How individual impulsiveness moderates the relationship between impulse buying and cognitive appraisal.

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Abstract

The previous study of the role of cognitive appraisal in impulse-buying phenomena explains and defines how customers evaluate their impulse-buying decisions. This paper studies individual impulsiveness as influential factors which can help explain cognitive appraisal by customers. Previous research suggested personality trait in term of impulse buying as *individual impulsiveness*. Cognitive appraisal shares a fundamental concept with personality traits, in terms of individual differences. This study analyzes the impact of individual impulsiveness, which pays an important role in evaluating impulse-buying decisions by customers. Specifically, individual impulsiveness moderates the relationship between impulse buying and cognitive appraisal. In other words, they affect how a customer interprets the cause of a purchase, as well as product desirability. For a customer with high impulsiveness, the relationship between impulsive buying and outcome desirability will be stronger than a customer with low impulsiveness. Additionally, this paper extends the study to clarify two well-known impulse-buying indicators—whether a hedonic or utilitarian type of product, and the amount of disposable income, could impact the customer's evaluation of impulse buying.

Key words: impulse buying, individual impulsiveness, cognitive appraisal, outcome desirability, agency

บทคัดย่อ

งานวิจัยก่อนหน้านี้เกี่ยวกับบทบาทของการประเมินความคิด (cognitive appraisal) ต่อพฤติกรรมการซื้อของโดยไม่ได้วางแผนล่วงหน้า (impulse buying) ได้อธิบายและกำหนดวิธีที่ผู้บริโภคประเมินการตัดสินใจซื้อของแบบฉับพลัน งานวิจัยชิ้นนี้มุ่งศึกษาคุณสมบัติส่วนบุคคลด้านความหุนหันพลันแล่นของแต่ละบุคคล (individual impulsiveness) ในฐานะปัจจัยที่มีอิทธิพลซึ่งช่วยในการอธิบายการประเมินความคิดของผู้บริโภค งานวิจัยก่อนหน้านี้ได้เสนอแนะว่า ลักษณะนิสัยด้านการซื้อของแบบฉับพลันนั้นสัมพันธ์กับคุณสมบัติส่วนบุคคลด้านความหุนหันพลันแล่นของแต่ละบุคคล ซึ่งการประเมินความคิดมีความเกี่ยวข้องกับลักษณะนิสัยบุคคลในแง่ของความแตกต่างระหว่างบุคคล งานวิจัยนี้วิเคราะห์ผลกระทบของความหุนหันพลันแล่นของแต่ละบุคคล ซึ่งมีบทบาทสำคัญในการประเมินการตัดสินใจซื้อของแบบฉับพลัน กล่าวอีกนัยหนึ่ง ความหุนหันพลันแล่นของแต่ละบุคคลส่งผลต่อวิธีที่ผู้บริโภคตีความสาเหตุของการซื้อสินค้า รวมถึงความพึงประสงค์ในตัวสินค้า สำหรับผู้บริโภคที่มีความหุนหันพลันแล่นสูง ความสัมพันธ์ระหว่างการซื้อของแบบฉับพลันกับความพึงประสงค์ในผลลัพธ์ (outcome desirability) จะแข็งแกร่งกว่าผู้บริโภคที่มีความหุนหันพลันแล่นต่ำ นอกจากนี้ งานวิจัยนี้ยังขยายผลการศึกษาไปยังตัวชี้วัดการซื้อของแบบฉับพลันที่รู้จักกันดีสองประเภท ได้แก่ ประเภทสินค้าเพื่อความสุข (hedonic) หรือประเภทสินค้าเพื่อประโยชน์ใช้สอย (utilitarian) และระดับของเงินรายได้ที่สามารถใช้จ่ายได้ (disposable income) ว่าส่งผลต่อการประเมินการซื้อของแบบฉับพลันของผู้บริโภคหรือไม่

คำสำคัญ: การซื้อของโดยไม่ได้วางแผนล่วงหน้า, ปัจจัยด้านบุคคล, กระบวนการทางความคิด, การรับรู้คุณค่า, ความสามารถในการควบคุมตนเอง

Introduction

As the increase in customers' accessibility to products and services (Kacen & Lee, 2002), and led to an increase in the rate and frequency of impulsive buying behavior (Vohs & Faber, 2007). Impulse buying behavior makes customers to buy things impulsively which cause the household debt which was high and continues to multiply (Cynamon & Fazzari, 2008; Muruganantham & Bhakat, 2013; Vohs & Faber, 2007). More realistically, in retail environments, intense proliferations in personal disposable incomes and the easy availability of credit have made impulse buying a dominant consumer behavior (Dittmar & Drury, 2000). Market Research Association conducted a study of consumers' shopping habits in Chicago and reported that 85 percent of youngsters are impulse buyers (Liao et al., 2009). The impulse buying has increased over the last two decades because of dramatic increases in personal disposable incomes and credit facilities (Dittmar & Drury, 2000). As evidenced by these studies, the role of impulse buying plays a significant role in driving sales for modern retailers (Muruganantham & Bhakat, 2013).

