Au Journal of Management

Assumption University

Published by:
Assumption University
Hua Mak, Bangkok 10240, Thailand.
Tel: 66 (0) 2300 4543-53
Fax: 66 (0) 2300 4563
URL: http://www.au.edu

ISSN: 1686-0039
Vol 8, No 2
July - December 2010

AU JOURNAL OF MANAGEMENT

Vol. 8 No. 2 **July-December 2010**

The AU Journal of Management, an international publication, is published twice a year and deals with current issues in business management. The Journal is owned by Assumption University and published on a non-profit basis. Inquiries or comments on material published or circulation may be addressed to the Managing Editor, ***AU Journal of Management***, Assumption University, Ram Khamhaeng Rd., Soi 24, Hua Mak, Bangkok 10240, Thailand. Tel. +66 (0) 2300-4543, +66 (0) 2300-4553, Fax. +66 (0) 2300-4511, +66 (0) 2300-4552, +66 (0) 2300-4563.

AU JOURNAL OF
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Statement from the Managing Editor

Welcome to this issue of the AU Journal of Management. "Change or Die" is the rallying cry among today's managers worldwide. Two major changes are evidenced in this issue. First, we are very honored to welcome three outstanding faculty members to our Editorial Board. Second, the Journal welcomes faculty from distinguished institutions, both local and international, on its Board of Reviewers. It will be a pleasure to work with our new members and I am sure their support and contribution will enhance the reputation and quality of our Journal.

We are pleased to publish the work of our budding researchers, from our masters and doctoral programs in this issue of the Journal. In our first article, Padungrat reviews extant models on customer value and behavioral intention. Based on her sample of 479 counter brand facial care customers, she concludes that word-of-mouth communication and brand trust are most important in creating and delivering value perception. Puttibarncharoensri's article describes and explains various concepts related to collaborative strategy used in supply chains. She argues that under high environmental uncertainty and competition, supply chain firms are driven to adopt a collaborative strategy with their partners. Chitmonkongsuk examines the relationship between equity values and eight financial statement factors of listed firms in Thailand's media and publishing industry. His findings show that equity values are significantly relevant to book equity, net operating working capital, business investment and capital structure. Sunthraruk provides a review on the statistical methods applied in financial distress studies. Showing the pros and cons of the various models, she argues that if the appropriate statistical methods are employed, there will be fewer biased outcomes and more accurate predictions on financial distress among firms. Joseph studied impulse purchasing behavior using a sample of 400 shoppers in hypermarkets in Bangkok. The strongest relationships, in his study, were found between word-of-mouth, social norms and impulse purchasing behavior. The author argues that Thai marketers have yet to find the relevant in-store stimuli necessary to promote customers' impulse decisions. In our final article, Poonpol uses resource-based and contingency theories to shed light on the determinants of expatriate cross-cultural adjustment and its effect on performance. This is especially important because the demand for qualified expatriates is increasing worldwide.

I wish to thank everyone who has been supportive of the Journal since its inception. I appreciate the input of each of you in helping to continue this tradition of quality.

Happy New Year!

Patricia Arttachariya, Ph.D.
Managing Editor

Contents

THE ANTECEDENTS AND CONSEQUENCE OF PERCEIVED CUSTOMER VALUE: A STUDY OF COUNTER BRAND FACIAL SKINCARE PRODUCTS IN BANGKOK

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Abstact

Customer value has been a growing interest in the consumer behavior literature and businesses must consistently provide superior value from customer knowledge to sustain their competitive advantage. Prior studies conducted have paid scant attention to the simultaneous influence of brand trust, advertising, salesperson communication, word-of-mouth communication, and product trial on perceived quality, perceived customer value, and behavioral intentions. There is limited theoretical and empirical support related to the perceived customer value model for counter brand facial skin care products. As such, this study will enhance academics and practitioners' understanding of perceived customer value in determining customer's behavioral intentions. The results suggested that perceived customer value plays an important role in predicting behavioral intentions.

INTRODUCTION

Customer value has been a growing interest in the consumer behavior literature (Cronin, Brady & Hult, 2000), therefore, knowledge about customer value is considered as fundamental for all marketing activities or the foundation of marketing management in order to maintain a competitive advantage (Lapierre, 2000). As such, forming customer value is a necessity for a company to remain confident of its superior positioning and/or niche in the marketplace (Lai, 1995).

Globally, women's income could climb from $13 trillion in year 2009 to reach $18 trillion in year 2014, therefore women represent a valued group in the marketplace (Silverstein & Sayre, 2009). The research results of Silverstein and Sayre (2009) reported that women spend a higher proportion of their income on beauty/cosmetic products, which are very important for their emotional well-being (Silverstein & Sayre, 2009).

