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The Effect of Experience and Complexity of The Technology Acceptance Model (TAM) on Accepting Applications (E-PKH) In East Java

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ABSTRACT

The purpose of this study is to examine and analyze the effect of experience and complexity of TAM on the EPKH application system used to report data at the Ministry of Social Affairs. This research is a quantitative study using data collection methods by distributing questionnaires to 150 respondents, namely social assistants in East Java. This type of research is explanatory research, the determination of the sample is done by the non-probability sampling technique and using a purposive sampling method. The collected data is then tested and analyzed using the Smart PLS program. The results showed that experience had no significant effect on perceived usefulness, while experience had a significant effect on perceived ease of use. Complexity also has a significant effect on perceived usefulness. Perceived ease of use has a significant effect on perceived usefulness, perceived usefulness has a significant effect on the intention to use and intention to use significantly affects real use.

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INTRODUCTION

Since of the rapid advancement of information and communication technology, the use of ICT is critical because it contributes considerably to change and aids in the achievement of pedagogical objectives. Not everyone, especially naïve and seasoned users, can quickly recognize the changes in technology while accepting new technology. According to Tornatzky and Klein (1982), the more complicated a system is, the fewer users use it. The Technology Acceptance Model (TAM) is a theory-based approach to learning and understanding user behavior when it comes to receiving and using information technology. The Technology Acceptance Model (TAM) proposes that a person's willingness to use technology is determined by two factors: perceived benefits, which represent a person's level of belief that using technology will improve performance, and perceived ease of use, which represents a person's level of ability and belief that using technology will make tasks easier to complete. The system will be easier to use and user intention to utilize information technology will increase as the complexity of information technology decreases. User perception and ease of use have an impact on the user and the structural level when adopting new technologies (Cheung & Vogel, 2013).

Poverty is still a problem that demands special attention from the government because it takes a lot of effort and strategy to address. In this scenario, the government launched the Family Hope Program (PKH) as a means of reducing poverty by providing Beneficiary Families with conditional social support (KPM). A conditional social assistance program is one in which the government gives money to disadvantaged families in exchange for them meeting certain conditions (or standards), usually related to their children's health and education (Rasella et al., 2013). There was a shift in the conditional social assistance program, which was formerly done manually, by transitioning to an online application with the hopes of decreasing expenses and leaks associated with social protection programs (Aker et al., 2016). Because the proliferation of (big) data has produced services where the use of data significantly contributes to value creation, the program can function successfully if users of the system can operate it well and the data obtained is correct and reliable (Lim et al., 2018). Large data sets incorporate information from a variety of sources, which can make accuracy, complexity, and uncertainty worse (Yang et al., 2019). Because traditional censuses and household surveys will no longer suffice, data on these numerous variables should be collected on a regular basis with good use of the system (Homberg and Susha, 2018).

To ensure that the program runs smoothly, the Ministry of Social Affairs developed the E-PKH application, which is an application that automates the validation process by calculating social assistance automatically, entering verification results, updating data, and controlling the activity of Family Development Sessions (FDS) activities so that the results are accurate and reliable. Combining observations from survey data with administrative data, a person's intuition in utilizing a system can be obtained from existing information (Meijer et al., 2012). Conditional cash transfer programs are very important, according to research done by Osorio et al., (2011) on improving conditional social transfer programs as evidenced by a child education experiment in Colombia, because of the nature of program interventions designed to produce high levels of participation. The correctness of the monitoring and administrative data, which impacts the

quantity of help received, supports this. Because basic data mistakes caused by human error and system error require some objective standard truth measure by which data accuracy can be assessed, the acceptance of a system in the program is crucial to research (Abowd & Stinson, 2013).

