

Intercepting Stimulus-Organism-Response Model, Theory of Planned Behavior and Theory of Expectancy Confirmation in the Study of Smartphone Consumer Behavior: A Thai University Student Perspective

¹Chai Ching Tan, Wanwisa Praditmon, Arpakorn Pattanadeekul and Sakolwan Chimwan

School of Management, Mae Fah Luang University, Thailand.

¹E-mail: drcctan@yahoo.com

Received: June 3, 2019; **Revised:** June 18, 2019; **Accepted** August 24, 2019

Abstract

This research targets two very important objectives. First, it exploits the similarity structure of the theory of planned behavior, expectancy confirmation theory and the stimulus-organism-response (S-O-R) model, in broadening the social-psychological context in the use of the S-O-R model, and which renders the model being capable of embracing a broad-based, strategically competitive structure of business competition that centralizes on marketing mix strategy, customer value proposition and customer attitude. Second, through both explorative and explanatory efforts of an action learning and PDCA (Plan, Do, Check, Act) approach to business research, a S-O-R model, that is capable of explaining of the smartphone consumer behaviors, is corroborated, which highlights significant roles played by business model structure of variables, and organism variables constituting brand trust, customer satisfaction and brand equity, in explaining the variance of customer loyalty. Customer switching cost, which is a direct result of perceived customer value, is also shown to influence brand trust, significantly.

Keywords: consumer behavior; smartphone; action learning; marketing; customer satisfaction;

Introduction

Smartphone is a significant retail sales item, partly driven by an accelerating growth of mobile commerce (m-commerce). The eMarketer (2016, 4 March) estimates, for instance, that the US retail m-commerce sales would reach around USD 178 billion in 2018. For retail sales, it is widely recognized that customer satisfaction and customer loyalty are two important consumer behavioral outcomes that can significantly improve retail performances, such as in terms of consumer spending, repurchase intention, and advocacy (Srivastava & Kaul, 2016). Theoretical foundations that confirm these consumer behavioral phenomena are available in the extant literature, for instance by exploiting the expectation confirmation theory (Oliver, 1980), or by exploiting brand attachment advantage as the driving force to generate the continuance intention to purchase smartphones (Hew et al. 2017). Nevertheless, although many of the consumer behavioral theories are valid, but to exploit their advantages, it is important the exact structure of the relationships and contents of the types of variables that influence smartphone purchase or decision making that matches the markets targeted, is outlined and explained. As the Thai smartphone consumer behaviors are relatively unknown, this research is thus aimed to contribute both theoretically and practically in exploring for a broad-based structure of consumer behavioral model. Being a broad-based structure, the theoretical model is flexible to embrace operational adjustments and strategic focus of different brand marketers and organizations. In addition, by extracting the perceptions directly from the consumers of the targeted markets it provides the foundations for representative and content validity that fits the demands, expectations and realities of the markets. In addition, by focusing on the Thai markets, it also allows the construction of theoretical model that best suits the consumer behaviors of the markets, and thus better reflects the internal validity and construct validity demanded for strategic competitive advantages of the brand marketers or organizations.

Problem Statement and Purpose of the Study

Research problem is the heart of any research project as it enables the researchers to get off a strong start in the research effort (Nenty, 2009). In one of the recognized Thai broadcasting media, Thai PBS (2016, Dec.), it is reported that 81% of Thai own smartphones, which is higher than the global average of 45%. The per-person average time spent on smartphone usage is 160 minutes a day, which is the 2nd highest in Southeast Asia after Malaysia (Bangkok Post, 2016, 22 Jan.), in which the patterns of usage are categorized into six types namely social stars prioritizing on social networks, chat and voice over IP (VoIP) apps and browsing, and power users who sent on gaming, chat and VoIP, Line and YouTube, and explorers, data guzzlers, conversationalists who focus

on making calls and use of Line and Facebook, and dabblers, as shown in Table 1.

Table 1
Thai Smartphone User Types

	Overall	Social Stars	Dabblers	Power Users	Conversationists	Data Guzzlers	Explorers
Time Spent	160	140	122	208	130	169	191
App & Games Installs/Month	9.1	10.5	7.4	10.6	11.3	10.7	8.7
Total Data Consumption MB/Day	503	508	424	535	505	604	467

Source: Bangkok Post (2016, 22 Jan.)

Though Thai society has high demand for smartphones, research is lacked in the study of buying behaviors, such as concerning whether Thai consumers are brand conscious or not, and if so, which aspect of and how brand role play in influencing the buying decisions. In addition, decision-making drivers for smartphones in the Thai society are also unknown. As such, there are two-fold research objectives:

First, to contribute to the body of knowledge of consumer behaviors which exploits the similarity structure of the theory of planned behavior (TPB), expectancy confirmation theory, and the stimulus-organism-response (S-O-R) model, in broadening the social-psychological context in the use of the S-O-R model, and which renders the model being capable of embracing a broad-based, strategically competitive structure of business competition, such as, by exploiting the business model concept in the simulation analytics.

Second, to identify the key variables that constitute the structure of a stimulus-organism-response (S-O-R) model, as addressed in the first research objective, to explain smartphone consumer behavior, based on an explorative research effort of a student group that exploits convenience-based accessibility of the student peers.

