

The Impact of Office Layout, Work Stress and Management Information Systems on Decision Making is Mediated by Work Productivity for Millennial Generation Employees

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Abstract. *This research aims to look at the influence and layout of offices, work stress and management information systems on decision making mediated by work productivity. The characteristics possessed by employees create millennials that lead to results, a sense of pleasure in collaborating with others, looking for jobs that are more appropriate for themselves, an interest in the latest information technology to support themselves in their work, flexible working time and a comfortable workplace are factors for employees Millennials choose their job at a company so that it will have an impact on work productivity in the company where they work. This research uses quantitative methods and descriptive analysis. The number of respondents as many as 150 employees created millennial. The analysis in this study uses validity and reliability tests, hypothesis testing, multiple regression technique analysis, mediation effect test and multiple regression analysis and is assisted by the SPSS version 19 program. mediate the variables of office layout, work stress and management information systems to decision making variables. This means that an attractive workspace decoration can make employees comfortable and a full-featured management information system can increase employee productivity so that employees can produce work in accordance with company targets.*

Keywords: *office layout, work stress, SIM, decision making, work productivity*

1. INTRODUCTION

The office is the center for administrative activities and a place for management activities carried out by leaders and employees in organizations, companies and government agencies. Inside the office, it requires the arrangement of office layout and office equipment to support work activities so that all employees can be comfortable at work so as to create increased productivity. One way to increase employee productivity is the arrangement of the workspace and good office equipment. In addition, office layout can determine the quality and quantity of work produced by employees. Office layouts that are comfortable and not boring are very attractive to employees, especially millennials because they can increase their passion for work. This has an impact on improving the quality of office activities so that the goals of the company are achieved. Office layout (Tri Indah K & Al Rasyid, 2018) is the arrangement and arrangement of all office machines, office equipment and office equipment in the right place so that employees can work properly, comfortably, freely and freely to move so as to create work efficiency. The use of spatial planning can support decision making, this is in line with the research conducted by Lala and Rieke which concluded that the use of the Online Geospatial Information System to support decision making on spatial use, where the transition

of meetings carried out face-to-face can be abandoned and replaced with virtual meetings is in the SINGMANTAP online application (Amri & Wijayanti, 2019).

To win the fierce business competition in the current era, companies need reliable employees who are able to realize the goals of the company. Therefore, employee productivity needs to be increased to achieve these goals. In addition to office layout can affect work, other factors that influence it, namely employee work stress. Increased work stress by employees will result in low work productivity. Signs of employees who have low productivity include calendars with increased absenteeism, decreased enthusiasm for work and non-completion of work from the specified time limit. And it does not rule out a decrease in work motivation, where the work motivation of employees can support work activities (Ramadani Fitria et al., 2020). Besides that, someone who experiences stress in experiencing metabolic changes in the body, complaints / pain in his limbs, depression, often feels like, easily bored, depends, depends on alcohol or cigarettes and many more. Handoko (Potale & Uhing, 2015) states that a stressful condition affects one's emotions, thought processes and condition. This is in line with research conducted by Eka and Sutarto (Wulansari, 2020) which states that there is a positive and significant relationship between work stress and employee work productivity at PT Politama Pakindo Ungaran.

The rapid development of information technology has had a major impact on the development of businesses and companies. Currently, businesses and companies cannot rely on conventional methods, so more and more companies are implementing management information systems in their office activities. The application of management information systems can be used by all companies, such as achieving employee work productivity, making decisions so that the company can achieve predetermined goals. According to Sutabri (Tukino, 2014) defining a management information system is a method for producing timely information for management about the environment outside the organization and operating activities within the organization, with the aim of supporting the decision-making process and improving the planning and monitoring process. In order for the use of information technology to function properly, reliable competence from employees is needed because if employees cannot use the management information system it will be hampered by the achievement of the goals of the company.

