

Original Article

The Barriers Switching to Cashless: Study towards Baby Boomer in Central Java

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Received Date: 23 April 2023

Revised Date: 05 May 2023

Accepted Date: 09 May 2023

Published Date: 12 May 2023

Abstract. *The baby boomer relatively stuttering towards digital media and digital devices. Considering that the baby boomer contributed to the acceleration of the Less Cash Society, the barriers to cashless need to be investigated. The main problem is how to accelerate baby boomer in Central Java to switch to cashless. The aims of the study are to determine the barriers factor for baby boomer in Central Java to switch to cashless and to design an acceleration strategy baby boomer in Central Java switch towards cashless payments. Collecting data using google form and factor analyzing used as a tool for analyzing data. We discovered there are four factors as barriers. The first factor is limitations on skills using cashless devices and internet networks (the usage barriers); the second factor is limitations in transactions and dependence on the internet (the risk barriers); the third factor is digital crime (the crime barriers); the fourth factor is limited social interaction (image barriers). The acceleration strategy are the government needs to expand the internet network to villages in Central Java, continuously campaigns for cashless payments especially for baby boomer, educate and protect baby boomers against digital crimes.*

Keywords: *Baby Boomer, Barriers, Cashless, Digital.*

I. INTRODUCTION

The new corona virus (Covid-19) has had a negative impact on all aspects of human life. People now follow new customs including donning masks, washing their hands, keeping their distance, avoiding crowds, and ceasing to leave their homes. Covid-19 pandemic also led worldwide to decline on economic output [1]; reduction in the marginal propensity to consume [2]; switching to cashless transaction because they believe that using cash payment present a higher risk of infection [3]. The World Health Organization, known as the WHO, urges to change the method of non-cash payments because the corona virus can live on the surface of money. Numerous studies have examined the potential connection between handling real money and COVID-19 infections. The results showed that SAR-COV-2 can survive on the surface of banknotes and coins for several days [4]. SAR-CoV 2 durability on cash surface for 4 days [5];[6]. At 40 C, the virus was detected on a \$1 bill for 90 hours and for 72 hours on a \$20 note [7]. This shows that there is a correlation between physically holding cash and COVID-19 infection [8]. The condition makes some people perform switching behavior in payments. Switching the payment method from cash payment to non-cash payment.

The shift in payments is strongly supported by the development of information technology that presents smart phones and the internet greatly contributing to people's lifestyles. These products have provided utility and progress for people not only to communicate and also transact. On the other hand, the method of payment in cash shifted to non-cash along with the development of the internet and the emergence of e-commerce. In macroeconomics, non-cash payments give positive values such as increased tax collection, stopping leakages in the public distribution system, low costs of storing and processing physical currency. People favour these various payment methods largely because they are handy, simple to use, time-saving, require no visit to a bank branch, involve cashless transactions, eliminate the worry of losing cash, offer service 24x7, allow access to banking services even outside of regular business hours, and are flexible. Along with the benefits, there are a number of restrictions on cashless payment, including the following: Limited internet connections, a lack of financial literacy, a lack of data security laws, difficult instructions, a lack of personnel availability for current information, a lack of trust, and internet blocking [9].

The most crucial characteristics that make consumers more likely to accept new payment methods are those that provide compelling advantages over available alternatives and ease daily living. Universal acceptance, instant, contactless, and open person-to-person payments, one top solution, and ease of use, security, dependability, and speed are the criteria that qualify. cost effectiveness [10]. E-money to be available on a broad range of devices and operating system and also have smart ways to recognizing a payment. It's all user expectation.



The research results related to the reasons for using e-money because e-money provides significant benefits for its users. This digital payment service provides convenience and saves time in transactions (Khan, 2021). E-wallet users' positive views and intents are influenced by perceived utility, perceived usability, lifestyle compatibility, and enabling circumstances [11]. Therefore, e-wallet providers have a responsibility to provide satisfactory services for consumers and traders because they will compare the costs incurred and the benefits gained [12].