Literature Review

The first research objective is addressed by the use of literature review. Theory of Stimulus-Organism-Response (S-O-R) in the study of consumer behavior is the essential theoretical concept for this research. From the marketing viewpoint, S-O-R is a theory of information-processing behavioral responses (cf. Smith, 1968). S-O-R is a functionalist orientation or approach to psychology in experimental psychology (cf. Woodworth, 1938; Woodworth & Schlosberg, 1954), which depicts an extended difference from the behaviorist

S-R (Stimulus-Response) approach to psychology (Woodworth, 1918). S-R model of consumer behavior can be seen in learning-driven consumer behavioral model. For instance, the concept of “reinforcement”, as the basis of operant conditioning, advocates that “if someone buys a product and is pleased with the outcome of using it, then he or she is likely to buy the product again” (Blythe, 2008: 116). In other words, the positive reinforcement induces the consumers’ continuance of usage or purchase of the products and services. Thus, from the learning perspective, the S-R model, being indicative of classical learning and operant conditioning theories, advocates that consumer behavior is automatic and subjective to the conditioning factors of stimulus (both conditioned and unconditioned stimulus), whereas the S-O-R model assumes that “there is a conscious process going on” (Blythe, 2008), which is indicative of cognitive learning that centralizes on how the consumption phenomenon is learned rather than on what is learned (S-R).

In reality, stimulus can be both external or internal. Tan (2016) provides numerous empirical evidences on this aspect, in areas of social entrepreneurship, consumer behaviors, human resources, marketing and social media-based consumer engagements. In short, internally, consumers are stimulated by their own perceptions, affections and mental formations, and attitude, which is a social-psychological phenomenon that further induces cue selection, cue interpretation, and sense-making. External stimulus could be tangible or intangible. While the former is easier to comprehend, such as destination landscape that attracts tourists, the latter – intangible – is not so obvious but plays significantly important role to induce psychological reactions (organisms) of the consumers, i.e. by the use of marketing communication, proxemics (refers to the “use of physical space in conveying a perceptual stimulus for instance the distance between the shop assistant and the customers”, Blythe, 2008, p. 96), kinesics (“about body language, eye contact and gesture” of shop assistant reacting to the customers, Blythe, 2008: 97), paralanguage (“the way words are used” by the shop assistant to the customers, Blythe, 2008). Specifically, organism manifests the perceptions, emotions, judgments, thinking and motivation of the consumers as a result of experiential encounters with the stimulus. For instance, the consumers “use the input selector to select clues and assign values to them. For quality, the cues are typically price, brand name and retailer name” (Blythe, 2008). Blythe (2008) also argue from the Weber’s Law which states that “the size of the least detectable change”, manifested as indication of customers’ organism, “depends on the size of the stimulus” Stimulus can be auditory, visual or kinaesthetic (touch) in nature (Blythe, 2008), or product’s intrinsic attributes, or attitude as a result of customers’ prior knowledge (Rao & Monroe, 1988) about the products, services or certain lifestyles pertaining to the use of the products and services.

Now that the essential background for the S-O-R concept is presented, what follows are aimed to address the first research objective. Two important theories of consumer behavior are used to strengthen and broaden the understanding of the S-O-R concept, by centralizing on the similarity with the theory of planned behavior (TPB) and expectancy confirmation or disconfirmation theory. The existing literature has not particularly explaining their similarities and thus this research makes an incremental effort to help expand the generalizability strength. While the former attempts to explain consumer behavior from the “as-planned” attitude or preparatory states of confidence of the customers, the latter explains consumer behaviors from the “as-expected” perspective which connotes “about what the individual thinks the object will do” (Blythe, 2008).

From the argument of cognitive learning perspective, the “O” of the S-O-R model of consumer behavior indicates the cognitive process that is subjected to cognitive effort, cognitive structure, analysis, elaboration (structuring to form coherent whole in the cognitive process) and memory of the customers, and is thus also very much related to planned behaviors in alignment with expectations. Thus, TPB and the theory of confirmation or disconfirmation match well with the S-O-R model. The “O” also encompasses customers’ positive or negative experiences of the products and services, as a result of the purchase response. In this sense, the S-O-R model is not only linear but actually allows feedback-loop influence, or in certain familiar occasions, enabling “S” to effect “R” directly, bypassing the “O”.

First, the theory of planned behavior (TPB) is explained, followed by the expectancy confirmation or disconfirmation theory. TPB provides a robust theoretical base to explain the likely state of consumers to perform behaviors that correspond to consumer attitudes, perceptions that the consumers can confidently influence the behaviors in favorable manner, and also the views of others (Ajzen, 1991). The latter could also include perceived social pressure (Fishbein & Ajzen, 1975). It is not necessary that the perceived behavioral control is a property solely of the customer control, but it can be a property of the supplier’s control in that the suppliers are trusted in the ability to meet the expectations of the customers, and thus the customers perceive that they can rely on the products and services to deliver to the expectations (Tan, 2016). This concept borrows the theme prescribed in the expectancy confirmation or disconfirmation theory (Oliver, 1980) which is to tightly related to how consumers learn through experiencing the products and services. That is, when the consumers form the trust of the products and services, owing to better knowledge about the reliability and values provided by the products and services, the consumers would perceive lower risks of disconfirming the original expectations. In this way, the consumers form the positive perceived behavioral control that the trust of the quality and functions of the products and services

will lead to the expectation. On the similar count, the consumers can rely on more knowledgeable friend to help in elaborating the features of the products and services, and thus the subjective norms would also directly influence the perceived behavioral control, as it is prescribed in TPB. The key point here, however, is that “people understand that they need to know about the products they buy, especially when a major commitment is involved” (Blythe, 2008: 125) in the purchase of Apple smartphone, which can cost in the range of 20,000-30,000 Baht per new phone in Thailand (Apple, 2017).

