การพัฒนาเครื่องมือวัดมูลค่าของตราสินค้าที่มีผลต่อผู้บริโภค: ผลของการวัดต่อความชอบตราสินค้าและความตั้งใจซื้อ

Refining Consumer-Based Brand Equity Measurement Scale:

Measurement Effects on Brand Preference and Purchase Intention

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บทคัดย่อ

      ในยุคเศรษฐกิจภายใต้กระแสโลกาภิวัฒน์และการพัฒนาเทคโนโลยีในศตวรรษที่ 21 ส่งผลให้ผู้บริโภคสามารถเข้าถึงตราสินค้าต่าง ๆ ได้มากขึ้น งานวิจัยนี้จึงมีจุดมุ่งหมายที่จะศึกษาบทบาทของตราสินค้าและพฤติกรรมของผู้บริโภคในพลวัตรของการเปลี่ยนแปลง โดยสอบทานองค์ประกอบมาตรวัดที่บูรณาการจากแนวคิดจิตพิสัยและแนวคิดทฤษฎีการส่งสัญญาณ เนื่องจากในงานวิจัยที่ผ่านมาได้มีการอ้างอิงแนวคิดใดแนวคิดหนึ่ง ในขณะที่มีจุดมุ่งหมายเหมือนกัน คือการศึกษาองค์ประกอบที่เป็นต้นเหตุของการสร้างมูลค่าของตราสินค้าที่มีผลต่อผู้บริโภค โดยใช้วิธีการสำรวจทัศนคติของผู้บริโภคในปัจจัยวัดต่าง ๆ อย่างไรก็ตามในปัจจุบันยังไม่มีงานวิจัยที่ศึกษาความสัมพันธ์ร่วมกันขององค์ประกอบจากทั้งสองแนวคิดในการสร้างมูลค่าของตราสินค้าที่มีผลต่อผู้บริโภค ในงานวิจัยนี้จึงได้ใช้ตราสินค้าที่มีมูลค่าแข็งแกร่งเป็นตราสินค้าทดสอบเครื่องมือวัดกับสินค้าอุปโภคบริโภค ซึ่งในที่นี้คือ โทรศัพท์มือถือ เพื่อให้ทราบถึงความสัมพันธ์ขององค์ประกอบในตัวแบบการวัดและตัวแบบโครงสร้าง โดยผลที่ได้จากงานวิจัยแสดงให้เห็นถึงมาตรวัดที่ชัดเจน กล่าวคือ องค์ประกอบมาตรวัดที่พัฒนาจากแนวคิดจิตพิสัยทั้งหมดมีนัยสำคัญ ประกอบด้วย การรับรู้ในตราสินค้า ความเชื่อมโยงของตราสินค้า คุณภาพที่รับรู้ ทัศนคติในเชิงบวกต่อตราสินค้า อย่างไรก็ตาม องค์ประกอบมาตรวัดที่พัฒนาจากแนวคิดทฤษฎีการส่งสัญญาณ ได้ส่งผลต่อตัวแบบการวัดอย่างมีนัยสำคัญเช่นกัน ประกอบด้วย คุณภาพที่รับรู้ การลงทุนในตราสินค้า ความน่าเชื่อถือของตราสินค้า ความชัดเจนในตราสินค้า ดังนั้น จึงบ่งบอกได้ว่า ในการสร้างตราสินค้าในปัจจุบัน ที่เน้นฐานความจดจำของผู้บริโภคเพื่อเชื่อมโยงตราสินค้าตามแนวคิดจิตพิสัย ซึ่งเป็นฐานคิดหลักที่ใช้สืบต่อกันมา ยังมีความจำเป็น แต่ไม่เพียงพอที่จะสร้างความแข็งแกร่งอย่างมี

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ประสิทธิภาพให้แก่มูลค่าของตราสินค้าที่มีผลต่อผู้บริโภคในอนาคต ดังนั้นการสร้างมูลค่าของตราสินค้า
ที่มีผลต่อผู้บริโภค จึงจำเป็นที่จะต้องเน้นบทบาทของตราสินค้าในการส่งสัญญาณที่น่าเชื่อถือ เพื่อช่วย
ลดความไม่แน่ใจที่อาจจะเกิดขึ้นในใจผู้บริโภค นอกจากนี้แล้ว ผลที่ได้จากงานวิจัย ยังเป็นข้อมูลพื้นฐาน
ที่จะสนับสนุนงานวิจัยในอนาคต เกี่ยวกับการศึกษาบทบาทของตราสินค้าในการส่งสัญญาณที่
น่าเชื่อถือ ในการสร้างมูลค่าของตราสินค้าที่มีผลต่อผู้บริโภค ตลอดจนพฤติกรรมของผู้บริโภค ที่ตอบ
รับต่อการสร้างมูลค่าของตราสินค้า ในประเทศอื่นๆ ในกลุ่มอาเซียน ที่กำลังก้าวสู่การเปลี่ยนแปลงใน
พลวัตรของโลกาภิวัฒน์

คำสำคัญ: มูลค่าของตราสินค้าที่มีผลต่อผู้บริโภค, พฤติกรรมของผู้บริโภค, การบริหารตราสินค้า

