Indonesia of Batik Trusmi MSMEs: The Effect of User Technology Capability on Individual Performance with the Accounting Information Systems Effectiveness

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Abstract: The purpose of this study was to obtain empirical evidence of the effect of user technology capability on individual performance in Indonesian Batik Micro, Small, and Medium Enterprises (MSMEs); and to obtain empirical evidence the accounting information systems effectiveness moderates the effect of user technology capability on individual performance in Batik MSMEs. This study used an associative quantitative method that states the relationship of two or more variables. The data source used in this study is the primary data source in the form of a questionnaire filled by employees of Batik Trusmi MSMEs as unit analysis. The data analysis technique used in this study uses the analysis of Moderated Regression Analysis (MRA). The study result indicated that user technology capability has a positive on individual performance in Batik Trusmi MSMEs and the accounting information systems effectiveness proven to moderate the effect of user technology capability on individual performance in Batik Trusmi MSMEs. Therefore, the technical ability of individuals as users of information systems plays an important role in the development of information systems in order to produce the best information for making accurate planning reports so it will improve of MSMEs for the better performance.

Keywords: User Technology Capability, Accounting Information Systems Effectiveness, Individual Performance.

1. Introduction

The use of information technology in the present era is an important element in the company’s activities. Information systems have a major influence on almost all aspects of business management, including MSMEs. The development of an information system also needs to be supported by many factors that are expected to provide success from the system. In a company, the successful application of information systems is influenced by the way the system is implemented, the level of system convenience for users, and the use of technology used. (Grande, et. al., 2011). In fact, it is important for companies to synergize the resources and competencies they have so that their technological capabilities are more developed than their competitors. Based on this definition, it can be said that technological capability is related to how to achieve a higher level of technical economic efficiency by absorbing and transforming technology from processing existing resources in the company. (Zawislak, et. al., 2012; Ruffoni, et. al., 2012).

Good performance can be seen if individuals can complete and carry out their duties properly. Individuals are expected to complete their work with the help of technology, so that the work done can be completed (Alannita and Suaryana, 2014). Higher performance means that there is a good quality improvement of individual performance, so that the tasks to be given to individuals in an organization can be carried out in a timely manner (Murty and Hudininarsih, 2012). Amelia and Puspitawati (2011), state that information technology can be used effectively so that it can make an important contribution to improving individual performance. Performance depends on a combination of ability, effort, and opportunity obtained. The quality of the performance of each employee can be measured by management. The existence of an accounting information system makes it easy for employees to do their jobs so that employee performance gets better.

Accounting information system user technology has an important role and has a positive impact on companies and the business activity. The application of a system has two impacts on the company, namely system success and system failure. The poor performance of information systems can be seen from the satisfaction of users of the accounting information system. Users are an important focus in implementing systems in a company. In the application of technology, of course, the roles of the users cannot be separated. Ariyanto (2008) states that company performance and individual performance in the company will improve with the use of appropriate information system technology supported by good personnel expertise to operate it. Alannita and Suaryana (2014) state that individual performance is positively influenced by the technical ability of users who using accounting information systems.

Technology Acceptance Model (TAM) is a model commonly used to research and measure user acceptance of technology introduced by Davis (Davis 1985). According to Davis, Technology Acceptance Model (TAM) is a model for explaining and predicting user acceptance of a technology based on the influence of perceived usability.
factors and perceived ease of use. (Jogianto, 2012; Galatti et al., 2019). This is also supported by Hartono (2014) who explains that TAM focuses on attitudes towards the use of information technology, where users develop based on perceived benefits and ease of use of information technology. By many researchers, TAM can be accepted, adapted and expanded (Johnson, et. al, 2003). This adaptation has explored the various constructs and variables of TAM, the problem of social influence, the temporal dimensions of information technology adoption behavior, the level of voluntary attitudes in information technologi adoption and use, as well as the use of self-measurement bias and the case of object-oriented systems development. TAM believes that individual and organizational performance will increase due to the use of information systems (Gupta, 2011). The main purpose of TAM is to provide a basis for tracking the influence of external factors on user beliefs, attitudes, and goals. To determine the factors that affect the acceptance of a technology in an organization, TAM can be used as a theoretical basis.