Look for jobs that are more appropriate for themselves, interest in the latest information technology to support themselves in their work, have sufficiently free working time or flexible working time and place Comfortable work becomes a factor for millennial employees in choosing their jobs in a company so that it will have an impact on work productivity in the company where they work. This is reinforced by research from Seta (Wicaksana et al., 2020) which states that the dimensions of work interference with personal life (WIPL) are 57.6% and, personal life interference with work (PLIW) is 54.1% of millennial generation. in the low category. Meanwhile, the dimensions of work enhancement of personal life (WEPL) were 63.4% and personal life enhancement of work (PLEW) of 54.7% were in the high category. In particular, work-life balance can be a reference for companies and the millennial generation to improve the quality of work and individual welfare. This will have an impact on improving work quality and high performance and can also be a predictor of minimizing the occurrence of fraud at work, especially in the banking sector.

Based on the research explanation above, the researcher is interested in researching the effect of office layout, work stress, management information systems on decision making mediated by work productivity in millennial employees with the formulation of the problem of this study, namely how much influence is office layout on mediated work productivity. by decision making, how much influence work stress on work productivity is mediated by decision making, how much influence management information systems have on work productivity mediated by decision making and how much influence decision making on work productivity.

2. LITERATURE REVIEW

a. Office Layout

Office layout according to The Liang Gie is the determination of space requirements and the detailed use of a space to prepare a practical arrangement of physical factors that need to be deemed necessary for the implementation of office work at a reasonable cost. Meanwhile, according to Quible states that office layout is the use of space effectively, and is able to provide satisfaction to employees in carrying out their work and give a deep impression to employees (Asnar, 2017).

There are four principles in office layout, including the shortest principle, the principle of work series, the principle of using the whole room and the principle of change. The types of office layout are divided into two types, namely open office space and closed office space (Tri Indah K & Al Rasyid, 2018).

The purpose of office layout according to Maryati (Rina & Sulistari, 2014) is to facilitate office work so that it becomes more effective, use all existing space optimally, create good working conditions, facilitate supervision of office work, provide high flexibility, maintain a balance between tools and staff.

b. Job Stress

Stress is the result of interactions between individuals and the work environment, where this can threaten and put pressure on physiology and psychology (Febriana, 2016). Stress according to Handoko (Potale & Uhing, 2015) is a condition of tension that affects one's emotions, thought processes and condition. Too much stress can threaten a person's ability to deal with the environment, which in turn disrupts the performance of his duties and means disrupting his work performance. Work stress is a symptom or feeling that can arise in a worker and can have an impact in an organization or company, which will have an impact on employee satisfaction and affect employee performance (Diputra & Surya, 2018).

c. Management information System

Management Information Systems according to Raymond McLeod (Dewi Anggadini, 2013) says that a computer-based system provides information for several users with similar needs. Output information is used by managers or non-managers in the company to make decisions in solving problems. The same thing was expressed by Gordon B. Davis (Najamudin, 2003) that a management information system is an integrated human and machine system to present information to support operations, management and decision-making processes in an organization.

d. Work productivity

According to Hasibuan, work productivity is the comparison between output and input where output must have added value and better processing techniques. This is in line with what Nawawi said, namely productivity is the ratio between the results obtained (output) and the number of resources used as input (input). The indicators used in measuring work productivity are (Asnar, 2013);

1. Work quantity; a result achieved by a certain number of employees with a comparison of existing standards or those set by the institution / company.
2. Quality of work; a standard of results related to the quality of a product produced by employees, in this case an employee's ability to complete work technically with a comparison of the standards set by the institution / company.
3. Punctuality of time; is the level of an activity that is completed at the beginning of a predetermined time.

e. Decision-making

Vinna's definition of a decision is the selection of an action against two or more alternatives. Meanwhile, according to John C Mowen & Michael Minor, decision making analysis is the determination of how people choose between two or more alternatives and

study the processes that occur before and after these choices are made (Mulyapradana & Anjarini, 2020). The same thing was expressed by Anastasia, where decision making is the result of problem solving, the answer to a question is the law of the situation and is the selection of an alternative from several alternatives, and ends with a thought process about the problem or problem at hand. As for the results of decision making, namely decisions (Lipursari, 2013). According to Syafaruddin and Anzizhan (Tukino, 2014), decision making is the process of selecting a series / action between two existing alternatives in order to achieve a solution to a particular problem. There are five elements of decision making according to Terry (Lipursari, 2013), including intuition (feelings), experience, facts, authority and rationality.