With numerous external viewpoints, including experience and connected complications, this study examines the influence of perceived utility, perceived ease of use, behavioral intentions, and actual use in running the Electronic Family Hope Program (E-PKH) application. According to Arndt & Peterson (2018) found that experience and perceived ease of use have a positive effect on perceived usefulness. The results of research conducted by WM Al-Rahmi *et al.* (2019) found that they found that complexity had a significant effect on perceived usefulness. From these previous studies, it is hoped that the results of this study can be used to determine the level of technological development of the EPKH application that has been applied to workers. The originality of this study was taken because of the lack of research discussing the acceptance of the technology model in the E-PKH application in Indonesia and in the program Silva (2015) discusses an information system theory that is designed to explain how users understand and apply an information technology. Muchran & Ahmar (2019) build the TAM model by including the experience variable because it assumes experience is also a determinant of behavior for users of a system. There is a significant difference between experienced and inexperienced system users (Taylor & Todd, 1995). In particular, experience from the past and the level of complexity of a system will help manifest attitudes and intentions in its use. This is what causes calculations in the formation of intentions in using a system (Ajzen & Fishbein, 1980).

LITERATURE REVIEW

Technology Acceptance Model (TAM) is a model that adopts the theory of reasoned action (TRA) developed by Fishbein (1981). User motivation can be explained by three factors including perceived usefulness, perceived usefulness ease of use, and attitude towards using the system (Davis, 1985). Attitudes shape a person's behavior to intend to use technology, which in turn will affect the actual use of the system (Davis, 1989). TAM adopts a causal chain of intentions, attitudes, beliefs, and behaviors as proposed by Fishbein (1981) known as Theory of Reasoned Action (TRA). Perceived benefits have a stronger correlation with user acceptance of technology (Tibenderana *et al.,* 2010). Therefore acceptance can be further described as an important factor in determining the success or failure of adopting technology and acceptance has been conceptualized as an outcome variable in the psychological process that users go through in making decisions (Samaradiwakara & Gunawardena, 2014). TAM shows that beliefs, attitudes and behavioral intentions are explained and predicted by technology recipients among experienced users (Dajani & Yaseen, 2016). This study describes concerns in integrating technology about intentions, attitudes and behavior in using technology with the existing level of complexity based on their experience (Howard & Gigliotti, 2016).

Perceived usefulness is a perception that describes how users can believe that using a technology will improve their performance. In his research, Harfouche (2010) found that perceived usefulness is an important factor in explaining technology acceptance. Thompson *et*

al. (1991) argue that not understanding the perceived usefulness of a new technology can lead to low productivity, and will eventually create a complex problem in a job. According to Howard *et al.* (2017) states that the perception of the usefulness of an information system is influenced by behavioral intentions and facilitation. According to Ali *et al* (2016) Perception of the use of new technology can be directly correlated with personality factors, namely the age of the user, education level , perceived need and expected level of IT usage.

According to Davis (1989) the perception of ease of use is a perception that explains how someone can believe that using a technology will make it easier to get work done. The intensity and interaction of users in using technology can indicate the ease of using the technology. Perception of convenience is influenced by the technology itself, and the availability of facilities and infrastructure that can support the use of technology (Venkatesh *et al.*, 2003). Perceived ease of use is a determining factor about the perceived benefits of users (Maduku *et al.*, 2016). Ease of use will then have an effect on the behavior of users, namely the more people think about the ease of using the system, the more the scale of utilization of information technology will increase. Users of a technology have the belief that an effective and efficient system and easy to apply is a character of ease of use. According to Davis (1989) intention to use is a behavioral tendency to continue using a technology. Attitude towards use is the user's evaluation of the desire to use a particular information system and one's intention to use the system are used as a measure of the likelihood that someone will use a system (Ajzen & Fishbein, 1980). Intention to use a technology is influenced by perceived usefulness and perceived ease of use (Holden & Karsh, 2010) .