Many researchers are interested in which factors underlie the influential urge to buy impulsively, such as advertising (Abratt & Goodey, 1990) and point-of-purchase appearance (Abratt & Goodey, 1990). Some researchers introduce these factors in relationship to identified personality traits, and have studied the individual impulsiveness of consumers who buy things spontaneously, without thinking, planning, or responding to the feeling at the moment (Gardner & Rook, 1988; Rook, 1987; Rook & Fisher, 1995; Rook & Hoch, 1985; Wood, 1998; Youn & Faber, 2000). Previous research also suggests that impulse buying relates to the personality trait called "individual impulsiveness," and it could pay an important role in impulse-buying situations (Sebastian, Jacob, Lieb, & Tüscher, 2013; Whiteside & Lynam, 2001). The cognitive appraisal theory fundamentally emphasizes the personal evaluation, which depends on individual differences including personality, past experience, and attitude. Then, it shares a fundamental concept with identified personality traits, in terms of individual differences. In other words, the way that individual customers act depends on their individual personality and their own interpretation of the event. In the same exact situation, different customers will act in their own unique ways. Then, the personal interpretation of the event would depend on individual personality. Customers' personality seemed to provide some influences to the impulse buying situation. Therefore, these two variables will be investigated in this study. Specifically, impulse buying and individual impulsiveness are the factors that influence cognitive appraisal. In other words, they affect how each customer interprets the cause of the purchase as well as product desirability. Regarding the the role of cognitive appraisal in the consequences of impulse buying, this study further investigates impulse buying by proposing influential factors, including the use of individual impulsiveness as the moderator. The authors hypothesized that individual impulsiveness could affect how customers interpret their impulsive behavior.

In addition, the factors that play important roles in impulse buying and which could impact the model will be studied and tested including product type, price, income and disposable income. Since product type (hedonic vs. utilitarian) is widely recognized and examined in impulse-buying studies (Saleem et al., 2012; Yu & Bastin, 2010), then it should be controlled and tested if there is any effect to the model. Additionally, price, income and disposable income were related in term of purchasing power which related to most impulse-buying indicators (Bashar et al., 2013). Data regarding product type, price, income, disposable income, will be collected and statistically tested.

Literature Review

Impulsive Buying and Impulsiveness as an Individual Personality Trait: Previous studies provided evidence that personality properties, such as the individual traits (Youn & Faber, 2000) and the gender (Coley & Burgess, 2003) of customers, play an important role in impulse-buying behavior. Individuals' impulsive buying behavior could occur differently, depending on the stimuli at the moment of shopping such as the customer's emotion (Crawford & Melewar, 2003; E. J. Park et al., 2006), point-of-purchase appearance (Abratt & Goodey, 1990), sales promotions (Dholakia, 2000; Liao et al., 2009; Narasimhan et al., 1996; Piron, 1991), and the store's physical environment, including perceived crowding and employee friendliness (A. S. Mattila & Wirtz, 2008). So, marketers could simply increase sales by managing and providing stimuli to attract customers to buy the products. When people routinely possess a high tendency to act impulsively, this behavior would be learned and developed according to their buying pattern, and would then become habit. Many studies also suggested that impulse-buying behavior relates to personality traits (Patton et al., 1995; Sharma et al., 2010; Whiteside & Lynam, 2001; Youn & Faber, 2000). Verplanken and Herabadi (2001) found that the impulse-buying tendency has a strong foundation in personality. Both impulsive buying and impulsiveness (or impulsivity) share the same foundation, but are used to represent different aspects of customer behavior. Impulsiveness is a term that refers to a specific customer trait (Sharma et al., 2014; Youn & Faber, 2000), while impulse buying refers to the specific kind of *behavior* in a buying situation.

Even though they share the same foundation of impulsivity (Patton et al., 1995; Whiteside & Lynam, 2001), impulse-buying behavior is different from individual impulsiveness. In the specific buying event, the customers with high impulsive personalities might not make an impulse purchase, depending on context and on the stimuli present at the moment. Moreover, the customers with low impulsive personalities might need stronger stimuli (compare to those with high impulsive personalities) to demonstrate an impulse-buying behavior. On the other hand, numerous studies have constructed a model of individual impulsiveness by positing a similar foundation for impulse-buying behavior as the habit of consumers who buy things spontaneously, without thinking, planning, or responding to the

feeling at the moment (Gardner & Rook, 1988; Rook, 1987; Rook & Fisher, 1995; Rook & Hoch, 1985; Wood, 1998; Youn & Faber, 2000).

In addition, there is evidence that personality traits can be directly represented in the dimension of impulsivity (Jones et al., 2003; Liao et al., 2009; Puri, 1996; Rook & Fisher, 1995), such as "impulsivity in shopping as a personality trait" (Ramanathan & Williams, 2007), by using the "Buying impulsiveness scale" previously validated by Rook and Fisher (1995). They reviewed relevant literature, which generated thirty-five items, then performed exploratory-factor analysis, correlational test and confirmatory-factor analysis respectively. Finally, they proposed nine items. Furthermore, this scale can be used to test "Impulsive Buying Tendency" (Jones et al., 2003), since Rook and Fisher (1995) claimed that this scale can measure impulse-buying tendency and can therefore be conceptualized as a measurement of consumer traits. However, previous studies suggested using this scale to capture impulse behavior (Liao et al., 2009). Another widely cited impulsiveness scale, "The consumer impulsiveness scale", which was developed and validated by Puri (1996), was developed by searching for short and simple words which could be understood in cross-cultural settings (Puri, 1996). Consumer impulsiveness scale provided more valid of measurement since was developed for measuring the impulsive trait (Puri, 1996).

