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Analysis of Non-Cash Payment Systems (E-Money) on MSME Transactions Using Analytical Hierarchy Process (Ahp) Approach

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Abstract

Non-cash transactions in Indonesia are still low, one of which is triggered by the low involvement of small and medium enterprises (SMEs) retail in Indonesia who have not implemented non-cash transactions in their business environment. This study aims to analyze factors supporting the implementation of non-cash transactions in retail SMEs. The method used in this research is by Analytical Hierarchy Process (AHP) approach. The results of the study found that non-cash transactions implementation can be improved by maximizing potential carrying capacity: (1) Speed, (2) Security, (3) Efficiency / Practice, (4) Value of money, and (5) Government program. The main supporting factor that gets the highest priority is efficiency or practicality of 23%

Keyword : Non-Cash Transactions, AHP, SMEs

INTRODUCTION

Indonesia still ranks at the bottom of the percentage of non-cash transactions. According to BI's records, there were 48,000 transactions with a value of IDR 1.4 billion per day in 2009. It must be realized that payments through cash transactions have many disadvantages in non-cash payments. Some of the disadvantages of cash payments are as follows: (1) Less practical (2) Longer transaction time (3) Risk of counterfeit money (4) The value of money is not well maintained (5) Less safe. Several attempts have been made by stakeholders to spur an increase in non-cash transactions, one of which is by Bank Indonesia as the Central Bank in Indonesia. One of the programs that has been implemented is the declaration of the National Non-Cash Movement (GNNT) on August 14, 2014 by the Governor of Bank Indonesia Agus D.W. Martowardjoyo[1]. The declaration of this movement is a refresher of Government Regulation No. 82/2012 concerning the Implementation of Electronic Systems and Transactions in Digital Financial Services. Through GNNT, it is hoped that it can accelerate the use of non-cash payment instruments that have been strived for by Bank Indonesia from several previous years. Several activities have been undertaken to encourage the use of non-cash payment instruments, including facilitating the use of electronic money in the public transportation sector, such as TransJogja, TransSolo, and TransJakarta. Some of the GNNT strategies currently being implemented are as follows: (1) Establishment of Non-Cash Areas in Campus Environments; (2) Non-Cash Payment Instruments for Government Financial Services; (3) Distribution of Government Social Assistance. The three GNNT strategies that are being promoted still revolve around the top and lowest

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layers of society[2]. The top layer is non-cash policies on campus and government, while the lowest layer is assistance to the less fortunate (government social assistance). So there is one thing that is forgotten by policy makers that there is still a connecting level or middle level that makes this policy "discontinuous", namely strategic attention at the SME retail level[3]. It must be realized that Indonesian retailers play an important role in the penetration and expansion of the central and contingent non-cash transactions of the program. Retail directly touches all Indonesian consumers. SME-based retailers represent a huge potential for the development and expansion of non-cash financial transactions in Indonesia. It takes a big effort to encourage the community to make non-cash transactions, but without the support of adequate instruments and the role of the community, this program will be difficult to develop quickly and optimally[4]. One of the activities that can be used to support GNNT is the implementation of a non-cash payment instrument in the form of an EDC (Electronic Data Capture) machine in the retail sector Small and Medium Enterprises (SMEs). Based on a study by McKinsey (2013), the number of retail non-cash transactions in Indonesia has only reached 0.6%, while for Thailand 2.8%, Malaysia is 7.7% and Singapore has reached 44.5%. This is homework as well as a huge challenge for stakeholders to accelerate the growth of non-cash transactions in Indonesia. Seeing that Indonesia's economic growth of 5.0% is still relatively high among ASEAN 5 countries, namely 4.7% non-cash payment systems in Indonesia must also be spurred to catch up. The real problem in the SME community is that there are very few SME players who install or implement the use of EDC (Electronic Data Capture) in their business environment[5]. This of course greatly hampers the growth of transactions involving the wider community[6]. On the one hand, according to BPS, the number of SMEs in Indonesia is the largest number of SMEs compared to other countries, namely 56,534 592 MSME players in 2012. By contributing 58.92 percent of PBD and contribution in employment of 97.30 percent. The number of workers from BPS released by the Ministry of Cooperatives and SMEs showed an increase of 6.03% from 107,657,509 in 2012 to 114,144,082 in 2013. If these entrepreneurs and the SME community are empowered, they can certainly increase and optimize GNNT through non-cash transactions. very large both in number and frequency[7]. For large companies (Large Entrepreneurs) the use of non-cash transactions does not have any significant problems because of the demands for the use of advanced technology, but for Small and Medium Entrepreneurs or Small and Medium Enterprises (SMEs) implementing and installing EDC machines is still very rare, moreover. in a small town[8]. There are many factors that prevent UKM managers from implementing it, which causes the community to potentially not conduct non-cash transactions. Under these conditions, it is necessary to conduct research to identify and analyze the factors that hinder implementation and installation EDC

