The Intention To Use E-Money Transaction In Indonesia: Conceptual Framework

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ABSTRACT

The issue of behavioral intention to use electronic transaction is backed up with rapid change in all types of traditional transactions. Electronic money (e-money) exists as new technology for electronic transaction. However, it is still ineffective in Indonesia where majority of the consumer prefer to use manual transaction business in the Bank and using cash notes. This is a potential for crime when they bring a lot of money to the Bank and thus have impact the Indonesian economy. E-money is a stored value or prepaid products that had recorded the funds or value and it can be done in online and offline transaction. Behavioral intention is a process in any type of actual behavior with giving the expression in making decision to the adoption of behavioral intention. This study attempts to explain consumers' intentions to participate in the e-money transaction through the model that integrates the TPB (Theory of Planned Behavior) and the TAM (Technology Acceptance Model). Five major variables or focus of the concept and practice of e-money transaction have been studied in this article. The conceptual framework of e-money transactions were reviewed to understand behavioral intention of consumers from perceived usefulness, perceived ease of use, perceived risks, security and encouraging a learning system transaction. The proposed framework and hypotheses were presented in this article. Quantitative method will be utilized as sources of data collection. A total of one thousand and five hundred respondents will be selected using purposive sampling method in Medan, Indonesia. Descriptive analysis and Multiple Regression analysis will be conducted to analyze the data. The article ended with suggestion for future studies.

Keywords: *E-money Transaction, TPB, TAM, Behavioral Intention, Conceptual Paper*

INTRODUCTION

The innovation in business transaction becomes new technology that strongly impacts on businesses activities (Stewart, 2013). In business transaction, it is important when it involve digital technology because its influence to the system in banking transaction (Fullenkamp and Nsouli, 2004). This becomes a revolution to facilitated electronic transaction as new types of instruments payments that the customers can use by getting the information and communication of the system (Papadopoulos, 2007). It can solve the issue that appear related to demand of money and be substituted for cash, checks, credit/debit cards as current payment media or on deposits and bonds as asset holdings, money supply, and on the practice of monetary policy (Hancock and Humphrey, 1998). Product and services approach by the Bank to use electronic transaction called electronic banking as their channel system and help consumers that previously have access limited to easier access (Basle Committee on Banking Supervision, 1998). However, Bank will have a problem if they still using electronic Banking and not adapting the latest innovation on the financial technology called electronic money (Solomon, 1999).

E-money can help retail payments because it makes the transaction easier and cheaper for consumers and its merchants, but it still in the stage of development that face some challenges (Bank for International Settelements, 1996). E-money or called access products is one of electronic communication that the consumers can use as payment tools. So, the instruction by consumers will transfer the funds (Al-Laham, Al-Tarawneh, and Abdallat, 2009). Bank for International Settlements (2001) explained the e-money products are stored value or prepaid products that had recorded of the

funds or value. It is available to the consumer on a device for any monetary transaction. As the result, e-money becomes electronic money that has monetary value to pay for anything. It is a prepaid instrument and will not involve any bank account in the transaction. Bank Indonesia (2013) had compared between e-money and credit/debit card which revealed that e-money have more advantages such as it is stored and recorded in card or instrument, owner authority and can be done in offline transaction while the credit /debit card has no recorded in card/instrument, fully controlled by Bank and only online transaction.

E-money in Indonesia supposed to be launched in 1999 but it delayed due to the economic crisis (Bank for International Settlements, 2000).In 2009, e-money was already licensed from Bank Indonesia based on Bank Indonesia Regulation No.11/12/PBI/2009 regarding electronic money and Bank Indonesia Circular Letter No.11/11/DASP. Bank for International Settlements (2004) reported security of electronic money that was launched in August 1996 is designed to protect risks by using a security code called PIN to reduce potential crime on account. This give advantages to the account holder because e-money transactions have access using a PIN or PASSWORD (Olalekan, 2011).In the case of e-money, the individuals' intentions to use the Internet for on-line transactions should be considered because they will accept it as refers to perceived usefulness and perceived ease of use in the TAM (Technology Acceptance Model) constructs (Davis, 1989 as cited in Al-Gahtani, 2010). TAM was used widely to understand the behavioral intention in electronic transaction as part of electronic commerce (Tong, 2010). The perceived ease of use and perceived usefulness are the main factors to explore the attitude and behavioral intention of customers in the TAM theory (Alagoz, and Hekimoglu, 2012).

