Effect of Expertise and Project Leadership on Project Success (Study at PT Astra Graphia Information Technology (AGIT) Jakarta)

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Abstract: *The project is said successful if it is completed at a competitive cost, on time even faster than the scheduled time, and with the achievement of predetermined quality standards. The implementation of an information technology project requires human resource competencies such as managers to be able to manage a job starting from planning, managing work and giving decisions in project implementation. This study aims to find out, analyze: 1) The effect of project manager's expertise on the success of information technology projects, 2) The effect of project manager leadership on the success of information technology projects, and 3) The effectof project manager's expertise and leadership on the success of information technology projects. This research solved using regression analysis and determination. The success of the project in this study is measured based on time, cost, and quality of work, this is emphasized on the expertise and leadership of the project in the face of changes in conditions that are generally caused by requests from users or partners. Conditions that demand flexible but need firmness and commitment of project leaders, so that the project can still achieve the targets set. The results of this research testing indicate that expertise has a positive influence on the success of information technology projects, leadership has a positive effect on the success of information technology projects, and the joint influence of project expertise and leadership on the success of information technology projects shows positive and significant results.*

Keywords: Project expertise, leadership, and success

1. Introduction

Business competition in the information technology industry which is rapidly developing has an impact on the application of information technology throughout the world, so the application of information technology projects is now a very important factor in business strategy. The implementation of information technology projects requires human resources who can manage a job starting from planning, managing work and giving decisions in implementing the project. Managers must have the competence of the authority given by the company, so that in its implementation can produce an information technology project completed with the planned time, the right quality and the right cost. Based on the survey, it was shown that the achievement of the target of the information technology project at PT Astra Graphia Information Technology (AGIT) still found several projects that still did not meet the target.

Table 1: PT Astra Graphia Information Technology Project Report

Year	TI Project achieve target	TI Project not achieve target
2016	47	19
2017	39	13

The project is said to be successful if the cost, quality, and time factors have been achieved. If one of them is not fulfilled, then the project has not been fully successful (Brahmantariguna, et al., 2016). Success in the completion of the project requires a firm and competent leader. This research was conducted to answer the problems: 1) How does the project manager's expertise affect the success of information technology projects? 2) What is the effect of project manager leadership on the success of information technology projects? 3) What is the effect of project manager's expertise and leadership on the success of information technology projects?

2. Material and Methods

2.1 Project Management

According to Schwalbe in Dimyati 2014, Project Management is an application of knowledge, the expertise to use tools and techniques or methods in the activities of a project in orderto meet the needs of a project. According to (Husen, 2011) Project Management is the application of science, expertise and skills, the best technical way and with limited resources, to achieve predetermined goals and objectives in order to get optimal results in terms of cost, quality and time performance, and work safety.
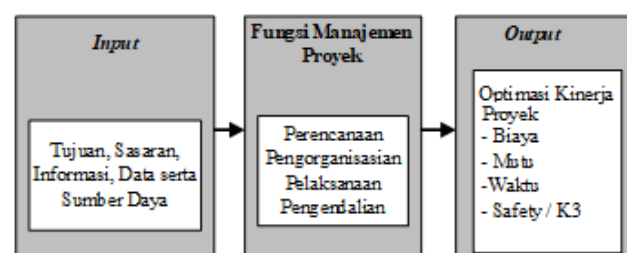

Figure 1: Project Management Process
Source: (Husen, 2011)

2.2 Project Manager Skills

According to (Weaver, 2013) the skills that must be possessed by a project manager are as follows:
1) Scheduling. The project manager must be able to arrange tasks in the right order to achieve the right results on time, and ensure the project runs on the track.

2) Resource Allocation, closely related to scheduling. Project managers must be able to find the right people to ensure that they are available at the right time to do project tasks.

3) Dealing with risks that may occur during the project must be known in advance by the project manager. After risk identification, the project manager must also plan how to deal with these risks.

4) Budgeting, the project manager must be able to track the project's own expenses and budget. The project manager must know how to spend what has been allocated and whether it is enough to provide what is expected by the project sponsor.

5) Running the Team, team management skills include motivation, leadership, coaching, and inspiring others. Project managers are able to ensure that the team has what they need.

6) Change Management, the project manager must be able to handle changes. It's about assessing each request for change, and ensuring that it is approved or rejected by the project sponsor. The project manager is able to analyze the impact of changes to the project and decide to approve / reject directly. The project manager can see whether changes will be charged money or time.

7) Issue Management, a successful project manager knows how to handle problems in a way that minimizes disruptions and allows action plans to be carried out. Can handle problems quickly and with a recognized process.

2.3 Project Manager Leadership

A project manager must be able to drive the project team to be able to carry out project work according to the stages of the project and produce the expected deliverables according to schedule, quality and cost, and able to manage risks and produce quality goods and services. Leadership indicators include (Delti, 2015):

1) Analytical Capability
The ability to analyze situations faced in a thorough, mature, and steady manner is a prerequisite for the success of one's leadership.

