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The Effect of Information Technology and Organizational Structure in Project Management Office Program for *Sekolah Penggerak* Program in North Sulawesi

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Abstract

Project Management Office is a form of organization assigned with responsibilities related to centralized and coordinated management of all projects within its scope. In the implementation of the project management office, there is a role in the organizational structure and information technology in an organization. This study aims to compare the organizational structure and information technology in the implementation of the Project Management Office for Sekolah Penggerak Program in North Sulawesi Province. This research is a literature review using research on organizational structure and information technology and its relationship with project management office. The calculation results average of the respondents' total response scores percentage related to organizational structure are 80%, in the range of 68.01%-84% in the good category and information technology at 65% in the range of 56%-68% in the moderate category. It can be concluded that the organizational structure provides good opportunities in the implementation of the project management office although it has not yet reached the ideal level and the information technology needs to be improved so that the implementation of the project management office can reach the expected ideal level.

Keywords: project management office; organizational structure; information technology; sekolah penggerak program

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I. Introduction

Management is a process of planning, organizing, providing leadership, and controlling an organization's business by using organizational resources to achieve goals (Stoner in Sagala, 2007:51). This definition is relevant to the meaning of the word "management" which means to handle, manage, and regulate (Wijaya & Rifa'i, 2016:14). Management can also be interpreted as a performance to understand and achieve the desired results through group efforts and the use of human resources (Terry, 1973:12).

According to Hersey & Blanchard (in Wijaya & Rifa'i, 2016:14), "management is a process of working with and through individuals and groups and other resources to accomplish organizational goals". Management is the process of working together between individuals and groups and other resources in achieving organizational goals. This opinion is in line with Kamarulzaman and Al Barry (2005:431) which defines management as "the process of using and mobilizing human resources, other capital equipment in an integrated manner to achieve certain goals".

Management as a science and art requires its implementers to be able to regulate the process of utilizing human resources effectively which is supported by other sources within an organization to achieve certain goals (Hikmat, 2009:11). In addition, management is a comprehensive process that includes planning and decisions about future decisions, also includes the effective use of resources through effective organization and control and is related to the best ability to achieve goals (Williams, 2006:4). In addition to this definition, management is also defined as science, tips and professions. Said to be a science by Luther Gulick (Fattah, 2009:1), management is a science because management is seen as a field of knowledge that systematically seeks to understand why and how people work together. It is said to be tips by Follet (Fattah, 2009: 1) because management achieves goals through ways by arranging other people to carry out tasks. Seen as a profession because management is based on special skills to achieve an

achievement, managers and professionals are guided by code of conducts.

Project Management Office (PMO) is defined as a form of organization assigned with responsibilities related to centralized and coordinated management of all projects within its scope (Institute, 2013). The PMO controls the management of various projects, programs or both combined. PMO concentrates on planning coordination, prioritizing and implementing projects activities related to the organization above it. The main objective of PMO is to facilitate the project success by establishing best practices, reducing risk and ensuring project delivery on time within the stipulated budget.

In the implementation of project management office, there is a role in the organizational structure and information technology in an organization.

Stephen P. Robbins (2006) suggests that the organizational structure is: "The formal organizational framework within which work tasks are divided, grouped, and coordinated".

Richard M. Steers in M. Jamin (1985) is: "Organizational structure is a harmonious way of placing humans as part of the organization in a relatively fixed relationship, which greatly determines the patterns of interaction, coordination and task-oriented behavior".

Indicators of organizational structure according to Stephen P Robbins (2005) are, as follows: work specialization, departmentalization, chain of command, span of control, centralization-decentralization, and formalization.

According to Syamsi (2000), one of the factors that influence decision making in projects management office is the internal state of the organization, including available funds, state of human resources, employee capabilities, completeness of organizational equipment and organizational structure.

Lucas (2000) describes the definition of information technology as all forms of technology applied to process and transmit information in electronic form, microcomputers, mainframe computers, barcode readers, transaction processing software, worksheet software, communication equipment and networks.