Venkatesh and Davis (2000) in Tero et.al (2004) investigated the model TAM 2 which was introduced as the second generation by the original TAM to explain how subjective norms and cognitive instrumental processes affect perceived usefulness and intentions. TAM 3 was an improved version of TAM 2 theory which incorporated the others factors such as gender and age factors (Stewart, 2013). However, the consumer's behavioral intention becomes one of important factors that will be influence the role in consumer behavior (Khaled, 2013). Featherman and Pavlou (2003) in Martins, et al. (2013) explained that the perceived risk as one of the important thing to be consider when consumers use e-service. Lee (2009) found there are five of perceived risks when the customers perform the online Banking transactions. They have to accept uncertainty risks or called perceived risks such as security/privacy risk, financial risk, social risk, time/convenience risk, and performance loss that still need to investigate further when customers use the e-money transaction.

Based on that particular issue, further analysis should be incorporated in this study. First, is there would be a demand for e-money since online Banking in Indonesia still not being widely accepted by Indonesian consumer? Second, the most studies measure security and behavioral intention limited to the online Banking, specific measurement need to be develop in the e-money transaction. Third, most of the previous research only investigates perceived risks for the customer of online Banking; does the result appear to be the same as in e-money? Fourth, e-money is new in Indonesia, does the result in online banking and electronic commerce related to the TAM theory related to perceived usefulness and perceived ease of use will appear significantly the same as in e-money transaction. Therefore, this study aims to: (1) study the consumers' behavioral intention to use e-money transaction (2) examine the relationship of perceived usefulness on e-money transaction, (3) examine the relationship of perceived ease of use on e-money transaction (4) examine the relationship of perceived risks on e-money transaction, and finally (5) investigate the moderating effect of security in e-money transaction.

THEORY AND HYPOTHESES DEVELOPMENT STUDY

Electronic Money (E-money)

The definitions of e-money mentioned that there is no physical cash involved with the third party (Kreltszheim, 1999). These are four main empirical studies focus primarily on system of e-money. One of the most important system given to the e-money is the concept of stored value or prepaid product (Geva and Kianieff, 2002; Allen and Overy, 2005). However, Kreltszheim (1999) emphasized that e-money or sometimes called "e-cash" doesn't need the third party to be involved in the transaction because it can be done directly. Merlonghi (2010) also stated that e-money becomes new innovation as it changed the traditional financial transactions.

The definition of E-money is presented in the Table 2.1 below which explored from four empirical studies.

Table2.1

Empirical Studies on E-Money

Authors	Title	Type of source	Definition
Kreltszheim (1999)	Identifying the proceeds of electronic money fraud	Australian Business Law Review	E-cash (E-money) is not "cash" in the same sense as physical cash, which can be transferred from hand-to-hand by a payer to a payee without the intermediation of a third party.
Geva and Kianieff (2002)	Reimagining E-Money: Its Conceptual Unity with other Retail Payment Systems	A Global Legal framework for E-Finance Presentation and book of International Financial and Economic Law.	The term "electronic money" or "e-money" is used to denote value paid in conjunction with a wide variety of electronic retail payment mechanisms, often described as "stored-value" products ("SVPs").
Allen and Overy, (2005)	Commission consults on revision of the European electronic money regime	Journal of Financial Regulation and Compliance	E-money products are stored value or prepaid products in which a record of the funds or value available to a consumer is stored on an electronic device.
Merlonghi (2010)	Fighting financial crime in the age of electronic money: opportunities and limitations	Journal of Money Laundering Control	The use of electronic money does not necessarily imply the systematic registration of information regarding the underlying transactions and the correspondent balances and electronic money can be spent also outside the traditional financial circuits and service infrastructures.