Second, as to the expectancy confirmation or disconfirmation theory, it explains consumer satisfaction or dissatisfaction, which is based on whether expectations are met at post-purchase evaluation. That is, when a consumer experiences dissonance in that the product actually has different attributes which are different from the expected benefits, consumers would be unsatisfied; otherwise, when in consonance, consumers would be satisfied. Thus, it is important marketers stimulate to the degree that it reduces the perceived post-purchase dissonance (an aspect of organism). On the other hand, in negative stimulus, that is when products and services are not able to satisfy or meet the expectations of the consumers, given the cost and effort of obtaining the products and services (Woodruff et al. 1983), the perceived dissonance would eventually lead to, for instance, unfavorable voice responses (complaining to the supplier), private responses (negative word-of-mouth), third-party responses (by taking legal actions or complains to a consumer rights organization, Singh, 1988), or switching to alternative choices.

The previously addressed similarities between S-O-R, TPB and the expectancy confirmation theory can be illustrated in Table 2, which one must bear in mind that this configuration is not inclusive of all the possible socio-psychological phenomena in a typical consumer behavior – only to be treated as a structural guide to facilitate the creative and flexible conceptions of the relevant constructs or variables that pertain to the research problem or issue at hand.

Table 2

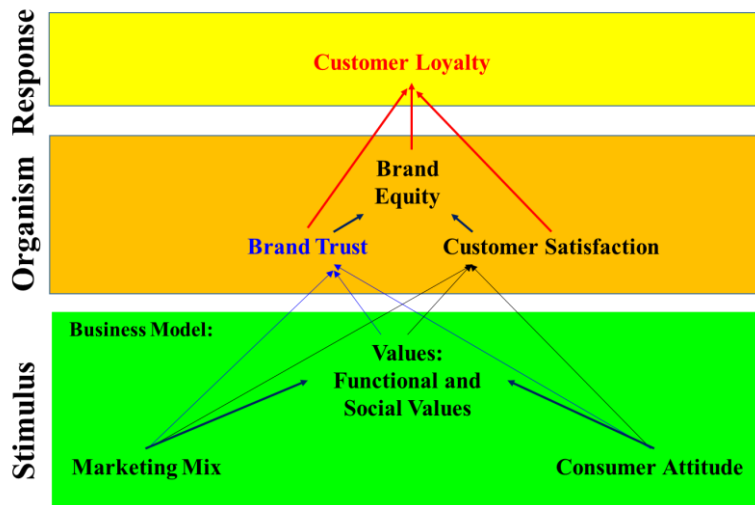
Similarity Structure of TPB and Expectancy Confirmation Theory with the S-O-R Model

	TPB	Expectancy Confirmation Theory
R	Intention, Behavior (Loyalty)	Satisfaction
O	Perceived behavioral control (PBC)	Post-purchase evaluation
S	Attitudes Subjective Norms	Expectations
Woodworth (1938)	Ajzen (1988, 1991)	Oliver (1980)

To empirically test the applicability of the S-O-R model in addressing the research objective two, the S-O-R model adapted for explaining smartphone consumer behaviors, as shown in Figure 1, is proposed, which adapts the value co-creation business model concept of Aung and Tan (2016) for tourism destination development. In other words, the stimulus underpins on a strategic management model that aims to exploit the usefulness of business model competency in winning the minds and hearts of the consumers, i.e. through brand positioning. The organism aspect, as shown in Figure 1, is represented, in the climax, by brand equity, which is made possible through both brand trust and customer satisfaction. Both brand trust and customer satisfaction are accomplished based on a business-model stimulus established through marketing mix strategies, the customer values delivered, and consumer attitude. Consumer attitude exploits the concept of TPB and consumer as key stakeholder or player in the value co-creation. Customer loyalty is treated as the ultimate response anticipated by the retailers, which indicates the repetitive tendency of the consumers through attitudinal, behavioral and conative dispositions (Oliver, 1980).

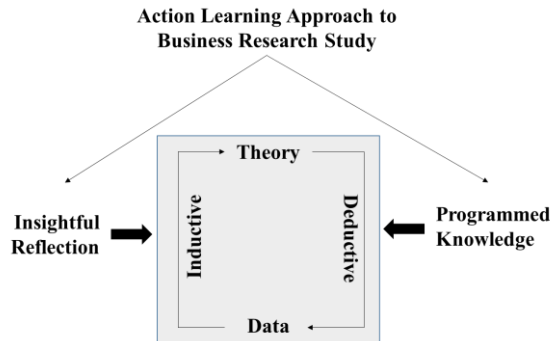
Figure 1

The Conceptual Model

**Research Methods**

Business research, according to Sekaran (2000), is defined as “an organized, systematic, databased, critical, objective, scientific inquiry or investigation into a specific problem, undertaken with the purpose of finding answers or solutions to it.” In attributable sense, business research is thus purposive, rigorous, testable, replicable, precision and confidence oriented, objective, generalizable, and parsimonious in nature (Sekaran, 2000). From a business operations perspective, business research can be treated as a product or service that is intellectuality-or knowledge-based. Thus, a PDCA (Plan, Do, Check, Act) approach to business research is adopted, which exploits action learning advantage that underpins on the advantages of both systematic programmed knowledge and the creative and insightful reflection stages of the researchers, to cycle through the empirical data and theoretical constructions which also stands on the robust deductive reasoning (works from the more general to the more specific) and inductive reasoning system and platform of rigorous research processes (which establishes theoretical generalization through specific observations of what the consumers do, perceive, feel, and think).

Figure 2
Action Learning Approach to Business Research



Specifically, the PDCA structure of the research design is explained as follows:

- Plan – Research issue and problem identification, and methodological plan.
- Do – Execute the research plan in order to answer the research objective, which involves literature review, focus group discussion and brainstorming, interviewing to collect preliminary information about consumer attitude and behaviors, clarification through interviews, and questionnaire design guided by quality assessment criteria consisted of construct validity, content validity and reliability, and actual data collection.
- Check – Data analysis and insightful reflection with particular emphasis on multi-actor and multi-method triangulation, including an analytical attempt towards theoretical triangulation by reflecting on how the results can be interpreted from the themes of other available theories, such as the Theory of Planned Behavior (TPB), and expectancy theory of confirmation and disconfirmation.
- Act – A repetitive research process that aims to improve research procedures, such as conceptualization of construct, and theoretical framework re-designing, including adjustments to research titles and writing styles of the reports.

