Effect of perceived ease of use of ICT on stakeholder service quality in Vocational High School in West Java

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Effect of perceived ease of use of ICT on stakeholder service quality in Vocational High School in West Java

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Abstract. The use of Information and Communication Technology (ICT) for school management is very helpful in providing services to students and other stakeholders. ICT as a technology can be useful if used to improve its performance. Whereas someone will use technology to assist in completing his work if he feels that the technology is easy to use. A person’s perception of existing technology will encourage the use of this technology in its work. This study aims to examine the effect of perceptions of ease of use of ICTs on service quality in vocational high schools in West Java. The method used in this study is a causal survey. Sampling in this study used proportional random sampling technique with a total sample of 248 respondents. The research data were analysed using path analysis with the Partial Least Square (PLS) approach. The results of this study indicate that the perception of ease of use of ICT indirectly affects the quality of stakeholder services in Vocational High Schools in the West Java Region.

1. Introduction
Good management of Vocational High Schools generally aims to produce better service quality so that it will produce graduates who have high competitiveness. The use of information and communication technology is very helpful for schools in providing quality services to students and other stakeholders. However, ICT as a tool will be useful if it is used and accepted by users to support their activities. Daryanto in his study concluded that the acceptance of ICT used in school management had an effect on the effectiveness of school management [1], whereas Roger found that the process of receiving technology was influenced by the social system in which the technology diffusion process occurred [2]. The use of ICTs to improve school management is very much determined, among others, by positive attitudes towards technology from school residents, school culture, leadership of principals, available infrastructure, and other factors. ICT facilities owned by schools can play a positive or negative role depending on who uses them. ICT will have a bad impact if the utilization is not controlled, on the contrary it will improve performance when the utilization is in accordance with the stated objectives.
Whether or not ICT is useful depends on the people who use it. According to Davies that ICTs will have an increasingly important role in the development of school leadership in the future [3]. The principal as the highest leader in the school plays an important role in encouraging the existing resources to jointly manage the school. Habits carried out by school residents are influential factors in school management. Anderson & Dexter in their study found that technology-oriented leadership in schools was influenced by eight indicators, namely the existence of technology committees, budgets, support from government fees, e-mails held by principals, time for principals to pursue technology, development policies staff, intellectual property policies, and other policies, which have the potential to facilitate increased use of information technology in all schools. Most studies related to the application of ICT in schools tend to prioritize technical factors by ignoring non-technical factors [4]. Acceptance of Information Technology and communication is one of the factors that influence the ease in providing services to stakeholders. This means that there is good acceptance of any technological changes and changes in communication patterns will have a lot of influence on the effectiveness of school management which will have an impact on the quality of services provided. Rogers states that there are five characteristics of technological innovation, namely: relative advantages, namely as a level of perception of the superiority of new information technology in comparison with old information technology [5]. Complexity, is defined as the level of difficulty in understanding and using information technology. Compatibility, defined as the level of consistency with past experience values. Trialability, defined as the level of experience that can be obtained in a limited time. Observability, is the level of visibility of the results of the application of information technology. In accepting an innovation there are five stages. The ease of perception in using ICT is very important because the actual level of use is influenced by various factors, namely the attitude and intention to use the ICT. Similar research that has been carried out focuses on external and internal factors in utilizing ICT, but in this study it focuses more on how perceptions of ease in using ICT affect the quality of services to stakeholders in Vocational High Schools in the West Java Region. Therefore, the study aims to determine the effect of perceptions of ease in using ICTs on stakeholder service quality in Vocational High Schools in the West Java Region.