ABSTRACT

Facing the global economy and the technology development in the twenty first century, consumers become empowered with more brand choices. This research sought to explore the dynamics governing roles of brands and consumers' behavior toward the formation of consumer-based brand equity (CBBE) by refining the integrated model based on the concepts of cognitive psychology view and signaling theory view. Previous researches relied mostly on either concept, though both used the same survey-based valuation on consumer factors to explore source of brand equity. To date, there has been no empirical researches examining effects of CBBE dimensions in the same model. A strong brand equity as a brand stimuli was tested with a consumer product stimuli, mobile phones, within the CBBE measurement construct and the structural construct. The result indicated clearly a composition of remarkable measures. That is, all four dimensions derived from the conceptualization of cognitive psychology view comprising Brand Awareness, Brand Association, Perceived Quality, Attitudinal Brand Loyalty were held strong in consumers' minds. However, as some dimensions derived from the concept of signaling theory view comprising Perceived Quality, Brand Investment, Brand Credibility, Brand Clarity also showed strong evidences within the same CBBE construct. As a result, it is not sufficient for brand building of today, focusing on association-based memory derived from cognitive psychology view which has been used as a dominant framework but also a role of brand to send a credible signal based on signaling theory view, to reduce uncertainties in consumes' minds, is also necessary to create and maintain effectively a strong brand equity for the future. Moreover, the findings serve as the baseline for future researches, to explore a brand as a credible signal in the accelerated trend

of technology development and also about consumer behaviors in other developing countries of ASEAN moving toward the global economy.

Introduction

The statement "Globalization is not an option. It is a fact" (Waldner, 2007) is the challenge in the world's markets and also in ASEAN as the latter is geared for ASEAN Economic Community in 2015 and a single market and production base by 2020 (Stubbs, 2004). Hence, it is the challenge for the international marketing to cope with more intensified competition in the interlinked and interfaced markets and more products to be developed (Samli, 1995). Succeeding in the global market, companies cannot rely on the basis of comparative advantage factors for example cost, price, productivity but also on strategic superiority on "competitive advantage" such as brands, patents, trademarks, proprietary know-how, installed customer base, etc. (Porter, 1990).

This study focused on brand equity because it was one of the most valuable asset that helps create a competitive advantage and also the financial value of a brand to the brand owner (Neumeier, 2006). Brand equity was broadly defined as "the added value with which a given brand endows a product" (Farquhar, 1990). It has value for consumers because a brand can simplify choices, promise a particular quality level, reduce risk and /or create trust (Keller and Lehmann, 2006). And for the firm, it could facilitate a more predictable stream of income, reduce promotional costs, allowing premium prices and facilitates growth and expansion into other product categories (Keller, 2003). However, with no value to the consumers, brand equity has no value for the companies.

In academic view, since 1990 value of consumer-based brand equity had gained much more attention in term of definition, its dimensions and also how to measure it. One of the most famous constructs which has been used as a dominant framework, was conceptualized based on cognitive psychology view focusing on memory-based association in believing that a brand is a symbol which can help create differential effects in consumers' mind and serves as a reason to positively respond to that particular brand (Aaker ,1991; Keller, 1998). However, from information economics view, brand equity was conceptualized based on signaling theory, considering uncertainties arised from the imperfect and asymmetric

information between companies and consumers (Keller, 2001; Erdem, Swait and Valenzuela, 2006). With this perspective, a brand was regarded as a credible signal that help can increase information symmetry and reduce risks in consumers' mind.

Accelerated by the changing globalization environment and the digital age, consumers are becoming global consumers (Samli, 1995). It was of interest to refine dimensions of consumer-based brand equity developed from concepts of both cognitive psychology view and signaling theory view, to examine roles of brands, as governed by the dynamic environment in the twenty first century. As previous researches relied mostly on either concept, though both used the same survey-based valuation on consumer factors and to date, there has been no empirical researches proposing the integration of both approaches. Understanding the measures used in CBBE measurement scale at an individual level, will enable a manager to manage customer segmentation and create and maintain consumer-based brand equity effectively (Keller, 1998). In addition, it will help enrich the brand management discipline particularly in a global marketplace that the majority of today's brands prosper simultaneously online and offline (Christodoulides and Chernatony, 2004).

Research Objectives

The objectives of this study were to reach an understanding as follows.

1. To explore a gap of knowledge how consumers formed a strong brand equity by using frameworks of consumer-based brand equity (CBBE) derived from conceptualization of cognitive psychology view and signaling theory view for refinement in a multidimensional scale of CBBE in the integrated model

2. To examine its CBBE measurement effects in its structural relations with brand preference and purchase intention to gauge the power of the refined integrated model of CBBE reflected in the market performance at the consumer level

Hypotheses

To address the research objectives, there were two main hypotheses proposed in this paper.

H0 1: At least one dimension of CBBE comprising Attitudinal Brand Loyalty (ABL), Brand Awareness (BAW), Brand Association (BAS), Perceived Quality (PQU), Brand Investment (BIV), Brand Clarity (BCL), Brand Consistency (BCO), Brand Credibility (BCR),

Perceived Risks (PRI), Information Costs Saved (ICS) will not affect its composition of CBBE within the CBBE measurement construct

Dimensions which are conceptualized from Cognitive Psychology view are: ABL, BAW, BAS and PQU. And those dimensions which are conceptualized from Signaling Theory view are: PQU, BIV, BCL, BCO, BCR, PRI, ICS.

H0 2: CBBE as an exogenous latent variable has no causal relationship with endogenous latent variable – Brand Preference (BPE) directly and with Purchase Intention (PI) directly and indirectly

The value of CBBE for consumers was reflected in the market performance at the consumer level for consumers' purchase choices as brand preference (Oliver, 1997) and the intention to buy the brand as purchase intention.