This research is undertaken by 40 groups of students currently pursuing for their Bachelor degree majoring in Business Administration (BA), consisting of 4 students per group. The students in the BA major are roughly around 500 students, and thus, by the recommendation of Krejcie & Morgan (1970), who have greatly simplified the sample size decision by providing a table that ensures good decision model, a 200-sample size is employed. The pilot-testing

and the use of interviews seeking first the perceptions of the student consumers to assist the development of questionnaires helps ensure larger effect sizes in the multiple regression outcomes, which provide a robust base for smaller sample size (Cohen, 1992). The effect size is shown to be relatively large, at

$$\sqrt{\frac{t^2}{t^2 + df}} \text{ (Cozby \& Bates, 2012: 271)} = \sqrt{\frac{(8.64)^2}{8.64^2 + 195}} = 0.526, \quad \sqrt{\frac{8.97^2}{8.97^2 + 195}} =$$

0.5404, and $\sqrt{\frac{13.091^2}{13.091^2 + 195}} = 0.6839$, for respectively the role played by brand trust, brand equity, and customer satisfaction in explaining the variance of customer loyalty, as given in Table 3. As a result of the PDCA cycle, the questionnaire instrument is developed, which is shown in Table 4.

Table 3
Multiple Regression for Customer Loyalty

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946 ^a	.895	.893	.23143

a. Predictors: (Constant), CUSTOMER SATISFACTION, BRAND TRUST, BRAND EQUITY

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	88.816	3	29.605	552.742	.000 ^b
	Residual	10.444	195	.054		
	Total	99.261	198			

a. Dependent Variable: CUSTOMER LOYALTY

b. Predictors: (Constant), CUSTOMER SATISFACTION, BRAND TRUST, BRAND EQUITY

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-.226	.113		.046
	BRAND TRUST	.277	.032	.276	.000
	BRAND EQUITY	.320	.036	.304	.000
	CUSTOMER SATISFACTION	.459	.035	.487	.000

a. Dependent Variable: CUSTOMER LOYALTY

Table 4
Questionnaires Design

INDICATORS	FACTOR LOADING		CRONBACH ALPHA	
	N=20 Pilot- Test	N=200	N=20 Pilot-Test	N=200
Brand Trust: Brand trust is defined as the confidence that customers find what is desired (Deutsch, 1973)				
BT1) My overall confidence in iPhone	0.848 0.784	0.927 0.912		
BT2) iPhone represents products that will offer quality on promises	0.800	0.909	0.820	0.928
BT3) iPhone always offer great reliable feature	0.780	0.929		
BT4) iPhone has high-quality sales and supported with excellent after-sales services.				
Consumer Attitude: Consumer attitude is a composite of a consumer's beliefs, feeling and behaviors representing the forces that influence how the consumer will react to the product.				
CA1) I think iPhone offers very reliable products	0.823	0.909		
CA2) iPhone has the highest credibility among smartphone alternatives.	0.869 0.837	0.912 0.907	0.860	0.921
CA3) iPhone matches my expectations	0.850	0.911		
CA4) My overall believability of the information on iPhone	0.844	0.917		
CA5) iPhone is the first choice in my decision.				
Functional Value: Functional value measures consumer's valuation of possession of products or consumptions from the aspect of functional utility of the products and the consumptions (cf. Almquist, Senior, & Bloch, 2016; Sheth et al. 2011).				
FV1) iPhone has high manufactured performance.	0.914	0.930		
FV2) iPhone is equipped with technology best suited my lifestyle.	0.877 0.910	0.929 0.941	0.911	0.940
FV3) iPhone has variety of application functions responding to my needs and wants.	0.899	0.929		
FV4) iPhone design is simplicity with touchscreen attractiveness.				

Social Value: Social value measures consumer's valuation of possession of products or consumptions from the aspect of how the products delivers or manifests the impression of others to the consumer by the use of the products (cf. Sheth et al. 2011).					
SV1) iPhone has high-class image.	0.890	0.933			
SV2) iPhone can make social gain	0.833	0.866			
SV3) iPhone adds visually appealing value to attract people around me.	0.833	0.866			
SV4) iPhone is representative of the up-to-date lifestyle.	0.935	0.909	0.890		0.907
Brand Equity: According to Aaker (1996: 7-8), brand equity is a set of assets (and liabilities) linked to a brand's name and symbol that adds to (or subtracts from) the value provided by product or service to a firm and/or that firm's customers."					
BE1) iPhone brand has an established reputation.	0.858	0.909			
BE2) iPhone brand logo easily recognized and stands up among the crowds.	0.858	0.905	0.870		0.908
BE3) Using iPhone brand always give me great pleasure – providing emotional value to me.	0.874	0.892			
Marketing Mix: Marketing mix is the marketing strategies that focus on the design of the products and the promoting of it as well as the place for distribution and the price tags.					
MM1) Prices are worth with the quality of the phone.	0.884	0.912			
MM2) The operating system of iPhone is an advantage over other phones.	0.884	0.913			
MM3) Distribution channel is diverse and beautifully decorated.	0.871	0.922	0.890		0.923
MM4) There is convenience in obtaining information on channels such as by calls, faxes, e-mail and website.	0.888	0.914			
MM5) The product has advertised through the media as is required by law.	0.862	0.909			
Customer Satisfaction: Customer satisfaction measures an emotional reaction or an overall customer attitude towards a service provider (Levesque & McDougall, 1996)					
CS1) I am satisfied with the body style of iPhone.	0.885	0.931			
CS2) I am satisfied with the product (iPhone) I chose,	0.899	0.941			
CA3) I have truly enjoyed this Product (iPhone).	0.897	0.933	0.902		0.938
CA4) I'm sure it was the right	0.905	0.925			