3. RESEARCH METHODS

The method in this research uses quantitative methods and descriptive analysis. The data was collected by means of literature study, primary data collection in the form of distributing questionnaires and secondary data collection in the form of interviews and observations. Researchers distributed questionnaires to 150 respondents who were born in 1981-1994 or the millennial generation. The distribution of questionnaires to respondents consists of a number of statements regarding office layout, work stress, management information systems, work productivity and decision making. To analyse the relationships between one variable and other variables in a model, the relationship between office layout, work stress and management information systems on decision making by mediating work productivity, the questionnaire is measured using a Likert scale and testing is carried out using validity and reliability tests. , hypothesis testing, multiple regression analysis techniques and mediation effect testing in this study using multiple regression analysis and using the SPSS version 19 program.

4. RESULT AND DISCUSSION

The number of respondents in this study with male gender representing 47.7% of respondents and male gender representing 52.3%. In this study, the number of respondents was dominated by the male workforce. Then seen from the education level of the respondents with a high school education level / equivalent 25.8%, 28.8% D3 education level, 23.2% S1 / D4 education level and 25.2% S2 education level. The work force in this study is mostly filled with SMA / equivalent and D3 education levels.

Table 1. Validity Test and Reliability Test

Variabel	Cronbach's Alpha	Sig.	Item	r count	r table	Description
Office Layout (X ₁)	0,879	0,000	X1.1	0,831	0,3	Valid
			X1.2	0,868	0,3	Valid
			X1.3	0,695	0,3	Valid
			X1.4	0,871	0,3	Valid
			X1.5	0,655	0,3	Valid
			X1.6	0,687	0,3	Valid
			X1.7	0,821	0,3	Valid
Management Information System (X ₂)	0,916	0,000	X2.1	0,739	0,3	Valid
			X2.2	0,831	0,3	Valid
			X2.3	0,899	0,3	Valid
			X2.4	0,859	0,3	Valid
			X2.5	0,874	0,3	Valid
			X2.6	0,829	0,3	Valid
Job Stress	0,920	0,000	X3.1	0,912	0,3	Valid

(X ₃)			X3.2	0,840	0,3	Valid
			X3.3	0,894	0,3	Valid
			X3.4	0,847	0,3	Valid
			X3.5	0,866	0,3	Valid
Work Productivity (Y ₁)	0,990	0,000	Y1.1	0,993	0,3	Valid
			Y1.2	0,986	0,3	Valid
			Y1.3	0,992	0,3	Valid
Decision Making (Y ₂)	0,956	0,000	Y2.1	0,933	0,3	Valid
			Y2.2	0,917	0,3	Valid
			Y2.3	0,942	0,3	Valid
			Y2.4	0,896	0,3	Valid
			Y2.5	0,940	0,3	Valid

Source: primary data processed by SPSS 19

Based on table 1, the validity test and reliability test show that r count is greater than r table, so the item is said to be valid, while the r table is searched by looking at the r table with the minimum r requirement is 0.3. Cronbach's Alpha value is 0.879 for office layout variables, 0.916 for management information system variables, 0.920 for work stress variables, 0.990 for work productivity variables and 0.956 for decision-making variables. Because the Cronbach's Alpha value of all variables is > 0.60, all the variable questionnaire questions in this study are reliable and consistent.

Table 2. Multiple Regression Analysis

Model	Adjusted R Square	Uji F		Uji t		Statement
		F	Sig.	Stand . coef	Sig.	
Model I	0,590	410,24 1	0,007			
Office Layout on Work Productivity				0,166	0,009	Accepted
Management Information Systems on Work Productivity				0,282	0,005	Accepted
Work Stress on Work Productivity				0,477	0,004	Accepted
Model II	0,810	172,52 7	0,001			
Office Layout on Decision Making				0,314	0,011	Accepted
Management Information Systems for Decision Making				0,614	0,041	Accepted
Work Stress on Decision Making				0,494	0,013	Accepted
Work Productivity on Decision Making				0,359	0,017	Accepted

Source: primary data processed by SPSS 19

From table 2 of the multiple regression analysis above, it can be explained that the results of the regression equation in this study are:

$$Y_1 = 0.116 X_1 + 0.282 X_2 + 0.477 X_3$$

$$Y_2 = 0.314 X_1 + 0.614 X_2 + 0.494 X_3 + 0.359 Y_1$$

The results of the above equation show that:

1. Office layout variables, Management Information Systems and work stress have a positive coefficient value. This means that the better the Office Layout, Management Information System and work stress, the higher the Work Productivity.
2. Variables Office layout, management information systems, work stress and work productivity variables have a positive coefficient value. This means that the better the Office Layout, Management Information System, Work Stress and Work Productivity, the wiser the decision making will be.