Conceptual Framework
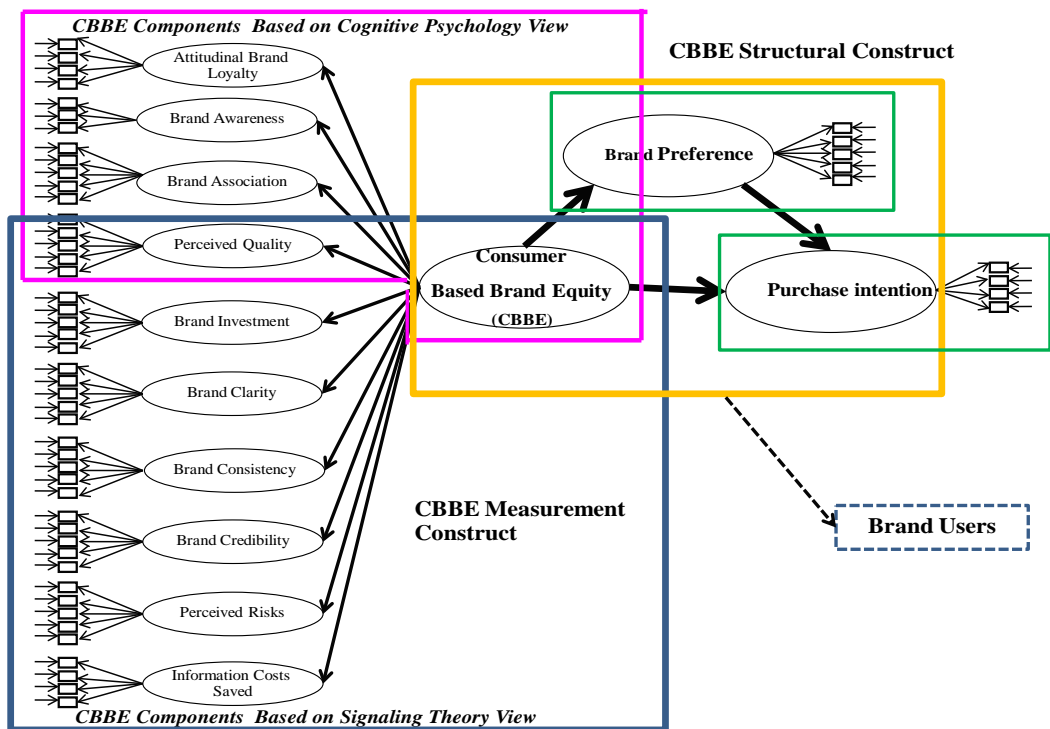
Figure 1: Conceptual Framework of CBBE Dimensions based Cognitive Psychology View and Signaling Theory View within Its Measurement Construct and Structural Construct

Following the research objectives and hypotheses, this study aimed to understand two folds: (1) which dimensions from frameworks of cognitive psychology view and signaling theory view in the integrated model have influenced the composition of consumer-based brand equity within the measurement construct and (2) whether CBBE measurement effects in its structural construct having effects on consumers' brand preference and purchase intention.

Literature Review

Brand Equity

In general sense, brand equity was defined as the incremental value added to a product by virtue of its brand (Farquhar, 1989). Aaker (1991) defined brand equity as "…a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service a firm and/or to that firm's customers". And for consumer-based brand equity, Keller (1993) defined it as "the differential effects of brand knowledge on consumer response to the marketing of the brand" and also as a credible signal of a product's position (Erdem and Swait, 1998).

Concept of CBBE on Cognitive Psychology View

The cognitive psychology view has been used as the dominant framework of CBBE focusing on memory-based association structure (Aaker, 1991; Keller, 1993). Following this concept, a brand is a chunk of information which has been developed and constructed of multiple aspects of the brand over time by each consumer. It is a powerful way of summarizing information about a product's quality, reputation, and other meaningful factors (Glazer, 1998). A multidimensional concept of CBBE developed from the concepts of Aaker (1991) and Keller (1993) has been conducted, examining the common dimensions of brand equity (Park and Srinivasan, 1994; Yoo and Donthu, 1997; Yoo, Donthu, and Lee, 2000; Washburn and Plank ,2002; Kim *et al.*, 2003) comprising brand loyalty, brand awareness, perceived quality, and brand association. Attitudinal Brand Loyalty (ABL) refered to pre-determined positive brand attitude reflected in "the attachment a customer has to a brand" Aaker (1991). Brand Awareness (BAW) reflected the strength of a brand's presence in a consumer's mind (Pappu, Quester and Cooksey, 2005) and its related strength to the brand node or trace in memory (Rossiter and Percy, 1987). Brand Association (BAS) was mainly based on how consumers recollected memory about a brand with more favourable attitudes (Keller, 1993). Perceived

Quality (PQU) was defined as the consumer's subjective judgment about a brand's overall excellence or superiority (Yoo *et al.*, 2000).

