and supported. The availability of information technology, which is a necessary in information processing, helps reducing inefficiency and gaps (Gattiker, 2007), including budgetary participation. Information technology can bolster the information absorbing power (Song et al., 2005) and improves efficiency in budgetary participation. Galbraith (1973, 1977) noted that the information processing mechanism can reduce the need for information and improve the capacity that support the main mechanism of information processing, and information technology constitutes one of the supporting facilities and infrastructures.

From the above description, we make the following hypothesis:

H_1: Task analysability, task exceptions, task complexity, and information technology influence the budgetary participation.

Research Model



Research Method

Population and Sampling

The population in this study consisted of all division leaders or managers associated with the budgetary preparation in SOEs in Indonesia. Sampling was conducted using nonprobability sampling method, i.e. purposive sampling in which the eligible respondents are division managers who have worked for at least 2 years and have made budget plans for each fiscal year for their divisions. Data collection was performed using mail survey and second and third mailing to obtain larger samples.

Measurement of Variables

a. Dynamic environment is uncertain, fluctuating changes of any conditions inside and outside organization, and measured using the instrument developed by Duncan (1972) which consists of 8 environmental characteristics chosen by the respondent.
b. *Task Exception* is defined as the frequency of unanticipated or unexpected events in a coversion process (Brownell dan Dunk, 1991) and measured using 5 items of questions developed by Withey et al. (1983).
c. *Task Analysability* is defined as the extent to which activities or works can be reduced to several technically programmed steps (Brownell and Dunk, 1991). It is measured using 5 items (questions) as developed by Withey et al. (1983).
d. *Task Complexity* is uncertainty related to decision-making in selecting technological patform that supports automation of billing, design technique and the programming language to adopt, as well as the development of methodology to use (McKeen et al., 1994). It is measured using the instrument developed by McFarlan (1982 in McKeen et al. (1994)) with 3 items of questions and respondents were asked to specify their task.
e. *Information Technology* is the availability of facility and infrastructure for managing the existing data and is measured using 3 items of questions adopted from and developed in Song *et al*. (2005).
f. Budgetary participation is a concept employed to describe the involvement of subordinates allowed to choose their activities as measured using the instrument developed by Milani (1975) using 6 questions to determine their level of participation in budgeting.
g. KBBI defined performance as something achieved, a known achievement, and capability in an activity. The performance of management is measured using 9 items (questions) developed by Mahoney (1965) that consists of 8 managerial dimensions, i.e. planning, investigating, coordinating, evaluating, supervising, staffing, negotiating, and representing and 1 comprehensive question.

Validity and Reliability Testing

The research data will not be useful if the instrument used to collect them do not have the reliability and validity (Cooper and Schindler, 2001). Reliability testing is intended to determine the extent to which the measurement is consistent. An instrument is reliable if it has a Cronbach alpha greater than 0.6 (Hair et.al., 1998). Validity testing was to evaluate how well the measuring instrument measures what it is supposed to measure. A variable is valid if it has factor loading larger than 0.4 and eigenvalue greater than 1 (Hair et.al., 1998).

Pilot Test

Before the questionnaire is given to the actual respondents, the author conducted a pilot test to determine the validity and reliability of the instrument and to avoid questions that are less obvious as well as to determine the time required to complete the questionnaire. The pilot test was conducted with 30 respondents of MM students.

Classic Assumption Testing

The data analysis technique in this study adopted regression model so that classic assumption testing is needed for the model to meet the requirements of the regression model. Tests for normality using the One Sample Kolmogorov-Smirnov with the provisions of probability Asymp. Sig (2-tailed) standardized residuals indicated the regression model above 0.05. Multicollinearity testing was conducted by looking at the correlation between independent variables. If the tolerance is less than 0.10 or if the variance inflation factor (VIF) is less than 10, regression model has no multicollinearity (Hair et.al., 1998). Tests for autocorrelation using the Durbin-Watson with guidelines du <DW <4-du means no autocorrelation.

Hypothesis Testing

Hypothesis testing is conducted using Regression Analysis.

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