

# Testing Models of Relationship Participation, Task Complexity, System Complexity and Satisfaction with Performance

Yudi Sutrasna, Zaenal Abidin S, Priza Udermando Purba  
Senior Lecturer, University of Pertaahanan, Bogor, Indonesia

\*Corresponding author: Yudi Sutrasna

| Received: 06.02.2019 | Accepted: 27.02.2019 | Published: 30.03.2019

DOI: [10.21276/sjef.2019.3.3.2](https://doi.org/10.21276/sjef.2019.3.3.2)

## Abstract

The transformation of the Ministry of Defense's budget policy, the Indonesian National Armed Forces Headquarters and three other departments (Army Headquarters, Navy Headquarters and Air Force Headquarters) from the money follow function to money follow approach requires the implementation and development of holistic financial planning, budgeting and management information systems. thematic and integrative. The pattern of relationships between variables concerning human resources in organizations, such as user participation, user satisfaction, user perceptions of task complexity, perceptions of system complexity and perceptions of system performance determine the effectiveness and efficiency of information systems. This study aims to find out what the overall level of compatibility of the model explains the direct and indirect relationship between participation, task complexity, system complexity, satisfaction with performance. Using a single cross-sectional survey design, data collection through face-to-face interviews with 209 information system users with a questionnaire as the main data collection tool and data analysis applying the structural equation model (Structural Equation Model) with the help of LISREL 8.5 software, this study concluded that there were compatibility of the whole model, measurement model and structural model hypothesized by research with data obtained from research (survey).

**Keywords:** Participation, Task Complexity, System Complexity, Satisfaction and Performance.

**Copyright @ 2019:** This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

## INTRODUCTION

The nature or nature of the system is the integration of a variety of patterns and structures into mutually influential entities. Thus, the projected system is able to easily identify problems, facilitate the organizing process and a means of evaluating the achievement of the objectives of the system. Thus, as part of the overall organizational system, the information system is directed as a means of identifying problems, facilitating tools and evaluation tools related to uncertainty which is the main and classic problem facing organizations or institutions today. This is what underlies why commercial or non-commercial organizations or organizations need information systems as one of the supporters of organizational management.

That is why, information system development is a very strategic decision for the organization because the investment funds needed are quite large. With the support of the development of information and communication technology that is very fast, the task of information systems becomes more effective and efficient. However, in practice, organizational performance in reducing the uncertainty it faces, does

not and does not increase. In fact, organizations have adopted information and communication technology-based information systems. The uncertainty in the organization (even though it has adopted and implemented a planning, budgeting and financial management information system) was experienced by the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters).

For the sake of achieving it; The holistic-thematic and integrative Government Work Plan (RKP); the budget policy implemented is no longer based on the money follow function approach, but money follow program; availability of a reliable monitoring and evaluation (*monev*) system that will make a real contribution to the feedback cycle in the planning phase, which in turn will improve the quality of development planning, recording data on Non-Tax State Revenue Targets for each Ministry/Institution; the concept of integrated budgeting, performance-based budgeting and the medium-term budgeting framework; good preparation of Special Cost Standards (SBK);

preparation of Architecture and Performance Information; preparation of the Medium Term Expenditure Framework; Review & Improvement of Output Realization by Work Units in all K/L; preparation of GPP Application (Salary); preparation of the POK Application (Activity Operational Guidelines), SAIBA Application (Accrual-Based Agency Accounting System); preparation of SIMAK-BMN (Management Information System for State-Owned Accounting); preparation of the SAS Application (Joint Treasury Application System/Application of combined SPM, SILABI, and *Renkas*), the government applies various information system applications to support this government's vision. There are at least 14 information system applications involved in supporting this government's vision, such as the e-Planning Ministry of PPN/Bappenas, 2017 K/L *Renja-Bappenas* Application), RKA K/L Application, SBK Application, ADIK Application, TPNBP Application, MTE Application, GPP Application (Salary), POK Application (Operational Activity Guide), SAIBA Application (Accrual-Based Agency Accounting System), SIMAK-BMN Application (State-Owned Accounting Information Management System) SAS Application (SPM Joint Application/Treasury Application System, SILABI and *Renkas*) and the Monitoring and Evaluation Application of DJA-KEMENKEU.