Concept of CBBE Based on Signaling Theory View

Though CBBE based on the paradigm of cognitive psychology view has been mainly used as a ground framework of the CBBE study, a framework of signaling theory view based on the imperfect and information asymmetrical nature of the markets, brands were used as signals by economic agents to transmit information about their specific characteristics to consumers (Erdem and Swait, 1998). From this point of view, a brand signal was the sum of its marketing activities which have been accrued since the past to the present. Imperfect and asymmetric information created uncertainties in consumers' minds. If a brand could send a credible signal, it will contribute toward creating value in customer's mind such as reducing perceived risks and reducing information search costs, etc. Within this framework, consumer-based brand equity was defined as "the value of a brand as a signal to consumers" (Erdem and Swait, 1998). Empirical researches in order to develop valid measures for CBBE based on the concept of signaling theory view was conducted, examining the common dimensions of brand equity (Erdem and Swait, 2004; Erdem *et al.*, 2006; Wang *et al.*, 2007; Baek and Kim, 2010), comprising Perceived Quality, Brand Investment, Brand Consistency, Brand Credibility, Brand Clarity, Perceived Risks and Information Costs Saved. Brand investment (BIV) was defined as resources that firms spent to assure that promises were delivered and demonstrate long-term commitment to brands (Erdem and Swait, 1996). Brand Consistency (BCO) was defined as "the degree to which each mix component or decision reflected the intended whole" (Erdem and Swait, 1998). The definition of Brand Credibility (BCR) was the believability of an entity's intention at a particular time and it was composed of two main components: expertise and trustworthiness (Rao and Ruekkert, 1994; Wernerfelt, 1988; Erdem and Swait, 2006) and for Brand clarity (BCL), it was the absence of ambiguity in the information conveyed by the brand's past and present marketing mix strategies and associated activities (Erdem and Swait, 1996). Perceieved risks (PRI) were defined as consumers' uncertainty which lead some of which at least are likely to be unpleasant. Many types of risks include functional, financial, physical, psychological risks (Erdem and Swait, 1998). Consumers incured costs when gathering and processing information to reduce uncertainty and perceived risks. Information costs saved (ICS) included expenditure of time, money, psychological costs and the like (Erdem and Swait, 1998).

Measurement of Consumer-based Brand Equity

Measurement of consumer-based brand equity was defined as the valuation based on consumers factors in measuring customers' preference and attitude to reflect consumers' attachment to a brand through consumer survey. Key concepts of brand equity measurement system was to assess the health of the brand, uncover its sources of brand equity, and suggest ways to improve and leverage its equity (Keller, 2011).

Relations of CBBE with Brand Preference and Purchase Intention

As a high brand equity was known to lead to higher consumer preferences and purchase intentions for the firms (Cobb-Walgren *et al.*, 1995). It can lead to brand loyalty which is defined as a biased response, expressed over time to one or more brands within a set of such brand (Dick and Basu, 1994; Oliver, 1999) that help customers become committed to a brand and maintain their preference for and choice of the brand over its alternatives (Beatty and Kahle, 1988; Crosby and Taylor, 1982). In this study, brand preference and purchase intention were used as consequences of having a high brand equity, as a result of its effects from the brand equity measurement model.

Research Methodology

The research methodology was designed into two stages comprising Stage I: Scale Development and Stage II: Main Study

Stage I : Scale Development

Items of dimensions of CBBE were adopted from the previous researches and from the operationalized definitions of the dimensions which were reviewed by a brand-cum-academician specialist for the congruence of the definitions with the theoretical frameworks. The items were incorporated into a multidimensional scale to be a questionnaire (Appendix I) in the likert 9-scales (Erdem and Swait, 1998, 2004, 2006). Due to the original language which is English, the questionnaire was validated through a back translation vice versa from English to Thai and Thai to English by a certified professional language institute. In order to test a scale reliability in a pre-test, a product stimuli, a brand stimuli and the sample group were selected. In this study, a shopping product was selected as a product stimuli because its characteristics require consumers to do lot of selection and comparison based on various parameters such as cost, brand, style, comfort, etc. when buying (Kotler and Keller, 2009).

Mobile phones were selected as a consumer product stimuli, due to its significance in human's life necessities toward the accelerated trend of the digital age.

In order to examine consumers' insights along each item in the composition of its dimension within the CBBE measurement construct, a brand stimuli which could draw consumers' active responses was selected for the model testing. A pilot test with 200 mobile phone users whose prerequisite qualifications were those who were decision makers, payer and users (Jagdish and Mittal, 2004), was conducted to examine the strongest perceived value of brand equity during September-October 2011 by using items of the definition of CBBE developed by Washburn and Plank (2002) and Yoo and Donthu (1997). The pilot test was conducted by including dominant brands of mobile phones in Thai market comprising brands of high market shares and low market shares and both global brands and local brands. The overall results showed that I-Phone was the highest perceived brand equity value among six brands. As such, I Phone was selected as a brand stimuli for this study. The favourable reason was that I Phone gained the highest brand equity value in overall consumers' perception due to its successful past and present marketing mix strategies so as a brand stimuli, it will help stimulate the sensitive responses from their users to facilitate examination of effects of items and its dimensions used for the refinement of the model.

The sample group of the pre-test was those who were current brand users of the product stimuli and the brand stimuli so that it could be better explored the effects of the dimensions which have affected the strong brand equity formation, for the purpose of the refinement of the CBBE measurement scale. Thailand was the base country of this study because it was among a country of fast growing markets of mobile phones in Asia-Pacific, the region of which has outperformed other regions in the world's market growth (Euromonitor, 2009) and also as a developing country of ASEAN, which is in the growing stage to become interfaced with the global economy. The pattern of consumer behavior during this transitional period is of interest to be further explored.

The pre-test was conducted in November 2011 with a sample group of I Phone users for a number of 50 cases. Conbrach's Alpha of each CBBE dimension were between .838 to .970 exceeding the criteria outlined in Bearden et al. (1991).