Douglass (1977) states that individual behavior in using a system is based on the individual's intention to engage in certain actions. Subjective attitudes and norms form a person's intention to perform a behavior, eventually a person's intention will determine the desired behavior (Rahmawati, 2019). According to Howard *et al.* (2017) acceptance in the use of technology predicts that the behavioral intention of an information system is influenced by performance expectations, effort expectations and social influences. According to Almaiah & Alyoussef (2019), social influences, facilitation conditions, business expectations and performance expectations have a strong influence on behavioral intentions to use a system. Interest in individual behavior can be seen from the level of technology use so that it can be predicted from attitudes and attention (Muchran & Ahmar, 2019). Olasina (2019) Stating that behavioral intention is related to actual use and is known as behavioral intention to use a system

According to Davis (1989) actual usage is how technology users in real conditions apply a system. Shrestha & Vassileva (2019) argued that the actual use of the system is determined by the behavioral intention to use, which in turn is influenced by the user's attitude towards the use of the system, perceived usefulness and perceived ease of use. The form of measurement of actual usage is how often someone uses and duration of use of the technology. There are several indicators of measuring the construct of technology use, namely actual use, actual frequency and user satisfaction (Muntianah *et al.*, 2012) . If someone believes that the use of a system can really help him in his work, then the user will use the technology (positive feeling), on the other hand if someone feels that the technology that will be used would not help him, then he would not use technology (negative feelings). Fatema *et al.* (2015), Nagy (2018) found that attitude

had a positive effect on actual use. According to Perkins (1985), there are three conditions for technology to be used effectively, namely the opportunity is available, the user recognizes it and the user is sufficient and motivated to use it (Surry & Land, 2010). Someone will feel satisfied using the system if they believe that the system is easy to use and will increase their productivity, which is reflected in the conditions in real use (Hermanto & Patmawati, 2017). Experience is a past activity in using technology to encourage a tendency to use similar technology repeatedly (Muchran & Ahmar, 2019). Work experience shows one's skills in learning in the workplace which can be seen from the way workers deal with new problems effectively, understand the steps needed to complete a task, identify the information needed to complete an operation, or design the means used to achieve information requirements . Stern & Nakata (1989) and helps to understand experiences from multiple perspectives and potential scenarios (Lengelle *et al.,* 2016).

According to Patry & Pelletier (2001), in their research, they found a prominent difference between experienced and inexperienced workers in influencing the actual use of accepting a change in a system. Experienced workers have internalized beliefs, values and work expectations. who are unique in their work (Uppal *et al.,* 2014). Experienced social workers tend to consider both reactive and pro-active aspects of resilience after they reflect on their experiences and note the changing interactive relationship between various elements of the social worker's self, the context of their practice and mediating factors (Collins, 2017). According to Foster *et al.* (2009), there are several indicators to determine a person's work experience, namely the length of time or period of work, the level of knowledge and skills possessed and Mastery of work and equipment. According to Gould (1979) work complexity is defined as the extent to which problems exist in the work, especially regarding the acceptance of a new system. Increasing the complexity of a system has challenges in long term consequences which include increasing the life of the system, cycle costs and increased difficulty in repairing and maintaining system (Boardman & Sauser, 2006). The inability of social workers to guarantee the accuracy, certainty of decision-making and actions reflects the status of knowledge on which the practice relies is uncertain and the lack of consensus (ambiguity) regarding goals, methods, and achievements is complicated (Pycroft & Branigin, 2015). Complexity assumes that there is a non-linear relationship between the inputs given and the results obtained for what social workers do (Pycroft & Branigin, 2016). Their ability to manage many things in their work is inextricably linked to the level of intra and interpersonal emotional complexity of their work (Kinman *et al.,* 2014). McDermott (2014) argues that complexity theory interacts with risk management, and according to Fish & Hardy (2015) predictive complexity has a limited value, because small changes in a variable can cause large differences in results. Therefore, hypotheses in this research described as follow:

H1: Experience has no significant effect on perceived usefulness
H2: Experience has a significant effect on perceived ease of use
H3: Complexity has a significant effect on perceived usefulness
H4: Perceived ease of use has a significant effect on perceived usefulness
H5: Perceived usefulness has a significant effect on behavioral intention to use
H6: Behavioral intention to use has a significant effect on actual use

The framework of thought in this research is as follows:

