

The Propensity of Young Consumers to Overspend on Credit Cards: Decomposition Effect in the Theory of Planned Behavior

Rizal E. Halim, Karto Adiwijaya, Jony Haryanto, and Firmanzah

Abstract—Using 111 respondents and survey conducted among a sample of young adult consumers (i.e., undergraduate and MBA students) in Universitas Indonesia, the study found that the decomposition effect of Theory of Planned Behavior play a significant role on the propensity of young consumer to overspend on credit cards. This study also built a more comprehensive model that can explain the determinants of the propensity of young individuals to overspend on their credit cards in more detail. The model constructed consists of three unidimensional belief constructs that affect the propensity of young individuals to overspend on their credit cards and the decomposition of each items. This finding is very important to provide a better understanding of young adults' financial behaviors not only for business sector but also for future public policy making.

Index Terms—Overspending on credit cards, decomposition of theory of planned behavior, young consumers behavior.

I. INTRODUCTION

The growth of credit cards in Indonesia was quite high in 2014 in which it was higher than that in the previous year. However, the turbulence in the financial sector during 2013 could lower this growth of credit card such as an increase in the BI (Central Bank Of Indonesia) rate to 7.5% to control the exchange rate that was getting bounced. BI's policy to tighten the regulation of maximum possession limit of two credit cards for people living on less than ten million rupiah could reduce the growth of credit card ownership significantly (www.euromonitor.com, 2015). However, the situation and unstable financial conditions, high cost of college education, the lack of financial support from parents, and the ease of credit card ownership all made the students have serious financial problem [1]. Previous studies (eg, [2]-[6]) found there was a tendency of the risk level of credit card debt on students and this tends to be overlooked.

The studies above indicate that there were some college students who had excessive amount of debt. They were at risks of not being able to repay their debts, either because of a lack of financial experience or a lack of funds. In fact, those who had higher consumer debt earned poorer grades, drop out of school, suffered from depression, and worked more hours to pay their bills [7]. Many studies on credit card overspending have examined the phenomenon by contrasting individuals who spend on credit cards and those who use cash [8]-[9]. In general, results have shown that individuals spend more on goods and services and have a

greater willingness to spend when they use credit than when they use cash [10]. However, research in this area has failed to identify credit-related factors that lead individuals to overspend on their credit cards in general. Since it is still unclear which behavioral inclinations are likely to lead individuals to overspend in the context of the consumer credit card experience, it is also difficult to recommend public policy strategies aimed at changing and reducing overspending-related behaviors among young consumers.

In the present study, the propensity of young consumers to overspend on their credit cards is used as the main dependent variable in an attempt to further examine the role that credit-specific factors play in this context. This study attempts to investigate the influence of key determinants on young consumers' propensity to overspend on credit cards. This study also provide a better understanding of young adults' behaviors and a firm financial foundation for current and future public policy making. In this respect, the objectives are detailed as follows: Firstly, to analyze the effect of perceived ease of avoiding credit card overspending, perceived usefulness of credit card overspending, and the compatibility of credit card overspending on attitudes towards overspending credit card. Secondly, analyzing the effects of peer's influence on overspending and superior's influence on overspending on credit card-related social norms. Thirdly, analyzing the influence of self-efficacy related to credit cards and credit-card overspending overspending related technical support related to perceived behavioral control overspending credit card. Forthly, analyzing the influence of perceived ease of avoiding credit card overspending, overspending attitude toward credit cards, credit card-related social norms, and perceived behavioral control overspending credit card linked to the propensity to overspend on credit cards. And finally, analyzing the influence of perceived behavioral control overspending related to credit card and propensity to overspend on credit cards to overspending on credit cards behavior.

II. LITERATURE BACKGROUND

A. Overspending on Credit Cards

College students are a very attractive credit card market in part because there is a continual influx of potential credit card owners into this age group every year who may develop into lifelong users [11]. Another reason that college students' brand loyalty to credit cards is stronger than to most other products or services [12]. For example [13] reports that 84 percent of undergraduates have at least one credit card and the average student have 4.6 cards. In the minds of college students, credit cards are associated with

Manuscript received November 12, 2015; revised January 11, 2016.

The authors are with the Faculty of Economics and Business, Universitas Indonesia, Indonesia (e-mail: rizaledy@gmail.com).

spending. Feinberg found that when college students were exposed to a credit card logo, while evaluating a product, they were more likely to quickly decide to purchase and to spend more than students who were not exposed to a credit card logo [10]. Moreover, college students perceive themselves as lacking the knowledge they need to effectively manage their credit card use [14], which may contribute to overspending and credit card abuse.

Although there have been a number of studies on the consumer credit card experience, few of them are related to the mainstream consumer [15]. Credit card research began making its way into the literature during the 1980s. During this period, much of the research focused on contrasting the benefits of using credit cards as opposed to cash [10]. The 1990s brought forth research centered on identifying key antecedents of credit card use and abuse; Research revealed that consumer credit card behavior is influenced by psychological factors such as attitude and self-control [16].