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machines in a retail SME environment. Research is also needed to determine competitive strategies based on a wide variety of viewpoints, based on an analysis of internal and external conditions. This study aims to find an effective competitive strategy model based on the Analytical Hierarchy Process (AHP)[9]. AHP is used to determine the weight of each of the supporting factors for the development of EDC implementation in retail SMEs, so that the most important factors or problems can be seen (having the highest weight). So that in this study the research problem is formulated in the form of: What are the most dominant main supporting factors that cause SMEs to want to install and implement EDC machines in their business environment. AHP is a multi-criteria decision support system developed by Saaty (1980, 1990) that allows decision makers to structure complex problems in the form of a hierarchy. The first level of the hierarchy is the goal. In this case, the aim is to evaluate it effectively. The second level includes criteria, relevant criteria needed to evaluate including drug costs, benefit design, service programs to help cover employees, administration and distribution, and employee / retiree assessments [10]. The AHP method helps solve complex problems by structuring a hierarchy of criteria, interested parties, results and by drawing various considerations to develop weights or priorities. This method also combines the power of feeling and logic concerned about various issues, and then synthesizes various judgments in the results according to our intuitive estimates as presented in the considerations that have been made. [11].

METHOD

This research is a survey research with qualitative and quantitative approaches. The location of this research is in the Padang, West Sumatera. Data sources are secondary data and primary data. The method used is through semi-structured interviews. The method of collecting the respondents is through filling out a questionnaire that has been prepared. Secondary data were obtained from available data from both Bank Indonesia and other available data sources. Primary data is obtained directly from respondents who are experts, employees or promotion officers of EDC implementation from banks to determine the factors of constraints level one and level two of EDC implementation in retail SMEs. The method used to obtain data from these respondents was through semi-structured interviews. Another respondent is the owner / manager or head of retail SME shops who have implemented EDC to determine preferences for the high level of constraints. The method of collecting the respondents is through filling out a questionnaire that has been prepared.

RESULT

The supporting factors and sub-factors have been published by Sutarmin and Adi Susanto (2017) who examined the potential for implementing non-cash transactions. Furthermore, in this study a

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hierarchy is arranged to assist decision making by taking into account all the decision criteria involved in the system. This study uses an analytical hierarchy process, so the questionnaire used aims to compare each of the supporting and inhibiting factors. The scale used is currently's scale 1-9 with the following explanation.

1 = equally supportive / hindering, which means that the two factors being compared have the same weight in supporting / inhibiting the use of EDC machines in Retail SMEs in Banyumas Regency.

3 = Slightly more supportive / inhibiting, which means that one of the factors that is compared to has a weight is slightly more supportive / inhibiting than the other factor.

5 = Somewhat supportive / inhibiting, which means that one of the factors that is compared has a somewhat more supportive / inhibiting weight than the other factor.

7 = Far supports / hinders, which means that one of the factors that is compared to having weight is far more supportive / inhibiting than the other factor.

9 = Absolute is more inhibiting, which means that one of the factors compared to having absolute weight is more supporting or inhibiting than the other factor.

2,4,6,8 = is the middle value if the respondent is hesitant in determining the scale, for example at 4 where the respondent is hesitant to decide between a scale of 3 and 5.

By using this scale of comparison, the matrix based on the respondent's answer is a reciprocal or inverse matrix. For example factor A is more inhibiting than factor B with a weight of 7, then factor B has 1/7 more inhibiting than factor A

Pairwise Comparison

The next step is to create a pairwise comparison matrix based on the respondent's answer. The pairwise comparison matrix form in this study is divided into 2 main factors, namely supporting factors and inhibiting factors. The main supporting factor has 6 sub-factors in it, each of which is also made a pairwise comparison matrix, namely speed, security, efficiency / practicality, value for money and government programs. As for the main inhibiting factor, it has 5 sub-factors. namely procedural and administrative problems, cost issues, machine and technology problems, problems flexibility as well as environmental concerns. Each of the sub-factors of Even this inhibiting factor is made a pairwise comparison matrix.