But in practice, the application of information systems for planning, budgeting and financial management through the above applications raises uncertainties which ultimately counterproductive to the objectives to be achieved. In other words, the application of the Ministry of Defense's information system, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters) faced various problems and obstacles. These obstacles include; data input errors and delays in completion; The K/L Strategic Plan has not formulated in detail the Activity Goals (Outputs) and Performance Indicators of each work unit based on the criteria in the preparation, when setting targets for activities that refer to the trend-based target RKA K/L faced with budget realization data & the realization of activity performance is often not appropriate, so that the impact on the results of measuring budget realization and realization of program performance becomes less realistic; the need to improve the RKAKL application which refers to policy changes and application technical changes. So that the information attached to RKAKL has more weight and from the technical side of the application makes it easier for operators to pour RKAKL data into the application; simultaneous application updates; the application of the State Ministry/Institution Work Plan (RKAKL) has not been integrated. When summarized, the sources of these obstacles reflect three main things. First, there is the desire of information system users to participate in optimizing the achievement of the various objectives of the application

of the information system. Second, related to the first, users of information systems face obstacles from the side of the reality that is not yet offered by the system in the hope that users perceive performance. Third, although the technical performance of information system applications is running well, the performance has not been considered formal because of non-technical barriers, such as lack of counseling, availability of application devices in K/L and local government, availability of data to be processed and incompatibility between applications.

Based on the background and problems, the objectives to be achieved from this study are:

- Describe or describe the level of participation, task complexity, system complexity, satisfaction and performance in the implementation of a Work Plan and Budget Management Information System in order to support the implementation of Defense Financial in an environment of participation, task complexity, system complexity and performance satisfaction.
- Describing or describing one of the levels of participation, complexity and performance satisfaction that most significantly affects performance in the implementation of the Work Plan and Budget Management Information System in order to support the implementation of Defense Financial within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters).
- Describe or describe the effects of direct relations and indirect relations between participation, task complexity, system complexity, satisfaction and performance in the implementation of the Work Plan and Budget Management Information System in order to support the implementation of Defense Financial within the Ministry of Defense, the Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters).
- Describe or describe the level of compatibility of the whole model that explains the direct and indirect relationship between participation, task complexity, system complexity, satisfaction and performance in the implementation of a Work Plan and Budget Management Information System in order to support the implementation of Defense Financial within the Republic of Indonesia Ministry of Defense research has been hypothesized with the results of the study.

## LITERATURE REVIEW

### Management information System

Management information systems are a framework in which resources (human, computer) are coordinated to convert input (data) into output (information), in order to achieve company goals. Management information systems are similar to a

communication network because they both provide information for various parties. Basically something can be called a system if it fulfills two conditions. First is to have parts that interact with the intention to achieve a certain goal. The parts are called subsystems, or some call them procedures. The second condition is that a system must have three elements, namely input, process, and output.

The functions carried out by the Management Information System consist of five main tasks or functions: data collection, data management, data control and security, and provision of information. These functions then consist of a series of stages, which are often referred to as data processing cycles, which transform data from various sources into information needed by various users.

- **Data Collection Phase.** In data collection usually there are usually several stages that are passed. Data capture stage is the stage of withdrawing data into the system. After being captured, data is usually recorded on forms called source documents. Catch data may also be validated to ensure accuracy or accuracy and are classified to be included in the specified categories. Furthermore, data can be transmitted or transferred from the point of catch to the processing point.
- **Data Processing Stage.** The collected data usually undergo a series of processing stages to be transformed into useful information. Further stages of validation and classification can be done. Sometimes data is transcribed into media or other documents. Data can be grouped usually sorted according to one or several characteristics. If there is quantitative data, the calculation or comparison steps are often carried out as a result new data might be created.
- **Data management.** The function of data management consists of three keys: storing, updating, and retrieving.
- **Data Security and Control.** Data entered into processing may be wrong, data may also be lost or stolen during processing, the results of recording can be falsified during processing and so on. Steps to control and other security measures include automation, referral (reconciliation), verification, and review.
- **Provision of Information.** The last function of this information system, placing information in the hands of users, can include one or more steps. Reporting includes preparing reports from processed data, deposit data or from both. Communication consists of creating reports that are easy to use by users and physically submitting reports to users.