Among cosmetic products, the counter brand facial skin care products were chosen in this study for three main reasons. First, the Thai facial skin care market represents an important segment since it captured almost 50 percent of the total skin care market (MRP, 2010). Many Thai people, especially women, are concerned about their facial skin (Boonyawate, 2004; Chichitamorn, 2006; Ma, 2008; Pholvisethkul, 2002; Thaveekiattikun, 2003). Second, the counter brand facial skin care products in Thailand have the potential to grow at a rate of five to ten percent annually (Mistine, 2004; TNB, 2009). This market evidenced growth of about 10 percent from year 2008 to year 2009 (Marketeer, 2010) and many companies are currently engaged in business expansion.

LITERATURE REVIEW

Customer Value Theory has been explained by using multi-dimensional constructs (Babin, Darden & Griffin, 1994; Rintamaki, Kanto, Kuusela & Spence, 2006). The studies of Babin et al., (1994) and Rintamaki et al., (2006) which were conducted in department stores (main channel of counter brand facial skin care products in Thailand) are utilized to expand the perceived customer value literature. Perceived customer value dimensions of this study consist of utilitarian value, hedonic value, and social value which were supported by prior studies.

The study of Rintamaki et al., (2006) defines utilitarian value as the assumption that consumers are rational problem-solvers, functional, and product-centric thinking. Hedonic value as the facets of consumer behavior relate to the multisensory, fantasy and emotive aspects of one's experience with products. Social value as a symbolic interactionism perspective emphasizes the importance of products in setting the stage for the multitude of social roles that people play.

Many studies developed their frameworks based on Zeithaml (1988), for example, Agarwal and Teas (2001) Dodds, Monroe and Grewal (1991), and Grewal, Krishnan, Baker and Borin (1998). Therefore, this study extends the knowledge related to perceived customer value based on the study by Zeithaml (1988) as shown in Figure 1.

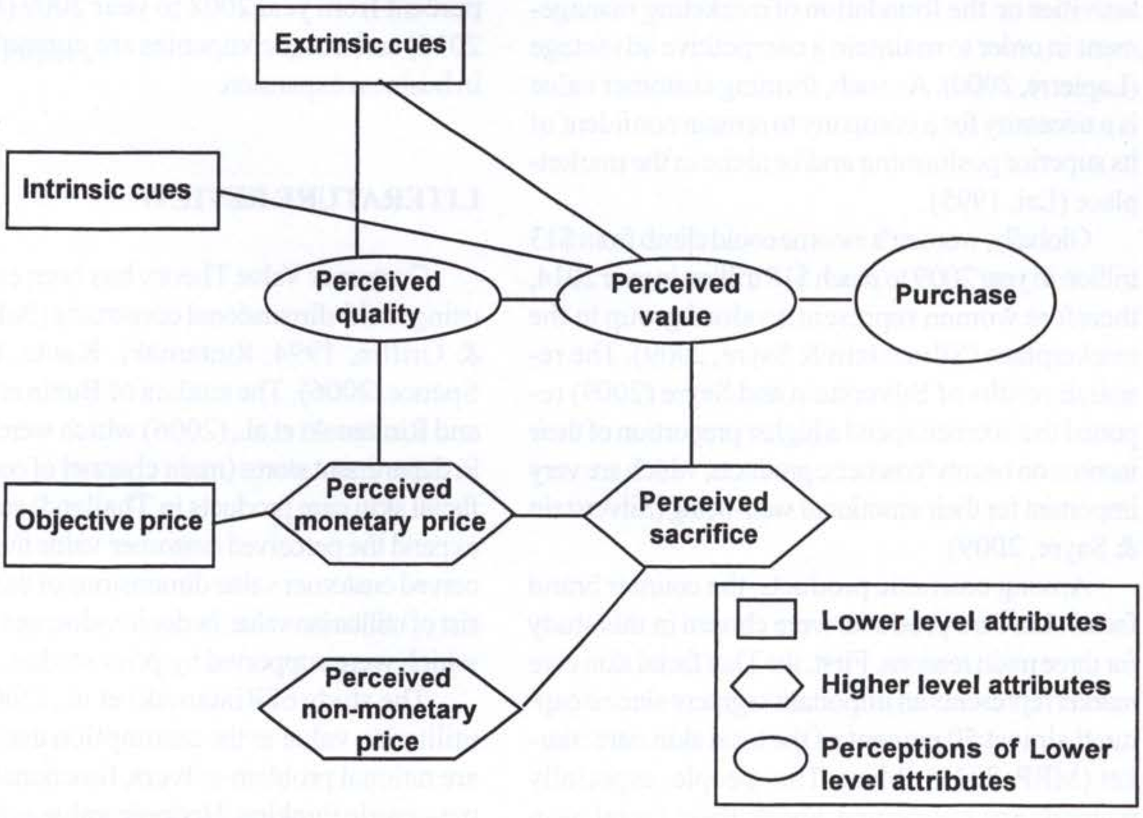
The empirical study by Zeithaml (1988) proposed that perceived customer value is predominantly influenced by evaluating perceived quality, perceived sacrifice, extrinsic cues, and intrinsic cues. There are three levels in the Zeithaml (1988) means-end value model. Zeithaml (1988) noted that benefits of intrinsic (product improvements) and extrinsic cues (marketing) are the precursors of perceived quality. Consumers use their quality perceptions to form their overall value measurements about the products at a second level. Perceived value to achieve personal purchase is represented at a third level.