2. Research methods

This causal survey study was carried out in the West Java Region with a sample of 248 respondents consisting of proportionally taken vocational education teachers. While the research data was taken by questionnaire and analyzed using path analysis with the Partial Least Square (PLS) approach which is an alternative to structural equation modeling. The initial model of influence between variables is to evaluate the structural model with the coefficient of determination $(R^2)$, predictive relevance $(Q^2)$, effect size $(f^2)$ and Estimate for Path Coefficients. The structural model or inner model is a model that describes the relationship between latent variables. Structural models that meet the criteria are then determined to be the final model. Effect Size is used to find out the goodness of the model, while prediction relevance, also known as Stone-Geisser's, is used to determine the predictive capability and the calculation is done by the blinfolding procedure. The values of $f^2$ and $Q^2$ used are $\geq 0.15$, which is a latent variable predictor that has a moderate to large influence. The determination coefficient of endogenous construct according to Chin used is 0.33 [6,7]. Estimate for Path Coefficients is the value of path coefficients or the magnitude of the relationship of latent constructs. Path coefficients must be positive and significant, negative path coefficients are not used so that the relationship of latent constructs with negative path coefficients is omitted. A structural model design that shows the relationship between latent variables of the study as shown in the following figure 1:
Figure 1. Model of the Effect of Ease in using ICTs on stakeholder service quality in Vocational Schools in West Java.

The model was developed from a technology acceptance model developed by Davis [8]. The ICT acceptance variable consists of aspects of user motivation in using ICT, actual use of ICT by users (ATUICT), and stakeholder service quality (SQST). User motivation consists of: perceptions of ease of use of ICT (EUPICT); attitude of behavior using ICT (ATICT); intention to use ICT (BIUICT). The three aspects of the ICT acceptance variable are assumed to affect the actual use of ICT both directly and indirectly. The ease of perception in using ICT indirectly influences the quality of stakeholder services in Vocational High Schools in the West Java Region.

3. Results and discussion

The path coefficient influences the ease of use perception towards other aspects of ICT acceptance in Vocational High Schools in the West Java Region and stakeholder service quality variables calculated using the SmartPLS program are shown in the following figure 2:

Figure 2. Research variable path coefficient.

Path coefficients, standard deviations, T statistics and P values are fully shown in the following table 1:
Table 1. Path Coefficients, Mean, STDEV, T-Values, and P-Values.

| Path | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics | P Values |
|------|---------------------|-----------------|---------------------------|--------------|----------|
| EUPICT -> ATICT | 0.636 | 0.639 | 0.046 | 13.877 | 0.000 |
| EUPICT -> BIUICT | 0.274 | 0.273 | 0.056 | 4.885 | 0.000 |
| ATICT -> ATUICT | 0.235 | 0.239 | 0.087 | 2.698 | 0.007 |
| ATICT -> BIUICT | 0.582 | 0.586 | 0.055 | 10.606 | 0.000 |
| BIUICT -> ATUICT | 0.457 | 0.458 | 0.097 | 4.706 | 0.000 |
| ATUICT -> SQST | 0.216 | 0.235 | 0.063 | 3.433 | 0.001 |

Influences between variables were declared not significant if T statistics <1.96 and P values > 0.050. Based on Table 1 above shows that there is no significant path coefficient, which means the results of this study can be explained as follows:

- Perception of ease in using ICT has a direct effect on the attitude to use ICT (Attitude Toward Using) with a path coefficient of 0.636.
- Perception of ease in using ICT has a direct effect on the intention to use ICT with a path coefficient of 0.274.
- The attitude to use ICT directly affects the actual use of ICT with a path coefficient of 0.235.
- The attitude to use ICT directly influences the intention to use ICT with a path coefficient of 0.582.
- The intention to use ICT directly influences the actual use of ICT with a path coefficient of 0.457.
- The use of ICT which actually has a direct effect on the quality of school services with a path coefficient of 0.216.

The ease of perception in the use of ICTs is the degree to which a person believes that using ICT does not require excessive physical and mental effort. Efforts that need to be done in improving perceptions of ease in using ICT are paying attention to the factors that influence it. The first factor is centered on the technology itself and is usually caused by experience in using the technology. If users find it difficult to use the technology, then user-friendly technology and intensive use training must be created, and present technology based on the application model that has been understood by the user. The second factor is the reputation of the technology used. If the reputation is not well heard by users, then the effort that can be done is to bring technology to users and allow users to interact with the technology. The third factor is the technology supporting factor. If a problem occurs, the solution is to provide a support team that can help at any time and provide usage guidelines that can be accessed at any time and meet user needs.