### **Development of Management Information Systems**

The system development cycle consists of several stages, beginning with system planning and ending with system implementation. System planning lays the foundation for new information systems or revised information systems. This stage includes preparation of the master system plan in addition to the proposed project system to implement the plan.

System analysis includes surveys and analysis of current information systems. This stage will determine the information needed by users of the new system as well as the technical requirements of the system itself. System design includes determining specifications that meet the requirements and requirements specified during the system analysis phase. Often alternative designs are made to be evaluated.

System justification and selection includes detailed analysis of the benefits and costs of certain systems. This stage also includes evaluating proposals from processing equipment manufacturers, so that the most suitable equipment is chosen to implement the design. System implementation consists of steps to complete new design details of recruiting and training new employees, installing and testing new equipment, converting archives to new media and turning on new system machines.

### **User Participation in Development of Management Information Systems**

User participation is the involvement of information system users in the development of management information systems. If the user is given the opportunity to provide opinions and proposals in the development of information systems, the user will psychologically feel that the management information system is his responsibility, so it is expected that the performance of the management information system will increase. Engagement according to Barki and Hatwick is defined as a subjective state of psychology, while participation shows the behavior and activities performed [1].

Tjhai Fung Jen argues that increasingly frequent user involvement will improve SIA performance due to the positive relationship between user involvement in the information system development process in SIA performance [2]. In the article participation is used to show real personal interventions or user activities in the development of information systems, starting from the planning, development to the implementation stage of the information system. This causes the author to submit the first hypothesis.

### **Management Information System User Satisfaction**

User participation will be more situational and a contingency approach is needed to know the

relationship with user satisfaction. The results of Lindrianasari's research show that the level of expertise of users has a significant relationship with participation [3]. This indicates that those who have a high level of expertise are more likely to participate than those with low skills.

User system user satisfaction Conrath and Mignen say user satisfaction information systems can be measured from certainty in developing what they need [2]. User satisfaction is shown by the fulfillment of user needs and user convenience in operating information systems so that the performance of management information systems is higher.

### Concetual Framework

Some research results found that active participation in system development has a positive relationship with the success of the system [4-6]. However, some other research results actually find different findings. Participation has a negative and insignificant relationship with the success of the system [5]. The conflicting results of this research provide an indication of the need for a contingency approach in finding the relationship between user participation and system success in the development of information systems.

Meanwhile, the McKeen *et al.*, study shows an indirect relationship between participation and user

satisfaction [7]. The relationship between participation and user satisfaction is mediated or moderated by task complexity variables and system complexity. While the complexity of tasks and system systems will affect performance directly if the information system meets the needs and desires of users [6].

While the study of Guimares et al showed a direct relationship between the level of participation of users of information systems and user satisfaction as one component (benchmark) of success in the development of information systems [6]. In addition to user satisfaction, there are two components (benchmarks) of the success of the system, namely the quality of the system and the benefits of the system. Previously Mckeen *et al.*, study in the system developer community, showed that participation is a factor that must be considered to ensure user satisfaction so that it can support the success of the system [7]. That the factor of user participation has a very central role in the development of information systems was also confirmed by Doll and Deng [8], Guimares *et al.*, [6] and Suryaningrum [9]. All of these studies show that user participation is an effective variable that determines user satisfaction, system success and the quality of the system.

From previous theoretical and research studies and based on research objectives, this research model is as below.