Regardless of individual impulsiveness, which is an internal factor (Xiao & Nicholson, 2013), external factors such as media/advertising (Abratt & Goodey, 1990; Adelaar et al., 2003; Liao et al., 2009) or sales promotion (Abratt & Goodey, 1990; Liao et al., 2009; Narasimhan et al., 1996; Spears, 2006) could influence impulse-buying behavior. Not only impulse customers, but also prudent customers can experience impulsive behaviors, which could be more influenced by costs than by the benefits that they might get from the product (Puri, 1996). Although prudent customers are rational shoppers, they are usually price-sensitive (Liao et al., 2009) and could switch to another brand that offers a lower price when the standard price reduction is not available (Hartley & Cross, 1988). Regarding customers' characteristic behaviors, impulse customers display higher impulse-buying behavior than prudent customers in a general situation. Hence, everyone (both impulse and prudent customers) can be motivated to make impulsive decisions by specific external stimuli.

The Impact of Individual Impulsiveness on Cognitive Appraisal as Moderator: A central premise of appraisal theory was that an event can mean different things to different appraisers (Ellsworth, 2013; Roseman, 1991; Siemer et al., 2007). Regarding the same event, individuals would interpret the event and describe their emotions differently, according to their thoughts and their past experience, which contribute to individual differences (Frijda, 2009; Richard S Lazarus, 1991; Roseman, 1996; Scherer, 1997; Silvia, Henson, & Templin, 2009; Craig A. Smith & Kirby, 2009). Thus, individual difference obviously influenced the personal interpretation. For instance, a bad event would be interpreted mainly in a negative manner. However, depending on subjective evaluation, customers' interpretations might differ in detail.

Thus, we hypothesized that individual differences in term of impulsivity could provide minor effect on cognitive appraisal. To be congruent with impulsive buying phenomena in this study, individual differences will be applied and investigated in terms of individual impulsiveness.

Effect of Individual Impulsiveness on Outcome Desirability and Self-caused Interpretation: Regarding individual impulsiveness **(**Puri, 1996; Ramanathan & Williams, 2007**)**, research literature suggested and categorized customers into two categories. The first category of customer is the non-impulsive or prudent category; these customers normally plan and think before purchasing in order to satisfy their needs in a general situation. In a normal buying situation, they would display a lower tendency to make an impulsive buying decision when compared to impulse customers. In other words, the customers with low degree of impulsiveness would normally consider what to buy, and buy what they want. Then, they were probable familiar with and acquired desirable product rather than undesirable one.

Since the customers would bias to view more familiar events (compare to unfamiliar events) and focus on familiar things rather than unfamiliar one (Fox & Levav, 2000), then prudent customers (those with low impulsiveness) would probably familiar with acquiring desirable product (high level of outcome desirability). When they get desirable product, they would be bias to view more familiar events of acquiring desirable product and hence heighten the interpretation of acquiring desirable product (high level of outcome desirability).

Likewise, previous studies suggested that prudent customers (customers with low impulsiveness) would not easily be induced to make impulse buying by others, such as their friends or salespersons (other-caused) (Yu & Bastin, 2010). Customers with low impulsiveness will habitually pay more attention, be more engaged, and take more responsibility for their own decision-making process in an impulse-buying situation. Then they were familiar to interpret as self-caused. So, when they were in the self-caused interpretation, they would be bias to view more familiar events of self-caused interpretation and hence heighten the interpretation of self-caused.

The main effect of impulse buying negatively influenced outcome desirability and self-caused interpretation. Moreover, the interaction effect of impulse buying and individual impulsiveness negatively influence the outcome desirability and self-caused interpretation. In other words, the more the individual impulsiveness, the more the negative effect of impulse buying on outcome desirability and self-caused interpretation. Hence, the individual impulsiveness strengthened the effect of impulse buying on outcome desirability and self-caused interpretation.

Hypothesis 1: The relationship between impulsive buying and outcome desirability will be moderated by individual impulsiveness.

Hypothesis 2: The relationship between impulsive buying and self-caused interpretation will be moderated by individual impulsiveness.

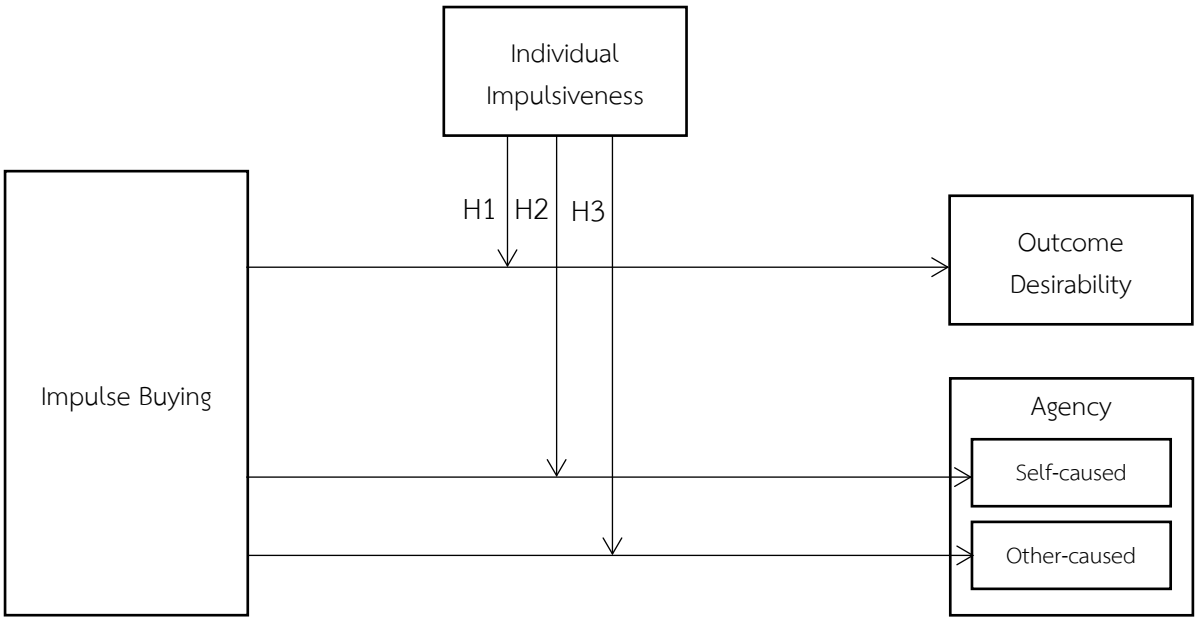

Figure 4.1 Factors influencing the relationship between Impulse Buying and Outcome Desirability and Agency

