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The Role of Technology Acceptance Based on the TAM Model in the Use of Technology in Home Embroidery Businesses

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Abstract*– *Advances in technology can be applied or utilized to streamline the production process, making it easier for embroidery manufacturers to make a product. One theory about the use of technology that is very influential is the Technology Acceptance Model (TAM). This study aims to identify the role of technology adoption using Technology Acceptance Model (TAM) analysis in the home embroidery industry in Tarunajaya Village, Sukaraja Tasikmalaya District. This type of research is a quantitative approach research with positivistic method and associative descriptive approach. The sample in this study is border entrepreneurs, totaling 168 people, obtained by incidental sampling technique. Data were collected using a questionnaire and then analyzed using product moment correlation. The results of the study found that the Perceived usefulness factor had on the actual system use with a value of 0.000. Perceived case of use on the actual system use with ap value of 0.000. Attitude toward Behavior on actual system use with ap value of 0.000. Intention to use on the actual system use with ap value of 0.000. The conclusion of this research is that the variables that affect the actual system use include Perceived usefulness, Perceived case of use, Attitude toward Behavior, Intention to use.
Keywords: Technology Adoption, Home Industry, TAM.

I. INTRODUCTION

The increase in the economy also encourages the increase in people's purchasing power, people's consumption patterns in various business fields including the fashion world such as in the purchase of Muslim clothing. Seeing this, embroidery companies that produce Muslim clothing have also developed so that they strive to achieve success in maintaining competition in trying to achieve goals by creating quality products [1] .

The development of embroidery companies in an industry is inevitable, the number of embroidery convection companies in Java is the largest compared to other provinces. This is one of the impacts of the development of technology in the textile sector [2]. Likewise, the home industry embroidery convection business in Tasikmalaya Regency is the largest compared to other industries.

The following is data on the potential of the embroidery industry in Tasikmalaya Regency:

Table 1. Industrial potential data for Tasikmalaya Regency 2020

No	Featured Commodities	Business Unit	Labor
1.	Embroidery	2,806	22,368
2.	Processed Food	2.117	22.139
3.	Wood Crafts	598	1,804
4.	Metal processing industry	323	1,664
5.	Non-metal mining industry	885	6.298

Source: BPS 2020

The results of the analysis of the table above show that embroidery companies are ranked first with 2806 business units spread across 40 sub-districts in Tasikmalaya Regency. The embroidery industry in Tasikmalaya is growing quite rapidly and absorbing the most workers, reaching 22,368 people, while for food processing there are 2117 business units absorbing 22,139 workers [3].

Technology as a factor that plays a role in the production process. The existence of technological changes also affects the output produced by the industry. Companies that are able to utilize technology (technology adoption) in the production process will make the production process easier and faster, so that the output produced will increase [3] . Technology adaptation namely all resources used in the production process to the maximum with the help of the application of technology (technology

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adaptation) by providing improvements in production results, so that technology has a positive effect on production results [4] . Advances in technology that can be applied or utilized to make the production process more efficient, making it easier for embroidery producers to make a product. This is also felt by companies producing products that are directly related to various innovations.

Technology Acceptance Model (TAM) was developed to explain why users accept and reject new technologies. Based on a person's positive or negative feelings when having to perform a certain behavior, and behavioral intention is a person's desire to perform a behavior, while behavior is actual use [5] .

The technology used is believed to be able to help individuals and organizations in optimizing performance and behavior that encourages increased performance. The application of technology requires information on the level of user adoption of the technology, so that it can convince entrepreneurs to utilize technology as an effort to increase production [6] .

Thus, the adoption of technology as a decision based on choice contains the risk that if choosing to use new production machines (for example computer-based technology), it must require workers to improve their skills, or some workers whose roles can be replaced by skilled workers according to production needs.

II. LITERATURE REVIEW

2.1 TAM Model

The success of a new technology system depends heavily on the level of user acceptance, and lack of acceptance can be a major barrier. A user is often unwilling to adopt a technology, even though the system benefits his performance. The acceptance model, the intention to behave is a major factor in the success or failure of a technology [7] .

TAM was developed into a model that has a primary focus on adopting new technology in an organization, community, company or in a broader context, technological development in a country for more advanced market development and economic growth [8] .

The development of TAM is designed to predict the adoption of the use of technology applications in the organization where work is carried out, many researchers have modified the original model to explain many needs. The TAM model to see the acceptance of computer technology users where the use of technology is determined by behavioral interests, where behavioral interests themselves are determined from attitudes towards behavior and perceptions of usefulness [9] . The most important management function in determining profit is planning for all company activities that will be carried out [7] .

2.2 Home Embroidery Business

Production is an activity related to the creation of goods and services. The term production tends to be associated with factories, machines, or assembly lines because initially techniques and methods in production management were used to operate factories or other activities [10] . The production process is a way, method or technique to increase the usefulness of goods and services by using existing production factors. These goods and services are the result of a combination of production factors with the goods and services produced from them which are stated in the production function.

There are various types of production processes when viewed from various aspects. The production process seen from its form is divided into chemical processes, shape change processes, assembling processes, transportation processes and administrative service creation processes [11]. The production process seen from the flow of raw materials to the final product is divided into two, namely Continuous production processes and Intermittent production processes.