The presence of e-money gave birth to a different response in each generation. Digital natives and digital immigrants have different responses in the use of communication technology in various aspects of life. Digital natives are the student who are native speakers of the digital language of digital devices such as computers, video games and the internet. Their daily activities is surrounded by cell phone, video games and all other digital technologies. Digital migrants are those who adopt new technologies in several areas of life. This generation was not born when the digital era came [13]. It is typical to think that digital immigrants struggle with technology. Those who were born before the digital era, such as the baby boomer generation, are referred to as digital immigrants. From a demographic perspective, the baby boom is a reflection of the increase in birth rates after the second world war. The baby boom occurred in 1946-1964 (Phillipson, 2008). The baby boomer generation grew and developed before the era of technological disruption. This situation makes them relatively stuttering towards digital media and digital devices. The majority of baby boomers communicate in person, over the phone, or over email; they hardly ever utilise social media for more official purposes. For baby boomers, non-verbal cues and body language are crucial [14].

The results of the study explain that in essence the baby boomer generation accepts cashless society and welcomes cashless payments positively despite the many difficulties that must be faced [15]. The biggest difficulty that must be faced is how to use a digital wallet and how to anticipate if something goes wrong [16]. Usage obstacles, value hurdles, risk barriers, conventional barriers, image barriers, and information barriers adopted, according to [17], have a substantial association to baby boomers' behavioral intention in Malaysia to accept mobile payment. Value barriers exist when innovation is unable to deliver a strong performance to price value; Usage Barriers are caused by incompatibilities with current habits and the requirement to master new abilities; Traditional barriers appear when an innovation is incompatible with people's existing values and past experiences; image barriers are a perceptual issue that arise out of stereotyped thinking and make life difficult for the innovation. Risk barriers are degrees of uncertainty and potential side effects that cannot be expected, including physical, economic, functional, and social risks. Informational barriers are those that arise from a lack of knowledge about an innovation.

Based on Central Bureau of Statistics, the population of Central Java is 36,516,035 people. There were 18,362,143 men and 18,153,892 women. 18.44% of the population of Central Java aged 55 years and over. The group contributed to the formation of the Less Cash Society. However, Central Java's commitment to the Less Cash Society has not been realized. Data shows that there was a decline in cashless transactions by 25.51% in May 2020 [18]. This situation shows that the people of Central Java have not completely switched behavior in payments.

Considering that the baby boomer have contributed to the acceleration of the Less Cash Society, the barriers to cashless need to be investigated, so that the socialization, education and coaching models can be designed appropriately. The research problem is how to accelerate switching behavior towards cashless in Central Java? Specifically, the formulation of the problem is as follows:

- a. What factors are the barriers for baby boomer in Central Java to switch to cashless?
- b. What strategies should be made so that baby boomer in Central Java switch towards cashless payments?

II. MATERIAL AND METHODS

A) Sampling Method

In this study, Central Java's baby boomer population is the focus. [19] Claims that for the majority of investigations, a sample size of more than 30 and less than 500 is suitable. A correlation research requires at least 30 samples in order to produce reliable results. 100 persons were used as samples for this investigation. Purposive sampling technique and a sampling area are used to take samples gradually. Purposive sampling is a sampling method that is based on predetermined standards to ensure that the sample chosen is pertinent to the research design. The target of baby boomer who become respondents is that they have one or more e-money and have used it. The term "sampling location" describes the place or region that was selected for a study in order to collect the desired data from the target respondents. The sample consisted of 50 respondents from Semarang and 50 respondents from outside the city of Semarang.

B) Data Collection

Questionnaires and observation are two ways to acquire data. The questionnaire is used to collect first-hand information from chosen respondents. It is broken into two parts and has open and closed statements and questions. In the first section, demographic questions about the respondents' profiles are asked, and in the second section, statements or questions about

financial literacy and indicators of literacy determining factors are asked. Responses to the questionnaire are given in one of five possible ways on the Likert scale (scale 1 for strongly opposing and scale 5 for strongly agreeing). The second approach is observation, which aims to see and directly observe the respondents.