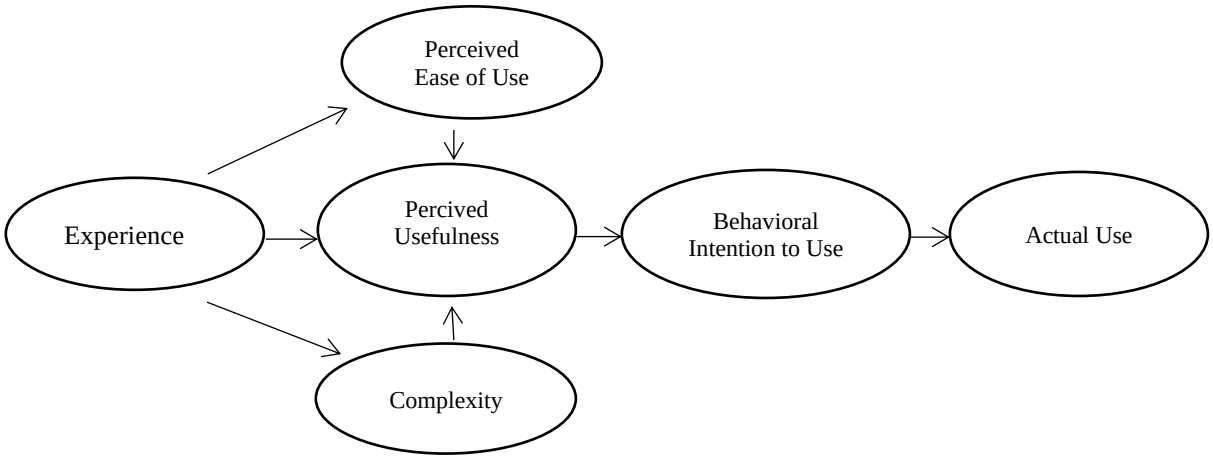

Figure 1. Conceptual Framework

RESEARCH METHOD

This research belongs to the type of explanatory research using quantitative methods which can be interpreted as a research method based on the philosophy of positivism, used to examine a particular population or sample, the sampling technique is generally done randomly. Data collection uses research instruments, data analysis is quantitative or statistical with the aim of testing the established hypothesis (Sugiyono, 2017). This study also uses a survey method that is used to obtain data from certain natural places, but researchers carry out treatments in data collection with distributing questionnaires, observations and structured interviews (Sugiyono, 2017). The population taken in this study are social assistants in the Family Hope Program in the East Java Region who use the E-PKH application. This sampling refers to the opinion of Winarno (1998) which states that the population is quite homogeneous, below 100 is taken 50% and above 1000 is taken 15%. According to this calculation, the sample taken is 15% of the 1,000 population, which is 150 respondents. Determination of the sample is done by non-probability sampling technique using purposive sampling method. The scoring technique used in this research questionnaire uses a Likert Scale technique and uses a descriptive data analysis technique which is then continued by using Partial Least Square (PLS) analysis.

RESULT AND DISCUSSION

Respondents of this study were users of the Electronic Family Hope Program (E-PKH) application, namely social assistants in the East Java region. The number of respondents in this study were 150 respondents.

Table 1. Hypothesis Test Results Direct Effect Between Variables

Hypothesis	Path Coefficient	Standard Deviation	T Statistics	P Values	Information	
					Ha	Ho
X1 → Y1	0.054	0.040	1.347	0.179	Rejected	Rejected
X1 → Y2	0.892	0.016	56,999	0.000	Accepted	Accepted
X2 → Y1	1.009	0.015	68,573	0.000	Accepted	Accepted
Y2 → Y1	0.744	0.042	17,684	0.000	Accepted	Accepted
Y1 → Y3	-0.084	0.040	2.096	0.037	Accepted	Accepted
Y3 → Z	0.729	0.039	18,797	0.000	Accepted	Accepted