TAM can explain the causal relationship between belief in the benefits of information systems and ease of use, behavior, goals/needs as well as the actual usage of the user (Nugroho, 2014). TAM also offers a strong and efficient explanation to be able to test the behavior of acceptance and use of Information Systems (IS) by users. In TAM, acceptance of information system users is determined by two main factors. Perceived usability and perceived ease of use are factors that illustrate that users will tend to use information systems if the information system is easy to use and useful.

Ismail and King (2013) stated that the Accounting Information System (AIS) can facilitate work because it connects information from above and below that helps workers in companies to achieve their goals. Marlinawati and Suaryana (2012) also stated that individual performance is significantly affected by the accounting information system.

The research results of Mahendra and Widhiyani (2016) show that there is an effect of the effectiveness of the accounting information system on individual performance moderated by the technical ability of the user. Suartika and Widhiyani's research (2017) found that the effectiveness of using accounting information systems, education and training is positively influenced by individual technical skills on the effectiveness of using accounting information systems. A study from Awosejo, et. al. (2013) also stated that in order to improve adequate individual capacity, higher formal education, workshops, user training and retraining should be encouraged. In addition, further studies should be carried out to measure the impact of accounting information systems to build their full potential. Furthermore, Widyasari and Suardikha's (2015) research results concluded that Individual performance is positively influenced by the technical ability of users of accounting information systems, the effectiveness of accounting information systems, top management support, and the physical work environment.

The phenomenon of the increasing number of Batik Trusmi Micro, Small and Medium Enterprises (MSMEs) which increases rapidly every year is the background of this research. However, there are decreasing in sales volume from 2010 until 2014 around 10-14% a year based on data from Department of Industry and Trade Cirebon District (Deperindag Kabupaten Cirebon, 2014). The increase of Batik Trusmi MSMEs but followed by decrease in business volume, which also increases the complexity of the activities in it, so that not only accounting information system technology is needed but also employees who have good abilities according to their abilities as the responsibility to support the accounting information system effective. The problem is that Batik Trusmi MSMEs, which has implemented information technology, does not necessarily improve its performance. Good information system performance does not always improve the performance of a company. However, the majority of Batik Trusmi MSMEs admit that the application of information technology systems helps improve company performance. This study conducted about the influence of user technology capabilities moderated by the effectiveness of accounting information systems on individual performance at Batik Trusmi MSMEs.

2. Problem Statement

Based on the research objectives described before, the researchers formulated the following problem formulations:

a. How the effect of user technology capability on individual performance in Batik Trusmi MSMEs?

b. Is the the accounting information system effectiveness moderating the effect of user technology capabilities on individual performance in Batik Trusmi MSMEs?

3. Literature Review

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is a theory of adaptation from Theory of Reasoned Action (TRA) which was introduced by Ajzen and Fishbein in 1980 and put forward by Davis in 1989, is a theory that explains the
behavior of individuals who have the will or intention to do something activities of his own accord. This theory derives one of the adaptation theories, namely the Technology Acceptance Model (TAM).

The Technology Acceptance Model (TAM) provides an explanation of the determinants of computer acceptance in general regarding user behavior in various end-user computer technologies and user populations (Awosejo, et. al., 2013). TAM can also explain the causal relationship between trust in information system benefit, ease of use, behavior, needs, and users of an information system.

TAM aims to explain and estimate user acceptance of the use of information systems. In TAM, TRA is used as the basis for determining the relationship between perceived usefulness and the ease with which users of information technology. TAM is a theory that explains the perceptions of technology users. User perceptions will influence interest in using information technology. There are five constructs at the level of acceptance of information technology use, namely perceived ease of use, perceived usefulness, attitudes towards use, behavioral intention to use, and actual behavior of system use. The following is the TAM introduced by Davis (2013):

![TAM Diagram]

Figure 1. TAM to Explain Perception into Interest in Using IT
Source: Davis (2013)

In the picture above, there are relationships between the constructs in the TAM. The external variable construct is considered to have a direct influence on perceived ease of use and perceived usefulness. The perceived ease of use is influenced by external variables related to system characteristics that can increase the interest of information technology users. Basically, the construct of perceived ease of use and perceived usefulness both have an influence on the attitude of use. The perceived usefulness will influence the behavioral intention to use. The behavioral intention to use will be influenced by the attitude of use and will simultaneously influence the actual use. Based on the six elements in the construct, there are two dominant factors that influence the technological system. First factor is perceived usefulness. Second factor is the perceived ease of use of technology.