Stage II :   Main Study

This stage was planned to use a multidimensional scale of CBBE developed in the first stage with a product stimuli and a brand stimuli with the target consumers who were I Phone users whose prerequisite qualifications were those who were decision makers, payer and users (Shelth and Mittal, 2004). The estimated sample size was calculated by ad hoc

rules of thumb requiring 10 times per indicator in setting a lower bound for an adequacy of a sample size (Nunnally, 1967). In this regard, the estimated sample size was at the minimum 550 observations. A probability sampling by a stratified sampling was applied, following municipal divisions of Bangkok, classified into 3 strata comprising an outer zone, a middle zone and an inner zone due to different population density and business concentration. Purposive sampling was applied to approach respondents whose prerequisite qualifications of the target consumers were met and whose residence was in each zone with a diversified sampling of demographic attributes. The main survey was conducted in December 2011 to February 2012**.**

Structural Equation Model (SEM) was used for the hypotheses testing because of its advantages that could combine latent variable factors with simultaneous equation methods to estimate a series of interrelated dependence relationships in a measurement construct and a structural construct (Bollen, 1989; Kline, 2005). In this regard, it supported the hypothesized relationships embodied in the measurement construct of CBBE and also its structural construct with brand preference and purchase intention for a theory testing and theory development. Moreover, it was in line with most of previous researches using SEM to test CBBE dimensions for marketing purposes.

Result

The findings were presented in three sections: (1) Preliminary Analysis of Sample Profiles (2) Instrument Testing with the Data Set and (3) Hypotheses Testing.

(1) Preliminary Analysis of Sample Profiles

The sample group of 640 I-Phone users were surveyed. The characteristics of sample profiles were well diversified in term of demographic attributes as shown in Table 1.

Table 1 : Characteristics of Sample' Profiles

	Frequency	Percentage		Frequency	Percentage
Gender			**Income**		
Male	312	48.8	Below 25,000 Bath	92	14.4
Female	328	51.3	25,001–50,000 Bath	147	23.0
Age			50,001–75,000 Bath	130	20.3
18 – 29	226	35.3	75,001–100,000 Bath	135	21.1
30 – 46	242	37.8	Morethan 100,000 Bath	136	21.3
47 – 55	172	26.9			
Occupation			**Education**		
Government Officer	75	11.7	High School Below	53	8.3
Company Officer	128	20.0	Bachelor Degree	401	62.7
Government	90	14.1	Master Degree	168	26.3
Executive					
Corporate Executive	164	25.6	Doctor Degree	18	2.8
Business Owner	132	20.6			
Independent Worker	51	7.96			

n = 640

Respondents perceived value in average mean of items of each CBBE dimension, ranging from 7.6391 to 8.2041 in the likert 9-scale, with a standard deviation, ranged from .44619 to 1.44906. The pattern of opinions were quite uniformed for their perceived value toward I Phone which was used as a brand stimuli as presented in Table 2.

Table 2 : Average Mean of Items of CBBE dimensions

Dimensions	Mean	S.D.
Attitudinal Brand Loyalty (ABL)	7.6391	1.05456
Brand Awareness (BAW)	7.8307	.82623
Brand Association (BAS)	7.6541	.84120
Perceived Quality (PQU)	8.2041	.45908
Brand Investment (BIV)	7.9188	.44619
Brand Consistency (BCO)	7.8700	.49280
Brand Credibility (BCR)	7.9256	.53307
Brand Clarity (BCL)	7.8844	.62579
Perceived Risks (PRI)	7.8313	.96766
Information Costs Saved (ICS)	7.5652	.77819

n = 640

(2) Instrument Testing

Given the multidimensional nature of the scale used in this research, the psychometric properties were assessed by the construct validity. Factorial loading of items for each dimension shown in Table 3 were statistically significant.

Table 3 : Construct Validity by Factorial Loading of Items of CBBE dimensions within the Measurement Construct and Items of dimensions within the Structural Construct

Dimensions	Factor Loading	C.R.	Dimensions	Factor Loading	C.R.
Attitudinal Brand Loyalty (ABL) (Items = 4)			*Brand Credibility (BCR) (Items =5)*		
ABL1:	.712***		BCR1:	.451***	
ABL2:	.827***	21.223	BCR2:	.555***	8.648
ABL3:	.886***	22.421	BCR3:	.766***	9.554
ABL4:	.765***	18.013	BCR4:	.705***	9.469
Brand Awareness (BAW) (Items = 3)			BCR5:	.352***	6.567
BAW1:	.831***		*Brand Clarity (BCL) (Items =5)*		
BAW2:	.716***	9.328	BCL1:	.302***	6.469
BAW3:	.436***	8.351	BCL2:	.593***	11.745
Brand Association (BAS) (Items = 5)			BCL3:	.609***	11.972
BAS1:	.827***		BCL4:	.664***	12.607
BAS2:	.800***	21.509	BCL5:	.715***	
BAS3:	.800***	21.526	*Perceived Risks (PRI) (Items =5)*		
BAS4:	.614***	15.750	PRI1:	.765***	
BAS5:	.578***	14.684	PRI2:	.678***	16.950
Perceived Quality (PQU) (Items = 5)			PRI3:	.755***	19.091
PQU1:	.648***		PRI4:	.776***	19.656
PQU2:	.611***	8.431	PRI5:	.852***	21.578
PQU3:	.444***	7.541	*Information Costs Saved (ICS) (Items =4)*		
PQU4:	.413***	7.180	ICS1:	.728***	
PQU5:	.244***	4.694	ICS2:	.794***	16.307
Brand Investment (BIV) (Items = 5)			ICS3:	.567***	12.621
BIV1:	.495***		ICS4:	.723***	15.599
BIV2:	.477***	5.375	*Brand Preference (BPE) (Items =5)*		
BIV3:	.368***	4.964	BPE1:	.846***	32.056
BIV4:	.425***	5.265	BPE2:	.865***	33.849
BIV5:	.188***	3.114	BPE3:	.832***	30.832
Brand Consistency (BCO) (Items =5)			BPE4:	.906***	38.209
BCO1:	.461***		BPE5:	.924***	
BCO2:	.296***	5.139	*Purchase Intention (PIN) (Items = 5)*		
BCO3:	.370***	6.052	PIN1:	.769***	