Source: Main Data processed, 2022

This study results that experience has no significant effect on perceived usefulness. This study is in accordance with research conducted by (Muchran & Ahmar, 2019) which states that experience does not significantly affect the perception of usefulness and this result is contrary to the previous hypothesis which states that experience has a significant effect on the perception of usefulness which is supported by research conducted by (Igbaria *et al.*, 1995). These findings suggest that a person's job experience alone will not persuade them to use a technology that will increase their performance. This can happen because, despite having a lot of expertise, a person's age has reached a point where they are no longer productive, making it difficult for them to use technology. The perception of ease of use is influenced by experience. This research is supported by research conducted by Arndt & Peterson (2018), Danurdoro & Wulandari (2016), Igbaria *et al*. (1995). From these results it can be concluded that the more someone has experience in work the easier it is to use similar technology. According to Taylor & Todd (1995) in his research shows that there are differences in the causes of the use of information systems by experienced and inexperienced users. Workers who are experienced in work will form expertise in their field, so that in doing a job it will be quickly resolved and helps to understand the experience from various work points of view (Lengelle *et al.*, 2016). Complexity has a significant effect on perceived usefulness. These results are in accordance with the research conducted by (AM Al-Rahmi *et al.,* 2019) which states that complexity affects perceptions of usefulness. These findings suggest that the issues raised in the work, particularly the difficulties in embracing a new system, have an impact on a person's ability to operate a system. When faced with a work of great complexity, someone will provide the highest intrinsic motivation for users to do the task as efficiently as possible. Because of the level of system complexity and personal emotionality of their employment, workers' capacity to complete tasks is unavoidable (Kinman *et al.*, 2014). The highest performance is reflected in the most complex jobs, namely jobs that have opportunities for creative work and independent decision-making processes, especially the problem of accepting new technologies. Taylor & Todd (1995).

Based on the results of hypothesis testing, there is a significant effect between perceived ease of use and perceived usefulness. The results of this study are the same as the research conducted by WM Al-Rahmi *et al*. (2019), Muchran & Ahmar (2019) which resulted that perception of ease of use had a positive influence on perception of usability. From these

findings, it can be deduced that the easier it is for someone to utilize technology, the greater the intensity of user interaction with it. The level of complexity and application of information technology is represented by perceived ease of use. As a result, if someone believes the information system is simple to use, he will use it. On the other hand, if a person believes that an information system is not easy to use, he will not use it (Chen & Tsai, 2019). This research can explain that the perception of usefulness affect on intention to use. These results are supported by research conducted by Elkaseh *et al.* (2016), Wu & Chen (2017) which found that perceived usefulness had a positive effect on intention to use. Elkaseh *et al.* (2016) consider that perceived usefulness is considered a key factor in assessing a person's intention to accept a system. Perceived usefulness is used to measure the extent to which an individual believes that the intention to use a technology will help him to complete his work more effectively and efficiently (Tarhini *et al.*, 2016). These findings suggest that a person's opinion that using technology will improve performance can raise a person's willingness to use the technology. According to the findings of this study, the intention to use has a considerable impact on actual use. These results are in accordance with research conducted by Hermanto & Patmawati (2017), Muntianah *et al*. (2012) which found that intention to use had a significant positive effect on usage. The actual use of the system is determined by the behavioral intention to use Shrestha & Vassileva (2019). An increase in intention will ultimately increase the use of a system Ali *et al.* (2019) using this technology will be able to increase the productivity of its performance which can be seen from the real conditions in use.

CONCLUSION

The purpose of this study is to investigate and analyze the influence of TAM experience and complexity on the Ministry of Social Affairs' EPKH data reporting system. The findings of this study revealed that all of the hypotheses tested were accepted, with the exception that experience has no significant effect on perceived usefulness, implying that even if a person has a lot of experience in a specific job, it will be difficult to use a new technology if the system still has a lot of flaws. The perceived ease of usage is heavily influenced by prior experience. These findings suggest that a person's prior expertise with a technology will make it easier for them to learn how to use a new technology.

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