Meanwhile, according to Gordon B. Davis in Jogiyanto (2005) is, as follows: "Information technology is a technology in which there is a system that performs functions to provide all information that affects all operations of the organization".

Information technology indicators according to Gordon B. Davis are as follows: hardware, software, databases, procedures, brainware, and networks.

Multiple linear regression analysis was carried out to determine the direction and in what extend the independent variable had an effect on the dependent variable (Ghozali, 2018).

Research Problem

Based on the description of the background stated above, the research problem can be formulated as follows:

1. Does organizational structure have an effect on the Project Management Office for *Sekolah Penggerak* Program in North Sulawesi?
2. Does information technology have an effect on the Project Management Office for *Sekolah Penggerak* Program in North Sulawesi?

Research Purposes

This study aims to compare the organizational structure and information technology in the implementation of Project Management Office (PMO) for *Sekolah Penggerak* Program in North Sulawesi Province.

Hypothesis Model

Based on the conceptual framework above, the hypothesis model proposed in this study is as follows:

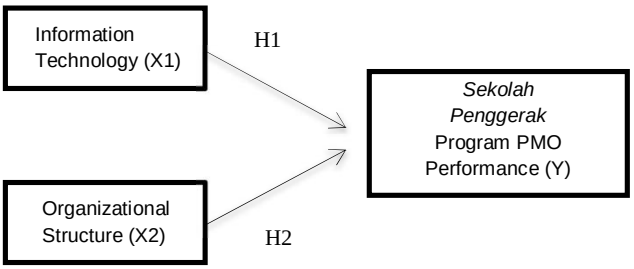

Figure 1. Research Hypothesis Model

Hypothesis
Based on the conceptual framework above, the hypotheses proposed in this study are as follows:

- Hypothesis 1: Information technology has an effect on Project Management Office for *Sekolah Penggerak* Program in North Sulawesi
- Hypothesis 2: Organizational structure has an effect on Project Management Office for *Sekolah Penggerak* Program in North Sulawesi

II. Research Methods

Research Approach
Based on the research objectives that have been formulated, this research was conducted using a multiple linear regression approach.

Population and Sampling Techniques
The population in this study were people categorized as PMO Team for *Sekolah Penggerak* Program that spread across within PMO team in 15 regencies/cities and 1 province. Samples were taken as many as 48 people using purposive sampling technique.

Method of Data Collecting
The method used for data collecting is using a questionnaire with *google form media*. Secondary data are collected from school profiles whose data sources are from *Data Pokok Pendidikan (Dapodik)* application.

Operational Definition and Measurement of Variables
This study uses 2 independent variables, i.e. organizational structure and information technology and the dependent variable is the performance of PMO for *Sekolah Penggerak* Program. The independent variable and the dependent variable were measured using a Likert scale.

Next, the operational definition of each independent variable will be described on the basis of measurement, are as follows:
1. Organizational structure is a harmonious way of placing humans as part of the organization in a relatively fixed relationship, which greatly determines the patterns of interaction, coordination and task-oriented behavior. In measuring organizational structure, Stephen P. Robbins and Tim Indeks (2005) developed the following instruments:
a. Specialization in organizational structure is the degree to which tasks in the organization are broken down into separate jobs.
b. Departmentalization is the basis used in grouping jobs so that the same or similar tasks can be coordinated more effectively good.
c. The Chain of Command is an unbroken line of certain authority, from the top of the organization to the echelons bottom.
d. Span of control is the number of subordinates a manager can manage effectively and efficient.
e. Centralization is the degree to which decision making is concentrated at a single point in the organization. Formalization is the degree to which work in the organization standardized.

2. Information Technology is the answer from the industrial world (supply) to the demand in the form of creating technology products, like hardware and software (Indrajit, 2000: 1), i.e.:
a. Hardware refers to the use of input devices owned by the company that play a role in helping

work.
b. Software refers to the role of *software office automation* packages used in factories that can help speed up quality work.
c. Infrastructure, refers to information technology infrastructure such as location, operating systems, computer network systems and data communication tools to help performance
d. Information technology produces better quality information.
e. Information specialist, refers to systems analysts, network specialists, programmers and operators who are responsible for the development and maintenance of information technology.
f. Information users, refers to the ability of information users to use existing information.