Effect of Individual Impulsiveness on Other-caused Interpretation: The prudent customers (customers with low impulsiveness) consciously make their decisions according to their needs as a planner; they will be rational, methodical, farsighted, restrained, and responsible for their decisions, while customers with high impulsiveness enjoy spending and are extravagant and easily tempted (Puri, 1996). Hence, customers with high impulsiveness (compare to those with low impulsiveness) would probably familiar to interpret as other-caused. Thus, when they were in the other-caused interpretation, they would probable heighten the interpretation of other-caused. However, the customers would bias to view more familiar events (compare to unfamiliar events) and focus on familiar events rather than unfamiliar one (Fox & Levav, 2000). Hence, impulse customers (customers with high impulsiveness) would probably familiar with other-caused interpretation. When they were in other-caused interpretation, they would be bias to view more familiar events of other-caused interpretation and hence heighten the interpretation of other-caused.

The main effect of impulse buying positively influenced other-caused interpretation. The interaction effect of impulse buying and individual impulsiveness positively influence the other-caused interpretation. In other words, the more the individual impulsiveness, the more the effect of impulse buying on other-caused interpretation. Hence, the individual impulsiveness strengthened the effect of impulse buying on other-caused interpretation.

For circumstance-caused interpretation, impulse customers (those with high individual impulsiveness) would normally buy things impulsively regarding external stimuli such as advertising (Abratt & Goodey, 1990), point-of-purchase appearance (Abratt & Goodey, 1990) and promotions (Adelaar et al., 2003; Liao et al., 2009; Narasimhan et al., 1996; Piron, 1991). However, prudent customers (customers with low impulsiveness) are rational shoppers, they

are usually price-sensitive (Liao et al., 2009) and could switch to another brand that offers a lower price when the standard price reduction is not available (Hartley & Cross, 1988). Moreover, they could be more influenced by costs than the benefits that they could get from the product (Puri, 1996). They are usually familiar with the interpretation of self-caused in normal situation. However, they are also familiar with circumstance-cuased interpretation because they are sensitive to price reduction such as discounted product (Liao et al., 2009). Then there is no difference between impulse and prudent customers (high and low individual impulsiveness) in circumstance-caused interpretation. Hence, we probably could not observe the interaction effect for circumstance-caused interpretation situation.

Hypothesis 3: The relationship between impulsive buying and other-caused interpretation will be moderated by individual impulsiveness.

Method

Sample and Procedure: This study examines impulse buying and the cognitive appraisal of customers. It measures individual evaluations of the buying situation, which will vary across individuals. Therefore, actual interpretation of customer data is essential to obtain valid results. To acquire genuine customer evaluations of impulse buying, data is collected in real buying situations. Self-reporting is appropriate to capture personal evaluations and customers' feelings about the buying event. The measurement is managed in two parts. When customers are exposed to stimuli which induce the urge to buy, they will make impulse-buying decisions. However, if they don't buy the product in a certain period, the impulse feeling will fade out and the customer could end up buying nothing. The impulse feeling is not constant. The feeling of impulse buying weakens over time. Hence, the feeling of impulse buying was collected in the first part of the questionnaire after the impulse-buying decision is made. To collect data on customers' cognitive appraisal, the second part was sent to participants after they received and evaluated the product.

The data was collected in Thailand. Shop owners helped to recruit the participants by sending the link to their customers. The questionnaire was managed in two parts. The self-reported questionnaire was sent to customers after they had purchased the product. Customers responded to the consent form, determining whether they wanted to participate in the study, and were offered two hundred Thai Baht (equal to $6.4) incentive in return. The second part of the questionnaire was sent a few days later. The compensation was paid by bank transfer. The data collecting method was tested and modified in pre-test. Demographics of the response sample were showed in

Table 4.1. Most respondents were female (77.8%) and obtained Bachelor's degree (52.6%).

Table 4.1 Demographics of the response sample (n=508)

Characteristics	Frequency	Percent (%)
Gender		
Male	113	22.2
Female	395	77.8
Age (years)		
< 21	16	3.3
21-30	139	28.4
31-40	131	26.7
41-50	122	24.9
> 51	82	16.7
Education level		
Elemantary School	6	1.2
High School	55	10.8
Vocational Certificate	90	17.7
Bachelor's Degree	267	52.6
Master's Degree	82	16.1
Doctoral Degree	8	1.6
Income (monthly, Thai Baht)		
< 15000	133	27.3
15001-25000	182	37.4
25001-35000	76	15.6
35001-45000	38	7.8
> 45001	58	11.9

