The Effect Of Self Efficacy, Leadership And Work Motivation On Job Satisfaction Of The Meteorology, Climatology, And Geophysical Agency In Medan

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Abstract

This research is an associative research with a quantitative approach. The population in this study were 70 respondents and sample of 55 respondents. The technique of determining the sample uses the slovin formula. Respondents came from employees of the Meteorology, Climatology, and Geophysical Agency in Medan. Data was obtained by using questionnaire. Data were analyzed using Multiple Linear Regression analysis technique. The results showed that self efficacy has positive and significant effect on job satisfaction. The magnitude of the contribution of self-efficacy in influencing job satisfaction is 0.325. It means that self-efficacy is very important because it will be able to increase job satisfaction by 32.50%. Leadership has a positive and significant effect on job satisfaction. The magnitude of the contribution of leadership in influencing job satisfaction is 0.345. It means that leadership is very important because it will be able to increase job satisfaction by 34.50%. Work motivation has a positive and significant effect on job satisfaction. The amount of work motivation contribution in influencing job satisfaction is 0.359. It means that work motivation is very important because it will increase job satisfaction by 35.90%.

Introduction

Along with the development of information technology and following the unstable Indonesian economy, it can be a source of organizational constraints but can also be source of profit for the organization. Every organization is challenged to be able to produce quality human resources who have expertise so that they can assist in realizing the organizational goals that have been set.

In order to achieve organizational goals, organizations are required to look for quality resources. Because the position of human resources is counted as a useful asset if it is developed optimally. Human resources in this case are employees who are the most important asset for the organization. Organization is a place to interact with each other in doing work. A job can be said to be good if it can increase job satisfaction for all elements in an organization, especially for every employee on the job. Therefore, employee job satisfaction is a problem that should be considered by the organization.

In increasing job satisfaction, organizations need to pay attention to self-efficacy. Self-efficacy is the belief in seeing the opportunity to succeed in achieving a certain task. Self-efficacy is an evaluation of a person with his personal capacity to initiate and carry out successfully the tasks set at a specified level, in greater effort, and persist in adversity (Meredith: 2005). This is in line with Bandura's (2010) statement that self-efficacy is the belief in carrying out tasks at a certain level, which affects personal level activities in achieving the goals set. With high self-efficacy, employees will try to work on the tasks given and be responsible for the organization.

Leadership is the ability to influence the behavior of a person or group of people to achieve a common goal. The success or failure of an organization in achieving its goals is highly dependent on its leaders in managing their resources (Mangkunegara: 2011). Leaders must be able to unify employee perceptions and perspectives related to organizational goals. The role of the leader is very strategic and important for the realization of the vision, mission and goals of the organization. Leaders play a key role in the formulation and implementation of organizational strategy. Leaders must also be able to motivate employees so that employee job satisfaction increases.

Munandar (2011) states that there is an interaction between the workforce and their environment, so the level of enthusiasm in employees can change, so that it can be said as labor output. Employee work enthusiasm can be seen in their efforts to overcome obstacles and all problems to achieve company goals. Therefore, companies also need to pay attention to the

level of work motivation. It can be concluded that work motivation factors can increase employee job satisfaction.

Motivation is a process that begins and can be seen from the physical or psychological, which initiates a behavior or drive for a purpose or motivation (Luthans: 2006). Motivation is the spirit of every person to take action and do something. If people do not have a strong motivation to do something, they will not do it in the best way.

Literature Review
Self Efficacy Theory

Self Efficacy is an individual's opposing beliefs and the resolution of the problems he faces in various situations and to be able to determine actions to complete certain tasks or problems, so that individuals can overcome obstacles and achieve the expected goals (Sebayang: 2017) There are several indicators of self-efficacy (Lunenburg: 2011), namely:

a. Task difficulty
b. The power of belief
c. Area of behavior

Leadership Theory

Leadership is an activity to influence people to be directed to achieve organizational goals. Leadership includes the process of influencing in determining organizational goals, motivating follower behavior to achieve goals, influencing to improve the group and its culture (Terry: 2014)

There are several indicators of leadership (Wahjosumidjo: 2011), namely:

a. Fair
b. Give suggestions
c. Support the achievement of goals
d. As a catalyst
e. Creating a sense of security
f. As a representative of the organization
g. Source of inspiration
h. Be respectful

Work Motivation Theory

Work motivation is an encouragement to attack human behavior processes in achieving work goals, while the elements contained in motivation include elements to generate, direct, maintain intensity, be continuous and have goals and existence of goals (Wibowo: 2010)

There are several indicators of work motivation (Mangkunegara: 2011), namely:

a. The drive to reach the goal
b. Spirit at work
c. Initiative and creativity
d. Responsibility

Job Satisfaction Theory

Job satisfaction is an emotional state that is favorable or unfavorable to employees when they see their work (Handoko 2014).