**User Technology Capability**

According to Robbins (2013) ability is a personal’s ability to carry out various tasks in a particular job. The ability shows an individual’s capacity to realize various tasks in his job which is an assessment of what someone can do at this time. The ability of the individual as a whole is basically formed by two groups of important factors, namely intellectual and physical abilities. According to Susanto (2013), technical is an approach to how to use tools and regulations that complement one or more stages in the information system development cycle. In the context of additional organizational capabilities, technology capabilities can help organizations and individuals within them to respond better when faced with challenges (Chang, et. al., 2012).

So, it can be said that the user's technical ability is the user's ability to be able to carry out various tasks using an approach using tools and regulations that complement one or more stages in the accounting information system development cycle.

**Accounting Information System (AIS)**

Accounting Information System (AIS) is an important part of all information required by management. Many accounting experts provide different definitions of accounting information systems, but have the same goal. Bodnar and Hopwood (2010) state that An accounting information system is the design of a collection of various kinds of resources, both human resources and equipment that can be used to convert financial data and other data into useful information for its users. According to Widjajanto (2011) AIS is an arrangement of various kinds of documents, records, equipment including computers and equipment, communication equipment, and all executive reports designed to convert financial data into information needed by management.

The role of the accounting information system summarized according to Sealehi (2011) is a system that carries out the function of collecting, processing, grouping and reporting financial events with the aim of providing...
relevant information as information storage, recording inventories, providing financial reports within a certain period of time, and making decisions.

Therefore, SIA is an organization of forms, records, and reports designed to provide financial information for managers in carrying out business activities, improve information generated by existing systems, improve accounting and internal audit controls, and help increase administrative/writing costs in the maintenance of accounting records.

Effectiveness of Accounting Information Systems

Effectiveness is an absorption language from English, derived from the root word effective. According to Sigar (2013) effective means successful or impressive. Effectiveness relates to the expected results and the results that have been achieved. It can be seen from various points of view and can be assessed in various ways and is closely related to output.

According to Nabizadeh and Omrani (2014), the goal approach to determining and evaluating effectiveness is based on the idea that organization was created as a tool to achieve goals. Organizations, thus this approach, are formed with the intention of achieving goals. An expert practice and writer in management and organizational behavior, the leading states that interpreted the effectiveness is the achievement of agreed targets for joint efforts. The level of achievement of the target shows the level of effectiveness. The idea that organizations and groups and individuals must be evaluated in terms of achieving goals has been widely accepted. The goal approach shows that the organization was formed with a specific purpose, worked rationally and tried to achieve certain goals, namely the basic principles of western society today.

Bovaird and Loffler (2013), state that effectiveness is the comparison of results with outputs. For example, the number of complaints received about dirty roads per kilometer compared to routinely cleaned roads per kilometer. Grande, et. al., (2011) stated that The effectiveness of accounting information systems has an indirect relationship between AIS and company performance through various strategies that can be adopted by the company. The scope of action can be expanded by investing in AIS thus saving time in dealing with banks, administration, etc. This reduces company costs. If this innovation is used properly, productivity will increase. A company culture that is open to the introduction of a new accounting information system will lead to a more holistic view and create greater flexibility and dynamism for better company performance.

Individual Performance

According to Pradhan and Jena (2017) explicit work behavior that includes the fundamental job responsibilities given as part of the job description is performance in the form of duties. Task performance requires more cognitive abilities and is also imparted through task knowledge (technical knowledge required to ensure job performance and the ability to multitask), task skills (technical knowledge to complete tasks successfully with minimal supervision), and task habits (abilities that can support or hinder performance in response to an assigned job).