The strategy in designing embroidery products starts from planning motifs inspired by nature, the internet and traditional motifs, usually the most frequently used motifs are naturalistic and geometric motifs. The advantages of embroidery with a computer embroidery machine are neatness and meeting mass production requirements. However, the results of embroidery with a computer embroidery machine must still pay attention to the accuracy of the machine operator and the punching film maker in making knitting arrangements, stitch density (jumping, satin, tatami, etc.) [12] .

Embroidery machine operators should also be able to understand the materials or media to be embroidered, such as embroidering t-shirts, diadora, lacosta, in this case paying attention to the use of hard fabrics so that wrinkles do not occur.

III. RESEARCH METHODS

Quantitative research methods are called positivistic methods because they are based on the philosophy of positivism. This method is a scientific method because it meets scientific principles, namely

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concrete/empirical, objective, measurable, rational, and systematic. This method is also called a confirmatory method, because it can be used for proof/confirmation [13] .

Based on the type of research, it is an associative descriptive research. Based on the time of research using cross sectional , where the collection of independent and dependent variable data is carried out at the same time and the object is studied only once [14] . The sample is part of the number and characteristics possessed by the population. Sampling is a statistical practice related to the selection of individual observations aimed at achieving research targets [15] . The sampling technique uses Non-probability sampling, where each member of the population has the opportunity to be sampled.

The instrument used in this study was a questionnaire. The researcher in this study distributed questionnaires to home embroidery industry entrepreneurs who were considered to be able to represent the objects studied . Before the respondents filled out the questionnaire , the respondents were first given informed consent as a sign of willingness to become respondents [16] . Before the respondents filled out the questionnaire, the respondents were first given informed consent as a sign of willingness to become respondents.

The technique of analyzing each statement or indicator, calculate the frequency of each answer for each category (answer choices) and add them up. After each indicator has a total, then make a continuous line.

IV. RESULT AND DISCUSSION

This indicates that the respondents' assessment of the usefulness of computer-based border machines is very good. Respondents considered that the border machine is very useful to support the production process. Based on the results of the path analysis, the magnitude of the influence of the sub-variable of technology adoption on actual system use can be seen in the following chart:

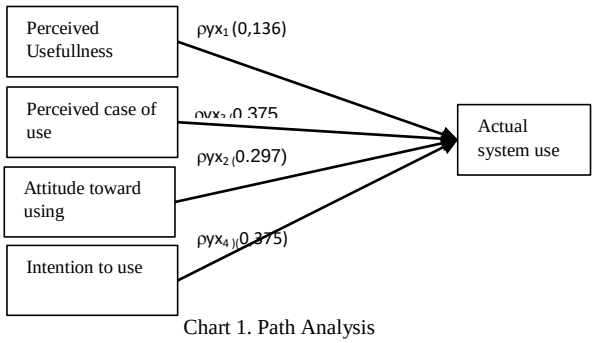

Chart 1. Path Analysis

Based on the data in chart 1, it shows that:

1. The large influence of perceived usefulness on the actual system use of computer-based border machines in the home border industry is 0.136.
2. The large influence of Perceived case of use on the actual system use of computer-based border machines in the home border industry is 0.297
3. The large influence of Attitude toward Behavior on the actual system use of computer-based border machines in the home border industry is 0.375
4. Big influence of Intention to use against the actual system use of computer-based border machines in the home industry border of 0.375.

Table 1. Correlation Coefficient

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.969 [a]	.939	.938	.179

a. Predictors: (Constant), Intention toward, Perceived Usefulness, Perceived case of use, Attirtude toward Behavior

Source: Processing results, 2025

Based on the results of the correlation test, the influence of technology adoption on actual *system use* is 0.969, meaning that both relationships are strong, while the correlation coefficient obtained an r square value of 0.939 (93.9%), actual system use is influenced by technology adoption and the remaining 6.1 is influenced by other factors that were not studied. The higher the perceived usefulness then the actual system use will be better, and conversely the lower the perceived usefulness then it will have an impact on decreasing interest in using this technology.

Technology Acceptance Model (TAM) provides ease of use as one of the variables tested in the TAM model. Percieved ease of use is defined as the belief in ease of use, which is the level at which users believe that the technology/system can be used easily and without problems [17] . The intensity of use and interaction between users and the system can also indicate ease of use [18] .

The components of the attitude are emotions or feelings towards a particular product or brand that have an evaluative nature; namely, they include a person's assessment of the object of the attitude directly and comprehensively (whether the product is liked or not, or whether the product is good or bad) [19] . Interest is something that arises after receiving

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stimulation from the product that is seen, then there is an interest in trying the product and finally there is a desire to buy and be able to have the product [20] .

V. CONCLUSION AND SUGGESTION

Based on the results of the study and discussion on the Role of Technology Adoption Using Technology Acceptance Model (TAM) Analysis in the Home Embroidery Industry, it can be concluded that perceived usefulness influences the actual system use of computer border machines in the Home Embroidery Industry. Furthermore, intention to use influences the actual system use of the application of computer border machines in the Home Border Industry. The suggestions in this study are that other researchers who are interested in the same topic are advised to conduct further research using broader and more complex variables, and than have your novelty.

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