There are several indicators of job satisfaction (Hasibuan: 2014), namely:

a. The work itself
b. Wages
c. Promotion
d. Supervision
e. Work colleague

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Conceptual Framework

In order to provide a clear picture, a conceptual framework is systematically made according to the variables used, which can be seen in the following figure:
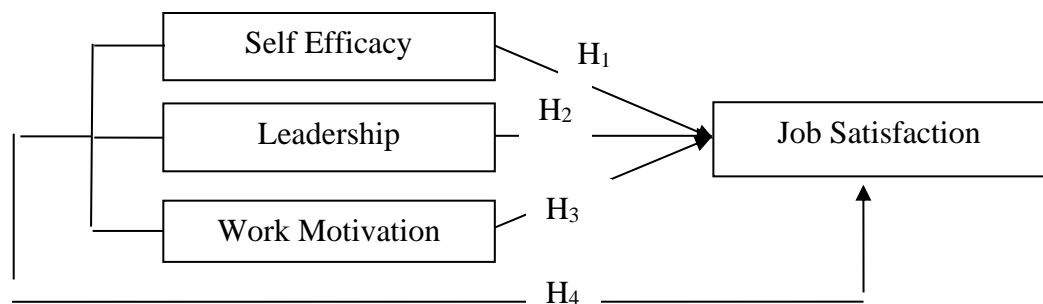
Conceptual Framework Drawing

Hypothesis

Based on the conceptual framework of the research above, the hypotheses in this research can be put forward as follows:

H1: Self efficacy has significant effect on job satisfaction.
H2: Leadership has significant effect on job satisfaction.
H3: Work motivation has significant effect on job satisfaction.

H4: Self efficacy, leadership, and work motivation have significant effect on job satisfaction

RESEARCH METHODS

Types of research

This type of research uses associative research, namely research that proves and finds a relationship between two or more variables (Sugiyono, 2017). In this research, the researchers tested and analyzed the influence between the independent variables and the dependent variable.

Population and Sample

Population

Population is an area of generalization including objects or subjects that have the qualities and characteristics determined by the researchers to be studied further so that a conclusion can be drawn. Population is not only the number of objects or subjects studied, but includes all the characteristics or properties possessed by the subject or object. (Sugiyono, 2017). In this research, population is all employees who work in the Meteorology, Climatology, and Geophysical Agency in Medan, there were 70 people.

Sample

The sample is a research topic that can represent the entire research population. The sampled population must be truly representative. As Sugiyono (2017) stated, sample is the number and characteristics possessed by the population.

As for the research, sampling is done using the slovin formula, namely:

$$n = \frac{N}{1 + N\,(e)^{2}}$$

Notes:

n = Number of samples

N = Population size

e = the value of the margin of error (big error) of the population

$$n = \frac{70}{1 + 70\,(0{,}0025)}$$
$$= 55{,}4$$

Based on calculations using the Slovin formula, sample of 55 respondents came from employees of the Meteorology, Climatology, and Geophysical Agency in Medan.

Validity and Reliability Testing
Validity Test
Validity test is used to determine whether or not a questionnaire is valid. The validity test is carried out by comparing the value of r arithmetic > r table if the value of r arithmetic is stable and feasible positive, then it is said to be valid (Priyatno, 2014).

Reliability Test
Reliability is a tool to measure the questionnaire which is an indicator of a variable or a construction. A questionnaire will be reliable if a person's response to a question is consistent or stable over time. SPSS provides an installation to measure reliability with the Cronbach Alpha Statistical Test. A variable is said to be reliable if it gives a value of 0.60 (Priyatno, 2014).

Data Analysis Model
Multiple linear regression
To determine the effect or relationship of independent variables (self efficacy, leadership and work motivation) on the dependent variable (job satisfaction), multiple linear regression methods and data analysis were used, with the following formula:

$$Y = a + b1X1 + b2X2 + b3X3 + e$$

Information:

Y   = dependent variable (job satisfaction)

a   =   constant

X_1 = independent variable (self efficacy)

X_2 = independent variable (leadership)

X_3 = independent variable (work motivation)

b_1 = Self efficacy coefficient

b_2 = Leadership coefficient

b_3 = Coefficient of work motivation

e   =   term error

Coefficient of Determination

The coefficient of determination (R^2) is the square of the multiple correlation. R^2 is changed to a percentage, which means the effect of the independent variables on the dependent variable (Priyatno: 2014).