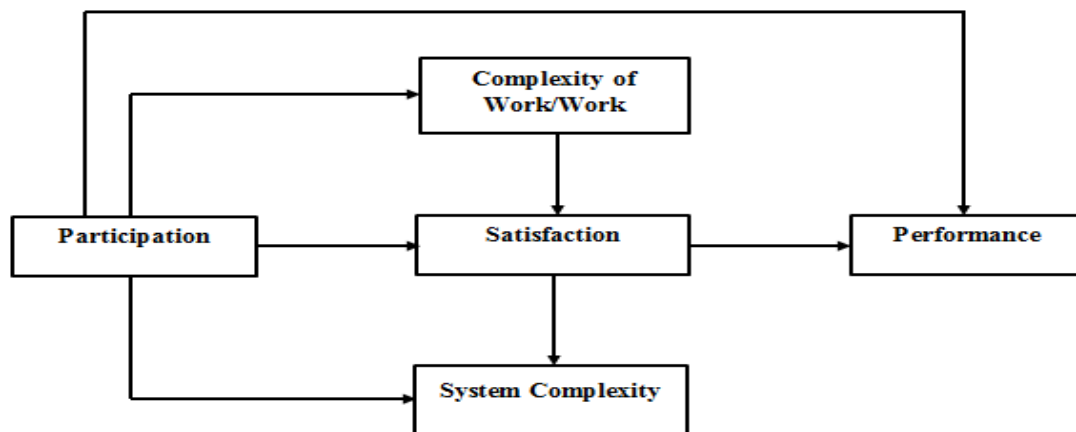


Fig-1: Research Model

### Research Hypothesis

Based on the research objectives, the hypothesis of this study are:

- H1: Information system user participation influences the user's perception of information system performance.
- H2: Information system user participation affects user satisfaction with information system performance.
- H3: Information system user participation affects the user's perception of the complexity of the task or work of information systems.
- H4: Information system user participation influences the user's perception of the complexity of information systems.
- H5: The user's satisfaction with the information system influences the user's perception of information system performance.
- H6: The user's perception of the complexity of the task or information system work influences the user's satisfaction with the information system.

- H7: The user's perception of the complexity of information systems influences the user's satisfaction with the information system.

## METHODS

The unit of analysis of this study is all operators and exposed to 14 applications of information systems for planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters), with a total population of 491 soul. The number of sample samples involved in this study were 200 people.

To answer the first goal of this study, the data analysis method used is a descriptive method. The statistical technique used is frequency distribution, cross tabulation based on respondents' profiles. Whereas to answer the second purpose of this study, which is to know the factors that most significantly affect performance, this study applies multivariate multiple regression statistical techniques. Then to answer the objectives of the third and fourth research, this study uses the analysis of Structural Equation Modeling (SEM). Wijayanto summarizes some of the benefits and advantages of using the SEM method in explaining measurement problems and causal relationships between variables [10]. First, in terms of methodology. SEM acts as a system of simultaneous equations, linear causal analysis, path analysis (path analysis) and covariance structure analysis (analysis of Covariance structure). Second, in some aspects there are similarities and differences between ordinary regression and other multivariate techniques. The difference is seen in explaining latent variable models and measurement models.

This study tested the suitability of all models (overall model fit), measurement model fit and structural model fit. Quoting Hair for overall model fit or goodness of Fit (GOF) consists of a measure of absolute match, measure of incremental match, size of parsimony match and other match size [10].

## RESULT AND DISCUSSION

### RESULT

To answer the first purpose of this research is to describe or describe the level of participation, task complexity, system complexity, satisfaction and performance in the implementation of a Work Plan and Budget Management Information System in order to support the implementation of Defense Financial in an environment of participation, task complexity, system complexity and performance satisfaction -This study conducted a univariate (descriptive) analysis.

- From the mean values obtained it shows that the assessment given by respondents to the nine indicators (manifest variable) to measure the level of participation tends to be moderate. Respondents

tended not to show extreme participation in using information systems for planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other departments (Army Headquarters, Navy Headquarters and Air Force Headquarters). Moderate attitudes were also shown by respondents in terms of the level of satisfaction with the system of planning, budgeting and financial management information systems within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters). The mean value for the nine indicators that measure the level of satisfaction is in the range 2.0952-2.4000.

- Despite the range of mean scores Nine indicators that measure the level of system complexity are higher than the two previous latent variables, but the attitude of the respondents is still in the moderate category (range of mean values 2.1429-2.9952). Respondents did not show extreme attitudes towards the complexity of the information system of planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters).
- Respondents' moderate attitudes were also shown in the level of complexity of the tasks involving the information system of planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters). The level of complexity of the task is only around 2.0286-2.5714.
- The level of performance of the planning, budgeting and financial management information systems within the Ministry of Defense, the Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air Force Headquarters) which respondents perceive are also in levels that tend to point to extreme (low) scores the respondents' average score of nine indicators that measure performance levels is between 1.8565-2.1429.