The results of the weight calculation of the supporting factors are presented in the pie the diagram as follows :

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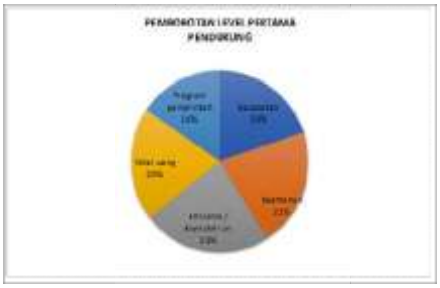

Figure 1 Weight of Supporting Factors

Meanwhile, the results of the calculation of the weight of the supporting factors and their sub-factors are summarized in the following table.

Table 1. Weighting First and Second Level of Supporting Factors

Level Pertama		**Bobot Final**	**Level Kedua**	
Faktor Pendukung	**Bobot**		**Sub Faktor Hambatan**	**Bobot (%)**
Kecepatan	0,2932	0,1992	One swipe from each transaction	0,0584
	0,2205		No need to organize money	0,0439
	0,2361		No need to calculate money	0,0470
	0,2500		Faster transaction time	0,0498
keamanan	0,2785	0,2119	There is evidence of transactions	0,0590
	0,2226		No one's stolen / robbed	0,0472
	0,2292		No I lost it	0,0486
	0,2696		There are no fakes	0,0571
Kepraktisan	0,2228	0,2324	It is not necessary to bring in much cash	0,0518
	0,1816		No need for cash refund	0,0422
	0,2298		Payment is in accordance with the transaction amount	0,0534
	0,2060		No need to take / deposit money at the bank	0,0479
	0,1595		Cashless payment for the discount	0,0371
Nilai Uang	0,3915	0,2017	Maintain no inflation	0,0790
	0,3233		Get interest or service	0,0652

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	0,2851		Possibility to get a raffle prize	0,0575
Program Pemerintah	0,4276	0,1548	Support the GNNT government program	0,0662
	0,2520		The circulation of cash is reduced	0,0390
	0,3203		Economic effect multiplier	0,0496
Jumlah	**5,0000**	**1,00**	**Jumlah**	**1,0000**

Based on the weighting table of the supporting factors and sub-factors above, the following is the discussion sorted based on the amount of weight obtained.

1) Practicality

The result of weight calculation, the practicality factor has the greatest weight, which is 0.2324 or 23.24%. There are 4 sub-factors of this practicality factor, namely no need to carry a lot of cash, no need for change of change, payment according to the number of transactions, no need to take or deposit money at the bank and payment to vendors. Of the five sub-factors, the one with the highest weight at the second level is the payment sub-factor according to the number of transactions with a weight of 0.534 or 5.34%

2) Security

The factor that ranks second in terms of supporting the use of EDC machines in Retail SMEs in Banyumas Regency is security weight of 0.2119 or 21.19%, although security is the second ranking supporting factor, there is evidence that transaction evidence is the sub-factor that has the greatest weight in the second level of the hierarchy. This means that the sub-factor with evidence of transaction is the most dominant sub-factor supporting the use of EDC machines in retail SMEs with a weight of 0.2785 or 27.85%.

3) Value for Money

The supporting factor of the value of money has a weight of 0.2017 or 20.17%. This money value factor has a sub-factor of being not affected by inflation with a weight of 0.3915 or 39.15%, getting interest or services with a weight of 0.3233 or 32.33% and the possibility of getting a lottery prize with a weight of 0.2851 or 28.51%.

4) Fasting

The speed factor is a supporting factor in the fourth rank with a weight of 0.1992 or 19.92%. The sub-factor that has the most weight in the Speed factor is One swipe of each transaction with weight 0.2932 or 29.32%. Meanwhile, the faster transaction time sub-factor has a weight of 0.2500 or 25.00%, the sub-factor does not need to count money with a weight of 0.2361 or 23.61% and the sub-factor does not need to organize money has a weight of 0.2205 or 22.05%.

5) Government Programs

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The supporting factors for government programs are the factors with the smallest weight, namely 0.1547 or 15.47%. The sub-factor of the government program is Supporting the GNNT government program. The sub-factor of the GNNT government program has the greatest weight, namely 0.4276 or 42.76%. The second sub-factor is the Multiplayer Securities with a weight of 0.3203 or 32.03% and the third sub-factor is reduced cash circulation with a weight of 0.2520 or 25.2%.

CONCLUTION

Based on this research, the results show that the implementation of non-cash movements can be increased by paying attention to potential supporters in the form of: (1) Speed, (2) Security, (3) Efficiency / Practicality, (4) Value for money, and (5) Government programs. Based on the research conducted above, it is known that the main supporting factor that gets the highest priority is efficiency or practicality as large as 23%. Stakeholders can consider the strategy of increasing their non-cash implementation by prioritizing efficiency or practicality and trying to suppress the environmental problems of the retail SME business that are not yet supportive.

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