Consequently, this study reviews the literature into three group; relationship between perceived quality and its antecedents, relationship between perceived customer value and its antecedents, and relationship between behavioral intentions and its antecedents.

Relationship Between Perceived Quality and Its Antecedents

Prior studies have supported the relationships between advertising and perceived quality (Archibald, Haulman & Moody, 1983; Schmalensee, 1978), brand trust and perceived quality (Chuadhuri & Holbrook, 2002), salesperson communication and perceived quality (Rao & Monroe, 1988), word-of-mouth communication and perceived quality (Bellenger & Moschis, 1982; Smith & Swinyard, 1988), and product trial and perceived quality (Kempf & Smith, 1998; Smith & Swinyard, 1983). Unfortunately the simultaneous testing of an intrinsic cue (product trial) and extrinsic cues (advertising, brand trust, salesperson communication, and word-of-mouth communication) with perceived

Figure 1: A Means-end Model Relating Price, Quality and Value



Source: Zeitharnl (1988: 4)

quality has thus far been limited. Therefore this study employs advertising, brand trust, salesperson communication, word-of-mouth communication, and product trial to constitute perceived quality.

Relationship Between Perceived Customer Value and Its Antecedents

Consumers evaluate perceived risk and perceived customer value simultaneously (So & Sculli, 2002). When perceived risk is lower, perceived customer value is higher (Agarwal & Teas, 2001, 2004; Sweeney et al., 1999). The perceived quality also forms risk perception (Agarwal & Teas, 2001, 2004; Wangenheim & Bayon, 2004). In short, the negative impact of perceived quality on perceived risk has been suggested (Yeung, Yee & Morris, 2010). There is a relationship between perceived risk, perceived quality and perceived customer value for expensive products (Agarwal & Teas, 2001, 2004; DelVecchio & Smith, 2005; Snoj et al., 2004). Counter brand facial skin care product is an expensive product in Thailand, as such this study investigates the simultaneous relationships of perceived risk and perceived quality on perceived customer value for counter brand facial skin care products.

Previous studies conceptualized perceived risk into five types of risk: financial, performance, social, physical, and psychological risks (Mitchell, 1999; Snoj et al., 2004; Wangenheim & Bayon, 2004). Basically, consumers are most concerned about financial risk and it has the most influence on consumers' purchase decisions (Snoj et al., 2004; Trocchia & Janda, 2002). Therefore, financial risk is one dimension of perceived risk in this study. Since cosmetic products can improve appearance and enhance confidence, performance and psychological risks are related to this study (Souiden & Diagne, 2009). Accordingly, this study investigated perceived risk of counter brand facial skin care products as per three dimensions; financial, performance, and psychological risks.

Intrinsic and extrinsic cues could serve as product information for consumers to form their value perceptions (Rao & Monroe, 1988; Rao & Sieben, 1992; Tellis & Gaeth, 1990). For example, brand has an influence on perceived customer value (Tea & Agarwal, 2000) and word-of-mouth communication has an influence on perceived customer value (Murray, 1991). However, the simultaneous investigation of extrinsic cues and intrinsic cues in the perceived customer value model has been limited (Teas & Agarwal, 2000). As such this study also investigates the impact of intrinsic cue (product trial) and extrinsic cues (advertising, brand trust, salesperson communication, and word-of-mouth communicaiton) on perceived customer value for counter brand facial skin care products.

Relationship Between Behavioral Intentions and Its Antecedents

Evidence of strong intention-behavior relations has been affirmed in numerous studies (Ajzen, 1985, 1991; Bagozzi, Baugartner & Yi, 1992; Nontani, 1998; Ryan, 1982; Warshaw, 1980; Ziethmal, Berry & Parasuraman, 1996). In particular, the studies of Sweeney and Soutar (2001) and Sirohi et al., (1998) which studied expensive products (furniture, car stereo), and retailing business reported that perceived customer value is positively related to behavioral intentions. Previous studies argued that perceived customer value is likely to infer purchase intention and word-of-mouth intention on expensive products and women products (Akhter, 2009; Grewal et al., 1998; Rao & Sieben, 1992). As counter brand facial skin care products includes expensive brand purchases and are women's beauty products, the dimensions of behavioral intentions include purchase intentions and word-of-mouth intention.