The correlation test using Durbin Watson test found that there is no serial correlation between the *disturbance terms* so that the variable is independent.

Hypothesis Test
The hypotheses are taken based on the results of hypothesis T and hypothesis F. In addition, it is taken to know what percentage of the independent variables studied.

III. Research Results And Discussion

Data Analysis
The calculation results of the classical assumption test using the Kolmogorov-Smirnof obtains significant residual values that are all greater than 0.05 (α = 5%) so that it can be concluded that the model is normal. Thus, it can be continued by multiple linear correlation test.

Correlation test using the Durbin Watson test found that there is no serial correlation between the *disturbance terms* so that the variable is independent.

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Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	40.102	7.753		5.172	.000
	Total_X	.041	.110	.059	.376	.709
	Total_XX	.371	.198	.293	1,872	.068

ANOVA [a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16,171	2	8086	2,616	.084 [b]
	Residual	139,079	45	3.091		
	Total	155250	47			

Description: Number of samples 48
T table value α 5% = 1.667

Hypothesis 1: The test results successfully support hypothesis one, which means that Information Technology has a positive effect on PMO performance as indicated by the value $\boldsymbol{t_{count}}$ = 0.376 < $\boldsymbol{t_{table}}$ = 1.667.
Hypothesis 2: The test results successfully support hypothesis two, which means that organizational structure has a significant positive effect on PMO performance as indicated by the value $\boldsymbol{t_{count}}$ = 1.872 > $\boldsymbol{t_{table}}$ = 1.667.

Based on this test results, it is stated that the organizational structure has more significant effect than the use of information technology. Based on F_{table} = 2.616 > F_{count} = 1.667 Information Technology and Organizational Structure do not simultaneously affect PMO performance.
The results of this study are in line with previous research "The Effect of Quality Management on

Operational Performance with Information Technology as the Moderating Variable".

IV. Discussion

Explanation on each value of hypothesis t and hypothesis F and the coefficient of determination (R2). The results of the hypothesis t are sequentially from the organizational structure (X1) = 5.581, and information technology (X2) = 3.213 (This is done partially or per-variable. From the research results that has been conducted, the two independent variables partially have a significant effect on the variable dependent. This is based on: a. H_0 is accepted if the value of $t_{count} > t_{table}$ value, then there is an effect. b. H_0 is rejected if the value of $t_{count} < t_{table}$ value, then there is no effect. It can be concluded that the two independent variable values or $t_{count} > t_{table}$ value, then there is a significant effect on the dependent variable. Meanwhile, the value of the hypothesis F is simultaneously (X) = 8,794. It is conducted simultaneously from the two independent variables on the dependent variable. This is based on: a. H_0 is accepted if the value of $F_{count} > F_{table}$ value, then there is an effect. b. H_0 is rejected if the value of $F_{count} <$ value of F_{table}, then there is no effect.

It can be concluded that the two independent variable values or $F_{count} > F_{table}$ value, then there is a significant effect on the dependent variable. Meanwhile the value of the coefficient of determination (R2) in this study is 78.28%. These results are to determine the level of effect of the research that has been conducted.

V. Conclusion And Suggestion

Conclusion

Organizational structure is generally observed from 6 indicators: work specialization, departmentalization, chain of command, span of control, centralization-decentralization, and formalization. These indicators get good scores compared to information technology which erved also from 6 indicators that get sufficient value in the implementation of project management office compared to the information technology factor.

Organizational Structure significantly has more effect on the performance of the PMO Team compared to the use of Information Technology.

Suggestion

Based on the conclusion, then it is suggested that:

1. The PMO Team for *Sekolah Penggerak* Program further develops resources, both human resources and information technology in performance effectiveness.
2. For further researchers, it is expected that this research can be a reference material to examine other variables that also affect the effectiveness of the PMO performance for *Sekolah Penggerak* Program.

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