According to Aakers and Myers the attitude to use a product is like or dislike behavior towards the use of a product that is useful for predicting one's intention in using or not using a product [7]. A person's attitude basically consists of cognitive components, affection, and components related to behavior. Triandis said that attitudes in using ICT can also be shown by the optimistic attitude of users that ICT is very helpful and useful to overcome problems in their work [8]. A person's interest in using ICTs can be seen from the level of use that can be predicted from his attentiveness towards the technology. While the actual use of ICT is a reality that is indicated by the frequency and duration of time in using the ICT [9].

Human resources in schools that use ICT psychologically have certain behaviors inherent in them, so that aspects of behavior in the context of humans as ICT users (brainware) are important as a determining factor for every person who runs ICT. According to Syam, consideration of this behavior needs special attention in the context of the application of ICT [10]. This opinion is in line with Sung in Trisnawati which states that technical factors, behavior, situations and ICT user personnel need to be considered before ICT is implemented [11]. Also suggests that user behavior, and personal systems are
needed in system development, and this is related to the understanding and perspective of the system users. Thus it can be concluded that the perceptions of the personnel (people) involved in the implementation of the system will affect the end of a system, whether the system is successful or not, acceptable or not, useful or not if applied [12]. The aspects of behavior in the application of ICT is one of the important aspects to note, because it deals directly with users, because the interaction between users and ICT devices used is strongly influenced by perceptions, attitudes, affections as aspects of behavior inherent in humans as the user. The use of ICTs is inseparable from aspects of behavior because the use of ICTs is related to individual and organizational problems as users of ICTs, so that ICTs as a system developed must be oriented to its users. According to Goodwin, the intensity of use and interaction between users and systems can also indicate ease of use [13]. Systems that are more frequently used indicate that the system is better known, easy to operate and use by its users. The ease of using ICTs will reduce a person's effort in studying the ICT, so that they can form someone in completing their work. Iqbaria in his study concluded that computer use was influenced by the ease of use and not because of social pressure [14].

The results of this study support the theory that Perceived Ease of Use affects Attitude Toward Using individuals to use ICT. The increase in Perceived Ease of Use instrumentally affects the increase in Perceived Usefulness because a system that is easy to use does not require a long time to be studied so that individuals have the opportunity to do something else so that it is related to performance effectiveness [15]. The interest in using ICT is a form of one's belief in using ICT that will increase the interest of someone who will eventually use it in doing work [16]. The use of ICTs to manage schools will increase the effectiveness of school management, which in turn can provide better services to school stakeholders. School management and its development are complex processes that require reliability, timeliness, safe and user-friendly data [17]. The technical skills of ICT are very important in using and implementing ICT, so to get the benefits, both technical and managerial skills in the ICT field are very necessary. Managerial skills involve management's ability to develop ICT applications to support and contribute to other management functions within the organization that can be felt at both operational, tactical and strategic levels. The benefits of ICT in school management according to Chang et al. can improve school management functions such as communication, the ability to exchange data, teamwork, customer relations, service visibility, competitive advantage and others [18]. The opinion is very realistic because in reality ICT allows school management to obtain, process, collect and exchange information. In addition, in the context of knowledge management, ICTs can support transformation in and between tacit and explicit knowledge. Successful knowledge management initiatives can turn small management capacities into higher performance. ICTs can also play an important role in improving school management through access to data on the school's website or through direct access to the school database center.

4. Conclusion

- The aspect that plays a role in improving the quality of services to school stakeholders, especially in Vocational Schools in the West Java Region is the perception of ease in using ICTs, attitudes and interests in using ICTs and the actual use of ICTs for school management.
- Perception of ease of use of ICT directly influences attitudes and interests in behaving using ICT and indirectly influences the actual use of ICT and stakeholder service quality.
- The use of ICTs that actually has a direct effect on the quality of stakeholder services at Vocational Schools in the West Java Region.

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