2) Communication Skills
In giving orders, instructions, guidelines, advice, a leader must master communication techniques.

3) Courage
The higher one's position in the organization he needs to have greater courage in carrying out his main duties that have been entrusted to him.

4) Listening Ability
One of the traits that need to be possessed by each leader is his ability and willingness to hearopinions and / or suggestions from other people, especially his subordinates.

5) Assertiveness
Assertiveness in dealing with subordinates and facing uncertainty is very important for a leader.

2.4 Project Success

According to (Azis, et al., 2016) the benchmark of project success is always revealed that a project in its implementation must meet three criteria, such as:

1) Project costs
Project costs do not exceed the cost limit that has been planned or agreed in advance or in accordance with the contract of execution of a job.

2) Quality of work
The quality of the work or the quality of the final work and the process / way of carrying out the work must meet certain standards in accordance with the agreement, planning, or work contract documents.

3) Time to complete work
The time to complete the work must meet the agreed deadline in the planning document or the relevant contract document.

In this study the success of a project that is measured by time, cost, and quality of work is emphasized on the project's expertise and leadership in the face of changing conditions that are generally caused by requests from users or users and partners. Conditions that demand flexible but need firmness and commitment of project leaders, so that the project can still achieve the targets set.

2.5 Framework

This Framework for Thinking designs the influence between variables, supported by the results of research sourced from National and International journals relating to the study of this research, the framework of this research is as follows:
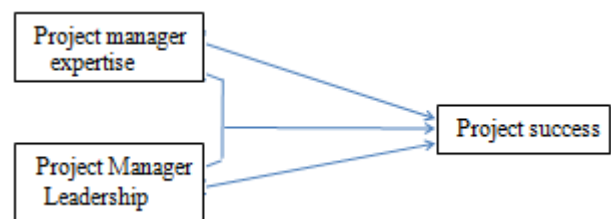

Figure 2: Framework for thinking

Hypothesis
Research on the effect of project manager's expertise and leadership on the success of information technology projects uses the following hypothesis:

H_1: Project manager expertise has an influence on the success of information technology projects.

H_1: Project manager leadership has an influence on the success of information technology projects.

H_3: Project manager expertise and leadership have an influence on the success of informationtechnology projects.

Analysis Methods and Tools
The method of analysis of this research is quantitative method using regression analysis and determination (RSquare), hypothesis testing partially (t test) and simultaneous (F test) with alpha 5 percent (0.05). Before the analysis is tested first in the instrument (questionnaire) by testing the validity and reliability and classic assumptions. SPSS analysis tool version 22.0.

3. Result and Discussion

The results of testing the validity of all instruments of Expertise, Leadership, and Success of Technology Projects are valid or feasible in defining all the variables of this study. Reliability testing of the instrument for assessing the variable is reliable or has reliability, reliability, and consistency as a measuring instrument.

Analysis of research data categories is an analysis that is directly related to research data, analysis sourced from questionnaire respondents then analyzed descriptively using overall mean square analysis method. Description of perception 60 Respondents on the Expertise variable used descriptive category analysis, **Expertise** variable had 14 questions representing 7 dimensions with the results of data processing showed good response, with an average score of 3,696 (entered in the range (3,41 - 4,20) Leadership variables have 10 questions representing 5 dimensions, with processing results showing good responses, obtaining an average score of 3,710. To find out the description of the perceptions of 60 respondents to the variable **Success of the Information Technology Project** has 3 dimensions represented by 6 questions, showing good response also with an average score of 3,781.

Classical assumption testing with four tests, namely: data normality test, heteroscedasticity test, autocorrelation test, and multicollinearity test. using the help of SPSS software.
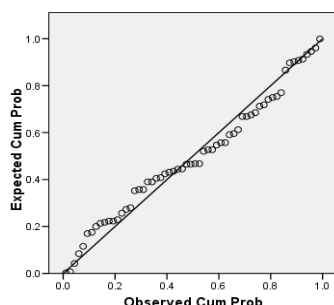
1) Data Normality Test

Figure 3: Graph of P-P Residual Normality Test Plots
Source: SPSS Processing Results

$e \sim N (1.0)$ is normally distributed, it is known that the unstandardized residual distribution follows and spreads around the diagonal line. In addition to using graphical analysis, normality testing can be done with the Kolmogorov-Smirnov test. The hypothesis in this test is:
H_0: Residuals follow the normal distribution function.
H_a: Residual does not follow the normal distribution function

Kriteria penerimaan hipotesis adalah jika nilai p>0,05 maka hipotesis nol akan diterima, dan jika nilai p<0,05 maka hipotesis nol akan ditolak.

Test Results of Kolmogorov-Smirnov
The acceptance criteria of the hypothesis is if the value of p> 0.05 then the null hypothesis will be accepted, and if the value of p <0.05 then the null hypothesis will be rejected.

Test Results of Kolmogorov-Smirnov

Source: SPSS Processing Results

The Kolmogorov-Smirnov test results show that p = 0.799 is greater than 0.05, then H_0 is accepted, so it can be concluded that the residuals follow the normal distribution function.