thing to buy this Product [iPhone]. CA5) iPhone is exactly what I need.	0.867	0.920			
Customer Loyalty: Customer loyalty measures the dispositional or attitudinal commitment to maintaining an ongoing relationship with the brand, the products and services (Bloemer & Kasper, 1995; Oliver, 1980).					
CL1) I'll be back to buy a new version of iPhone every time new version is available.	0.901	0.896			
CL2) I have commitment to use iPhone continuously.	0.834	0.839	0.859		0.880
CL3) I will certainly re-purchase iPhone	0.801	0.883			

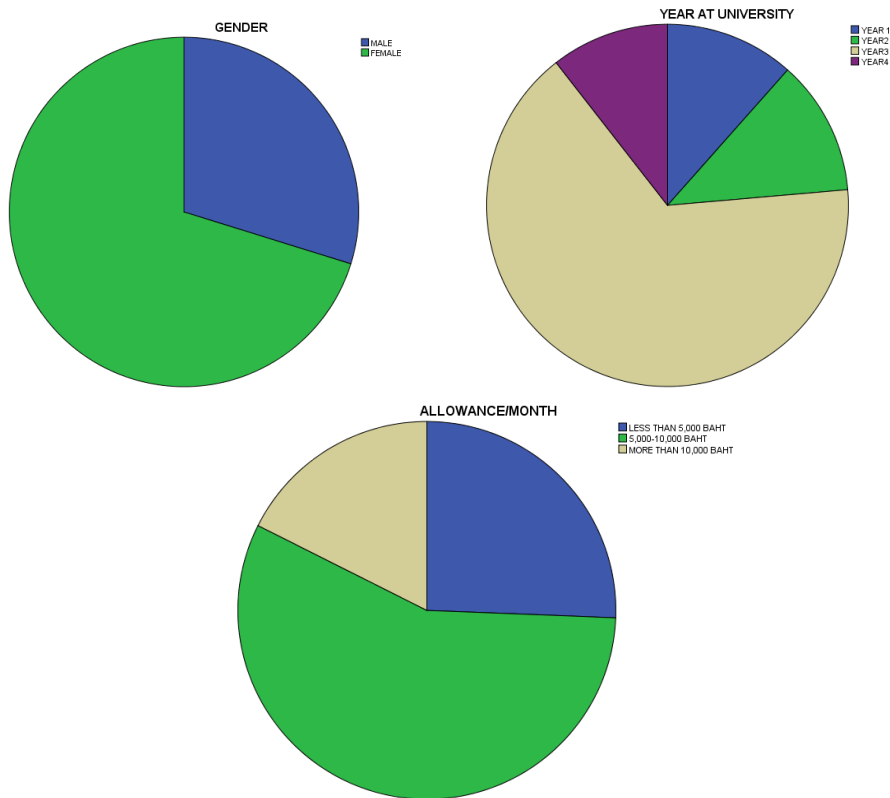
To activate action learning in the research works, additional action learning guidelines provided in Brockband & McGill (2007: 282) are adapted:

- Students meet together in a group (known as a set).
- Each student other than the facilitator brings a perspective to the set that they wish to be considered for further investigation.
- The students meet each day to discuss over the progress of the research.
- The set creates explicit conditions, “ground rules” on which to operate to ensure effective working, such as on following the interview protocols and prompting questions that align to help enlighten the research objective, and to get a good picture of the research instrument design.

Data Analysis and Discussion

The participants in the surveys are the students who are currently studying in the School of Management at Mae Fah Luang University, and they major in Business Administration, and who have had used iPhone for more than one year. The student demographic profile is shown in Figure 3, which indicates 29.8% of male and 70.2% of female students. The majority of the students are in the third year of their university education at Mae Fah Luang University, sharing 65.8%, while 11.6% are first-year, 12.1% are second-year, and 10.6% are fourth-year students. Age wise, majority of the students fall between 20 and 21 years of age, while the rest, at 9% for 18-19 years old, and 16.1% for students over 21 years old of age. The students also indicate they have 5,000-10,000 Baht of monthly allowances, at 56.8%, while 25.6% below 5,000 Baht and 17.6% with monthly allowances more than 10,000 Baht.

