The Influence Application of Information Technology and Competence on Employee Productivity through Job Satisfaction in the Civil Apparatus at Hasanuddin University

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Abstract
This study aims to analyze (i) the effect of information technology variables on job satisfaction; (ii) the effect of competency variables on job satisfaction; (iii) the effect of information technology variables on work productivity; (iv) the effect of competency variables on work productivity; (v) the effect of job satisfaction variables on work productivity; (vi) the influence of information technology variables on work productivity through job satisfaction variables; and (vii) the effect of competency variables on work productivity through job satisfaction variables. The quantitative approach is used to test and analyze the factors that influence job satisfaction and work productivity. Research location at Hasanuddin University, Makassar City. The population in this study were Unhas employees with the status of ASN (State Civil Apparatus) as many as 935 people. The sampling method uses probability sampling with simple random sampling technique. Withdrawing the number of samples using the Slovin formula, which produces 90 people as a minimum number. Data collection techniques using a questionnaire with a measurement scale used is a Likert scale with five components. Data analysis techniques in this study used path analysis. The results showed that the information technology and competency variables significantly influence job satisfaction and work productivity. Information technology and competence have a significant effect on work productivity through job satisfaction variables. All hypotheses are accepted and supported by previous research.

Keywords: information technology; competence; job satisfaction; work productivity

INTRODUCTION

The success or failure of a unit is determined by many things, one of which is the increase in productivity built in such work units by Hasanuddin University. Nothing can be expected to reach the goal. Increased staffing productivity is one of the work achievements that can be achieved and quality, professional work. The higher the quality of work that can be achieved, the higher the increase in employee productivity. Without an increase in productivity, it is difficult for organizations to achieve optimal results.

Theoretically and empirically shows that employee productivity is determined by the ability of organizations in increasing employee job satisfaction. Based on the Discrepancy Theory that job satisfaction is the result of a comparison between work results and expectations so that the higher the job satisfaction of an individual the higher the productivity and contribution to the organization (Jansen, 2014; & Koh et al. 2016). Employees who have job satisfaction in their work are usually shown with an attitude of never being absent, arriving on time, enthusiastic, and highly motivated (Muayyad & Gawi, 2016; and Supit et al. 2017).

The issue regarding employee job satisfaction is related to efforts to optimize the
empowerment of existing human resources, because employees with high levels of job satisfaction usually have higher work productivity compared to employees who have low job satisfaction. If employees feel satisfied with their work, then they will have to utilize all the potential they have in doing their work. Various attempts were made by a management so that employees always have high job satisfaction so as to produce optimal work results (Liu et al. 2019).

The problem of job satisfaction is very important because it is very influential with the work achieved. Every employee has a different level of job satisfaction. Job satisfaction is basically something that is individual. Each individual has a different level of satisfaction in accordance with the value system that applies to him. The higher the assessment of the activity felt according to individual desires, the higher the satisfaction of the activity. Thus, satisfaction is an evaluation that describes someone's feelings of being happy or unhappy, satisfied or dissatisfied at work (Törnroos et al. 2019; & Erro-Garcés & Ferreira, 2019).

Work productivity and job satisfaction are key factors in an organization's success in achieving its goals. Some factors that affect work productivity and job satisfaction are the first factor: information technology. Information technology in higher education is now a priority because it relates to the timeliness and correctness of the provision of information needed by the user (Lee et al. 2019). Information technology within the organization will help provide information quickly in accordance with organizational needs in decision making. The system is used to increase individual work productivity (Céspedes-Lorente et al. 2019).

The success of an information technology system will depend on the ease and use of the system user to the technology in the system because technology will assist individuals in completing their tasks. One important thing that must be considered by organizations that implement information technology is the extent to which the success of the system has a positive impact in improving the performance of both individuals and organizations in totality (Batabyal & Beladi, 2019), but in research Murtadho & Wahid (2016) explains that although Higher education has implemented an information technology system but in fact there are still some problems experienced by several universities in Indonesia in utilizing the system.

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LITERATURE REVIEW

Human resource management is closely related to the management of individuals involved in the organization, so that each individual has an important role in achieving organizational goals.

Information Technology

The word technology means the development and application of various equipment or systems to solve problems faced by humans in everyday life, the word technology means the term adjacent to procedures. According to Lee et al. (2019), information is data that is processed into a form that is more meaningful to the recipient and useful in making decisions, now or for the future.