To answer the second, third and fourth objectives of this study, namely; describe or describe one of the levels of participation, task complexity, system complexity and performance satisfaction that most significantly affect performance; describe or describe the effects of direct relationships and indirect relationships between participation, task complexity, system complexity, satisfaction and performance; describing or describing what is the level of compatibility of the whole model that explains the direct and indirect relationship between participation, task

complexity, system complexity, satisfaction and performance of this study conducted a multivariate analysis using Structural Equation Model (SEM) facilitated by LISREL software 8.5.

Testing the compatibility of structural models is to test the causal relationship between exogenous and endogenous latent variables and between endogenous variables and other variables. In other words, testing the suitability of structural models is to test the research hypotheses derived from path analysis. This study isolates seven track lines that produce seven research

hypotheses. The parameters highlighted in the testing of structural models are estimated coefficients, the significance values of the estimated coefficients and the t-value of each coefficient.

Decision criteria: (1) null hypothesis (H0) is accepted if t-count < 1.96 at the 0.05 significance level and (2) null hypothesis (H0) is rejected if t-count > 1.96 at the 0.05 level of significance. Accepting the null hypothesis means rejecting the alternative hypothesis (H1). Conversely, rejecting the null hypothesis means accepting the alternative hypothesis.

**Table-1: Results of Structural Model Analysis**

Independent Latent Variables	Direction of Relationship	Latent Dependent variable	Standard Estimated Value (Gamma or Beta)	t-value	Conclusion
Participation	→	Satisfaction	0.38	5.13	Significant. Accept H1, reject H0
Participation	→	System Complexity	0.59	12.59	Significant. Accept H1
Participation	→	Task Complexity	0.63	10.34	Significant. Accept H1
Participation	→	System Performance	0.34	4.35	Significant. Accept H1
System Complexity	→	Satisfaction	0.33	6.75	Significant. Accept H1
Task Complexity	→	Satisfaction	0.73	3.89	Significant. Accept H1
Satisfaction	→	Performance	0.88	8.14	Significant. Accept H1

From the table above, temporary conclusions can be drawn based on the results of the study. First, all (seven) research hypotheses proposed by this study proved significantly. That is, the conditions hypothesized by research at the sample level illustrate conditions in the population. In other words, there is a match between the data produced by this study (survey) and the structural models identified or produced by this study.

In addition, from the results of testing structural models, this study also has the effect of a direct relationship between participation, satisfaction, system complexity and task complexity with system performance. The table below shows the relationship patterns and Gamma and Beta values that reflect the strength (effect) of the relationship.

**Table-2: Relationship Patterns and Gamma and Beta Values Reflecting Relationship Strength (Effect)**

Independent Latent Variable	Latent Dependent Variable	Pattern of Relationship to Performance	Standard Estimated Value (Gamma or Beta)
Participation	Satisfaction	Indirect	0.38
Participation	System Complexity	Indirect	0.59
Participation	Task Complexity	Indirect	0.63
Participation	System Performance	Direct	0.34
System Complexity	Satisfaction		0.33
Task Complexity	Satisfaction		0.73
Satisfaction	Performance	Direct	0.88

From the table above the indirect effect can be calculated as 0.38 (0.59) (0.63) (0.33) (0.73) = 0.03.

While the direct effect is 0.38 x 0.88 = 0.33. So it can be concluded that the direct effects of participation,

satisfaction, system complexity and task complexity with system performance are stronger than the indirect effects.

## DISCUSSION

There are several things that need to be highlighted from data analysis. First, from the aspect of the measurement model. As mentioned in the data analysis section, the purpose of the measurement model analysis is to find out what the relationship between latent (exogenous or endogenous) variables and manifest variables, observable, measurement instruments or indicators that represent, reflect or represent these latent constructs. Thus, testing the suitability of the measurement model is also testing the latent construct (variable).