During the 2000s, research continued to explore antecedents of credit card behavior such as attitude and self-control [17]-[19] and examined the role of credit as a means to increase spending behavior [9]. Another important contribution of this first decade is that it brought forth the importance of financial literacy. Research has shown that some credit card user segments (e.g., students and young consumers) are especially vulnerable to credit card debt due to a lack in financial literacy [3]-[4], [19]. This led to research oriented towards understanding how increasing credit knowledge and financial literacy may curb credit card debt [4], [17]. As a synthesis, three decades of credit card research have given rise to four key findings; First, that there are benefits to using credit cards; Second, that attitudes and self-control are important antecedent factors; Third, that a lack of financial literacy can lead to overspending and credit card debt; And finally, that credit card misbehavior has the potential to become a global problem.

Despite these important contributions, the consumer credit card experience remains a fragmented topic [21]. One area of confusion is the failure by researchers to distinguish the negative and the positive aspects of the credit card experience.

The notion of credit card use and that of credit card indebtedness have often been used interchangeably, suggesting that they are equivalent [18]-[19]. Yet, a person can use large amounts of credit without necessarily being in debt [22]. Therefore, existing research on credit card use makes it difficult to disentangle credit card use that is positive and credit card use that is negative. As such, it fails to identify accurately factors that lead to overspending as well as debt. In the present investigation, the focus is on the negative aspects of credit card use, that is, risky credit card behavior related to overspending on credit cards and debt.

Research focusing on the negative side of overspending has approached the phenomenon through such concepts as credit card use [18], [22]-[23], consumer indebtedness [24], debt accumulation [25], and credit card debt [22]. Thus, it has focused on the outstanding revolving debt that individuals have [16], [18], [21], [22], [25]. Some of those studies have looked at the characteristics of credit users who are more likely to get into debt versus those who are less

likely [21], [25], [26]. However, there is little research that has examined the extent to which credit-related behaviors propel individuals towards overspending on credit [27]. For that reason, it is required to have research for identifying which factors are likely to lead young credit card users to engage in risky credit card behavior such as overspending on credit cards.

B. Beliefs Structures and Decomposition Effects

Each of the determinants of Intention discussed in the preceding section, i.e., Attitude, Subjective Norm and Perceived Behavioral Control, is, in turn, determined by underlying belief structures. These are referred to as attitudinal beliefs, normative beliefs, and control beliefs which are related to Attitude, Subjective Norm and Perceived Behavioral Control respectively [28].

Attitude is equated with the attitudinal belief that performs a behavior will lead to a particular outcome, weighted by an evaluation of the desirability of that outcome. *Subjective Norm* is formed as the individual's normative belief (concerning a particular referent weighted by the motivation to comply with that referent). *Perceived Behavioral Control* is the individual's control beliefs weighted by the perceived facilitation of the control factor in either inhibiting or facilitating the behavior. Control beliefs reflect the perceived difficulty (or ease) with which the behavior may be performed [29]. Perceived facilitation acts as an importance weight [29]. Linkages between control beliefs and PBC have been demonstrated empirically [30], [31], [32].

In both the Theory of Reason Action (TRA) and Theory of Planned Behavior (TPB), the belief structures are typically combined into unidimensional constructs. This integration of beliefs has been subject to criticism. For example, monolithic belief sets may not be consistently related to Attitude or Subjective Norm [33]-[36]. To understand this, it should consider, for example, a new product adoption decision. The literature on innovation adoption indicates that perceptions of relative advantage, compatibility and complexity are key determinants of adoption [37], [38]. For any given product, an individual may have different assessments of each of the three dimensions; treating all three as monolithic may obscure the true influence of each on attitude.

C. Decomposed Theory of Planned Behavior

The Decomposition of TPB (DTPB), was first created by Taylor and Todd [28] and focuses on identifying various belief factors that influence three determinants of behavioral intention to use: (1) attitude towards use; (2) subjective norms; and (3) perceived behavioral control. The DTPB was also examined without including its last construct (i.e., actual behavior). To understand the relationship between belief structures and antecedents of behavioral intention to use, several studies have examined the approaches to decomposing attitudinal, normative, and control beliefs [39], [28]. The DTPB is an alternative version of the TPB model with decomposed belief structures. In this model, attitudinal, normative and control beliefs are decomposed into multi-dimensional belief constructs.

This decomposition approach provides several advantages [28]. First, it has been noted that it is unlikely

that monolithic belief structures, representing a variety of dimensions will be consistently related to the antecedents of intention [40], [36]. By decomposing beliefs, those relationships (i.e. between beliefs constructs related to overspending of credit cards and their antecedents) should become clearer and more readily understood. In addition, the decomposition can provide a stable set of beliefs which can be applied across a variety of settings. This overcomes some of the disadvantages in operationalization that have been noted with respect to the traditional intention models [41], [42]. Finally, by focusing on specific beliefs, the model becomes more managerially relevant, pointing to specific factors that may influence adoption and usage.