2) Multicolinerity
Multicollinearity testing is done by looking at the VIF value (Variant Inflated Factor) and tolerance value.

Variabel	VIF	TOL
Expertise (X1)	0,609	1,643
Diversificatiom (X2)	0,609	1,643

Source: SPSS Processing Results

VIF value is less than 10 and tolerance value is greater than 0.1 so it can be concluded that there is no multicollinearity or high correlation between independent variables.

3) Analysis of Multiple Linear Regression
Testing of classical assumptions, a good regression model is obtained, namely there is no problem in testing assumptions about multicolinerity and normality. Then the regression model is tested to determine the relationship of each variable through t-test and f-test and the coefficient of determination.

Table 3: Partial Test Analysis (t-Test)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,360	3,020		,012	,991
Keahlian (X1)	,207	,054	,383	3,862	,000
Kepemimpinan (X2)	,327	,067	,481	4,852	,000

a. Dependent Variable: Keberhasilan Proyek Teknologi Informasi (Y)

From the test results above, the model equation is as follows:
Y = 1,360+ 0,207X1 + 0,327X2

The test results are as follows:
Hypothesis Testing Results
From the partial test results showed that the Expertise variable has a t value of $3.862 \geq t_{table}$ (2.001) and has a positive effect on the Success of Information Technology (Y) with a value of 0.207 Which means that if the Expertise increases, it will also increase the Success of Information Technology Projects by 0.207 . Therefore H_1 is accepted

Leadership variables have a t value of $4.852 \geq t_{table}$ (2.062) and have a positive effect on the Success of Information Technology (Y) with a value of 0.481. Which means that if leadership increases, the success of information technology projects increases by 0.481. Therefore H_2 is accepted

4) Simultaneous Test Analysis or F-Test

Table 4: Simultaneous Test F-test
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ANOVA b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	400,364	2	200,182	29,532	,000a
	Residual	386,369	57	6,778		
	Total	786,733	59			

a. Predictors: (Constant), Kepemimpinan (X2), Keahlian (X1)
b. Dependent Variable: Keberhasilan Proyek Teknologi Informasi (Y)

Taken together or simultaneously to the dependent variable F-test is used. The result of F is 29.532 with a significance level of 0.000, which means less than 0.05. this shows that there is a significant joint influence between project expertise and leadership on the variable success of information technology projects. Thus H_3 is accepted.

5) Determination Coefficient

Table 5: Determination Coefficient Test (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,713a	,509	,492	2.60354

a. Predictors: (Constant), Kepemimpinan (X2), Keahlian (X1)
b. Dependent Variable: Keberhasilan Proyek Teknologi Informasi (Y)

Testing coefficient of determination (R2) aims to measure the percentage or how much the ability of the model in explaining the variation of the dependent variable. Based on the table above shows the size of R Squared is 0.509. means the variable Expertise and Leadership can explain the dependent variable The success of the Information Technology Project is 50.9%. While the rest is explained by other variables that is equal to 49.1%

The test results show a positive and significant effect between project manager expertise and project manager leadership on the success of information technology projects. This is done partially or simultaneously testing showing positive results, which means that the success of the project requires good project manager skills and leadership. Skills can be possessed by often practicing and managing projects, along with the many experiences that will provide expertise to someone as a project manager. PT Astra Graphia Information Technology (AGIT), has many partners as well as many activities in the field of project completion, this will provide a lot of training and improve the expertise of employees and experts.

This research can also be related to the results of Adnan Hakim's (2016) research which states that there is a positive influence of information technology on the performance of managers, the ability of managers with information technology to assist in decision making. In addition, the success of the project also requires professional project manager leadership, because the project requires assertiveness and discipline so that time, cost and quality are not achieved. This is consistent with the research. Based on the results of Brahmatariguna's research (2015), it shows

that the factors of knowledge, expertise, attitude and behavior give a big influence on the success of construction projects by 8%. The success of the project is supported by sufficient knowledge, expertise based on the ability of the many experiences that have, as well as good attitudes or behavior on the project work carried out.

4. Conclusions and Recommendations

4.1 Conclusion

1) There is a positive and significant effect between the project manager's expertise variables on the success of the project at PT Astra Graphia Information Technology (AGIT), which means that project managers have more expertise in managing projects, so that the success of the project is handled, providing good quality. faster or more precise time, and cost efficient.
2) There is a positive and significant effect between the variables of the project manager's leadership on the success of the project at PT Astra Graphia Information Technology (AGIT). Thus, it means that the better the leadership of each person in charge of the project, the more successful the project will be.
3) There is a positive and significant effect between the variables of the project manager's expertise and leadership together on the success of the project, which means that the better the expertise and leadership of the project manager, the more successful the project will be.

4.2 Recommendation

PT Astra Graphia Information Technology (AGIT), needs to be selective in selecting and appointing the person in charge of each project to be carried out, especially the factors of expertise and leadership of a project manager

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