Figure 3
The Demographic Profile of the Survey Participants



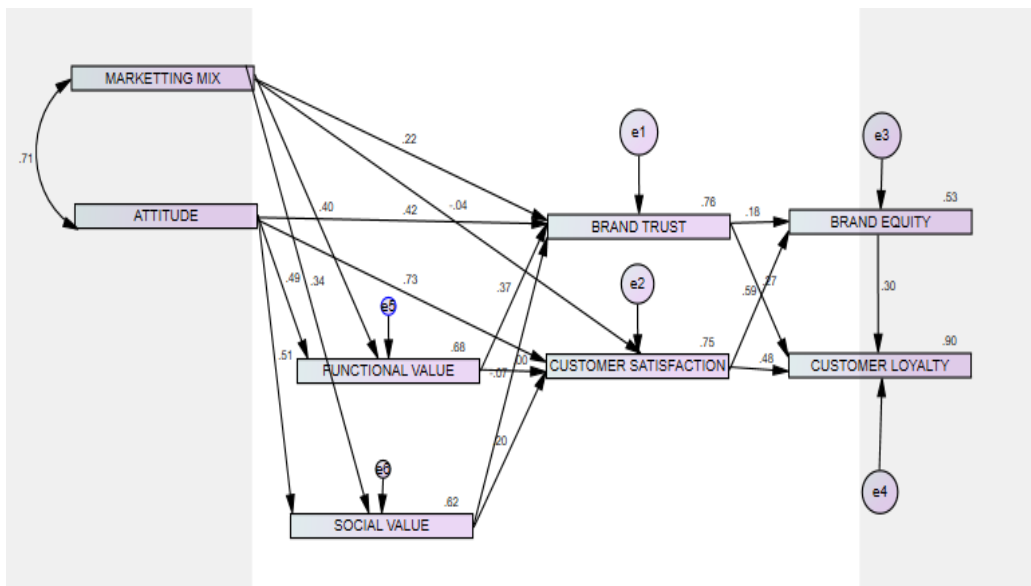
The descriptive means and standard deviation profiles of the concerned variables or constructs are presented in Table 5, with the mean most beyond 4 in the five Likert Scale continuum – from 1 (Strong Disagree) to 2 (Disagree), to 3 (Neither Disagree nor Agree), to 4 (Agree) and 5 (Strongly Agree). Thus, most students as consumers in the survey participation welcome the positive structural influences of the S-O-R mechanisms as explained in the Literature Review section.

Multiple regression result, by the use of AMOS Statistics Package, as shown in Figure 4, validates the conceptual model in Figure 1, which illuminates the hierarchical layers of variables in the working for influencing consumer behaviors. Marketing mix efforts and consumer attitudes are shown to play vital role in explaining the variances of perceived functional and social values of the smartphone products, at 68% and 62%, respectively. While the functional value describes the manufactured performances, with technology best suited the lifestyles of the consumers, being supported with a variety of application functions that correspond to the needs and wants of the consumers, and with

attractive features, social value reflects the perceived high-class image, social gain, adding social appealing values and being representative of up-to-date lifestyle. The stimuli, consisting of both marketing mix and consumer attitude, also have direct impact on both the brand trust and customer satisfaction aspects of organism.

Figure 4

The Multiple Regression Results Confirming the S-O-R Model of Smartphone Consumer Behavior



The SEM (Structural Equation Modeling) model fit indexes are shown in Table 6. Specifically, the Normed Fit Index (NFI), which is a ratio of the difference in the Chi-Square value for the fitted model and a null model divided by the Chi-Square value for the null model, is near a perfect fit at 0.941. Similarly, when the observed fit is measured against a specified model to that of a null model, it yields a Relative Noncentrality Index (RNI), near 0.90, which indicates a measure of good fit. In addition, the Comparative Fit Index (CFI), which is an incremental fit index that is an improved version of the Normed Fit Index (NFI), is more than 0.90, that is usually associated with a model that fits well (Hair et al., 2006).

Table 5
Model Fit Index

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	27	107.674	9	.000	11.964
Saturated model	36	.000	0		
Independence model	8	1835.816	28	.000	65.565

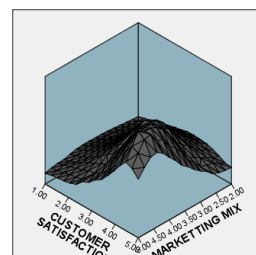
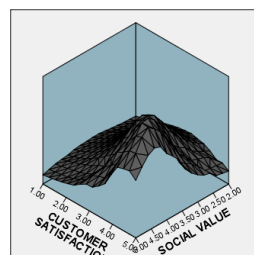
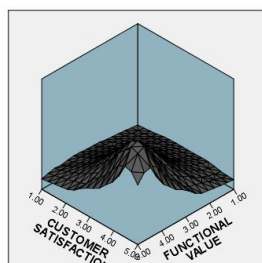
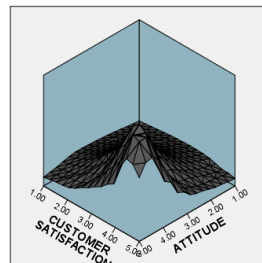
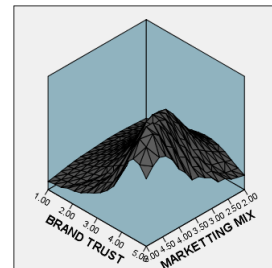
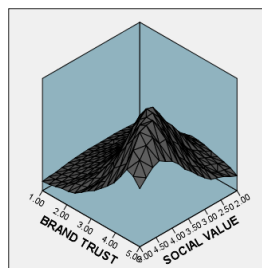
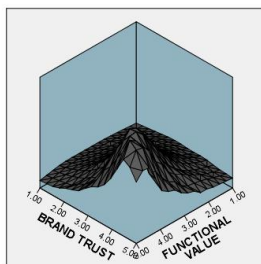
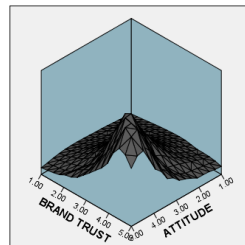
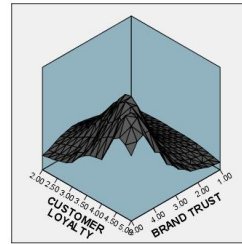
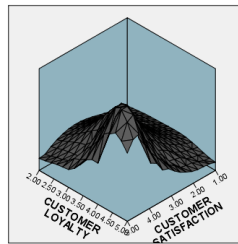
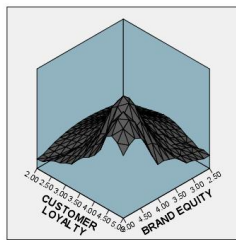
Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.941	.818	.946	.830	.945
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Clearly, marketers should not only attempt to create positive customer experiences that aim to conform to positive expectations, but equally need to establish brand asset value, in terms of brand trust, which, together, essentially lead to explain brand equity, at 53% of variability, and 90% of customer loyalty's variance. The visual structures, presented in the 3D Density Plots, that show the positive correlations of different variables of the S-O-R model of the smartphone consumer behaviors, are given in Figure 5.