Information technology is a combination of computer technology and communication technology used to process data, including processing, obtaining, compiling, storing, manipulating data in a variety of ways to produce quality information, which is relevant, accurate and timely information, which is used for personal, business and governmental purposes and constitutes strategic information for decision making (Céspedes-Lorente et al. 2019).
Competence

Employee competency is an exercise or task which is based on skills and knowledge and is supported by the work attitude required by the job. The skills or abilities that employees need are demonstrated by their ability to consistently provide an adequate or high level of performance in a job function. Competence is a terminology that is often heard and spoken by many people. People often hear or even say the terminology in a variety of uses, especially related to the development of human resources (Pitafi et al. 2018). The competence can be acquired from training, formal education, and experiences (Aswan, 2017).

Job Satisfaction

Job satisfaction is a positive attitude towards work in a person. Basically job satisfaction is an individual thing. Each individual will have a different level of satisfaction in accordance with the value system that applies to him. Usually people will feel satisfied with the work that has been or is being carried out, if what is done is considered to have met expectations, in accordance with the purpose of work (Koh et al. 2016).

Work Productivity

Productivity is a mental attitude that always tries and has the view that a life today is better than yesterday and tomorrow is better than today. Technically productivity is a comparison between the results achieved and the overall resources used, labor productivity is a comparison between the results achieved with the labor market per unit time and as a benchmark if the expansion and activities of the attitude of the sources used during productivity take place by comparing the amount produced with each source used. Work productivity is a measure that shows the consideration between the input and output issued by the company and the role of labor that is owned by time union (Spanos, 2019).

RESEARCH METHOD

Location and Research Design

This research was conducted by Hasanuddin University. Jl. Perintis Kemerdekaan KM.10, Kec. Tamalanrea, Indah, Kec. Tamalanrea, Makassar City, South Sulawesi. When the research was conducted for two months.

Data Types and Sources

The types and sources of data used in this study can be classified as follows: (a) Primary Data. Primary data in question are data obtained from respondents through questionnaires. Questionnaires were conducted to obtain data on respondents’ assessments of job satisfaction and employee work productivity; and (b) Secondary Data. Secondary data is data obtained from other parties such as staffing data reports at Hasanuddin University.

Samples and Population

The population in this study were all Unhas employees with the status of ASN (State Civil Apparatus). Sample criteria in this study are: (a) employees with ASN status; (b) a minimum service period of 2 years; (c) willing to fill in a research questionnaire. The population in this study were 935 employees (Source: Unhas Staffing Department, 2019). The sampling method is Stratified Sampling is a sampling method of a population that can be partitioned into homogeneous sub-populations / sub-groups. Then a simple random sampling technique is used, which is random sampling based on the sub-population / sub-group division for each work unit in Hasanuddin University.

Based on calculations using the Slovin formula obtained a sample size of 100 people. The unit of analysis used in this study is Unhas employees with the status of ASN (State Civil Apparatus), because the analyzed data aims to answer the research problem based on the results of the distribution of research instruments in each work unit in Hasanuddin University.
Data Analysis Method

The stages carried out by analyzing are collecting the data needed, measuring and then analyzing and interpreting it so that this data becomes more meaningful. The analysis technique used in this research is path analysis.

EMPIRICAL RESULTS

Profile of Respondents

Profile of respondents who participated in this study. Characteristics of respondents by sex indicate that female employees (55.6%) predominantly participated in this study compared to male employees (44.4%). This shows that the role of female employees has a major contribution to increasing work productivity, based on their dominant numbers. Characteristics of respondents by age showed that employees aged between 41 to 50 years were the highest category (48.7%) compared to the number of employees aged less than 30 years (17.1%). This shows that the age interval of 41 to 50 years is a productive age range, thus providing benefits to the organization in maximizing work productivity.

Characteristics of respondents based on their latest education show that employees with an S1 education were the most categorized (60.7%) compared to the number of employees with a diploma education (4.3%). This shows that the majority of employees with S1 education with various disciplinary backgrounds. Characteristics of respondents based on years of service show that employees with tenure between 11 and 15 years are the most categorized (68.4%) compared to employees who have worked for more than 15 years (5.1%). This shows that the working period between 11 to 15 years is the level of work, so employees have various work experiences.