The study of Coulter et al., (2002), on cosmetics, concluded that source of information was an influence on variety seeking. Also, source of information may affect customer's behavioral intentions (Aqueveque, 2006; Dion, Paul & Notarantonio, 1992; Zeithaml et al., 1991). As such, this study includes variety seeking as one dimension of behavioral intentions in order to relate to behavioral outcome and to extend the perceived customer value model for counter brand facial skin care products. In sum, this study combines behavioral intentions with three dimensions: purchase intention, word-of-mouth intention, and variety seeking.

Intrinsic cues and extrinsic cues may affect customers' intentions (Aqueveque, 2006, Dion et al., 1992; Zeithaml et al., 1991). For example, previous studies confirmed that salesperson communication is related to consumers' intentions (Aqueveque, 2006, Dion et al., 1992; Zeithaml et al., 1991), word-of-mouth communication is related to consumers' intentions (Grant, Clarke & Kyriazis, 2007), and product trial is related to consumers' intentions (Kempf & Smith, 1998 Schmalensee, 1978, Smith & Swinyard, 1983; Smith, 1993). As such, intrinsic cue (product trial) and extrinsic cues (advertising, brand trust, salesperson communication, and word-of-mouth communicaiton) may form behavioral intentions.

RESEARCH FRAMEWORK

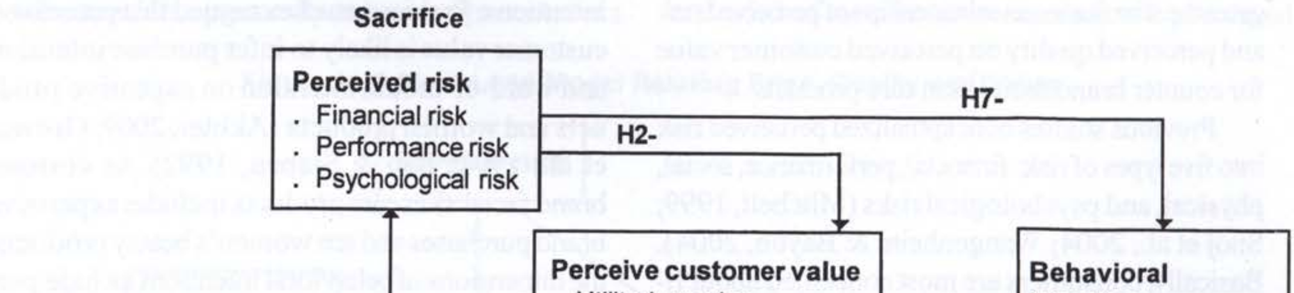
In order to verify the formation of factors influencing perceived customer value and customers' behavioral intentions, integrating of literature review and exploratory research results are essential. Exploratory interviews were conducted with counter brand facial skin care consumers and marketing officers in Thailand.

The participants revealed three criteria that influence their purchase behavior; perceived quality, financial loss from product's failure, and brand trust. They perceived product quality based on external store information search, internal store information search, and product trial. Among them, participants of counter brand facial skin care products commonly used perceived quality and financial loss from product's failure as two main criteria in making a purchase decision. The hypothesized relationships are developed based on the results from the exploratory research and literature review and are illustrated in the research framework as shown in Figure 2.

METHODOLOGY

This study used a survey method for data collection. The respondents of this study are females, older than 25 who have purchased counter brand

Figure 2: Conceptual Framework



facial skin care products from department stores during the last four months. Every four months represents the purchase frequency of counter brand facial skin care products according to the exploratory research results. Two marketing instructors and one marketing executive from a private firm were invited to check the content validity of the questionnaire. A pre-test was performed with a convenience sample of 50 respondents. Cronbach alpha coefficients of all constructs and their dimensions varied from 0.79 to 0.96, which exceeded the recommended level of 0.7 (Nunnally, 1978; Peterson, 1994; Churchill, 1979).

Samples were chosen by multi-stage sampling (three stages sampling). First, the researcher used simple random sampling method to obtain four sample areas from various department stores in Bangkok (Thailand). Second, quota sampling was chosen for the sample numbers in each department store area (Siam Paragon, Robinson Bangrak, Central Ladprao, and The Emporium.) Third, convenience sampling was chosen for selecting samples near each department store. The shopper-intercept is a face-to-face or personal interviewing method (Bush & Hair, 1985). A total of 500 respondents was selected for this study of which 479 completed responses was used for data analysis.

DATAANALYSIS

Descriptive statistic indicated that 78% of the sample held bachelor's degree while 6% held master's degrees. The majority of the respondents were in the range of 25 to 34 years old. Forty-nine percent of the respondents were single. It was noted that the level of most respondents' income (58%) ranged between 15,001-30,000 baht/month while those who earned 15,000 baht/month or less were only at 6% of total respondents. Given the fact that Thai women spend around 4,000 to 6,000 baht per times (four months per times) when purchasing counter brand skin care products (Laohapong, 2009), consumers' income ranged between 15,001-30,000 baht/month which represents the spending power and demand for counter brand facial skin care products. Company employee was the main occupation of counter brand facial skin care respondents. Most respondents used magazines for product information relating to counter brand facial skin care products. Approximately eighty-nine percent of respondents have used counter brand facial skin care products for more than a year.