Figure 5

The 3D Density Plots of The S-O-R Structure of Relationships



Conclusion and Recommendation

A flexible S-O-R model that exploits the theory of planned behavior and the theory of customer expectancy confirmation, as well as the business model structure that aims in value co-creation, is both theoretically deduced and empirically corroborated. Specifically, the empirical findings are three-fold.

First, the overall S-O-R model fit provides a structure that explains the predictors and effects of brand equity, and in particular, by leveraging the resources of the brand marketers and the consumers themselves.

Second, brand trust and customer satisfaction are two important evidences of brand health which highlights that organizations need to focus on two primary intangible assets namely customers and brands (Gupta & Lehmann, 2003), and as such, brand equity is asset-based in nature. Thus, to succeed to build the deeply held commitment by the customers (i.e. to continue to buy new version, Oliver, 1999) as repetitive same-brand purchase, organizations would need to build brand asset as well as be able to earn the satisfaction of the customers. While the former, brand trust, indicates the confidence of consumers on the integrity and reliability of the products, which is particularly useful for convincing new customers (Zboja & Voorhees, 2006), the later presents the customer feeling of pleasure of the products or services in relation to expectations (Kotler, 1994), which is effective in keeping current customers of the smartphone brand.

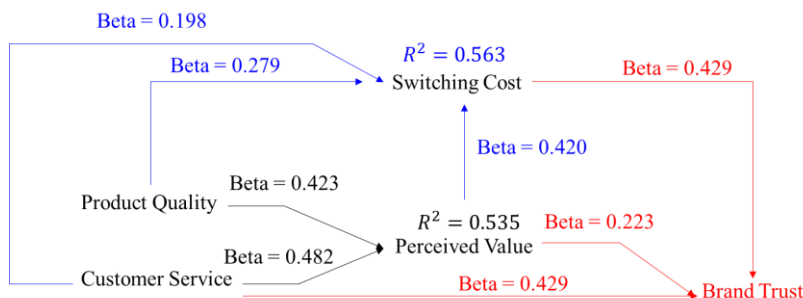
Third, both marketing mix initiatives and consumer attitude can signify to marketers to tap on not only their own controllable resources, in terms of marketing mix, but also to attempt to influence consumer attitude. The inclusion of consumer attitude towards a particular smartphone brand that positively motivates brand trust, positive perceptions of the values, and customer satisfaction, is a significant contribution, which shares the theme of the Theory of Planned Behavior (TPB) introduced by Ajzen (1988) and Ajzen (1991). In particular, by the way consumer attitude is operationalized in this research, the brand marketers need to exert quality compliance efforts to bring the expectations of the customers into confirmation level, such as in terms of product reliability that is capable to win the credibility and preference over alternatives. In this way, the role of consumer attitude reflects the outcome of expectation confirmation theory (Hew et al. 2017) which also is associated with preference over alternatives. Fourth, embedded in the S-O-R model is an implied path of positioning in the market (brand equity) through proposition (value) and perceptions of quality experiences with the marketing actions and the attitude.

This research thus illustrates and illuminates the 1) effectiveness of a PDCA research process, and 2) the validity of the S-O-R framework in the study of smartphone's consumer behaviors. For presentation purpose, this research presents only the result of one group of the student works, and in fact, different

groups produce different manifestations or varieties of the S-O-R models, rendering the S-O-R framework as a feasible broad-based approach to study consumer behavior and purchase decision, as shown, for instance, in Figure 6. Figure 6 highlights the important role of not only perceived value, which is a direct influence of product quality and customer service, but most importantly, of the mediating role of switching cost, in influencing brand trust. Switching cost is operationalized as, for example: “If I change to use other brand of smartphone, I will lose the beneficial applications and experiences which I really treasured with the current brand, and it may waste time to learn to use new brand of smartphone.” Switching cost, which measures, for instance, the mental costs incurred due to switching, as well as the loss of value of the consumer investments (Ningsih & Segoro, 2014) in the smartphone, is indeed a key contributing factor in sustaining consumer relationship with the brand, and marketers should not ignore. In this way, the consumers build a stronger brand attachment rather than merely at the perceptions level.

Figure 6

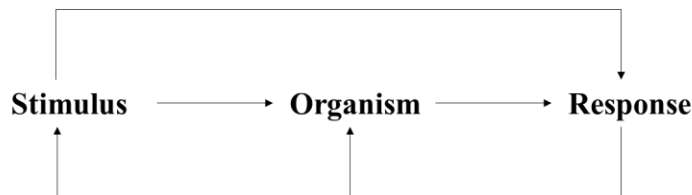
Mediating Role of Switching Cost in the Relationship between Perceived Value and Brand Trust



Further research should study how consumer attitude is formed, by exploiting the Theory of Planned Behavior in the S-O-R model, for instance, through using “advertising, views and opinions of relevant others, and media views,” in influencing consumer attitude. Future research can also extend the S-O-R model with feedforward and feedback concepts, in order to depict how consumer response with the purchase and the use of the product to further influence the evaluative and perceptual nature of organism “O”, which is particularly suitable for promoting fast-moving consumer goods (FMCG) (Blythe, 2008:149), as illuminated in Figure 7.

Figure 7

A Feed forward-Feedback Extended S-O-R Model of Consumer Behavior



In sum, while the feedforward direction serves to ensure consumers behave as the designers and operators intend (Boland & Fowler, 2000), the feedback direction serves to reinforce the accumulative and gradual effects of consumer experiences, perceptions, feelings, attitudes and loyalty.