The F test is used to see the impact of the independent variables together on the dependent variable. The results of the F test can be seen from the following table:

Table 3. F test

Model	f-hitung	Sig.
Equation 1	410,241	0,007
Equation 2	172,527	0,001

Source: primary data processed by SPSS 19

Table 3 above shows that the F-count value obtained in model 1 is 410.241 with a significance value of 0.007. This means that Office Layout, Management Information Systems and work stress together have an effect on Work Productivity. In model 2, the F-count value is 172.527 with a significance value of 0.001. This means that Office Layout, Management Information Systems, work stress and work productivity together have an effect on decision making.

The coefficient of determination in essence measures how far the independent variable (X) is able to explain the dependent variable (Y). The results of the calculation of the coefficient of determination can be seen in the following table:

Table 4. The coefficient of determination

Model	Adjusted R ²
Equation 1	0,590
Equation 2	0,810

Source: primary data processed by SPSS 19

Table 4 above, can be seen from the results of the calculation of the coefficient of determination, in model 1 the adjusted R2 value is 0.590. This means that the variables of Office Layout, Management Information Systems and work stress are able to explain the Work Productivity variable by 59% and by 41% it is influenced by other variables. Meanwhile, in model 2, the adjusted R2 value is 0.810. This means that the variables of Office Layout, Management Information Systems, work stress and Work Productivity are able to explain the variable decision making by 81% and by 19% it is influenced by other variables.

Hypothesis testing

Hypothesis Testing 1

Based on the test, it shows that the office space variable has a t-count value of 0.166 and a significance value of 0.009. Because the significance value is less than 0.05, the Office Layout variable has a positive and significant effect on Work Productivity, thus hypothesis 1 can be accepted.

Hypothesis Testing 2

Based on the test, it shows that the Management Information System variable has a t-value of 0.282 and a significance value of 0.005. Because the significance value is less than 0.05, the Management Information System variable has a positive and significant effect on Work Productivity, thus hypothesis 2 can be accepted.

Hypothesis Testing 3

Based on the test, it shows that the work stress variable has a t-value of 0.477 and a significance value of 0.004. Because the significance value is less than 0.05, the work stress variable has a positive and significant effect on Work Productivity, thus hypothesis 3 can be accepted.

Hypothesis Testing 4

Based on the test, it shows that the Office Layout variable has a t-value of 0.314 and a significance value of 0.011. Because the significance value is less than 0.05, the office space variable has a positive and significant effect on decision making, thus hypothesis 4 can be accepted.

Hypothesis Testing 5

Based on the test, it shows that the Management Information System variable has a t-value of 0.614 and a significance value of 0.041. Because the significance value is less than 0.05, the Management Information System variable has a positive and significant effect on decision making, thus hypothesis 5 can be accepted.

Hypothesis Testing 6

Based on the test, it shows that the work stress variable has a t-value of 0.494 and a significance value of 0.013. Because the significance value is less than 0.05, the work stress variable has a positive and significant effect on decision making, thus hypothesis 6 can be accepted.

Hypothesis Testing 7

Based on the test, it shows that the Work Productivity variable has a t-value of 0.359 and a significance value of 0.017. Because the significance value is less than 0.05, the Work Productivity variable has a positive and significant effect on decision making, thus hypothesis 7 can be accepted.

Mediation Effect Test

This test is to determine whether the Work Productivity variable mediates or not the relationship between the Office Layout variable, Management Information System and work stress with Decision Making.