D. Attitudinal Belief Structures

For the TRA and TPB models, the identification of a stable set of relevant belief dimensions for attitudinal beliefs has traditionally been problematic [41]. Indeed, the difficulties associated with establishing a set of salient beliefs may be one reason why Davis [43] and Mathieson [42] found that TRA and TPB did not explain usage intentions as well as TAM. The measures of ease of use and usefulness in TAM were based on well developed, refined and validated measures [43]. In contrast, the belief measures used for TRA and TPB were based on a salient belief elicitation measure which develops a scale idiosyncratic to a specific setting. Under such conditions, measures of beliefs may be less than ideal. The belief structure may reflect a variety of underlying dimensions which obscure its relationship to attitude. For example, the attitudinal belief measure used by [43] to test the TRA appears to include several dimensions such as advantages and disadvantages (or perceived usefulness), ease of use and facilitating conditions.

For consumer adoption behaviors, we suggest that a set of attitudinal belief dimensions can be derived from the literature describing the *perceived characteristics of an innovation* [37]. This approach has been used explicitly and implicitly in the study of computer technology adoption [28], [42], [43]. According to the innovations literature [37], three salient characteristics of an innovation that influence adoption are: relative advantage, complexity and compatibility. A meta analysis by Tornatzky and Klein [38] demonstrated that these three factors are consistently related to adoption decisions. The key role of these factors is to influence attitude formation during the persuasion stage of the adoption decision process [37]. However in this study the authors decompose attitude towards overspending of credit cards into three dimensions by incorporating (1) perceived ease of use, (2) perceived usefulness, and (3) compatibility, which serve as antecedents of attitude towards overspending [28], and [44].

Perceived ease of avoiding credit card overspending refers to the degree to which a person believes that overspending would be free of effort to be avoided [44]. Perceived ease of avoiding credit card overspending should be positively related to attitude toward credit card overspending. The notion of perceived ease of avoiding credit card overspending is most similar to the attitudinal beliefs used in studies of TRA and TPB which typically identify the advantages and disadvantages associated with

performing a behavior (e.g. [36]).

Perceived usefulness of credit card overspending represents the degree to which a person believes that overspending will not improve his/her [44]. Thus, Perceived usefulness of credit card overspending would be expected to be positively related to toward credit card overspending.

Compatibility of credit cards overspending is the degree to which overspending doesn't fit his/her personality style and all aspects of his/her life [44]. However, compatibility is expected to be positively or negatively related to adoption of negative or negative behavioral intention. To the extent that the use of an innovation violates a cultural or social norm, it is less likely to be adopted. Exposure to, and experience with, related products may increase perceived compatibility. Finally, an innovation is more likely to be adopted if there is a direct and immediate need for the function the innovation will perform.

E. Propensity to Overspend Credit Cards

Behavioral intention is concerned with the motivational factors when a subject intends to take a specific action [29]. The theory of planned behavior [29] suggests that behavioral intention is the most important determinant factor in predicting the decision to take a specific action or not. Past studies have used behavioral intention to forecast specific behavior, given the close relationship between intention and behavior [29]. A meta-analysis study showed that an average correlation of 0.53 has been reported between intentions and behavior [45]. A positive relationship among propensity to overspend credit cards and attitude toward overspending credit cards, credit card-related social norms and behavioral control as regards credit card overspending will be expected.

III. CONCEPTUAL FRAMEWORK AND HYPOTHESES

The conceptual framework of this study is displayed in Figure 1. According to this framework, young consumers' propensity to overspend on their credit cards is a function of their attitude toward credit card overspending (attitude), the extent to which important others' (i.e., their relations) behaviors and values are seen as being associated with credit card overspending (descriptive norms), and their perception that they can control themselves as regards this behavior (perceived behavioral control). The framework also shows the decomposition of the three antecedents of propensity to overspend credit cards including Perceived ease of avoiding credit card overspending, Perceived usefulness of credit card overspending, and Compatibility of credit card overspending which are decomposed of Attitude toward credit card overspending; Peer's influence on overspend and Superior's influence on overspend which are decomposed of Credit card-related social norms; Self efficacy as regards credit card overspending and Credit-card overspending related Technical support that are decomposed of Perceived behavioral control as regards credit card overspending.

In the present study, the researchers intend to investigate the question of whether psychological factors (i.e., attitude and perceived behavioral control) have a significant

influence on an individual's propensity to overspend on credit cards when social norms that are more descriptive and relevant to the behavior of interest are taken into account. Based on the research that links attitudes to overspending and credit card debt [3], [16], [18]-[19], [22], [25] and other research highlighting the importance of social factors such as social support [21], we anticipate that the influence of attitude and that of descriptive norms on credit card overspending propensity to be statistically significant and positive in each case.

The researchers also anticipate that self-efficacy will have a significant impact on the propensity to overspend on credit card. Based on the research of Ajzen [29], [31] and others who have used self-control related constructs [22], [46], the extent to which individuals believe that they have control over the intended behavior contributes to the prediction of intentions. In other words, the effect of perceived behavioral control should be statistically significant and negative.