Table 3 : (Cont.)

Dimensions	Factor Loading	C.R.	Dimensions	Factor Loading	C.R.
BCO4:	.541***	7.195	PIN2:	.844***	22.535
BCO5:	.593***	6.868	PIN3:	.608***	15.466
			PIN4:	.779***	20.534
			PIN5:	.903***	24.149

P value at sig. <.01 = ***, <.05 = **

(3) Hypothesis Testing

The hypothesized model was tested by structural equation modeling (SEM) using bootstrap technique to create multiple subsamples from the sample group of 640 cases, to allow for concrete comparison of parametric values over repeated samples that have been drawn from the original sample to support the stability of the model parameters estimates. Generalized least squares estimation due to some of its non-normality was used to estimate the model fit. The overall model fit indices compriising chi-square (CMIN)/degrees of freedom (<2), adjusted goodness of fit index (AGFI) (close to .9) and root mean square error of approximation (RMSEA) (<.5), Hoelter .05 (>200) indicated acceptable model fits, as shown in Table 4. That is, the refined consumer-based brand equity measurement scale in a multidimensional brand equity measurement model has an acceptable validity to explain a context of consumer's behavior relating to the formation of consumer-based brand equity.

Table 4 : Model Fit Summary

CMIN Default Model		**RMSEA** Default Model	
CMIN	2818.238	RMSEA	.038
DF	1467		
P	.000		
CMIN/DF	1.921		
RMR,GFI Default Model		**HOELTER Default Model**	
GFI	.842	HOELTER.05	354
AGFI	.829		

The first null hypotheses focused on CBBE dimensions based on the integration model derived from conceptualization of cognitive psychology view and signaling theory were shown in Table 5.

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Table 5 : Effects of CBBE Dimensions within the Measurement Construct

Dimensions	Based on Conceptualization	Standardized Coefficient Weight	
CBBE Measurement Construct			
Attitudinal Brand Loyalty (ABL)	Cognitive Psychology View	<--- CBBE	**.822*****
Brand Awareness (BAW)	Cognitive Psychology View	<--- CBBE	**.842*****
Brand Association (BAS)	Cognitive Psychology View	<--- CBBE	**.888*****
Perceived Quality (PQU)	Cognitive Psychology View /Signaling Theory View	<--- CBBE	**.804*****
Brand Investment (BIV)	Signaling Theory View	<--- CBBE	***.487*****
Brand Credibility (BCR)	Signaling Theory View	<--- CBBE	***.304******
Brand Clarity (BCL)	Signaling Theory View	<--- CBBE	***.315*****
Brand Consistency (BCO)	Signaling Theory View	<--- CBBE	.096
Perceived Risks (PRI)	Signaling Theory View	<--- CBBE	.149
Information Costs Saved (ICS)	Sgnaling Theory View	<--- CBBE	.373

P value at sig. <.01 = ***, <.05 = **

H0 1: At least one dimension of CBBE comprising Attitudinal Brand Loyalty (ABL), Brand Awareness (BAW), Brand Association (BAS), Perceived Quality (PQU), Brand Investment (BIV), Brand Clarity (BCL), Brand Consistency (BCO), Brand Credibility (BCR), Perceived Risks (PRI), Information Costs Saved (ICS) will not affect its composition of CBBE within the CBBE measurement construct

Result: H0 1 was supported because the results shown in Table 6 indicated that all dimensions based on cognitive psychology view comprising Attitudinal Brand Loyalty (ABL), Brand Awareness (BAW), Brand Association (BAS) Perceived Quality (PQU) affected its composition of CBBE but some dimensions based on signaling theory view comprising Perceived Quality (PQU), Brand Investment (BIV), Brand Clarity (BCL), Brand Credibility (BCR) have not affected its composition of CBBE within the CBBE measurement construct.

The second null hypothesis focused on CBBE measurement effects on Brand Preference and Purchase Intention in its structural construct was shown in Table 6.

Table 6 : CBBE Measurement Effects on Brand Preference and Purchase Intention

Path Structural Construct	Standardized Coefficient Weight	
Brand Preference	<--- CBBE	.420***
Purchase Intention	<--- CBBE	.129**
Purchase Intention	<--- Brand Preference	.895***

P value at sig. <.01 = ***, <.05 = **

That is, the measurement effects of CBBE has a significant causal relationship to purchase intention at 0.129 (p < .01) and to brand preference at 0.420 (p < .01) directly and also indirectly through brand preference to purchase intention at 0.895 (p < .01). This finding indicated the power of the refined consumer-based brand equity measurement scale with measurement effects on brand preference and purchase intention or the power of brand equity resides in consumers' minds.