Construct Validity

This study used the PCA factor solution from 479 cases for the measurement model and structural equation modeling. The maximum likelihood loading estimates, unstandardized regression weights, of measurement model of factorial structure for counter brand facial skin care products were significant by the critical ratio test ($> \pm 1.96, p < .05$). As such, convergent validity of the measurement model for counter brand facial skin care products was provided.

The composite reliability of factors in measurement model of factorial structure for counter brand facial skin care products ranged from .93 to .99 (See Table 1), which were greater than .7. Therefore, composite reliability of measurement model of factorial structure for counter brand facial skin care products was provided.

The variance extracted estimates of factors in the measurement model of factorial structure for counter brand facial skin care products ranged from 89 percent to 96 percent (See Table 1) all of which exceeded the recommended 50 percent. In addition, the variance extracted estimates were also greater than the corresponding interconstruct squared correlation estimates in Table 1 (above the diagonal line). Therefore, measurement model of factorial structure for counter brand facial skin care products did not suggest problems with discriminant validity.

RESULTS

The chi-square goodness-of-fit test showed x^2 (N = 479, df = 426) = 1412.27, $p < .05$, p value showed the model did not fit the data well. Given the known sensitivity of chi-square value to the sample size, this study complements the chi-square measure with the baseline comparisons fit measures. The baseline comparisons fit indices (NFI, IFI, TLI, CFI, and RMSEA) are above and close to the rec-

Table 1: Construct Correlation Matrix, Composite Reliability, Variance Extracted

	BT	A	SC	WOM	PT	PQ	FR	HR	USV	HV	PI	WOMI	VS
BT	1	.36	.38	.29	.24	.27	.03	.24	.44	.22	.34	.17	.00
A	.597**	1	.33	.34	.13	.14	.03	.10	.24	.17	.21	.11	.00
SC	.616**	.576**	1	.47	.19	.16	.06	.29	.40	.16	.28	.20	.00
WOM	.536**	.580**	.686**	1	.19	.12	.05	.12	.43	.23	.27	.18	.00
PT	.494**	.359**	.439**	.437**	1	.39	.03	.18	.30	.39	.18	.12	.00
PQ	.521**	.374**	.400**	.350**	.625**	1	.02	.18	.26	.39	.16	.12	.00
FR	-.174**	-.174**	-.240**	-.221**	-.159**	-.156**	1	.14	.07	.04	.04	.04	.00
HR	-.493**	-.309**	-.376**	-.353**	-.429**	-.420**	.377**	1	.22	.14	.19	.11	.02
USV	.663**	.485**	.636**	.659**	.546**	.514**	-.265**	-.468**	1	.29	.30	.14	.07
HV	.468**	.415**	.396**	.475**	.627**	.621**	-.193**	-.377**	.540**	1	.19	.18	.00
PI	.587**	.459**	.532**	.523**	.419**	.395**	-.208**	-.438**	.550**	.437**	1	.29	.00
WOMI	.413**	.329**	.447**	.430**	.340**	.343**	-.190**	-.329**	.374**	.419**	.537**	1	.00
VS	-.070	-.001	.028	.054	-.007	-.080	.145**	.266**	.007	.065	.006	.050	1
Composite Reliability	.98	.98	.97	.99	.99	.97	.93	.97	.99	.98	.96	.98	.98
Variance Extracted	.96	.95	.90	.93	.96	.91	.91	.93	.89	.95	.90	.94	.94

Notes: BT = Brand trust; A = Advertising; SC = Salesperson communication; WOM = Word-of-mouth communication; PT = Product trial; PQ = Perceived quality; FR = Financial risk; HR = Hedonic risk; USV = Utilitarian & social value; HV = Hedonic value; PI = Purchase intention; WOMI = Word-of-mouth intention; VS = Variety seeking

**? < .01

Values below the diagonal are correlation estimates. Values above the diagonal are square correlations. Item measurements were on seven-point likert scales (1 = strongly disagree, 7 = strongly agree).

Source: Author's own.

ommended level of .90. Moreover, the square multiple correlation (r^2) suggested that the predictors accounted for 57% of the variance associated with perceived quality, 41% of the variance associated with perceived risk, 90% of the variance associated with perceived customer value, and 67% of the variance associated with behavioral intentions.

Relationship Between Perceived Quality and Its Antecedents

The findings indicated that brand trust (H1a) was significantly and positively related to perceived quality (C.R. = 2.79; $p < .001$). Product trial (H1e) was also significantly and positively related to perceived quality of the product (C.R. = 11.14; $p < .001$). Advertising (H1b), salesperson communication (H1c), and word-of-mouth communication (H1d) did not have a significant relationship with perceived quality (C.R. = 0.60, -0.59, and -0.4; $p > .05$, respectively).