Finally, research in the area of social psychology [47] has shown that social factors are important predictors of behavior and more recent research has shown that they are predictors of overspending on credit cards [15]. In addition, the credit card experience of young consumers is very much related to socially intense consumption situations [48]. In these situations, what friends value, think, and do with respect to credit card spending should be more important than young consumers' predisposition to respond favorably or unfavorably to this behavior. It is therefore anticipated that social norms have a stronger effect on young consumers' propensity to overspend on credit cards than attitude.



Fig. 1. the conceptual framework

A. Hypotheses

H. J. Huh [44] and Sotiropoulos, V., & d'Astous, A. [15] [23] argued that perceived ease of avoiding credit card overspending, perceived usefulness of credit card overspending and compatibility of credit card overspending influenced negatively the attitude toward overspending

credit cards, the author propose the following hypothesis that:

H1. (a). Perceived ease of avoiding credit card overspending, (b) perceived usefulness of credit card overspending (c). Compatibility of credit card overspending will be negatively influence the attitude toward overspending credit cards and

H2. (a). Peer's influence on overspend and (b). superior's influence on overspend will be positively influence credit card-related social norms

H3. (a). Self efficacy as regards credit card overspending and (b). credit-card overspending related technical support will be positively influence perceived behavioral control as regards credit card overspending

Furthermore, based on the study of Chien and Devaney [18], Davies and Lea [16], Hayhoe et al. [3], Roberts and Jones [7], Wang and Malhotra [22] that links attitude to overspending and credit card debts, other study highlighting the importance of social factors [21] and Sotiropoulos, V., & d'Astous, A. [15], [23], we propose the following hypotheses that:

H4. (a) Attitude toward overspending credit cards will be positively influence propensity to overspend on credit cards (b) Credit card-related social norms will be positively influence propensity to overspend on credit cards

Finally, based on the study of Ajzen [29]-[31], and others who have used self-control related constructs [22], [46] and Sotiropoulos, V., & d'Astous, A. [15], [23], stated that individuals believed that they have control over the intended behavior will contribute to the prediction of intentions. Therefore the authors propose the following hypotheses that:

H5. Perceived behavioral control as regards credit card overspending will be negatively influence propensity to overspend on credit cards

In order to test this conceptual framework, a survey will be conducted among a group of young consumers (i.e., undergraduate and MBA students). Students will be asked a series of questions related to their attitude and perceived behavioral control as regards overspending on credit cards, social norms related to credit card overspending, the decomposition of those variables, their propensity to overspend on credit cards and overspending credit cards behavior.

IV. METHODOLOGY

This is a causal research which is used to obtain evidence of a causal relationship and used for the purpose of the following: To see the variables which affect (independent variable) and which one is the result (the dependent variable) on certain phenomenon; and to determine the nature of the relationship between the independent variable and the effect which is expected.

The survey was conducted in in Jakarta, Indonesia. Surveyors will administer two part questionnaires. In the first part of questionnaire, the participants will be asked to indicate whether they owned a credit card in order to assess their credit eligibility. They also will respond to the social norms items and its decomposition. In the second part, they will fill the questionnaire that contains items that measure attitude toward credit card overspending and perceived

behavior control and the decomposition, propensity to overspend on credit cards, and socio-demographic information.

Ten surveyors were recruited to assist the process of collecting data. After being recruited, the surveyors will be briefed by researchers about the description of the study and how to collect the data ethically. While collecting the data, before the respondents fill the questionnaire, the surveyors provide a brief description of the study. Respondents were informed of the general goal of the research, both verbally and in writing, and will be asked to fill out a consent form. On average, each questionnaire took approximately 30 minutes to fill in. After filled the questionnaire, respondents then debriefed and thanked for their participation.

The variables used in this study are: perceived ease of avoiding credit card overspending; perceived usefulness of avoiding credit card overspending; compatibility of credit card overspending; peer's influence on overspending; parental's influence on overspending; self-efficacy as regards credit card overspending; and credit-card overspending related technical support as an independent variable or decomposition of three antecedent variables of the theory of planned behavior (TPB). Three antecedent variables of TPB as the mediating variables are the attitude toward credit card overspending; credit card-related social norms; and perceived behavioral control as regards credit card overspending; and propensity to overspend on credit cards; Last dependent variable that is overspending credit card behavior.