Concept of Perceived Risk and Security

Perceived risk describe as how the consumers accept some risks if they purchase some productsthat mainly pointed in two main points of uncertainty and consequences (Schiffman and Kanuk, 2010:201). Peng Lu, et al.(2005) explored that perceived risk indirectly has impacts on intention of consumers when they use an online application that is under security threats. Giovanis, et. al (2012)

founded the perceived usefulness partially had mediated the relationship between perceived ease of use and customers' intentions as effect from the perceived security and privacy risk that had constructs partially to mediate the relationships between compatibility and customers' behavioral intentions. Lee (2009) had investigated the intention of consumer to use the online banking is affected by perceived risk which is mainly affected by the security/privacy risk and financial risk, and it is positively affected by perceived benefit, attitude and perceived usefulness.

Timothy (1998) explored that it is important to manage the risks of e-money and the potential of money laundering that found two variables that influence e-money transaction which are security and regulation. However, Michelle (2004) also found same variables which are regulation but limited on three perceived risks factors that are operational risk, compliance risks and reputational risk. Nobuhiko (2009) discussed electronic money and the law related to the future challenges that have to be focus on the security. Furthermore, these were to help the Government to avoid money laundering crime (Go, 2010). Michael and Paul (2010) improved it into regulatory approaches for e-money transaction to protect the customer's funds by using the security and perceived risks (operational risk, compliance risk and reputational risk).

As a conclusion, the e-money system has no protection on card based e-money even by using PIN (Personal Identification Number) and it is important to apply the security system even the consumers have to accept some uncertainty risks (perceived risks) like the online Banking to attracted their customers to do safety transaction (Papadopoulos, 2007). This will protect the consumers from the big risk of e-criminals called as e-criminals' intelligence hackers that have more connection and channel to log in to the consumer data (Al-hamami, Najadat, Wahhab, 2012).

Concept of Behavioral Intention on TPB and Perceived Usefulness and Perceived Ease of Use on TAM

The Theory Planned Behavioral (TPB) is one of grand model that has been widely used to study the customer intentions and their behavior (Al-Debei, 2013). Besides, Fishbein and Ajzen, (1975); Ajzen and Fishbein (1980) as cited in Hernandez, et. al (2008) mentioned that Theory of Acceptance Model (TAM) is adapted by improving of perceived usefulness and perceived ease of use as the important things that strongly influence the human behavior which been adapted from Theory of Reasoned Action (TRA).

The analyses of related research regarding to the TPB and TAM is shown in Table 2.2 below.

Table 2.2

Empirical TAM and TPB related studies

Authors	Area	Behavioral Intention	Perceived Usefulness	Perceived Ease of Use	Attitude	Others
Jieun, Imsook, Munkee and Jaejeung (2005)	t-commerce	√	√	√	√	- Trust - Normative Believe - Subjective Norm
Yung & Jeff (2012)	mobile TV	√	√	√	√	- Subjective Norm
Hong-bumm, Taegoo and Sung (2009)	airline B2C e-Commerce	√	√	√	√	- e-trust - Subjective Norm
Hung (2004)	e-shopping	User	√	√	√	- User Satisfaction - Perceived Information

		Acceptance					- Quality - Perceived System Quality - Perceived Service Quality - Web Security and Access Costs
Se-Joon, James, and Kar (2006)	Mobile internet	Continued ITUsage Intention	√	√			- Satisfaction - Confirmation
Rachel, et. al (2013)	Online shopping behavior	√	√	√			- Cognitive involvement
Cheng, Lam, and Yeung (2006)	Internet banking	√	√	√	√		- Perceived Web Security