Path Analysis Results

Analysis of the results of this study uses the path analysis model with the support of the AMOS program. The predictive power of the variable is good when viewed through the value of the critical ratio (CR), if the critical ratio is significant it will be said to be useful for predicting latent variables. Based on the method of determining values in the model, the model testing variables in this study are grouped into exogenous and endogenous variables. Exogenous variable groups are information technology and competence; and endogenous variables, namely job satisfaction and work productivity. The following are the complete analysis results

Table 1. Path Analysis Results

| Variable                  | Direct Variable | Direct Influence | C.R.  | Probability | Information |
|---------------------------|-----------------|------------------|-------|-------------|-------------|
| Information technology    | Job satisfaction| 0.269            | 3.540 | 0.000       | Significant |
| Competence                | Job satisfaction| 0.335            | 5.185 | 0.000       | Significant |
| Competence                | Work productivity| 0.243           | 3.950 | 0.000       | Significant |
| Information technology    | Work productivity| 0.269           | 3.924 | 0.000       | Significant |
| Job satisfaction          | Work productivity| 0.234           | 2.932 | 0.003       | Significant |

| Exogenous Variable | Intervening variable | Endogenous variable | Indirect Effect |
|--------------------|----------------------|---------------------|-----------------|
| Information technology | Job satisfaction | Work productivity | 0.269 x 0.234 = 0.063 |
| Competence          | Job satisfaction     | Work productivity   | 0.335 x 0.234 = 0.078 |

Source: Primary Data Processed, 2020.

Table 1 describes the evaluation of the results of the path analysis in the work productivity model. Interpretations of the influence between exogenous and endogenous variables are described as follows: The effect of information technology on job satisfaction, the coefficient (estimated value) of 0.269 or 26.9% indicates changes in information technology (assumed an increase of 1%) which
has an impact on increasing job satisfaction by 26.9%. These results explain that the success of an organization (Unhas) in an effort to improve employee job satisfaction is determined by information technology (dimensions of computer hardware, dimensions of computer software, and dimensions of data and data communication).

The effect of competence on job satisfaction, the coefficient (estimated value) of 0.335 or 33.5% indicates a change in competence (assumed an increase of 1%) which has an impact on increasing job satisfaction by 33.5%. These results explain that the success of an organization (Unhas) in an effort to improve employee job satisfaction is determined by competence (knowledge dimension, skill dimension, and ability dimension). The effect of competence on work productivity, coefficient (estimated value) of 0.243 or 24.3% indicates a change in competence (assumed an increase of 1%) which has an impact on increasing work productivity by 24.3%. These results explain that the success of an organization (Unhas) in an effort to increase employee productivity is determined by competence (the dimension of knowledge, the dimension of skills, and the ability dimension).

The influence of information technology on work productivity, the coefficient (estimated value) of 0.269 or 26.9% indicates a change in information technology (assumed an increase of 1%) which has an impact on increasing work productivity by 26.9%. These results explain that the success of an organization (Unhas) in an effort to increase employee productivity is determined by information technology (dimensions of computer hardware, dimensions of computer software, and dimensions of data and data communication). The effect of job satisfaction on work productivity, coefficient (estimated value) of 0.234 or 23.4% indicates a change in job satisfaction (assumed an increase of 1%) which has an impact on increasing work productivity by 23.4%. These results explain that the success of the organization (Unhas) in an effort to increase employee productivity is determined by job satisfaction (the dimension of work itself, the salary dimension, the promotion dimension, the supervision dimension, and the colleague dimension).

The indirect effect (indirect effect) of information technology on work productivity through job satisfaction, the coefficient (estimated value) of 0.063 or 6.3% indicates a change in information technology (assumed an increase of 1%) which has an impact on increasing work productivity through job satisfaction by 6.3%. These results explain the important role of job satisfaction in mediating between information technology variables on work productivity. The indirect effect of competency on work productivity through job satisfaction, the coefficient (estimated value) of 0.078 or 7.8% indicates a change in competence (assumed an increase of 1%) which has an impact on increasing work productivity through job satisfaction by 7.8%. These results explain the important role of job satisfaction in mediating between competency variables on work productivity.

DISCUSSION

Statistical results show that information technology variables have a positive and significant effect on job satisfaction in accordance with the Technology Acceptance Model (TAM) theory. All dimensions in the information technology variable (dimensions of computer hardware, dimensions of computer software, and dimensions of data and data communication) indicate a contribution to increasing employee job satisfaction. The need for efficiency and effectiveness at work is one of the factors driving the application of information technology in the Unhas work environment. The reality shows that some work units have not supported the implementation of information technology because it is not supported by adequate facilities and infrastructure, especially a stable internet connection.