C) Data Analysis Methods

Reliability and validity tests as well as factorization analysis are employed as data analysis techniques. Cronbach's Alfa is a test used to gauge reliability. It is a test that assesses the dependability of various categories and entails estimating the proportion of chance or random error-related variance in the scores of various variables. A coefficient of more than or equal to 0.6 is typically seen as a reliable indicator of construct validity [20]. Validity is a metric that shows whether or not an instrument is valid. If an instrument can accurately measure or gather the data for the variables under study, it is regarded as valid. We can use the variance extract measurement to calculate the variance of the indicators extracted by the generated latent construct. The large value of extracted variance suggests that the indicators have been adequately reflected in the constructed latent components. This 0.5 V.E minimal value.

By combining related variables in the same factors, factoring analysis is especially helpful for determining the factors that underlie the variable. In essence, factoring analysis is used to condense data and condense numerous variables into one thing called a factor. Factor analysis procedures can be completed in four steps. Choosing the right variable input factor analysis first. Each variable needs to be associated with the others, and if it is weak, the variable should be eliminated from the factor analysis using the MSA tool or Barlett's test. Second, the first step's approach led to the separation of many variables from several variables. Principal Component and Maximum Likelihood is a common model for factor search. Thirdly, if the factors' contents are still in question, the rotation is used to create factors that are noticeably different from others. Fourth, after the factors are actually created, the next step is to give them names.

III. RESULTS AND DISCUSSION

A) Validity Test

Table 1: Validity Test Result

Variable	Pearson Correlation (R)	R-table	Sig.(2-tailed)	Conclusion
K11	0,905	0,2565	0,000	Valid
K12	0,918	0,2565	0,000	Valid
K13	0,919	0,2565	0,000	Valid
K21	0,870	0,2565	0,000	Valid
K22	0,900	0,2565	0,000	Valid
K23	0,860	0,2565	0,000	Valid
K31	0,868	0,2565	0,000	Valid
K32	0,931	0,2565	0,000	Valid
K33	0,931	0,2565	0,000	Valid
K41	0,934	0,2565	0,000	Valid
K42	0,948	0,2565	0,000	Valid
K43	0,904	0,2565	0,000	Valid
K51	0,900	0,2565	0,000	Valid
K52	0,907	0,2565	0,000	Valid
K53	0,901	0,2565	0,000	Valid
K61	0,898	0,2565	0,000	Valid
K62	0,937	0,2565	0,000	Valid
K63	0,870	0,2565	0,000	Valid

Using the Pearson Product Moment, the questionnaire's validity was examined. The research instrument is deemed to be valid if the chance of correlation is less than 0.05 (5%) and the correlation value is more than 0.30. When the correlation values are greater than 0.30 and the significance level is less than 0.05, the value in Table 1 may be categorised as a good variable.

B) Factoring Analysis

Table 2: Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity

Kaiser-Meyer Olkin Measure of Sampling Adequacy		0.876
Bartlett's Test of Sphericity	Approx. Chi Square	1437.622
	Df	153
	Sig	0.000

In Table 2, the value of the KMO statistic is shown to be equal to $0.876 > 0.6$, indicating that the sample was sufficient and the factor analysis was suitable for the data. At least some of the variables in the correlation matrix have highly significant correlations, according to the Bartlett's Test of Sphericity, which is highly significant at $p < 0.001$. The significance level associated with the test value of 1437.622 is less than 0.05. This suggests that the data set may benefit from a factor analysis.

The next step is to see the results of anti-image matrices. Anti Image Matrices are used to select which variables will be used in factor analysis. The variable that passes the selection if the Measure Sampling Adequacy (MSA) value is > 0.5 . If there are variables that have an MSA value of < 0.5 , then reprocessing is carried out by eliminating these variables. The results of the data processing below show that all the variables used have an MSA value of > 0.5 , namely:

K11	0.897	K21	0.920	K31	0.928	K41	0.929	K51	0.698	K61	0.815
K12	0.884	K22	0.884	K32	0.861	K42	0.916	K52	0.788	K62	0.851
K13	0.904	K23	0.902	K33	0.878	K43	0.883	K53	0.856	K63	0.927

The Communalities table shows whether the factors can be explained by the variables studied or not. Qualification variable that is able to explain the factor if the extraction value is greater than 0.05. Data processing gives results as shown in table 3. All variables had extraction values larger than 0.05. According to the analysis of the data, all variables can be used to explain various elements.