RESEARCH METHODS

ConceptualFramework and Hypothesis

Based on the previous research and discussion on the previous studies, conceptual framework for this study was developed as shown in this following figure.
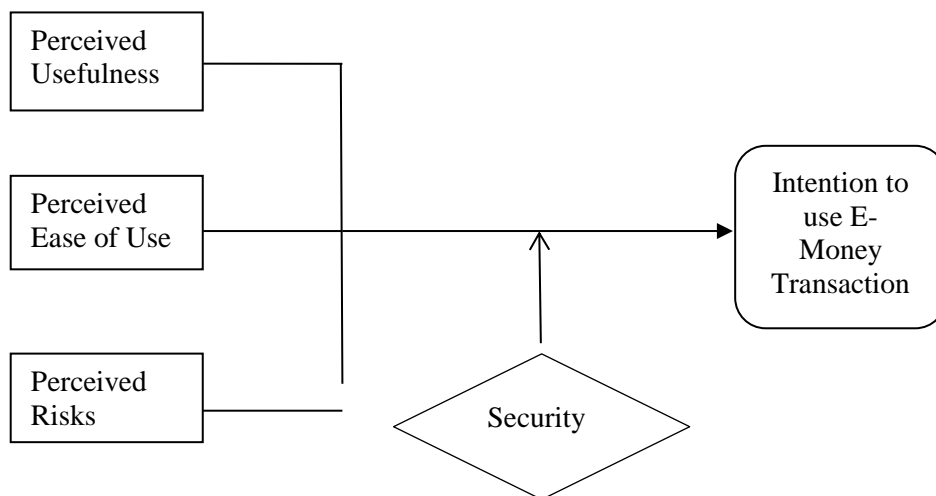

Figure 2.1. Conceptual Framework

Based on the conceptual framework above, the hypotheses were developed as follow:

> H_1: There is no relationship between perceived usefulness and intention to use e-money transaction
> H_2: There is norelationship between perceived ease of use and intention to use e-money transactions
> H_3: There is nothe relationship between perceivedsecurity and intention to use e-money transaction
> H_4: The relationship between perceived usefulness and e-money transaction will be mediated by security

H_5: The relationship between perceived ease of use and e-money transaction will be mediated by security

H_6: The relationship between perceived security and e-money transaction will be mediated by security

Operating Definitions

The definitions of variables are as follow;

1. E-money transaction on consumers is one of electronic communication that the consumers use as payment tools.
2. Perceived risk is the uncertainty risk that is accepted by the consumers
3. Perceived usefulness is in which system a person believes to use as the result a particular his job performance.
4. Perceived ease of use is in which system a person as his free of effort
5. Security system is the security can help the consumer to avoid hackers to attack their account.

Population and Sample

According to Sekaran and Bougie (2010:262), the population is a group of people, events, or thing that can be investigated. The sample of this study is the bank customers in Medan, Indonesia. Medan is one of the largest markets in Indonesia. A total of one thousand and five hundred respondents will be selected using purposive sampling method around Medan, Indonesia.

Data Collection Method

Primary and secondary data were used in this study. Primary data is first source data directly from the source (Cooper & Schindler, 2006). For the purpose of this study, cross-sectional field work using questionnaire is the most appropriate method of data collection since this is social process study (Babbie, 1995). Primary data will be collected directly using questionnaires which be distributed to the samples. By doing survey method, more socioeconomic variables can be included in to the questionnaire. This data will include the consumers' intention to use e-money. Multiple regression and mediation test will be used to test the develop hypotheses.

Research Instrument

All construct will go through validity and reliability test. Each instrument will be considered reliable if it can measure what it wants to measure (Nunnally, 1978). A proposed instrument is listed in the Table 2.3 below:

Table 2.3
Instrument of the Study

Authors	Titles	Variables
Giovanis, Binioris and	An extension of TAM model with IDT and security/privacy risk in the adoption of internet banking services in Greece	Perceived Usefulness
Polychronopoulos (2012)		Perceived Ease of Use
Featherman	Factors influencing the adoption of internet banking: An integration of TAM and TPB with	Performance risk

and Pavlou (2003) as cited in Lee (2009)	perceived risk and perceived benefit	Financial risk
		Social risk
		Time risk
		Security risk
Cheong and Park (2005)	Mobile internet acceptancein Korea	Perceived system quality (PSQ)
Moon and Kim (2001)	Extending the TAM for a World-Wide-Web context	Behavioral intention to use

Conclusions

This study tries to adapt the TPM and TAM theory in order to understand the consumer intention to use e-money in Indonesia. The paper is just a conceptual study to understand the general idea consumer intention to use e-money in general. The limitations as well as the possibilities of creating new paradigm on new alternative transaction in the current business environment and might be guided issuers to use the right strategy in order to attract more consumers to use the e-money transaction and increase user acceptance by improving implementation system. Futures research should incorporate more variable and sample in the study since consumer are quit homogeneous in nature. The study should be a basis to explore more on e-money related study.

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