A. Measurements

This study was assessed with 11 items; seven of the items are taken from the credit card use scale developed by Roberts and Jones (2001) whereas the other four items are developed specifically for this study. The items included such statements as "I spend more when I use my credit card" and "Last month, I spent more on my credit card than I was able to pay off." The possible responses ranged from 1=I strongly disagree to 7=I strongly agree (see Appendix for a description of the measures). Attitude toward credit card overspending is assessed with three items: "For me, overspending on my credit cards is: bad/good; negative/positive." and "To what extent are you unfavorable or favorable towards overspending on credit cards: unfavorable/favorable (all 7-point scales). Because overspending on credit card is a behavior that can be executed by almost everyone, the measure of self-efficacy used in this study focused on the extent to which the person thought that he or she controlled engaging or not in that behavior. To this end, five self-efficacy items are developed such as "I can control my spending on my credit card(s)," "I am confident that I will not overspend on my credit card(s)," and "I believe I am very capable of not overspending on my credit cards" (1=I strongly disagree; 7=I strongly agree) (see Ajzen [49]; Armitage and Conner [50];

Finally, descriptive social norms related to risky credit card behavior are assessed with five items including such statements as "My friends think it's acceptable to have credit card debt" and "My friends often max out their credit cards" (1=I strongly disagree; 7=I strongly agree).

We then run a Partial Least Square Structural Equation

Modelling (PLS-SEM) to test the predictive relationship between the constructs by looking at whether there is a connection or influence between the constructs by seeing whether there is a connection or influence between these constructs. The SmartPLS software was used to run the model in this study. There are some notes to provide clear criteria on the use of the comparison between PLS-SEM and covariance-based SEM. First, it deals with objective criteria. PLS-PM is the goals oriented while the prediction covariance-based SEM is the parameter estimates-oriented. Second, it deals with assuming criteria. PLS-PM is nonparametric (do not follow a normal distribution rule), while the covariance-based SEM is parametric (multivariate normal distribution). Third, it concerns the criteria approach in the analysis. PLS-PM is based on the approach of variance or component, while the covariance-based SEM is based on covariance. Fourth, it is the number of samples (sample size). PLS-PM is more moderate in a number of samples, ie at least 30-100 cases, while the covariance-based SEM of at least 200-800 cases. A larger number of samples in the PLS-SEM can produce better model. Fifth, PLS-SEM is more flexible for use in a reflective and formative measurement model. Meanwhile, covariance-based SEM is recommended for reflective measurement model. Sixth, PLS-SEM can properly handle the highly complex relationship model (size large complexity can consist of 100 construct latent and manifest variables 1000). Covariance-based SEM is greatly depending on the small size complexity or moderate one (less than 100 variables manifest).

V. RESULTS

A. Validity and Reliability

Pretest was done in addition to testing the validity and reliability and this was also used to see if the words in each question can be understood by the respondent or not. This is expected to see whether every question or statement can be understood by the respondent. Then, the researchers can determine whether the layout of the questionnaire that was used to make the respondents was comfortable or not, or whether it is easy to understand or not. By doing so, each part in the questionnaire can be understood accurately and represent each indicator or variables that are tested.

On the pretest questionnaires, it consists of 45 indicators representing 12 latent variables, including perceived ease of avoiding credit card overspending; Perceived usefulness of avoiding credit card overspending; Compatibility of credit card overspending; Peer's influence on overspending; Parental's influence on overspending; Self-efficacy as regards credit card overspending; Credit-card overspending and related technical support as an independent variable or decomposition of three antecedent variables of the theory of planned behavior (TPB). Three antecedent variables of TPB are as the mediating variables: attitude toward credit card overspending; credit card-related social norms; and perceived behavioral control as regards credit card overspending; and propensity to overspend on credit cards; Last dependent variable that is overspending credit card behavior. All these can be seen in Table.1. This shows the

result of a reliability test-pretest was obtained.

TABLE I: VALIDITY AND RELIABILITY RESULTS

Variables	Dimension	Mean	Loading factor	Cronbach's Alpha	Conclusion
Perceived ease of avoiding credit card overspending (PE)	PE1	3.712	.917	.790	Valid & Reliable
	PE2	4.329	.670		
	PE3	3.671	.926		
Perceived usefulness of avoiding credit card overspending (PU)	PU1	4.699	.625	.675	Valid & Reliable
	PU2	5.055	.842		
	PU3	4.479	.880		
Compatibility of credit card overspending (CO)	CO1	4.247	.927	.883	Valid & Reliable
	CO2	4.507	.878		
	CO3	4.356	.897		
Attitude toward credit card overspending (AT)	AT1	4.712	.899	.856	Valid & Reliable
	AT2	4.603	.919		
	AT3	5.301	.825		
Peer's influence on overspend (PER)	PER1	3.699	.765	.688	Valid & Reliable
	PER2	3.466	.883		
	PER3	3.425	.703		
Superior (parental) influence on overspend (PA)	PA1	2.890	.931	.892	Valid & Reliable
	PA2	3.452	.848		
	PA3	3.096	.938		
Credit card-related social norms (SN)	SN1	3.603	.532	.858	Valid & Reliable
	SN2	3.959	.865		
	SN3	3.589	.918		
	SN4	3.863	.937		
	SN5	3.466	.857		
Self efficacy as regards credit card overspending (SE)	SE1	5.014	.915	.868	Valid & Reliable
	SE2	4.849	.909		
	SE3	4.753	.874		
	SE4	4.671	.829		
	SE5	5.205	.467		
Credit-card overspending related Technical support (TS)	TS1	3.151	.985	.570	Valid & Reliable
	TS2	3.178	.984		
	TS3	3.822	.538		
Perceived behavioral control as regards credit card overspending (PBC)	PBC1	4.562	.877	.717	Valid & Reliable
	PBC2	4.918	.659		
	PBC3	4.781	.854		
Propensity to overspend on credit cards (PRO)	PRO1	2.397	.689	.591	Valid & Reliable
	PRO2	2.959	.713		
	PRO3	4.301	.585		
	PRO4	5.233	.701		