RESULTS AND DISCUSSION

Description of Respondents

Respondents by Gender

Table 4.1.
Identity of Respondents by Gender

No	Gender	Respondent	Percentage %
1	Male	40	72.72
2	Woman	15	27.28
	Amount	**55**	**100.00**

Source: Primary Data Processed, 2021

Based on Table 4.1, it is known that the number of male respondents in this research was 40 people or equal to 72.72%. Female respondents in this research amounted to 15 people or equal to 27.28%. The results show that the workers of the Meteorology, Climatology, and Geophysical Agency in Medan tend to be male.

Respondents based on Length of Work

Table 4.2.
Respondent Identity Based on Length of Work

No	Length of work	Respondent	Percentage %
1	< 1	2	3.64
2	1 – 4	7	12.73
3	5 – 10	28	50.91
4	11 – 15	10	18.18
5	> 16	8	14.54
	Amount	**55**	**100.00**

Source: Primary Data Processed, 2021

Table 4.4 explains that the number of respondents with length of work < 1 year is 2 respondents or equal to 3.64%. Respondents with length of work ranging from 1-4 years were

7 people or equal to 12.73%. Respondents with length of work ranging from 5 – 10 years were 28 people or equal to 50.91%. Respondents with length of work ranging from 11-15 years were 10 people or equal to 18.18%. Respondents with length of work >16 years were 8 people or equal to 14.54%. It illustrates that the workers at the Meteorology, Climatology, and Geophysical Agency in Medan are workers with good experience to increase job satisfaction at the Meteorology, Climatology, and Geophysical Agency in Medan

Overview Tabulation of Respondents' Answers
Tabulation For Self Efficacy

Table 4.3
Tabulation of Respondents' Answers for Self Efficacy Variables

Questionnaire Statement	Strongly Disagree		Do not agree		Disagree		Agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
Self Efficacy 1	0	0.00	2	3.6	14	25.5	10	18.2	29	52.7
Self Efficacy 2	0	0.00	2	3.6	12	21.8	21	38.2	20	36.4
Self Efficacy 3	0	0.00	0	0.00	15	27.3	25	45.5	15	27.3

Source: Primary Data Processed, 2021

Table 4.3 shows the respondents' answers regarding the self-efficacy variable. In the first self-efficacy questionnaire, it is known that there are no respondents who strongly disagree. Respondents who disagreed were 2 people or equal to 3.6%. Respondents who stated that they did not agree were 14 people or equal to 25.5%. Respondents who agreed were 10 people or equal to 18.2%. Respondents who stated strongly agree were 29 people or equal to 52.7%.

Tabulation For Leadership Variables

Table 4.4
Tabulation of Respondents' Answers to Leadership Variables

Questionnaire Statement	Strongly Disagree		Do not agree		Disagree		Agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
Leadership 1	0	0.00	0	0.00	6	10.9	26	47.3	23	41.8

Leadership 2	0	0.00	0	0.00	11	20.0	26	47.3	18	32.7
Leadership 3	0	0.00	0	0.00	8	14.5	25	45.5	22	40.0
Leadership 4	0	0.00	0	0.00	8	14.5	23	41.8	24	43.6
Leadership 5	0	0.00	0	0.00	6	10.9	26	47.3	23	41.8
Leadership 6	0	0.00	0	0.00	11	20.0	26	47.3	18	32.7
Leadership 7	0	0.00	0	0.00	8	14.5	25	45.5	22	40.0
Leadership 8	0	0.00	0	0.00	8	14.5	23	41.8	24	43.6

Source: Primary Data Processed, 2021

Table 4.4 shows the respondents' answers related to the leadership variable. In the first leadership questionnaire, it is known that there are no respondents who strongly agree and disagree. Respondents who stated that they did not agree were 6 people or equal to 10.9%. Respondents who agreed were 26 people or equal to 47.3%. Respondents who stated strongly agree were 23 people or equal to 41.8%.