Relationship Between Perceived Customer Value and Its Antecedents

The structural relationship between perceived quality and perceived customer value was significantly and positively related to perceived customer value of the product (C.R. = 2.26; $p < .05$). Perceived risk was significantly and negatively related to perceived customer value of the product (C.R. = -3.14; $p < .01$). Brand trust (H3a) was significantly and positively related to perceived customer value as proposed (C.R. = 3.35; $p < .01$). Word-of-mouth communication (H3d) and product trial (H3e) were also found to be positively related to perceived customer value (C.R. = 5.26, 4.68; $p < .01$, respectively). Advertising (H3b) and salesperson communication (H3c) did not have a significant relationship with perceived customer value (C.R. = -0.88, 1.12; $p > .05$, respectively). In addition, perceived quality were significantly and negatively related to perceived risk (H4) as proposed (C.R. = -8.58; $p < .001$).

Relationship Between Behavioral Intentions and Its Antecedents

The results of Hypothesis 5 did not support the relationship between perceived customer value and customers' behavioral intentions. Structural relationship coefficients indicated that brand trust (H6a) and salesperson communication (H6c) were significantly and positively related to behavioral intentions. In contrast, perceived risk (H7) was significantly and negatively related to behavioral intentions.

Prior studies have not conducted and confirmed the simultaneous influence of intrinsic and extrinsic cues on perceived quality, perceived customer value, and behavioral intentions, hence the proposed model does not assume that it is the best perceived customer value for counter brand facial skin care products. The strongest test of the proposed model is achieved by comparing several possible acceptable models or modifying the proposed model (Hair et al., 1998, 2006). The proposed model's fit improvement is expected in a modified model (Hair et al., 1998, 2006). The importance of modifying the proposed model is to include only those parameters that are substantively relevant (Byrne, 2010). The importance of modifying the proposed model is shown in the study of Baker et al., (2002), Cronin et al., (2000), Kerin et al., (1992), and Oliver and Swan (1989). The modified structural equation model is shown graphically in Figure 3.

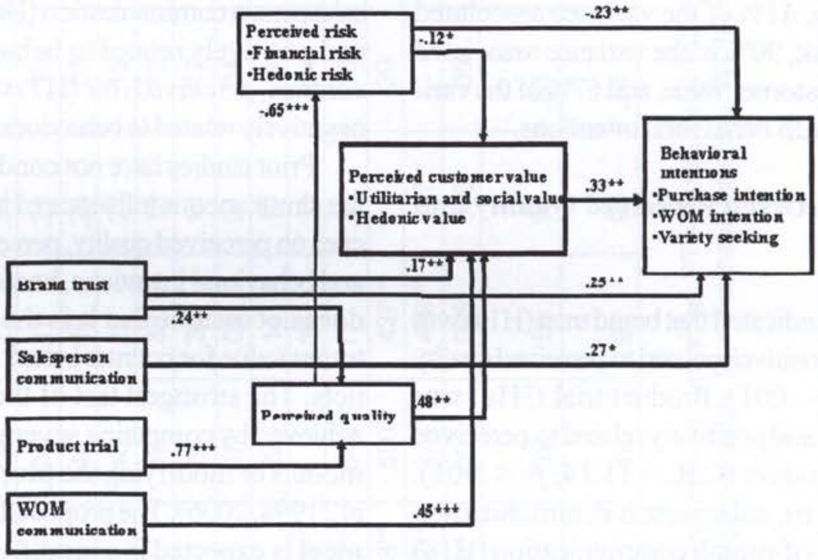
The chi-square goodness-of-fit test showed x^2 (N = 479, df = 382) = 1336.237, $p < .05$. The NFI, RFI, IFI, TLI, and CFI are close to the recommended level of .90. Moreover, the square multiple correlation (r^2) suggested that the predictors accounted for 43% of the variance associated with perceived risk, 88% of the variance associated with perceived quality, 99% of the variance associated with perceived customer value, and 74% of the variance associated with behavioral intentions.

From the chi-square value and baseline comparisons, both models fitted the data well. In addition, the structural path of the two models can be compared for theoretical justification.

DISCUSSION

The research results confirmed that there was a significant relationship between product trial, brand trust and perceived quality. This finding is supported by Kempf and Smith (1998), who studied food/bev-

Figure 3: Structural Relations and Coefficients for The Modified Structural Equation Model of Counter Brand Facial Skin Care Products



Notes: x^2/df = 3.49; NFI = 0.88; RFI = 0.86; IFI = 0.91; TLI = 0.90; CFI = 0.91; RMSEA = 0.07

erages and concluded that there was a positive relationship between product trial and perceived quality. Occasionally consumers may consider that magazine advertising and salesperson communication may be biased and untrustworthy. Therefore, non-direct product experience information (advertising, salesperson communication, and word-of-mouth communication) appears to have no significant impact on perceived quality.