Table 3: Communalities

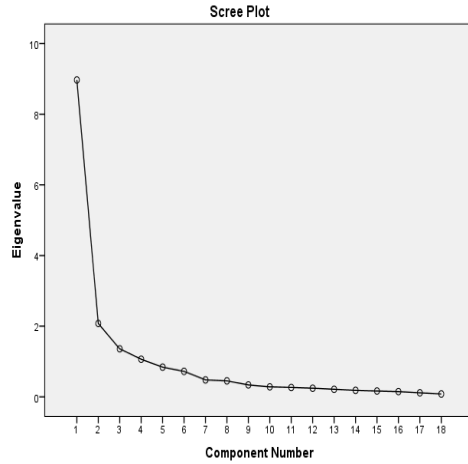
Extraction											
K11	0.657	K21	0.785	K31	0.649	K41	0.704	K51	0.834	K61	0.831
K12	0.753	K22	0.788	K32	0.723	K42	0.702	K52	0.835	K62	0.817
K13	0.828	K23	0.631	K33	0.791	K43	0.697	K53	0.777	K63	0.685

Table 4: Eigen Values (EV) and Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.971	49.838	49.838	8.971	49.838	49.838
2	2.076	11.534	61.372	2.076	11.534	61.372
3	1.358	7.544	68.916	1.358	7.544	68.916
4	1.065	5.917	74.833	1.065	5.917	74.833
5	.840	4.669	79.502			
6	.721	4.008	83.510			
7	.479	2.659	86.169			
8	.451	2.505	88.673			
9	.337	1.875	90.548			
10	.282	1.569	92.117			
11	.266	1.478	93.595			
12	.245	1.362	94.957			
13	.213	1.183	96.139			
14	.184	1.023	97.162			
15	.165	.916	98.078			
16	.150	.831	98.909			
17	.114	.633	99.542			
18	.083	.458	100.000			

Table 5 demonstrate the eigen value dan total variance explained. The extraction approach for factor analysis in this work is called Principle Component Analysis (PCA). 18 linier components are found in the data set and are identified prior to extraction. There are four unique linier components inside the data set for the eigenvalue > 1 following extraction and rotation. The four variables together account for 74.833% of the variance. The result reveals that 4 factors can account for 74.833% of the common variance shared by 18 variables, which must account for at least 50% of the overall variance.

With an eigenvalue of 8.971, the initial components have explained 49.838% of the total variance. With an eigenvalue of 2.076, the second component explains 11.534% of the overall variation. With an eigenvalue of 1.358, the third component explains 7.544% of the overall variation. With an eigenvalue of 1.065, the fourth component explains 5.917% of the overall variation.



A graft is represented in the above figure for the scree test with the eigenvalue on the y-axis and the 18 component members on the x-axis. The largest factors with the highest eigenvalues are the first to be extracted, followed by lesser components. The amount of elements to keep is decided using the scree plot. According to the scree plot, there are four elements for which the eigenvalue is > 1.

C) The Barries Factors for Switching in Cashless

The rotation approach based on varimax with Kaiser Normalisation and the extraction method based on PCA (Principal Component Analysis).In processing the Rotated Components Matrix will ensure the variables that make up the factors. The variable chosen to be a member of the factor is the one with the highest correlation compared to the correlation with other factors. To ensure that a variable is included in the factor group, it can be seen from the value of the largest correlation between the variable and the formed factor (component). The processing results show that there are 4 barries factors that are formed, namely: Factor 1 is formed K11,K12,K13,K41,K42,K43; Factor 2 is formed K31,K32,K33,K61,K62,K63; Factor 3 is formed K21,K22,K23 and factor 4 is formed K51,K52,K53.