8

All of measurement items were subject to confirmatory factor analysis and factor loadings for all measures above 0.5. For reliability issue, all measures demonstrated internal consistency with Cronbach's Alpha also exceeding .50. For path model result shown in Table II which H1b, H2a, H3a, H4b and H5 were supported with $\alpha = 10\%$. The relationship in H1a, H1c, H2b, H3b and H4a shown a non significant effect due to the need to re-evaluate the DTPB in this context.

TABLE II: PATH ESTIMATES

	Original Sample (O)	Sample Mean (M)	Standard Error (STERR)	T Statistics (O/STERR)	P Values	Hypothesis
PE → AT	0.101	0.112	0.133	0.754	0.451	H1a rejected
PU → AT	0.622	0.615	0.071	8.762	0.000	H1b accepted
CO → AT	0.035	0.040	0.103	0.338	0.735	H1c rejected
PER → SN	0.239	0.255	0.106	2.256	0.024	H2a accepted
PA → SN	0.113	0.090	0.182	0.621	0.535	H2b rejected
SE → PBC	0.866	0.864	0.035	24.715	0.000	H3a accepted
TS → PBC	0.054	0.049	0.059	0.925	0.355	H3b rejected
AT → PRO	0.114	0.109	0.095	1.206	0.228	H4a rejected
SN → PRO	0.272	0.250	0.158	1.719	0.086	H4b accepted
PBC → PRO	-0.576	-0.563	0.109	5.288	0.000	H5 accepted