The findings indicated that utilitarian and social and hedonic value are components of customer value perception. This findings is supported by Sheth et al., (1991), Babin et al., (1994), Holbrook, (1996), and Rintamaki et al., (2006), who studied the concept of perceived customer value with multiple dimensions. This finding is also supported by the study of Rintamaki et al., (2006) which was conducted in department stores and concluded that perceived customer value is a combination of utilitarian, hedonic, and social value.

The findings indicated that perceived customer value of counter brand facial skin care product is directly influenced by word-of-mouth communication, brand trust, perceived quality, perceived risk and is also indirectly influenced by product trial through perceived quality. This finding is consistent with Zeithaml (1988), who concluded that perceived customer value is influenced by the relationships between perceived quality and perceived risk (nonmoneary price). In particular, word-of-mouth communication is important in creating and delivering customer value perception. The results of this study is also consistent with Paridon (2006) who concluded that consumers' information sharing or word of mouth communication was related to consumer's self-confidence (hedonic value) and social outcomes (social value). Organization's source of information (magazine advertising, product trial, and beauty advisor) or formal communication cannot induce consumer's self-confidence and social influence. These three information sources are not persuasive enough in creating customer value perception.

The research results indicated that perceived customer value, salesperson communication, and high level of brand trust is more powerful in explaining customer's behavioral intentions than reduction of perceived risk.

The relationship between perceived risk and behavioral intentions was supported by the study of Aqueveque (2006), Garretson and Clow (1999) and Yeung et al., (2010) of red wine, dentistry, and food industry products, respectively. The impact of salesperson communication on counter brand facial skin care customer's behavioral intentions is also supported by the study of Zeithaml et al., (1991) and Weitz (1981). Chuadhuri and Holbrook (2002), who studied 41 product categories (e.g., camera, canned fruit, and cereal) also, confirmed that brand trust reduces uncertainty of purchase environments from multi-brands/multi-qualities in product category. In short, only expert source of information has a direct impact on customer's behavioral intentions.

IMPLICATIONS

This study provides benefits to both academics and practitioners. First, this study points out the importance of information sources in explaining perceived quality, perceived customer value, and behavioral intentions toward high-involvement products and/or expensive products purchased by female consumers. The findings indicated that intrinsic cues (product trial) and extrinsic cues (brand trust) formed perceived quality. Relating to intrinsic and extrinsic cues, this study defines perceived quality as the consumer's judgment about a product's performance. The findings indicated that even though both intrinsic and extrinsic cues formed perceived quality, intrinsic cues are more important in creating perceived quality while extrinsic cues are more important in creating perceived customer value and explaining behavioral intentions.

In particular, the importance of extrinsic cues in creating perceived customer value, word-of-mouth communication or the communication of consumers to family and friends can provide product data gathering and product information trustworthiness. In explaining extrinsic cues to customer's behavioral intentions, a salesperson can provide interpersonal communication, such as answering consumer's question about the products correctly and is able to help solve consumer's problems.

Second, ordinary marketing communication techniques such as magazines advertising may increase brand awareness and provide product information but not quality perception. However, marketers may prioritize editorial advertising rather than advertorial advertising in magazine advertising to help increase brand trust perception. Based on the exploratory research results, product trial campaign can be grouped into three types; product sampling, product demonstration (showing in event and facial massage), and gift with purchase. Counter brand facial skin care marketer can therefore take advantage of using viral marketing (engaging email for positive word-of-mouth communication) and can also use brand community (generating social relationships among consumers of a brand) to enhance perceived value of counter brand facial skin care consumers.

It is important to provide training to counter brand facial skin care salespersons/beauty advisors/consultants in the area of influencing consumers with product information rather than pressurizing them on sales. Salespersons/beauty advisors/consultants should offer products that best suit consumer's skin, answer product questions correctly, help consumer to solve facial skin problems, and create brand trust perception to enhance customer's behavioral intentions. Beauty advisors should also offer product trials to their consumers.

LIMITATIONS

First, this study was conducted only among counter brand facial skin care customers in department stores. The sample selected might be too limited to provide an understanding of all types of facial skin care consumers. Second, the media selected (magazine advertising) might be too limited to provide an understanding of all types of counter brand facial skin care media. Finally, multiple channels for counter brand facial skin care customer value and behavior intentions were untested because this study only focused on a specific channel/department stores selling counter brand cosmetics market.

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A REVIEW OF COLLABORATIVE STRATEGY FOR SUPPLY CHAIN

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Abstract

Corporations now have to compete in the borderless global market as well as locally. Individual businesses can no longer compete as stand-alone entities with only formal relationships, but need to refashion their supply chains to include a closer network of relationships among suppliers and partners. Those organizations which were able to manage their network in such a way that they gain competitive advantage over their competitors would be able to survive and succeed in the long run. Therefore, this article aims to describe and explain various concepts which constitute collaborative strategy. The increasing presence of environmental uncertainties and competition is what drives firms to adopt a collaborative strategy with their partners. Yet the concept is complex and not to be adopted without a thorough understanding of what it involves.