Tabulation for Work Motivation Variables

Table 4.5

Tabulation of Respondents' Answers Work Motivation Variables

Questionnaire Statement	Strongly Disagree		Do not agree		Disagree		Agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
Work Motivation 1	0	0.00	1	1.12	16	17.98	43	48.31	29	32.58
Work Motivation 2	0	0.00	0	0.00	12	13.48	47	52.81	30	33.71
Work Motivation 3	0	0.00	2	2.25	19	21.35	42	47.19	26	29.21
Work Motivation 4	0	0.00	5	5.62	35	39.33	35	39.33	14	15.73

Source: Primary Data Processed, 2021

Table 4.5 shows the respondents' answers related to the work motivation variable. In the first work motivation questionnaire, it was found that there were no respondents who stated strongly disagree and disagree. Respondents who stated that they did not agree were 12 people or equal to 21.8%. Respondents who agreed were 28 people or equal to 50.9%. Respondents who stated strongly agree were 15 people or equal to 27.3%.

Tabulation for Job Satisfaction Variables

Table 4.6
Tabulation of Respondents' Answers Job Satisfaction Variables

Questionnaire Statement	Strongly Disagree		Do not agree		Disagree		Agree		Strongly agree	
	F	%	F	%	F	%	F	%	F	%
Job Satisfaction 1	0	0.00	0	0.00	11	20.0	24	43.6	20	36.4
Job Satisfaction 2	0	0.00	4	21.8	12	21.8	21	38.2	18	32.7
Job Satisfaction 3	0	0.00	0	0.00	16	29.1	29	52.7	18	32.7
Job Satisfaction 4	0	0.00	4	7.3	11	20.0	20	36.4	20	36.4
Job Satisfaction 5	0	0.00	6	10.9	9	16.4	17	30.9	23	41.8

Source: Primary Data Processed, 2021

Table 4.6 shows the respondents' answers related to job satisfaction variables. In the job satisfaction questionnaire 1, it is known that there are no respondents who state strongly disagree and disagree. Respondents who stated that they did not agree were 11 people or equal to 20.0%. Respondents who agreed were 24 people or equal to 43.6%. Respondents who stated strongly agree were 20 people or equal to 36.4%.

Validity and Reliability Testing
Validity Test
Self Efficacy

Table 4.7
Self Efficacy Validity Test (X1)

Questionnaire Items	rcount	rtable	Conclusion
Self Efficacy 1	0.726		Valid
Self Efficacy 2	0.771	0.265	Valid
Self Efficacy 3	0.812		Valid

Source: Primary Data Processed, 2021

Table 4.7 shows that all indicators on each variable have fulfilled the validity requirements, namely $r_{count} > r_{table}$. Therefore, these indicators can be used to measure the variables of this research.

Leadership

Table 4.8
Leadership Validity Test (X2)

Questionnaire Items	rcount	rtable	Conclusion
Leadership 1	0.781		Valid
Leadership 2	0.777		Valid
Leadership 3	0.764		Valid
Leadership 4	0.665	0.265	Valid
Leadership 5	0.781		Valid
Leadership 6	0.777		Valid
Leadership 7	0.764		Valid
Leadership 8	0.665		Valid

Source: Primary Data Processed, 2021

Table 4.8 shows that all indicators on each variable have fulfilled the validity requirements, namely $r_{count} > r_{table}$. Therefore, these indicators can be used to measure the variables of this research.

Work Motivation

Table 4.9
Work Motivation Validity Test (X3)

Questionnaire Items	r_{count}	r_{table}	Conclusion
Work Motivation 1	0.757		Valid
Work Motivation 2	0.780	0.265	Valid
Work Motivation 3	0.791		Valid
Work Motivation 4	0.492		Valid

Source: Primary Data Processed, 2021

Table 4.9 shows that all indicators on each variable have fulfilled the validity requirements, namely $r_{count} > r_{table}$. Therefore, these indicators can be used to measure the variables of this research.

Job Satisfaction

Table 4.10

Job Satisfaction Validity Test (Y)

Questionnaire Items	r_{count}	r_{table}	Conclusion
Job Satisfaction 1	0.642		Valid
Job Satisfaction 2	0.801		Valid
Job Satisfaction 3	0.533	0.265	Valid
Job Satisfaction 4	0.631		Valid
Job Satisfaction 5	0.680		Valid

Source: Primary Data Processed, 2021

Table 4.10 shows that all indicators on each variable have fulfilled the validity requirements, namely $r_{count} > r_{table}$. Therefore, these indicators can be used to measure the variables of this research.

Reliability Test

Table 4.11
Variable Reliability Test Results

Variable	Cronbach Alpha Count	Cronbach Alpha Standard	Decision
Self Efficacy (X1)	0.683		Reliable
Leadership (X2)	0.886		Reliable
Work Motivation (X3)	0.669	0.600	Reliable
Job Satisfaction (Y)	0.674		Reliable

Source: Primary Data Processed, 2021

Table 4.11 shows that all variables have fulfilled the reliability test requirements, where the calculated Cronbach Alpha value is greater than the standard Cronbach Alpha value. So, it can be concluded that the indicators of the variables have a good level of consistency in measuring these variables.