H0 2: CBBE as an exogenous latent variable has no causal relationship with endogenous latent variable – Brand Preference (BP) directly and with Purchase Intention (PI) directly and indirectly

Result: H0 2 was not supported because the results shown in Table 6 indicated that CBBE measurement effects from the integrated model had a causal relationship with endogenous latent variable – Brand Preference (BP) directly and with Purchase Intention (PI) directly and indirectly.

The attempt to examine the measurement effects of the consumer-based brand equity measurement scale on brand preference and purchase intention is to double check the consequences of the refined measurement scale of consumer-based brand equity, reflected in the marketing performance. As the essence of understanding the refined model of consumer-based brand equity is needed to be practical in line with business perspectives as managers do consider to spend resources for what it can pay off.

Discussion and Managerial Implication

The study indicated a composition of remarkable measures in the refined model which can be postulated as characterizing brand equity in a changing globalization environment. That is, all four-dimensions derived from the conceptualization of cognitive psychology view comprising Brand Awareness, Brand Association, Perceived Quality, Attitudinal Brand Loyalty were held strong in consumers' minds showing clear evidences of affecting the CBBE model,

indicating its factor loadings at 0.822 for attitudinal brand loyalty, 0.842 for brand awareness, 0.888 for brand association and 0.804 for perceived quality at the significant level (p <.01).

However, as some dimensions derived from the concept of signaling theory view comprising Perceived Quality, Brand Investment, Brand Credibility, Brand Clarity also showed strong evidences in the composition of CBBE. The significant components derived from the concept of signaling theory view were perceived quality (which is the same one shared between the concepts of cognitive psychology view and signaling theory), brand investment with the factorial loading at 0.487 (p < .05), brand clarity at 0.315 (p < .05) and brand credibility at 0.304 (p < .01).

As a result, for academic contribution and managerial implication, it is not sufficient for brand building of today, focusing only on association-based memory derived from cognitive psychology view which has been used as a dominant framework of CBBE but also it is necessary to focus on a role of a brand as sending a credible signal based on signaling theory view, to reduce uncertainties in consumes' minds, to enhance effectively a strong brand equity formation for the future.

The recommendations are proposed for academicians and managers in two perspectives:

(1)   Trend of Consumers' Behavior toward Twenty First Century

The growing trend of technology development has empowered consumers to access information through multiple resources more conveniently and rapidly (Brown, Pope and Voges, 2001). Taking into consideration the significance of the signaling theory view indicated within the same construct of the refined CBBE model with the cognitive psychology view, it is necessary for managers to consider the quality of information to serve both imagery and rationality. For imagery, it is referred to association-based memory in consumers' minds and for rationality, it is to send a credible signal, to reduce consumers' uncertainties, including clear messages and the firms' commitment to invest resources to assure the promises will be delivered. With effective communication strategy, it will help managers create and maintain a strong brand equity effectively. As such, it will help consumers connect the benefits of the brand even without ever touching it (Baek *et al*., 2010).

(2)   The need of human spirit perspective toward Marketing 3.0 era

According to Philip Kotler 's statement in Asia Marketing Federation – AMF (2010), he made a remark that toward the twenty first century, in the years to come, Asia will be seen with a dramatic growth in term of market expansion and technology development. Governed by the dynamic environment, Marketing 3.0 is the paradigm for the new marketing concept which

has been changed from legacy marketing in the proposition of functional value (Marketing 1.0), emotional value (Marketing 2.0) to trust-based marketing concept which aims at human spirit. In this sense, brands need to connect with consumers' heart by demonstrating their credibility and commitment to help consumers reduce uncertainties in their minds and realize the benefits of the products from the firms.

Limitations and Future Research Suggestions

As there are some factors which may be considered limitations of these findings. Dimensions used in this study were based only on the concepts of cognitive psychology view and signaling theory view and potential consequences of consumer-based brand equity were regarded in this study as brand preference and purchase intention. This possibility for other dimensions of CBBE and other consequences may therefore be an appropriate subject for more research in the future.

As this study was conducted with a brand stimuli and a consumer product stimuli with users of the brands in Thailand. This possibility may therefore be an appropriate subject for more researches in the future with other brands and product categories. **Moreover, this finding will serve as the baseline for future researches, to explore more roles of brands as influenced by a credible signal and also about consumer behaviors in other developing countries of ASEAN** where they are cross-culturally linked with Thailand to expand the scope of knowledge about consumer behaviors of developing countries through the transitional period, in responses to the global economy and the accelerated trend of technology development.

Appendix

Attitudinal Brand Loyalty (ABL)

ABL1	I feel very attached to Brand X.
ABL2	Brand X would be my first choice. (Yoo and Donthu, 2002; Yoo and Donthu, 2001)
ABL3	I do not want to use other brands but Brand X.
ABL4	I have admired Brand X for long time.

Brand Awareness (BAW)

BAW1	When mentioning about the product category, I can easily recall Brand X out of other brands.
BAW2	When I think about usage of the product category, Brand X would be the one I know very well.
BAW3	If Brand X is not mentioned, I would have forgot this brand already. (R)

Brand Association (BAS)

BAS 1	I can say what is in my mind about Brand X very clearly
BAS2	Some characteristics of Brand X come to my mind very quickly. (Yoo and Donthu, 1997 and 2002)
BAS3	I can recognize Brand X among other competing brands. (Yoo and Donthu, 1997 and 2002)
BAS4	I have difficulty in imagining Brand X in my mind when others talk about it. (R) (Adapted from Yoo and Donthu, 1997 and 2002)
BAS5	What is in my mind about Brand X, gives me a reason to buy it.