Performance is the success achieved by employees in carrying out their jobs. Performance is the final result of employees who are shown based on their role in an organization. In carrying out work, several things are needed including skills, knowledge and abilities that exist in individuals (Vipraprastha and Sari, 2016).

Individual performance is a result or achievement of individual performance which is the target of a goal that must be achieved (Suratini, 2015). Individual performance is an achievement of tasks using supporting information technology. Utilization the right information technology system can provide positive benefits for individual performance (Sugiartini, 2016).

Individual employee performance appraisals are increasingly important when companies are repositioning employees. With the accounting information system, this can make it easier for companies to find out the right performance and position for their employees.

4. Model and Hypothesis

Research Model

This study model discusses the relationship between user technology capabilities that affect individual performance with the effectiveness of accounting information systems as a moderating variable. This model can be seen in the following figure 2:
Hypothesis Development

a. Effect of User Technology Capability on Individual Performance

Alannita and Suaryana (2014) in their research found evidence that the individual performance is positively influenced by the technical ability of the user. Self-confidence theory explains cognitive processes as one of the self-confidence processes that affect human function (Bandura, 2010). This process includes the individual's ability to analyze and express ideas. The abilities possessed by employees will increase self-confidence. This has an impact on the use of information systems where the ability to operate the system is required by users. Accounting information systems usage in organizations requires computer users to be able to improve their ability to use computers (Sari and Ratna, 2016). Users who are proficient and understand the system will have an effect on the resulting system performance. The following hypothesis can be formulated according to the previous description.

\[ H_1: \text{Technological capabilities of the users on individual performance at Batik Trusmi MSMEs have a positive and significant effect.} \]

b. Effectiveness of Accounting Information Systems that Moderate the Effect of User Technical Capabilities on Individual Performance

Suardikha (2013), states that effect of the effectiveness of accounting information systems on employee performance has not been able to be improved by computer user skills and physical comfort. Alannita and Suaryana (2014), Widyasari and Suardikha (2015) study also state that individual performance is positively influenced by the technical ability of the users of the accounting information system. The following hypothesis can be formulated according to the previous description.

\[ H_2: \text{Accounting information systems effectiveness able moderating the effect of user technology capabilities on individual performance in Batik Trusmi MSMEs.} \]

5. Research Method

This research is an explanatory study which aims to explain impact of the variable of independent (user technology capability) on of variable dependent (individual performance) which is moderated by accounting in the information system effectiveness. This quantitative research is used to emphasize more on theory testing by measuring the research variables numerically and analyzing data using statistical hypothesis testing procedures. There were 141 employees from 47 MSMEs Batik Trusmi in Cirebon, West Java, Indonesia who were sampled in
this study. Questionnaires were distributed to collect data from respondents using a scale rating of questions from 1 to 4. The data were processed using Moderated Regression Analysis (MRA).

6. Result and Discussion

Result
Table 1 below shows the results of the statistical analysis of the study.

Table 1. Moderated Regression Analysis (MRA) Result

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-1.327</td>
<td>1.224</td>
<td>-1.085</td>
</tr>
<tr>
<td>X1</td>
<td>.441</td>
<td>.117</td>
<td>.376</td>
<td>3.767</td>
</tr>
<tr>
<td>X2</td>
<td>.369</td>
<td>.044</td>
<td>.583</td>
<td>6.425</td>
</tr>
<tr>
<td>X1X2</td>
<td>.009</td>
<td>.004</td>
<td>.272</td>
<td>2.225</td>
</tr>
</tbody>
</table>

Table 1 shows the positive and significant effect of user technology capability on performance of individual in Batik Trusmi MSMEs. It can also explains that accounting information system become a moderation variable.

Result of Hypothesis Testing

a. Effect of User Technical Capability on Individual Performance
Based on Table 1, the probability value is significance or sig. is 0.000 or less than 0.05 (5%). In addition, the table also shows a positive regression coefficient of 0.441. Thus, it is proven that the hypothesis states that individual performance is positively influenced by the technological capabilities of users at Batik Trusmi MSMEs.

b. Accounting Information Systems Effectiveness that Moderating Effect of User Technical Capabilities on Individual Performance
The results of the Moderated Regression Analysis (MRA) test in Table 1 show that the probability value is significance or sig. 0.028 or less than 0.05 (5%). In addition, the interaction regression coefficient value between the user's engineering capabilities and the accounting information system effectiveness is 0.009. These results indicate that it is proven that the hypothesis of effectiveness accounting information system effectiveness is able to moderate the effect of the user technology capabilities on performance of individual at Batik Trusmi MSMEs.