Multiple linear regression

Based on the data processing that has been done, it can be seen that the relationship model of the multiple linear regression analysis is seen from the following table:

Table 4.12
Multiple Linear Regression Assumption
Coefficientsa

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	4.299	3,526		1.368	.714		
	Self_Efficacy	.325	.165	.223	2,967	.015	.839	1.192
	Leadership	.345	.076	.503	4,538	.000	.873	1.146
	Work_Motivation	.359	.157	.243	2.286	.026	.949	1.054

a. Dependent Variable: Job_Satisfaction
Source: Primary Data Processed, 2021

$$Y= 4.299 + 0.325X1 + 0.345X2 + 0.359X3$$

Based on the linear equation, it can be said that the relationship in this research model is a positive linear relationship. The research model in the form of the multiple linear regression equation above can be interpreted as follows:

a. It is known that when self efficacy (X1), leadership (X2) and work motivation (X3) do not change, then job satisfaction is 4,299 points.

b. When self efficacy (X1) changes in certain units, it will be able to increase job satisfaction by 0.325 with the assumption that other variables do not change.

c. When leadership (X2) changes in certain units, it will be able to increase job satisfaction by 0.345 with the assumption that other variables do not change.

d. When work motivation (X3) changes in certain units, it will be able to increase job satisfaction by 0.359 with the assumption that other variables do not change.

Coefficient of Determination Test

This determination test is to see how self-efficacy, leadership and work motivation affect job satisfaction. To be able to know the magnitude of the determination of self-efficacy, leadership and work motivation explaining job satisfaction can be seen in the following table:

Table 4.13
Coefficient of Determination
Model Summaryb

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672a	.452	.420	2.17827

a. Predictors: (Constant), Work_Motivation, Leadership,
Self_Efficacy
b. Dependent Variable: Job_Satisfaction
Source: Primary Data Processed, 2021

Based on the table 4.13 it is known that the value of RSquare is 0.452 or equal to 45.20%. It means that, self efficacy, leadership and work motivation can affect job satisfaction by 45.20% the remaining 54.80% is explained by other variables that are not included in the model

Discussion
The Effect of Self Efficacy on Job Satisfaction

Based on the results of the analysis and various tests, the results obtained that the variable *self efficacy* has positive and significant effect on job satisfaction. The magnitude of the contribution of self-efficacy in influencing job satisfaction is 0.325. It means that self-efficacy is very important because it will be able to increase job satisfaction by 32.50%.

The Effect of Leadership on Job Satisfaction

Based on the results of research conducted, that leadership has a positive and significant effect on job satisfaction. The magnitude of the contribution of leadership in influencing job satisfaction is 0.345. It means that leadership is very important because it will be able to increase job satisfaction by 34.50%.

The Effect of Work Motivation on Job Satisfaction

Based on the results of research conducted, that work motivation has a positive and significant effect on job satisfaction. The amount of work motivation contribution in influencing job satisfaction is 0.359. It means that work motivation is very important because it will increase job satisfaction by 35.90%.

CONCLUSION
1. *Self Efficacy* has significant effect on job satisfaction. The magnitude of the contribution of self efficacy in influencing job satisfaction is 32.50%
2. Leadership has a significant effect on job satisfaction. The magnitude of the contribution of leadership in influencing job satisfaction is 34.50%.
3. *Work motivation* has significant effect on job satisfaction. The amount of work motivation contribution in influencing job satisfaction is 39.50%.
4. *Self efficacy*, leadership and work motivation have significant effect on job satisfaction. The ability of self-efficacy, leadership and work motivation to explain job satisfaction is by

45.20% the remaining 54.80% is explained by other variables that are not included in this research model. Some examples of other variables such as work discipline, compensation, HR development and so on.

SUGGESTION

1. As far as we know that self-efficacy is one of the variables that affect the level of job satisfaction, top management should make policies that can increase employee self-efficacy so that employees feel satisfied.
2. Leadership is one of the variables that affect the increase in job satisfaction, then Leaders must be able to take a more approach and always pay attention to the work of employees and give an award to employees who have worked well so that employees get job satisfaction.
3. Work motivation is one of the variables that affect the increase in job satisfaction, then Companies need a motivator for employees, this is needed to meet physical needs and non-physical needs for employees, so employees will be willing to do their jobs well.

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