Measures: To capture the impulse feeling and to avoid the memory effect, participants reported their impulsivity in the current buying decision after the transaction was complete. For this study, impulse buying refers to the degree of impulsivity when custormers make their buying decision. The participants rated nine items on the " Buying Impulsiveness Scale" developed by Rook and Fisher (1995). Response items included " I often buy things spontaneously," "*Just do it* describes the way I buy things," "I often buy things without thinking," "*I see it, I buy it* describes me," "*Buy now, think about it later* describes me," "Sometimes I feel like buying things on the spur of the moment," "I buy things according to how I feel at the moment," "I carefully plan most of my purchases" (reverse scale), and "Sometimes I am a bit reckless about what I buy." These items were rated on seven-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (7). The criteria of impulse buying were included to make sure that all participants engaged in an impulse-buying decision. Two impulse-buying criteria were the lack of planning and exposure to stimulus. The

participants who did not meet the criteria were excluded. Then, the remaining participants were asked to provide their contact information for the second part of the questionnaire.

The second part of the questionnaire was sent to the participants about a few day after the first part of questionnaire was completed. The second part of the questionnaire started with the measurement of cognitive appraisal, outcome desirability and agency. *Outcome desirability* refers to the participant's evaluation of the current buying outcome, while *agency* refers to the participant's evaluation of the cause of the current buying outcome. The measurements of cognitive appraisal were adapted from previous studies. Four statements measured outcome desirability (Garcia-Prieto Sol Chevalier, 2004; Hosany, 2011; Scherer, 1997; Craig A Smith & Ellsworth, 1985): "How favorable is the product you bought?," "How good do you feel about the product?," "How pleasant or unpleasant are your feelings about the product?" and "To what extent do you think that the product you bought is desirable or undesirable?" The items were rated on a bipolar eleven-point scale, ranging from *unfavorable* (-5) to *favorable* (5), *bad* (-5) to *good* (5), *unpleasant* (-5) to *pleasant* (5), and *undesirable* (-5) to *desirable* (5), respectively. Three single items measured agency (Dalakas, 2006; Ruth et al., 2002; Siemer et al., 2007; Craig A Smith & Ellsworth, 1985): "I was the cause of this buying decision," "Other persons (e.g., friends, family, or salespersons) were the cause of this buying decision," and "Circumstance (e.g., sales promotions, advertising, or store atmosphere) was the cause of this buying decision." All agency items were rated on a monopolar eleven-point scale, ranging from *strongly disagree* (0) to *strongly agree* (10).

Next, the participants were asked to report their personality trait in term of impulsivity, using the "Consumer Impulsiveness Scale" (Puri, 1996). They were asked to read a list of twelve adjectives carefully. The adjectives include words that represent both impulsive and non-impulsive characteristics of the participants. The adjectives were *impulsive, careless, self-controlled, extravagant, farsighted, responsible, restrained, easily tempted, rational, methodical, enjoy spending,* and *a planner*. Then they were asked to indicate how well these adjectives described their habits, from the range of 1 to 7. The participants were informed about the meaning of the numbers. The numbers near 1 indicated that the adjective would usually describe them, the numbers near 4 indicated that it would sometimes describe them, and the numbers near 7 indicated that it would definitely describe them.

Questionnaire Development: To convert the measurement into a Thai version, back-translation was applied. It is the most effective technique to obtain translation equivalence and is also the primary procedure to check the accuracy of a translated version (Chidlow et al., 2014). All measurements were translated forth and back into Thai version by five experts to ensure if the same meaning was maintained. Five Thai versions of the questionnaire were discussed by three judges and revised to the final Thai version. The final version of the questionnaire was tested by three respondents, who were asked to complete the questionnaire by themselves. Then, they explained their understanding of the questionnaire

one question at a time, to ensure the ease of comprehension and the validity of the questionnaire.

Analysis and Findings

Many invitations were made by shop's owners and 978 customers accepted to participate and respond to the first part of the questionnaire. The second part was sent to all participants who complete the first part. Five hundred and ninety-six participants responded to the second part. There were 91 participants who did not complete the second part. So, five hundered and eight were proceeded in the analysis. The response rate was 51.94%. To examine the differences between response and non-response group, non-response bias test was performed. Participants' characteristics and buying behavior variables were tested including age, income, price, hedonic product type, and buying impulsiveness scale. As the results (

Table 4.2), there was mean different ($\Delta\bar{x}$=3.916) in age between response and non-response group. Hence, the participants who did not return the second part of the questionnaire were older than those who return by 3.9 years averagely.

Table 4.2 Non-response Bias Test

	Questionnaire Reture	t-test for Equality of Means				
		Means	S.D.	t	df	p
Age	Yes	38.23	11.809	-3.221**	611	.001
	No	42.15	12.998			
Income	Yes	27169	22285	-1.902	125.56	.059
	No	33555	32796			
Price	Yes	263.428	635.98	.381	610	.703
	No	242.456	215.37			
Product type	Yes	4.93	1.448	-.848	689	.397
	No	5.03	1.437			
Buying Impulsiveness Scale	Yes	3.69	1.07	.902	705	.367
	No	3.61	1.20			

Factor Analysis and Reliability Test: Exploratory factor analyses were applied to Buying Impulsiveness Scale (BIS), Consumer Impulsiveness Scale (CIS), and cognitive appraisal. Since these measurements were translated from other language, some meaning might not transfer to Thai. Specially, outcome desirability (OD), were adapted from many previous studies and have never been developed for impulse buying context. Principal component analysis with factor extraction was performed to Buying Impulsiveness Scale, Consumer Impulsiveness Scale, and outcome desirability. Buying Impulsiveness Scale showed wide range

of standard deviation ranging from 1.334 to 2.008 at the average value ranging from 2.43 to 5.05 (Table 4.3). For Consumer Impulsiveness Scale, each item demonstrated average value ranging from 2.86 to 5.56 with small range of standard deviation ranging from 1.428 to 1.641 (Table 4.4). As the result, we got variety of participants in term of impulse buying and impulsive trait. For outcome desirability, the result showed high positive value on average ranging from 2.13 to 2.30 with standard deviation of .961 to 1.058. It means that participants got more desirable outcome than undesirable outcome.