Discussion

a. Effect of User Technical Capability on Performance of Individual
Hypothesis one (H1) on this study results can be accepted that the user's technology capabilities have a positive influence on individual performance at Batik Trusmi MSMEs. This positive effect means that there is a relationship between the user's technology capabilities and individual performance. The higher the user's technology capabilities level, the higher the performance of the individuals in the company. UMKM Batik Trusmi, which has employees as users, can take advantage of the accounting information system technology so that the resulting information is received in a timely, accurate and reliable manner. This can improve the performance of the Batik Trusmi UMKM itself.

Study of Alamita and Suaryana (2014) support this study result who found evidence that the user technology capability had a positive impact on performance of individual. These are also in accordance with the research results of Sari and Ratna (2016) which concluded that the ability to operate a system by a user is needed. Accounting information systems usage in companies’ involves computer users to improve their ability to use computers. Users who are proficient and understand the system will have an effect on the resulting system performance.

In addition to supporting these two studies, this study result also support the self-confidence theory as proposed by Bandura (2010) which explains that cognitive processes are a process of self-confidence that affects human function. Where the cognitive process includes the individual's ability to analyze and express ideas. The abilities possessed by employees can increase self-confidence which will have an impact on using of information systems.

b. Accounting Information Systems Effectiveness that Moderate the Effect of User Technical Capabilities on Performance of Individual
Hypothesis two (H2) on this study results can be accepted that the effectiveness of accounting information system is able to moderate the influence of the user's technology capabilities on performance of individual at Batik Trusmi MSMEs. The results support the research findings of Alannita and Suaryana (2014) as well as the results from Widyasari and Suardikha (2015) study which found that the technical capabilities user of accounting information system have a positive influence on individual performance, so that this can improve performance of individual driven by accounting information system effectiveness.

The study results also support Yullian’s opinion in Setyawan (2013) which states that accounting information systems users can encourage better information system performance. Information system performance can run well if users can understand, use, and apply technology to be useful information for decision making, so that company goals can be achieved and individual performance is good. This is supported by Javed, et. al., (2010) which states that entrepreneurship education can continue in family companies. This has a big impact for the company to develop properly. Thus, knowledge of the application of information systems is part of entrepreneurship education that can make MSMEs grow and develop better.

Therefore, in order to produce the best information for accurate planning reports, the technical ability of individuals as users of information systems also plays an important role in the development of information systems. Employees in the company must be able to master the use of computer-based systems in order to process them. The effective use of information systems will allow a number of transactions to be quickly and easily recorded, can store data and retrieve large amounts of data and are integrated, can reduce mathematical errors, can produce reports in various forms in a timely manner, and can be an effective and efficient of decision-making tool.

**Conclusion, Limitation, and Recommendations**

**Conclusion**

Conclusions can be drawn from the analysis of this study results.

a. The user technology capability has a positive effect on performance of individual in the Batik Trusmi MSMEs.

b. The accounting information system effectiveness was able to moderating the effect of user technology capabilities on performance of individual in Batik Trusmi MSMEs.

**Limitation**

Further research on this issue is expected to overcome the limitations of this research. This research only investigated variables from the employee side of the Trusmi Batik MSMEs, while the management side such as management support and supporting equipment/tools was not examined.

**Recommendation**

As for the suggestions that can be promoted as follows:

a. For Batik Trusmi MSMEs, it is hoped that they will continue to evaluate accounting information system effectiveness which can be used accordingly with technological developments so that they can compete in providing fast service to customers and can increase the productivity of Batik Trusmi MSMEs.

b. For UMKM Batik Trusmi, it is better if they provide training to their employees, especially in accounting information system education and training programs to improve employee skills so that the accounting information system can be effective and individual performance can achieve higher performance of Batik Trusmi MSMEs.

**References**