Perceived Quality (PQU)

PQU1	The likelihood that Brand X is reliable is very high. (Yoo, Donthu and Lee, 2000, Yoo and Donthu, 2002)
PQU2	Brand X offers very durable products. (Aaker, 1991, 1996, Yoo et al. 2000 cited by Pappu, Quester and Cooksey, 2005)
PQU3	Brand X offers products with a full range of functions. (Adapted from Aaker, 1991, 1996, Yoo et al. 2000 cited by Pappu, Quester and Cooksey, 2005)
PQU4	The service and system of Brand X is efficient, convenient and competent. Harvard's David A. Garvin's seven product quality dimensions as cited by Aaker (1991)
PQU5	The product of Brand X looks and feels like a quality product. Harvard's David A. Garvin's seven product quality dimensions as cited by Aaker (1991)

Brand Investment (BIV)

BIV1	Company of Brand X spends a lot on image. (Wang, Menictas and Louviere, 2007)
BIV2	Company of Brand X spends a lot to deliver what it has promised about its features.
BIV3	Company of Brand X spends a lot to inform me about its offerings (Adapted from Wang, Menictas and Louviere, 2007 and Erdem and Swait, 1998)
BIV4	Brand X is at the forefront of telling what it offers. (Adapted from Wang, Menictas and Louviere, 2007 and Erdem and Swait, 1998)
BIV5	Brand X spends a lot to develop its product to fulfill its commitment.

Brand Consistency (BCO)

BCO1	Company of Brand X has kept its image constant for years. (Wang, Menictas and Louviere, 2007).
BCO2	Company of Brand X has kept its product offerings consistent for years. (Wang, Menictas and Louviere, 2007).
BCO3	Brand X has kept its product appearance consistent for years.
BCO4	The overall image of Brand X has changed little for years. (Wang, Menictas and Louviere, 2007).
BCO5	Brand X has kept its service standard consistent for years.

Brand Credibility (BCR)

BCR1	I believe the claims of Brand X. (Wang, Menictas and Louviere, 2007)
BCR2	Brand X delivers whatever it promises. (Erdem, Swait and Valenzuela, 2006).
BCR3	Brand X has the expertise to deliver what it promises. (Adapted from Erdem, Swait and Valenzuela, 2006).
BCR4	Brand X has a name I can trust. (Erdem, Swait and Valenzuela, 2006).

| BCR5 | Brand X is committed to delivering on its claims, no more or less. (Erdem, Swait and Valenzuela, 2006). |

Brand Clarity (BCL)

BCL1	I have trouble figuring out what image Brand X tries to create. (Reverse) (Erdem and Swait, 1998).
BCL2	Brand X tells me clearly what to expect. (Erdem and Swait, 1998).
BCL3	I know what Brand X stands for. (Erdem and Swait, 1998).
BCL4	Company of Brand X tells me clearly about their responsibility for their products.
BCL5	Company of Brand X tells me clearly about the advantages of its offerings.

Perceived Risks (PRI)

PRI1	I need lots more information about Brand X before I would buy it.(Reverse) (Wang, Menictas and Louviere, 2007).
PRI2	The offerings from Brand X would not disappoint me. (Adapted from Wang, Menictas and Louviere, 2007).
PRI3	I never know how good Brand X will be, until after I have asked several persons about it. (R) (Adapted from Wang, Menictas and Louviere, 2007).
PRI4	To figure out what Brand X is like, I would have to try it several times. (R) (Wang, Menictas and Louviere, 2007).
PRI5	It is likely that Brand X would make a mistake after I have bought it. (R) (Adapted from Wang, Menictas and Louviere, 2007).

Information Costs Saved (ICS)

ICS1	Brand X gives me the information I want, which saves me time and effort trying to search much more. (Adapted from Erdem and Swait, 2004; Erdem and Swait, 1998)
ICS2	Knowing what I'm going to get from Brand X saves me time shopping around. (Adapted from Erdem and Swait, 2004; Erdem and Swait, 1998)
ICS3	I need lot more information about Brand X before I'd buy it. (R) (Erdem and Swait, 2004; Erdem and Swait, 1998)
ICS4	It saves me lot more time as I don't need to check whether it right for what I have heard about Brand X.

Brand Preference (BPI)

BPE1	Though another brand offers more functions, I still want to choose Brand X.
BPE2	Though another brand offers more sales promotions, I still want to choose Brand X.
BPE3	If Brand X is not available at the point of sales, I will certainly choose other brands, instead.
BPE4	Though another brand offers a cheaper price, I still want to choose Brand X.
BPE5	Though another brand offers new models, I still want to choose Brand X.

Purchase Intention (PIN)

PIN1	Though I have a financial problem, I still intend to buy Brand X next time.
PIN2	If I need to buy a new product, I intend to buy Brand X. (Adapted from Yoo and Donthu, 2001)
PIN3	I would be interested in buying other new product categories of Brand X, apart from this one.
PIN4	Whenever I know someone wants to buy a new product, I will not be hesitated to recommend him

	Brand X.
PIN5	In any situations, I still want to buy Brand X repeatedly in the future.
	(Adapted from Yoo and Donthu, 2001)

*(R) Reversed question

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