Correlation among the items of Buying Impulsiveness Scale was moderately correlated in the same direction. However, one tiny negative correlation of BIS6 and BIS8 was reported at 0.004. Consumer Impulsiveness Scale showed many of negative correlations. Since it contains hedonic subscale and reverse-scored prudence subscale (Puri, 1996). All of the negative correlations were congruent with the reverse-scored prudence subscale including Self-controlled, Farsighted, Responsible, Restrained, Rational, Methodical, A planner. For outcome desirability, every item showed high correlation among each other meaning that all items represent the same content of measurement.

Table 4.3 Means, Standare Deviations, and Inter-item Correlations of Buying Impulsiveness Scale (BIS)

	M	SD	BIS1	BIS2	BIS3	BIS4	BIS5	BIS6	BIS7	BIS8	BIS9
BIS1	3.93	2.01	-	.355**	.412**	.388**	.304**	.231**	.313**	.114**	.178**
BIS2	2.53	1.60		-	.532**	.324**	.524**	.073*	.073*	.103**	.344**
BIS3	3.26	1.81			-	.512**	.501**	.163**	.234**	.191**	.283**
BIS4	3.97	1.87				-	.382**	.194**	.335**	.132**	.237**
BIS5	2.43	1.45					-	.120**	.123**	.167**	.427**
BIS6	4.92	1.54						-	.542**	-.004	.028
BIS7	5.05	1.56							-	.005	.013
BIS8	2.85	1.33								-	.203**
BIS9	2.79	1.46									-

** $p < .05$.

Table 4.4 Means, Standare Deviations, and Inter-item Correlations of Consumer Impulsiveness Scale (CIS)

	M	SD	Impulsive	Careless	Self-controlled	Extravagant	Farsighted	Responsible	Restrained	Easily tempted	Rational	Methodical	Enjoy spending	A planner
Impulsive	3.07	1.49	-	.499**	-.049	.375**	-.012	.020	.062*	.422**	.091**	.032	.294**	.065*
Careless	3.10	1.46		-	-.065*	.442**	.033	.010	.089**	.488**	.103**	.080**	.274**	.081**
Self-controlled	4.72	1.64			-	.081**	.477**	.431**	.418**	.036	.435**	.376**	-.012	.336**
Extravagant	3.11	1.44				-	.083**	.013	.171**	.509**	.088**	.080**	.562**	.149**
Farsighted	4.73	1.45					-	.612**	.633**	.061*	.566**	.504**	-.024	.542**
Responsible	5.56	1.46						-	.587**	.043	.655**	.546**	-.114**	.501**
Restrained	4.75	1.44							-	.126**	.628**	.500**	.113**	.489**
Easily tempted	2.86	1.47								-	.112**	.078**	.478**	.098**
Rational	5.34	1.42									-	.583**	-.005	.521**
Methodical	4.98	1.48										-	-.024	.654**
Enjoy spending	3.46	1.60											-	.042
A planner	4.89	1.45												-

* $p < .1$. ** $p < .05$.

Table 4.5 Means, Standare Deviations, and Inter-item Correlations of Outcome Desirability (OD)

	M	SD	OD1	OD2	OD3	OD4
OD1	2.30	.961	-	.849**	.788**	.584**
OD2	2.23	1.058		-	.825**	.569**
OD3	2.29	1.006			-	.598**
OD4	2.13	1.039				-

** $p < .05$.

The KMO of Buying Impulsiveness Scale, Consumer Impulsiveness Scale, and outcome desirability were .790, .857, and .822 respectively. All KMO were more than .5 which confirmed that sample was large enough for factor analysis (Appendix E, F, and G). Besides, all Bartlett's test of Sphericity demonstrated sufficiency of correlations for factor analysis since it was statistically significant at .000 level. Regrading of Buying Impulsiveness Scale, four items, including BIS6, BIS7, BIS8, and BIS9 which acquired the factor extracted value of .134, .194, .078, and .263 respectively. They were not related to other items since these factor extractions were less than .4 (Appendix E) (Costello & Osborne, 2005; Fabrigar et al., 1999). Specially, BIS8 obtain only .152 of factor extraction. It was a reverse scale then it could affect participants to make inconsistent responses with other scales. Once four items were removed, remaining items obtained higher factor extraction than .4. For Consumer Impulsiveness Scale (CIS), factor extraction of Self-controlled was .395 so it was excluded from the study. After remove Self-controlled item, all factor extractions were more then .4 and two components were suggested. To rely with previous study, they were labeled as prudent subscale and hedonic subscale. Prudent subscale consisted of Farsighted, Resposible, Restrained, Rational, Methodical, and A planner while hedonic subscale consisted of Impulsive, Careless, Extravagant, Easily tempted, and Enjoy spending.