Factor 1 limitations on skills using cashless devices and internet networks (the usage barriers); Factor 2 is limitations in transactions and dependence on the internet (the risk barriers); Factor 3 is digital crime (the crime barriers); Factor 4 is limited social interaction (image barriers).

Table 5: Principal Component Analysis- Varimax Rotation of Characteristics

Components		Factor 1	Factor 2	Factor 3	Factor 4
K11	Limitations in using smart phones and the internet.	0.734			
K12	Adaptation to technological developments is low	0.820			
K13	Lack of literacy in using cashless instruments	0.843			
K21	Data theft and illegal use.			0.784	
K22	Unknown transaction notifications			0.818	
K23	The balance decreases even though there are no transactions			0.687	
K31	Unstable signal.		0.628		
K32	The gadget used is problematic		0.567		
K33	There are frequent interruptions to the internet or electricity.		0.557		
K41	Technological developments are still in urban areas.	0.699			
K42	Suburbs have not enjoyed technological developments.	0.741			
K43	Limited financial literacy	0.721			
K51	Physical interaction is very pleasant.				0.906
K52	Socio-cultural conditions in people who feel comfortable using cash for transactions				0.871
K53	Dealing with financial institutions is more physically comfortable.				0.816
K61	Restrictions on balances in e-money.		0.864		
K62	Limited transaction amount.		0.804		
K63	There is an administration fee in the transaction		0.673		

Table 6: Reliability Test

Factor	Cronbach Alpha	Conclusion
Factor 1	0,915	Reliable
Factor 2	0,910	Reliable
Factor 3	0,841	Reliable
Factor 4	0,844	Reliable

Cronbach's Alpha values range which are considered acceptable and recommended by Ghazali is 0.60. Overall Cronbach Alpha for our study was more than 0.06 which was more than acceptable range level. This shows our all reliable for the further research.

D) The Strategy to Accelerate Switching to Cash Less for Baby Boomer

The strategy that needs to be done is as follows:

1. The government needs to expand the internet network to villages in Central Java. The network expansion will increase the flexibility, effectiveness, and productivity of economic activity. Growing and developing economic activity will have an impact on accelerating cashless payments.
2. The government continuously campaigns for cashless payments. Campaigns must be accompanied by digital payment literacy, especially for the baby boomers generation, so that the culture of cash payments will decrease.
3. The government should educate and protect Baby boomers against digital crimes so that they are wiser in using internet media.
4. Baby boomers must realize that currently they live in the digital era. Baby Boomers must be able to adapt to the changes around them so that the mindset that is not suitable in the digital era gradually decreases.

IV. CONCLUSION

According to the discussion's findings, the following can be said:

1. All indicators used to measure the barriers for switching to cashless are valid.
2. The Bartlett's Test of Sphericity is very significant at $p < 0.001$; the test value is 1437.622 and the related degree of significance is less than 0.05. The value of KMO statistics is equivalent to $0.876 > 0.6$. This suggests that the data set may benefit from a factor analysis.
3. When the eigenvalue is > 1 , the data set has four unique linier components. A total of 74.833% of the variation is recovered from the four components. The result reveals that 4 factors can account for 74.833% of the common variance shared by 18 variables, which must account for at least 50% of the overall variance.
4. The first factor is limitations on skills using cashless devices and internet networks (the usage barriers); the second factor is limitations in transactions and dependence on the internet (the risk barriers); the third factor is digital crime (the crime barriers); the fourth factor is limited social interaction (image barriers).
5. The acceleration strategy are the government needs to expand the internet network to villages in Central Java, continuously campaigns for cashless payments especially for baby boomer, educate and protect baby boomers against digital crimes.

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Interest Conflicts

Sri Widiyati, Th.Tyas Listyani Nina Woelan Soebroto, Winarni declare that there is no conflict of interest concerning the publishing of this paper