8

REFERENCES

- [1] S. L. Worthy, J. Jonkman, and L. Blinn-Pike, "Sensation-seeking, risk-taking, and problematic nancial behaviors of college students," *Journal of Family and Economic Issues*, vol. 31, pp. 161-170, 2010.
- [2] S. Baum and M. O'Malley, "College on credit: How borrowers perceive their education debt," *Journal of Student Financial Aid*, vol. 33, no. 3, 2003.
- [3] C. R. Hayhoe, "College student's use of credit: At two points in time," *Journal of Family and Consumer Sciences: From Research to Practice*, vol. 94, no. 1, pp. 71-77, 2002.
- [4] A. Lyons and P. Andersen, *Credit Usage of College Students: Evidence from the University of Illinois*, University of Illinois, 2002.
- [5] S. Joo, J. E. Grable, and D. C. Bagwell, "College students and credit cards," in *Proc. the Association for Financial Counseling and Planning Education*, 2001, pp. 8-15.
- [6] M. E. Staten and J. M. Barron, *College Student Credit Card Usage*, Washington, D.C: Credit Research Center, 2002.
- [7] J. A. Roberts and E. Jones, "Money attitudes, credit card use, and compulsive buying among American college students," *Journal of Consumer Affairs*, vol. 35, no. 2, pp. 213-239, 2001.
- [8] R. A. Feinberg, "Credit cards as spending facilitating stimuli: A conditioning interpretation," *Journal of Consumer Research*, vol. 13, no. 3, pp. 348-356, 1986.
- [9] D. Soman and A. Cheema, "The effect of credit on spending decisions: The role of credit limit and credibility," *Marketing Science*, vol. 21, no. 1, pp. 32-53, 2002.
- [10] R. A. Feinberg, "Credit card as spending facilitating stimuli: A conditioning interpretation," *Journal of Consumer Research*, vol. 13, no. 3, pp. 348-356, 1986.
- [11] C. Hayhoe, L. Leach, P. Turner, M. Bruin, and F. Lawrence, "Differences in spending habits and credit use of college students," *The Journal of Consumer Affairs*, vol. 34, no. 1, pp. 113-133, 2000.
- [12] K. M. Palan, P. C. Morrow, A. Trapp, and V. Blackburn, "Compulsive buying behavior in college students: The mediating role of credit card misuse," *Journal of Marketing Theory and Practice*, vol. 19, no. 1, pp. 81-96, 2011.
- [13] Sallie Mae's National Study of Usage Rates and Trends 2009, "How Undergraduate Students Use Credit Cards".
- [14] J. M. Norvilitis and P. S. Maria, "Credit card debt on college campuses: Causes, consequences, and solutions," *College Student Journal*, vol. 36, no. 3, pp. 356-363, 2002.
- [15] V. Sotiropoulos and A. d'Astous, "Social networks and credit card overspending among young adult consumers," *Journal of Consumer Affairs*, vol. 46, no. 3, pp. 457-484, 2012.
- [16] E. Davies and S. E. G. Lea, "Student attitudes to student debt," *Journal of Economic Psychology*, vol. 16, pp. 663-679, 1995.
- [17] L. M. Borden, S. A. Lee, J. Serido, and D. Collins, "Changing college students' nancial knowledge, at- titudes, and behavior through seminar participation," *Journal of Family Economic Issues*, vol. 29, no. 1, pp. 23-40, 2008.
- [18] Y. Chien and S. A. DeVaney, "The effects of credit attitude and socioeconomic factors on credit card and installment debt," *The Journal of Consumer Affairs*, vol. 35, no. 1, pp. 162-179, 2001.
- [19] J. A. Roberts and E. Jones, "Money attitudes, credit card use, and compulsive buying among American college students," *Journal of Consumer Affairs*, vol. 35, no. 2, pp. 213-239, 2001.
- [20] D. Evans and R. Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing*, The MIT Press, 2000.
- [21] P. M. Mansfield and M. B. Pinto, "Marketing credit cards to college students: Will legislation protect them from excessive debt?" *Marketing Management Journal*, vol. 17, no. 1, pp. 112-122, 2007.
- [22] L. Wang, W. Lu, and N. K. Malhotra, "Demographic, attitude, personality and credit card features correlated with credit card debt: A view from China," *Journal of Economic Psychology*, vol. 32, pp. 179-193, 2011.
- [23] V. Sotiropoulos and A. d'Astous, "Attitudinal, self-efficacy, and social norms determinants of young consumers' propensity to overspend on credit cards," *Journal of Consumer Policy*, vol. 36, no. 2, pp. 179-196, 2013.
- [24] J. Wang and J. J. Xiao, "Buying behavior, social support and credit card indebtedness of college students," *International Journal of Consumer Studies*, vol. 33, no. 1, pp. 2-10, 2009.
- [25] S. Livingstone and P. K. Lunt, "Predicting personal debt and debt repayment: Psychological, social and economic determinants," *Journal of Economic Psychology*, vol. 13, no. 1, pp. 111-134, 1992.
- [26] A. C. Lyons, "Risky credit card behavior of college students," In Xiao, J. J. (Ed.), *Handbook of consumer finance research*, pp. 185-207, New York: Springer Science Media, 2008.
- [27] J. J. Xiao, C. Tang, J. Serido, and S. Shim, "Antecedents and consequences of risky credit behavior among college students: Applications and extensions of the theory of planned behavior," *Journal of Public Policy and Marketing*, vol. 30, no. 2, pp. 239-245, 2011.
- [28] S. Taylor and P. A. Todd, "Understanding information technology usage: A test of competing models," *Information Systems Research*, vol. 6, no. 2, pp. 144-176, 1995.
- [29] I. Ajzen, *The Theory of Planned Behavior, Organizational Behavior and Human Decision Making Processes*, vol. 50, no. 2, pp. 179-211, 1991.
- [30] I. Ajzen and T. J. Madden, "Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control," *Journal of Experimental Social Psychology*, vol. 22, pp. 453-474, 1986.
- [31] I. Ajzen and B. L. Driver, "Application of the theory of planned behavior to leisure choice," *Journal of Leisure Research*, vol. 24, pp. 247-207, 1992.
- [32] K. Mathieson, "Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior," *Information Systems Research*, pp. 173-191, 1991.

- [33] R. P. Bagozzi, *An Examination of the Validity of two Models of Attitude*, Multivariate Behavioral Research, 1981, vol. 16, pp. 323-359.
- [34] R. P. Bagozzi, "A field investigation of causal relationships among cognition & affect, intentions, and behavior," *Journal of Marketing Research*, vol. 19, pp. 562-584, 1982.
- [35] P. W. Miniard and J. B. Cohen, "An examination of the fishbein-ajzen behavioral intentions model's concepts and measures," *Journal of Experimental Social Psychology*, vol. 17, pp. 309-339, 1981.
- [36] T. A. Shimp and A. Kavas, "The theory of reasoned action applied to coupon usage," *Journal of Consumer Research*, vol. 11, no. 3, pp. 795-809, 1984.
- [37] E. M. Rogers, *Diffusion of Innovation*, 4 ed., New York: The Free Press, 1995.
- [38] L. G. Tornatzky and K. J. Klein, "Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings," *IEEE Transactions on Engineering Management*, vol. EM-29, no. 1, pp. 28-45, 1982.
- [39] H. F. Lin, "Predicting consumer intentions to shop online: An empirical test of competing theories," *Electronic Commerce Research and Applications*, vol. 6, pp. 433-442, 2007.
- [40] R. P. Bagozzi, "Attitudes, intentions, and behavior: A test of some key hypotheses," *Journal of Personality and Social Psychology*, vol. 41, pp. 607-627, 1981.
- [41] I. E. Berger, "The nature of attitude accessibility and attitude confidence: A triangulated experiment," *Journal of Consumer Psychology*, vol. 1, no. 2, pp. 103-123, 1992.
- [42] K. Mathieson, "Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior," *Information Systems Research*, vol. 2, no. 3, pp. 173-191, 1991.
- [43] F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, "User acceptance of computer technology: A comparison of two theoretical models," *Management Science*, pp. 982-1003, 1989.
- [44] H. J. Huh, T. T. Kim, and R. Law, "A comparison of competing theoretical models for understanding acceptance behavior of information systems in upscale hotels," *International Journal of Hospitality Management*, vol. 28, pp. 121-134, 2009.
- [45] B. Sheppard, J. Hartwick, and P. Warshaw, "The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research," *Journal of Consumer Research*, vol. 15, no. 3, pp. 325, 1988.
- [46] H. Tokunaga, "The use and abuse of consumer credit: application of psychological theory and research," *Journal of Economic Psychology*, vol. 14, pp. 285-316, 1993.
- [47] R. N. Rimal and K. Real, "How behaviors are influenced by perceived norms: A test of the theory of normative social behavior," *Communication Research*, vol. 32, pp. 389-414, 2005.
- [48] R. D. Manning, *Credit Cards on Campus: The Social Consequences of Student Credit Dependency*, New York: Basic Books, 2000, pp. 159-193.
- [49] I. Ajzen. (2006). Constructing a TPB questionnaire: Conceptual and methodological considerations (Rev.). [Online]. Available: <http://www.people.umass.edu/ajzen/pdf/tpb.measurement.pdf>
- [50] C. J. Armitage and M. Conner, "Distinguishing perceptions of control from self-efficacy: Predicting consumption of a low-fat diet using the theory of planned behavior," *Journal of Applied Social Psychology*, vol. 29, pp. 72-90, 1999.