Squared Multiple Correlation recommended to exclude Self-controlled of consumer impulsiveness scale and two items of BIS1 and BIS4 since the value were less than .3 (Appendix E and Gผิดพลาด! ไม่พบแหล่งการอ้างอิง). Internal consistency was assessed by Cronbach's alpha and corrected item-total correlation. Cronbach's alpha of all variables was more than .7 while corrected item-total correlation of all variables were more than .5 (Table 4.6). Thus, the measures of all variables were consistent and reliable. The authors performed composite reliability and average variance extracted (AVE) to examine convergent validity of all variables. As the result, composite reliability was more than .7 (Nunnally & Bernstein, 1994) and average variance extracted (AVE) were more than .5 (Fornell & Larcker, 1981) for all variables (Table 4.6).

Table 4.6 Scales Summary for Buying Impulsiveness Scale (BIS), Consumer Impulsiveness Scale (CIS), and Outcome Desirability (OD)

Scale items	Cronbach's alpha	Factor loadings	AVE	Composite reliability
Buying Impulsiveness Scale	.764		.680	.864
BIS2		.834		
BIS3		.822		
BIS5		.818		
Consumer Impulsiveness Scale				
Hedonic Subsacle	.762		.651	.849
Extravagant		.817		
Easily tempted		.767		
Enjoy spending		.836		
Prudent Subscale	.887		.634	.912
Farsighted		.798		
Responsible		.801		
Restrained		.805		
Rational		.823		
Methodical		.781		
A planner		.768		
Outcome Desirability	.904		.781	.934
OD1		.920		
OD2		.928		
OD3		.916		
OD4		.760		

Table 4.7 Measurement Reliability of Buying Impulsiveness Scale (BIS), Consumer Impulsiveness Scale (CIS), and Outcome Desirability (OD)

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Buying Impulsiveness Scale					
BIS2	5.70	7.980	.610	.373	.657
BIS3	4.97	7.027	.593	.351	.687
BIS5	5.80	8.853	.585	.344	.691
Consumer Impulsiveness Scale					
Hedonic Subsacle					
Extravagant	6.32	7.028	.624	.390	.645
Easily tempted	6.57	7.267	.557	.313	.717
Enjoy spending	5.97	6.455	.598	.365	.674

Prudent Subsacle					
Farsighted	14.48	34.526	.707	.527	.867
Responsible	15.31	34.298	.719	.542	.865
Restrained	14.50	34.767	.700	.525	.868
Rational	15.09	34.376	.735	.564	.863
Methodical	14.73	34.545	.687	.525	.870
A planner	14.64	35.112	.665	.498	.874
Outcome Desirability					
OD1	6.58	8.011	.836	.737	.843
OD2	6.66	7.595	.820	.740	.846
OD3	6.59	7.872	.832	.715	.843
OD4	6.77	8.579	.608	.379	.926

Regression Analysis: To test interaction effect for all hypotheses, product term between impulse buying and individual impulsiveness was calculated. Factor score obtained from factor analysis was used to avoid multicollinearity since it was centered. Since Buying Impulsiveness Scale and Consumer Impulsiveness Scale are quite similar in term of impulsivity, multicollinearity was test statistically. First, correlations among Buying Impulsiveness Scale (BIS), Consumer Impulsiveness Scale (CIS), and their product term were obviously less than .7 (Table 4.8). Furthermore, tolerance values of each variable were higher than 0.1 and VIF is lower than 10. As a result, there was no multicollinearity problem (Table 4.8). The authors employ regression analysis to examine the effect of moderator, individual impulsiveness, on the relationship between impulsive buying and cognitive appraisal.The regression equation shown below.

$$y = \propto + \beta_1 x + \beta_2 z + \beta_3 xz$$

Where: y = dependent variable

$\propto$ = intercept term

β_i = regression coefficients

x = independent variable

z = moderator variable

xz = independent variable/moderator variable interaction

Table 4.8 Correlations of Buying Impulsiveness Scale (BIS), Consumer Impulsiveness Scale (CIS), and Product Term

	Impulse Buying	Individual Impulsiveness	BIS_CIS	Tolerance	VIF
Impulse Buying	-	-.213**	-.038	.929	1.076
Individual Impulsiveness		-	.168**	.955	1.048
Cross-product term			-	.972	1.029

** $p < .01$.

The result demonstrated negative main effect of impulse buying and negative interactive effect (between individual impulsiveness and impulse buying) on outcome desirability and self-caused interpretation (Table 4.9). As a result, outcome desirability (R^2=6.2%) can be influenced by impulse buying ($\beta_{\text{impulse buying}}$=-.239, p=.000) and cross-product term ($\beta_{\text{cross-product term}}$=-.116, p=.015). Likewise, self-caused interpretation (R^2=9.8%) can be influenced by impulse buying ($\beta_{\text{impulse buying}}$=-.312, p=.000) and cross-product term ($\beta_{\text{cross-product term}}$=-.101, p=.030). Hence, the result supported first and second hypotheses. The personality trait in term of impulsivity moderated the relationship between impulse buying and outcome desirabililty. It also moderated the relationship between impulse buying and self-caused interpretation.

On the other hand, the results showed positive main effect of impulse buying and negative interaction effect (between individual impulsiveness and impulse buying) on other-caused interpretation (Table 4.9). As a result, other-caused interpretation (R^2=8.3%) can be influenced by impulse buying ($\beta_{\text{impulse buying}}$=.269, p=.000). and cross-product term ($\beta_{\text{cross-product term}}$=-.104, p=.027). Then, the hypotheses three was supported. As predicted, the results demostarated only positive main effect of impulse buying and no interaction effect (between individual impulsiveness and impulse buying) on circumstance-caused interpretation (Table 4.9). The circumstance-caused interpretation (R^2=2.3%) can be influenced by impulse buying ($\beta_{\text{impulse buying}}$=.166, p=.000).