Acknowledgement

The author acknowledges University support and the following students, Jintawee Daengchote, Andaman Pradermwong, Nannapas Charoenpha and Angwara Leglom, in studying further the role of switching costs.

References

- Aaker, D.A. (1996). *Building strong brands*. London: Simon & Schuster UK Ltd.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago, IL: Dorsey Press.
- Ajzen, I. (1991). The theory of planned Behavior. *Organizational Behavior and Human Decision Processes*, 50: 179-211.
- Almquist, E., Senior, J., & Bloch, N. (2016). *The elements of value*. Harvard Business Review, September Issue.
- Apple (2017, 8 June). Shop for your favorite Apple products. Retrieved from https://www.apple.com/th-en/shop/browse/home_th_en.
- Aung, Z.M., & Tan, C.C. (2016). Using the business model concept as a broad-based S-O-R (stimulating-organism-response) consumer behavior model for tourism industry: The case of Bagan, Myanmar. *Journal of Mekong Societies*, 12(2): 21-44.
- Bangkok Post (2016, 22 Jan.). Thai users consumed by smartphones, Thailand. Retrieved from: <http://www.bangkokpost.com/tech/local-news/835456/thai-users-consumed-by-smartphones>.
- Bloemer, J., & Kasper, H. (1995). The complex relationship between consumer satisfaction and brand loyalty. *Journal of Economic Psychology*, 16(2): 311-329.
- Blythe, J. (2008). *Consumer behavior*. USA: Sage Publication Ltd.

- Boland, T., & Fowler, A. (2000). A systems perspective of performance management in public sector organizations. *The International Journal of Public Sector Management*, 13(5): 417-446.
- Brockbank, A., & McGill, I. (2007). *Facilitating reflective learning in higher education*. England: Open University Press.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112: 155-159.
- Cozby, P.C., & Bates, S.C. (2012). *Methods in behavioral research*. Singapore: McGraw-Hill.
- Deutsch, M. (1973). *The resolution of conflict: Constructive and destructive processes*. New Haven, CT: Uale University Press.
- eMarketer (2016, 4 Mar.). M-commerce's rapid growth is primarily coming from smartphones. Retrieved from: <https://www.emarketer.com/Article/Mcommerces-Rapid-Growth-Primarily-Coming-Smartphones/1013909>.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Gupta, S., & Lehmann, D.R. (2003). Customers as assets. *Journal of Interactive Marketing*, 17(1): 9-24.
- Kotler, P. (1994). *Marketing management: Analysis, planning, implementation, and control*. Englewood Cliffs, NJ: Englewood.
- Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30: 607-610.
- Hair, J.F.Jr., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate data analysis*. USA: Pearson Prentice Hall.
- Hew, J.J., Badaruddin, M.N.B.A., & Moorthy, M.K. (2017). Crafting a smartphone repurchase decision making process: Do brand attachment and gender matter? *Telematics and Informatics*, 34: 34-56.
- Levesque, T., & McDougall, G.H.G. (1996). Determinants of customer satisfaction in retail banking. *International Journal of Bank Marketing*, 14(7): 12-20.
- Nenty, H.J. (2009). Writing a quantitative research thesis. *International Journal of Education Science*, 1(1): 19-32.
- Ningsih, S.M., & Segoro, W. (2014). The influence of customer satisfaction, switching cost and trusts in a brand on customer loyalty – The survey on students as IM3 users in Depok, Indonesia. *Procedia – Social and Behavioral Sciences*, 143: 1015-1019.
- Oliver, R.L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17: 460-470.
- Oliver, R.L. (1999). Whence customer loyalty? *Journal of Marketing*, 63(3): 33-44.

- Rao, A.R., & Monroe, K.B. (1988). The moderating effect of price knowledge on cue utilization in product evaluations. *Journal of Consumer Research*, 15(Sep.): 253-264.
- Sekaran, U. (2000). *Research Methods for Business*. USA: Wiley.
- Sheth, J.N., Sethia, N.K., & Srinivas, S. (2011). Mindful consumption: A customer-centric approach to sustainability. *Academy of Marketing Science*, 39: 21-39.
- Singh, K. (1988). Consumer complaint intentions and behavior: Definitions and taxonomical issues. *Journal of Marketing*, 52(Jan): 93-107.
- Smith, E.E. (1968). Choice reaction time: An analysis of the major theoretical positions. *Psychological Bulletin*, 69: 77-110.
- Srivastava, M., & Kaul, D. (2016). Exploring the link between customer experience – loyalty – consumer spend. *Journal of Retailing and Consumer Services*, 31: 277-286.
- Tan, C.C. (2016). *Towards a phenomenological theory of corporate social responsibility and its spirited services*. India: IMRF Publication House. ISBN 978-93-84124-99-1.
- Thai PBS (2016, Dec.). Over 80% of Thais of 25-34 ages have smart phones. Retrieved from <http://englishnews.thaipbs.or.th/80-thais-25-34-ages-smart-phones>.
- Woodruff, R.B, Cadotte, E.R., & Jenkins, R.L. (1983). Modeling Consumer satisfaction using experience-based norms. *Journal of Marketing Research*, 20 (August): 296-304.
- Woodworth, R.S. (1918). *Dynamic psychology*. New York: Columbia University Press.
- Woodworth, R.S. (1938). *Experimental psychology*. New York: Holt, Rinehart, & Winston.
- Woodworth, R.S., & Schlosberg, H. (1954). *Experimental psychology*. New York: Holt.
- Zboja, J.J., & Voorhees, C.M. (2006). The impact of brand trust and satisfaction on retailer repurchase intentions. *Journal of Services Marketing*, 20(5): 381-390.