In the context of research in government bureaucracy with heterogeneous employees (both in terms of age, gender, work unit, position, recent education level, length of service, employment status and participation in training related to information systems planning, budgeting and financial management), the quality of validity measures the level of participation, the level of satisfaction, the level of complexity of the system, and the level of task complexity and system performance is relatively good. That is, each indicator (manifest variable) truly reflects the latent variable it represents.

Nevertheless, it is also necessary to highlight some of the indicators that are vulnerable to failing to represent latent variables, especially the range of load factors between 0.70 factor load  $\leq$  0.50. Several factors that might cause the birth of indicators whose validity is not satisfactory. The first factor is the requirement for sample adequacy for structural equation testing (structural equation modeling / SEM). To get a better measurement model, ideally with the number of 40 indicators, the number of respondents expected is as many as 400 people. With a sample of 210 people, ideally the number of indicators is 21 indicators. When divided proportionally into 5 latent variables, each of the latent variables is represented by 4 indicators.

The second factor is the unavailability of a standard measurement scale, standard and universally valid for measuring each latent variable. Although in various studies it was shown that the scale of measurement used, the majority was the result of its own development. It is difficult to find the results of studies that show a comparison of the value of reliability and validity between the same measuring instruments in different research contexts. Or make modifications to specific study needs. What's more for the research context in a bureaucratic environment that brings together two different cultures (civil and military) such as those found in the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions

(Army Headquarters, Navy Headquarters and Air force Headquarters).

The last factor concerns face validity of each latent variable. Since this study was conducted on heterogeneous respondents in terms of age and education, there is a possibility of different interpretations of the measurement scale presented to him. There is a possibility that the quality of the validity of the measurement scale of the manifest variable originates from the range of answers in the questionnaire that reflects the respondent's attitude is too narrow. So that it does not provide a more assertive space (to avoid moderation).

The second thing that needs to be highlighted by research is the results of structural analysis. Interpretation of data from structural analysis emphasizes the results of hypothesis testing. Lane analysis shows that the overall null hypothesis of this study is proven. This shows several things. First, this study agreed or strengthened with the results of the Hwang and Thorn study which concluded that participation had a very significant relationship with the success of the system [11]. At the same time it also confirmed the study of Ives *et al.*, [4] and the study of McKeen *et al.*, [7]. All studies show: (1) that user satisfaction is as big as their trust in the ability of a management information system to satisfy them for information needs, (2) The success of information systems presents a natural multidimensional state, including satisfaction from users, (3) the success of information systems presents a natural multidimensional situation, including satisfaction from users and (4) meaning that in the indirect context user participation is an effort to achieve user satisfaction so that success in system development can be achieved.

Second, the results of this study also strengthen the Doll and Deng study [8] as well as the results of the meta-analysis conducted by Hwang and Thorn [11]. The overall results of the study show that: (1) users have a very central role in the development of management information systems, (2) user participation has a very significant relationship with the success of the system and (3) user participation is an important factor that must be met. That is, in an indirect context, user participation is an effort to achieve user satisfaction so that success in system development can be achieved.

Third, the results of this study support the conclusions of the DeLone and McLean study which say that the quality of services together with the quality of systems and information will affect the usability and satisfaction of users of management information systems [12]. The results of this study also confirm that a successful Management Information System section / unit must be able to provide benefits to service users through the service activities it performs and is able to

help the organization achieve its objectives. To arrive at this condition, a Management Information Systems department is expected to play an effective role for users and their organizations. Thus being able to provide satisfaction to the users of his services.

Fourth, the results of this study confirm the Doll and Deng studies which conclusively show that there is a positive and significant relationship between participation and user satisfaction in the development of management information systems [8]. This process works through the participation of aspects of cognitive aspects, motivational aspects and aspects of achieving user value [8]. The success of achieving targets from these three aspects will in turn lead to increasing productivity and user satisfaction. Finally, research carried out within the Ministry of Defense, the Indonesian National Army Headquarters and three other dimensions (AD Headquarters, AL Headquarters and AU Headquarters) is consistent with the results of studies of Ives and Olson [4], Barki and Hartwick [5] and studies Guimaraes *et al.*, [6]. Who agreed that active participation in system development has a positive relationship with the success of the system. At the same time, the results of this study reject the Barki and Hartwick studies which show that participation has a negative and not significant relationship with the success of the system [5]. This study also reinforces the propositions of McKeen *et al.*, [7], Doll and Deng [8], Guimares *et al.*, [6], Suryaningrum [9] and Guimaraes [6] which show a direct and indirect relationship between participation, task complexity variables and system complexity with user satisfaction. The relationship between participation and user satisfaction is mediated or moderated by task complexity variables and system complexity.