Technology devices are constantly undergoing updates in terms of specifications and better features. This shows that although the information technology variable has a positive and significant effect on job satisfaction, the role of information technology in creating job satisfaction within employees, as part of the external environment, the organization must adapt to the development and progress of information technology. The combination of computer technology and communication
technology used to process data, including processing, obtaining, compiling, storing, manipulating data in a variety of ways to produce quality information, namely information that is relevant, accurate and timely, which is used for personal purposes, business, and government and is strategic information for decision making.

Statistical results show that the competency variable has a positive and significant effect on job satisfaction, according to organizational behavior theory. All dimensions in the competency variable (knowledge dimension, skill dimension, and ability dimension) indicate a contribution to increasing employee job satisfaction. Competencies (skills / abilities) required by employees who are shown by the ability to consistently provide an adequate or high level of performance in a job function. Competence refers to behavioral characteristics that describe a person's motives, traits, self-concepts, values, knowledge and skills in carrying out their work properly. These characteristics are not visible and are reflected in the unity of behavior in the form of attitude.

Statistical results show that the information technology variable has a positive and significant effect on work productivity. All dimensions in the information technology variable (dimensions of computer hardware, dimensions of computer software, and dimensions of data and data communication) indicate a contribution to increasing employee productivity. The role of information technology for organizations is very important. Information technology plays an important role in improving the quality of information and also as a tool and a formidable strategy for integrating and processing data quickly and accurately and for the creation of new service products as competitiveness to face competition.

Statistical results show that the competency variable has a positive and significant effect on work productivity. All dimensions in the competency variable (knowledge dimension, skill dimension, and ability dimension) indicate a contribution to increasing employee work productivity. Competence has a significant effect on work productivity on the one hand shows conformity with previous research and theories about organizational behavior. Competence is the behavioral dimension that is behind competent performance. Popular with the term behavioral competency because to explain its role well.

Statistical results show that job satisfaction has a positive and significant effect on work productivity. All dimensions in the job satisfaction variable (the job dimension itself, the salary dimension, the promotion dimension, the supervision dimension, and the colleague dimension) indicate a contribution to the increase in employee productivity. The results of the assessment of respondents on the salary indicator on the variable job satisfaction shows there are deficiencies in the system of benefits to employees. The condition is inseparable from the status of Unhas as a state university legal entity (PTNbh) that is granted autonomy to universities in determining employee remuneration using the concept of pay for person, pay for position, and pay for performance.

Information technology has a significant effect on work productivity through job satisfaction variables. Improving the quality of information technology then contributes to increasing employee work productivity if supported by increased job satisfaction. The role of information technology is not only for organizations, but also for the needs of employees or individuals, namely the need to increase job satisfaction. For an information technology organization it can also be used to achieve competitive advantage. Reliable information technology can improve individual performance and can be used to provide information for users in making decisions in an organization. Changes in the application of information technology systems in an institution requires three things, namely the development of software, hardware and brainware (Human Resources).

Competence has a significant effect on work productivity through job satisfaction variables. Increased competence then contributes to increasing employee work productivity if supported by increased job satisfaction. Competence can deepen and expand in work, the more often an employee does similar work, the more skilled and faster he can complete the job. An employee's competence shows the types of work that a person needs to do and can provide a great opportunity for someone to do work. Competence affects the performance of a system. A person who has competencies such
as skills, knowledge, and a high ability of the system will be able to produce the work system that is run.

CONCLUSION

Information technology has a positive and significant effect on job satisfaction. Information technology that is applied in accordance with organizational policies (Unhas) can produce a positive impact in the form of increased employee job satisfaction. Competence has a positive and significant effect on job satisfaction. Competence required by employees is shown by the ability to consistently provide a high level of performance in job functions. The information technology variable has a positive and significant effect on work productivity. The effect of the application of information technology has been proven to increase work productivity, so intensive use of information technology is applied in all work units of Hasanuddin University. Competence has a positive and significant effect on work productivity. Competence has a significant effect on work productivity, showing conformity with previous research and theories about organizational behavior.

Job satisfaction variable has a positive and significant effect on work productivity. Employees experience higher job satisfaction after the organization pays attention to increasing work productivity. Information technology has a significant effect on work productivity through job satisfaction variables. Improving the quality of information technology then contributes to increasing employee work productivity if supported by increased job satisfaction. Competence has a significant effect on work productivity through job satisfaction variables. Increased competence then contributes to increasing employee work productivity if supported by increased job satisfaction. In an effort to increase the level of influence of information technology variables on job satisfaction, an evaluation of indicators is needed based on the results of the descriptive analysis of ‘using a device to make data transfers’ which are considered still low.

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