1. Work Productivity Mediates Office Layout for Decision Making

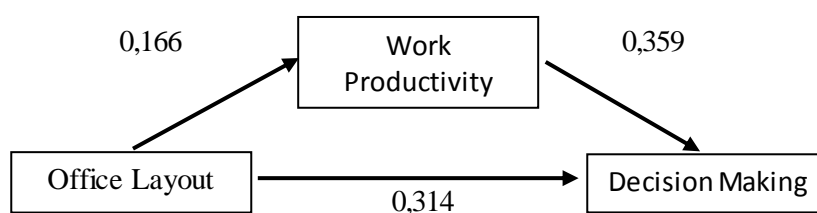


Figure 1. Media Effect Test for Work Productivity Mediating Office Spatial Planning on Decision Making

The picture above shows the results of the mediation test, where the product of the coefficient of office layout on work productivity and the coefficient of work productivity on decision making is obtained ($0.166 \times 0.359 = 0.059$). The results of these calculations indicate that work productivity does not mediate the effect of office layout on decision making. This means that the direct influence of office raids on decision making is higher than the effect of office raids on decision making through work productivity.

2. Work Productivity Mediates Management Information Systems to Decision Making

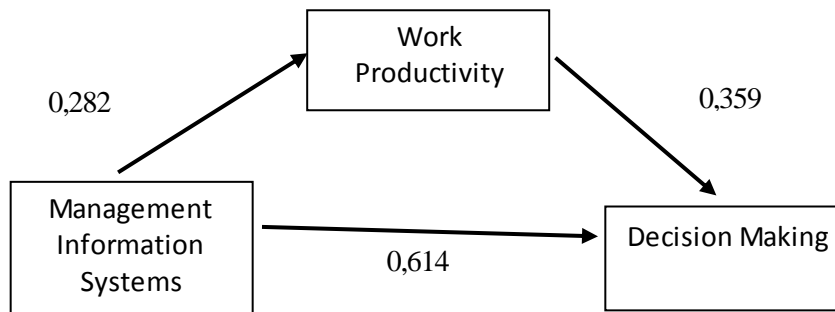


Figure 2. Work Productivity Mediating Management Information Systems to Decision Making

The picture above shows the results of the mediation test, where the product of the management information system coefficient on work productivity and the coefficient of work productivity on decision-making is obtained ($0.282 \times 0.359 = 0.101$). The results of these calculations indicate that work productivity does not mediate the effect of management information systems on decision making. This means that the direct effect of management information systems on decision making is higher than the effect of management information systems on decision making through work productivity.

3. Work Productivity Mediates Work Stress on Decision Making

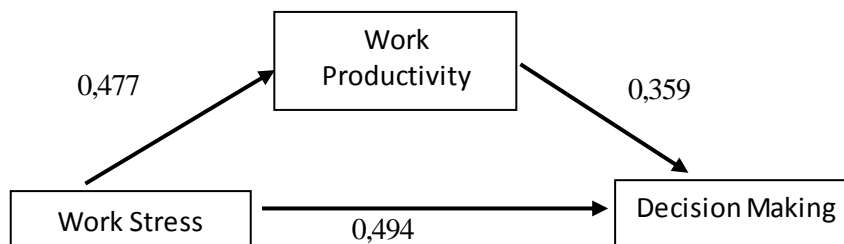


Figure 3. Work Productivity Mediates Work Stress on Decision Making

The picture above shows the results of the mediation test, where the product of the coefficient of work stress on work productivity and the coefficient of work productivity on decision making is obtained ($0.477 \times 0.359 = 0.171$). The results of these calculations indicate that work productivity does not mediate the effect of work stress on decision making. This means that the direct effect of work stress on decision making is higher than the effect of work stress on decision making through work productivity.

5. CONCLUSION

Based on the results of the analysis of the impact of office layout, work stress and management information systems on decision making mediated by the work productivity of millennial generation employees, it can be concluded that hypotheses 1 to 7 are acceptable. However, after going through the mediation test, work productivity variables are proven to not mediate the office layout, work stress and management information systems variables to the decision-making variables. An attractive workspace decoration makes employees comfortable and the management information system has complete features that can increase employee productivity to produce employee work according to the targets set by the company. Then the suggestion for companies is to issue policies according to facts in the field so that they can issue policies appropriately to reduce employee work stress due to workloads given by superiors.

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