## CONCLUSION AND SUGESTION

### CONCLUSION

From the results of analysis and interpretation of data and to answer the questions and objectives of this study, this study draws some conclusions.

- Levels of participation, satisfaction, system complexity, task complexity and system performance are perceived by operators in the implementation of information systems for planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other departments (Army Headquarters, Navy Headquarters and Air force Headquarters) in the moderate category that leads high.
- Satisfaction of performance perceived by operators is the most significant variable affecting performance in the implementation of information systems planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army

Headquarters, Navy Headquarters and Air force Headquarters).

- The direct effects of participation, satisfaction, system complexity and task complexity with system performance perceived by operators in the implementation of information systems for planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other departments (Army Headquarters, Navy Headquarters and Air force Headquarters) is stronger than the indirect effect.
- There is a level of compatibility of the whole model, the measurement model and structural models explain the direct and indirect relationships between participation, task complexity, system complexity, satisfaction and performance hypothesized by research with data obtained from surveys in the implementation of information systems planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air force Headquarters).

### SUGESTION

From the results of analysis and interpretation of data and conclusions, this study suggests several things, namely as follows:

- Activities need to be carried out that encourage increased participation and user satisfaction. This study suggests the need for more intensive and regular training to improve competence and expertise.
- Incentives for employees who have good performance and disincentives for employees with poor performance should also be provided.
- It is necessary to develop a more systematic and adaptive standard operational procedure and valid and reliable measurement tools for evaluation and monitoring to ensure the effectiveness and efficiency of the implementation of information systems for planning, budgeting and financial management within the Ministry of Defense, Indonesian National Army Headquarters and three other dimensions (Army Headquarters, Navy Headquarters and Air force Headquarters).

### REFERENCES

1. Grahita, C., & Indriantoro, N. (1997). The Relationship Between Participation and User Satisfaction in Computer-Based System Development: An Overview of Two Contingency Factors. *Indonesian Journal of Economics and Business*, 12(2), 15-35.
2. Tjhai, F. J. (2002). Factors Affecting the Performance of Accounting Information Systems. *Journal of Business and Accounting*, 4(2).
3. Lindrianasari. (2001). Relationship of Expertise with Participation and Relationship of Participation



- with Other Variables in Information System Development, *Indonesian Accounting Research Journal*, 3(2).
4. Ives, B., & Olson, M. H. (1984). User involvement and MIS success: A review of research. *Management science*, 30(5), 586-603.
  5. Barki, H., & Hartwick, J. (1994). Measuring user participation, user involvement, and user attitude. *MIS quarterly*, 59-82.
  6. Guimaraes, T., Staples, D. S., & McKeen, J. D. (2003). Empirically testing some main user-related factors for systems development quality. *Quality Management Journal*, 10(4), 39-50.
  7. McKeen, J. D., Guimaraes, T., & Wetherbe, J. C. (1994). The relationship between user participation and user satisfaction: an investigation of four contingency factors. *MIS quarterly*, 427-451.
  8. Doll, W. J., & Deng, X. (2001). The Collaborative Use of Information Technology: End User Participation and System Success. *Information Resources Management Journals. abi/inform Global*.
  9. Lin, W. T., & Shao, B. B. (2000). The relationship between user participation and system success: a simultaneous contingency approach. *Information & Management*, 37(6), 283-295.
  10. Wijanto, S. H. (2008). Structural equation modeling dengan Lisrel 8.8: konsep dan tutorial. *Yogyakarta: Graha Ilmu*, 3(1), 40-45.
  11. Hwang, M. I., & Thorn, R. G. (1999). The effect of user engagement on system success: a meta-analytical integration of research findings. *Information & Management*, 35(4), 229-236.
  12. DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of management information systems*, 19(4), 9-30.