Since there were many factors that pay an important role in impulse buying, we should control these factors to ensure that they will not affect the model. Then, this study provided additional examination for the impact of suspected factor in impulse buying studies. The variables to be tested were price, income, disposable income, and product type. For instance, price, income and disposable income related to most impulse-buying indicators (Bashar et al., 2013). These variables referred to the purchasing power of the customers which could impact the model. Besides, product type (hedonic vs. utilitarian) is widely recognized and examined in impulse-buying studies (Saleem et al., 2012; Yu & Bastin, 2010). Then it might affect the

customers' interpretation. Hierarchical regression analysis was performed. Regarding the results (Table 4.10), outcome desirability (R^2=5.4%) can be negatively influenced by impulse buying ($\beta_{\text{impulse buying}}$=-.257, p=.000). Besides, self-caused interpretation (R^2=9.2%) can be negatively influenced by impulse buying ($\beta_{\text{impulse buying}}$=-.295, p=.000). However, other-caused interpretation (R^2=8.6%) can be positively influenced by impulse buying ($\beta_{\text{impulse buying}}$=.229, p=.000). And, circumstance-caused interpretation (R^2=3.7%) can be positively influenced by impulse buying ($\beta_{\text{impulse buying}}$=.135, p=.000). The results suggested that all control variables did not affect the model.

Table 4.9 Moderating Analysis for the Relationship between Impulse Buying and Cognitive Appraisal

	Outcome Desirability		Self-caused		Other-caused		Circumstance-caused	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Constant	2.243	2.243	6.014***	6.014***	3.523***	3.523***	4.334***	4.335***
Impulse Buying	-.236***	-.239***	-.312***	-.312***	.271***	.269***	.167***	.166***
Individual Impulsiveness	ns	-	ns	-	ns	-	ns	-
Cross-product term	-.110**	-.116**	-.103**	-.101**	-.099**	-.104**	ns	ns
***F* statistics**	10.397***	14.935***	15.988***	23.969***	13.629***	20.053***	4.036***	5.935***
Adjusted R^2	.063	.062	.096	.098	.083	.083	.021	.023
Δ *F* (sig.)		no		no		no		no

** $p < .05$. *** $p < .01$.

Table 4.10 Regression Model for Control Variables

	Outcome Desirability		Self-caused			Other-caused		Circumstance-caused	
	Step 1	Step 2	Step 1	Step 2	Step3	Step 1	Step 2	Step 1	Step 2
Constant	2.239***	2.220***	5.996***	6.026***	5.957***	3.998***	3.947***	4.723***	4.695***
Price	ns	ns	ns	ns		ns	ns	ns	ns
Income	ns	ns	ns	ns		ns	ns	ns	ns
Disposable Income	ns	ns	.222**	.223**	ns	ns	ns	ns	ns
Hedonic/Utilitarian product	ns	ns	ns	ns		ns	ns	ns	ns
Impulse Buying		-.257***		-.304***	-.295***		.229***		.135***
***F* statistics**	ns	6.013***	ns	9.080***	20.862***	5.374***	9.198***	3.473***	4.353***
Adjusted R^2	-.003	.054	.010	.093	.092	.038	.086	.022	.037
Δ *F* (sig.)		yes		yes	no		Yes		yes
Δ R^2		.059		.085			.049		.017

** $p < .05$. *** $p < .01$.

Discussion and Conclusion

As the result of interaction effect, individual impulsiveness moderates the relationship between impulse buying and outcome desirability, self-caused, and other-caused interpretation. It confirmed that the relationship between impulsive buying and outcome desirability will be stronger for customers with high impulsiveness (compare to those with low impulsiveness). Since the relationship between impulse buying and outcome desirability was negative and the interactive effect of individual impulsiveness and impulse buying was also negative. In other words, the more the individual impulsiveness, the more the effect of impulse buying on outcome desirability.

Likewise, the relationship between impulsive buying and self-caused interpretation will be stronger for customers with high impulsiveness (compare to those with low impulsiveness). Because the relationship between impulse buying and self-caused interpretation was negative and the interactive effect of individual impulsiveness and impulse buying was also negative. In other words, the more the individual impulsiveness, the more the effect of impulse buying on self-caused interpretation.

However, the relationship between impulsive buying and other-caused interpretation will be weaker for customers with high impulsiveness (compare to those with low impulsiveness). Since the relationship between impulse buying and other-caused interpretation was positive but the interactive effect of individual impulsiveness and impulse buying was negative. In other words, the more the individual impulsiveness, the less the effect of impulse buying on other-caused interpretation. Nevertheless, individual impulsiveness demonstrated no interactive effect on circumstance-caused but only main effect of impulse buying on circumstance-caused interpretation as predicted.

The results were congruent with previous studies **(**Puri, 1996; Ramanathan & Williams, 2007**)** that the customers with high impulsiveness will habitually pay less attention and buy thing impulsively. Since they were not familiar with obtaining desirable product, then the level of outcome desirability would be lower when they obtain desirable product. However, the interpretation of current buying situation depends mainly on whether they make impulse or not impulse buying and get undesirable or desirable product repectively. Hence, individual impulsiveness is not supposed to provide main effect on outcome desirability and agency interpretation. This findings supported by previous studies that the customers would bias to view more familiar events (compare to unfamiliar events) and focus on familiar things rather than unfamiliar one (Fox & Levav, 2000).

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