Karto Adiwijaya was born in Bekasi, Jawa Barat, 09 February 1972 and graduated from undergraduate program subject in accounting at STIE Tridharma Bandung in 1995 and a master of management subject in marketing at Faculty of Economics Universitas Indonesia in 2000. He is studying doctoral program in postgraduate program at Faculty of Economics and Business Universitas Indonesia.

The major of his fields are marketing ambidexterity, product and pricing management, channel management, hospitality and leisure marketing, relationship marketing, marketing management, strategic management, etc. He has published several articles including "Adiwijaya & Fauzan (2012). Cause-related Marketing: The Influence of Cause-Brand Fit, Firm Motives and Attribute Altruistic to Consumer Inferences and Loyalty and Moderation Effect of Consumer Values, International Proceeding of Economic Development and Research, Economics Marketing and Management, Vol 28 ISSN: 2010-4626 p 49-54, and Harahap and Adiwijaya (2010). Estimated Probability of Paying Taxes, Personal Taxes amount deposited and Factors Affecting, International Proceeding of Journal of Population Research (ISSN: 1835-9469).



Jony Oktavian Haryanto was born at Semarang City, Indonesia, 10th October, 1978. He got his bachelor degree in marketing from Satya Wacana Christian University, Salatiga, Indonesia, at 2000. He also hold master degree in marketing from Gadjah Mada University, Yogyakarta, Indonesia, at 2002. He then furthered his study at University of Indonesia, Jakarta, Indonesia for Ph.D. in marketing at 2008. Jony is currently the head of entrepreneurship program at Podomoro University, Jakarta, Indonesia. Prior to joining Podomoro University, Jony is the head of research department at Satya Wacana Christian University.



Firmanzah was born in Surabaya, Indonesia in 1976, he received his B.A. from Faculty of Economics, University of Indonesia in 1998, and also his master degree in management from University of Indonesia. In 2002, he received a DEA in organisation and management strategic from University of Science and Technology of Lille 1, France. And then he received his Ph.D in strategic and international management from University of Pau et Pays de l'Adour, France in 2005. In 2010, Firmanzah join the IDEAS Graduate Program in Massachusetts Institute of Technology (MIT), USA. During 2005-2008 he was a Visiting Professor at University of Pau et Pays de l'Adour, France; Visiting Professor at IAE de Grenoble, France; Speaker at Leadership Program Development, Amos Tuck Business School, USA; Visiting Professor at University of Science and Technology of Lille 1, France; and Visiting Professor at University of Nanchang, China



Rizal E. Halim is a scholar of strategic marketing and macro marketing and also a prolific writer. A number of his articles have been published in newspaper, magazines, academic journals and books/chapter books both as an author/co-author. His writing are: *Marketing Productivity And Profitability Of Indonesian Public Listed Manufacturing Firms: An Application Of Data Envelopment Analysis*, *Marketing Reloaded*, *The Financial Impact and Shareholder Wealth Effect of the Role of Relationship Bonding Tactics*, *Relationship Quality and Customer Asset Management: A Research Agenda*, *Traditional wet market vs Modern retail*, etc. In 2010 and 2011, he has received the second best young researcher award and the best researcher award from Universitas Indonesia respectively. Among his research interest are macro marketing, marketing and public policy, marketing ethics, customer value, social marketing, retail marketing, marketing systems as well as dynamic marketing.