INTRODUCTION

Collaborative strategy is now considered to be of great significance for partners in a supply chain. In the early days of supply chain management, partnership was mainly about co-ordinating deadlines so as to keep inventory and stock-out to a minimum, and thus minimize cost and keep the customers happy. This came to be seen as an insufficient use of the potential of collaboration in the face of more intense competition and the growth of uncertainties due to the increasing complexity of trade. Relationships of sharing, based on trust between partners, providing win-win situations, are now considered to be an advanced form of collaborative strategy, enabling the achievement of specific characteristics which are difficult for competitors to copy.

The increasing presence of uncertainties and competition is what drives firms to adopt a collaborative strategy with their partners. Yet the concept is complex and not to be adopted without a thorough understanding of what it involves. Therefore, this article describes and explains, by reference to previous research, various concepts which constitute collaborative strategy.

RESPONDING TO THE CHALLENGE OF UNCERTAINTIES

Managing supply chains is a challenging task because of obstacles in the supply chain known as uncertainties. Firms face supply uncertainty that may be caused by a malfunctioning production process at the supplier, or late delivery (Ho, Chi, & Tai, 2005). In addition, firms usually face demand volatility caused by forecast inaccuracy or information hoarding (McCullen & Towill, 2002; Lee, Padmanabhan, & Whang, 2004). Davis (1993) proposed that variations in manufacturing lead time were the major source of manufacturing uncertainty. Companies have to find ways to control these three uncertainties with the aim of minimizing cost and maximizing service. The challenge for managers is to implement an appropriate strategy to achieve this aim.

Supply chain management integrates supply and demand management within and across companies (CSCMP, 2004). This includes the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. It is important that it also includes collaboration with channel partners (suppliers, intermediaries, third-party service providers, and customers), because supply chain management is a collaborative-based strategy by nature.

The literature on supply chain management has focused on the need for collaboration among trading partners, from original suppliers to end users, to better satisfy consumer demand at lower cost (van der Vorst & Beulens, 2002). One example is the experience of Samsung Electronics, which collaborated more extensively with Best Buy to define product requirements and to develop more efficient and flexible processes to manage product lifecycles: this led to the doubling of sales of consumer electronics over a two-year period (Koudal & Coleman, 2005). Ballou (2007) stressed that collaboration among supply chain members was at the heart of supply chain management and was the key to its future success. Moreover, several researchers discovered that companies normally use a collaborative approach to mitigate their uncertainties (Baker, 2007; Christopher & Lee, 2004).

COLLABORATION AND COLLABORATIVE STRATEGY

Collaboration is defined as all companies in the supply chain, actively working together as one, toward common objectives (Mentzer, Foggin, & Golicic, 2000). *Collaborative Strategy* is a relationship-based strategy which is used to characterize the relationship formed between multiple firms linked together in support of a common goal (Rodrigues, Stank, & Lynch, 2004).

An examination of the network relationship of collaborative management shows the context of an integrated supply chain, as multifirm collaboration within a framework of key resource flows and constraints. Within this context, supply chain structure and strategy result from efforts to operationally align an enterprise with customers (who consume a product or use it as an integral part or component of an additional process or product) as well as the distributive and supplier networks to gain competitive advantage. Hence, business operations are integrated from material purchase to the end-customer products and services delivery. The synergy among firms would lead to value creation. In this context, firms developed and managed business relationships with other companies to jointly perform essential logistics activities, i.e. managing flows of information, product, service, financial and knowledge (from initial material purchase to delivery of products and services to customers) within its constraints of capacity, information, core competencies, capital and human resources. In summary, the accumulated literature conveys that the integrated value creation must be aligned and managed from material purchase to delivery of products/services. Bowersox, Closs, and Cooper (2010) express this very well in stating that supply chain management consists of firms *collaborating* to leverage strategic positioning and to improve operating efficiency. For each firm, being involved in this relationship reflects a strategic choice, of a channel arrangement based on acknowledged dependency and collaboration.

A survey was conducted by the Council of Supply Chain Management Professionals of its members' views of supply chain management. The results showed that 'collaboration' is identified by the professionals as a key component of supply chain management (Gibson, Mentzer, & Cook, 2005). It is consistent with those definitions which proclaim the idea of collaborating and managing relationships among supply chain participants in order to gain a sustainable competitive advantage for all entities involved in such relationships.

In summary, at the core of supply chain management is the importance of collaborative efforts among the chain participants. As a result, firms attempt to seek appropriate strategies to manage their supply chain.

AN ANALYSIS OF COLLABORATION

Collaboration among supply chain members is at the heart of supply chain management and will be the key to its future success (Ballou, 2007). Collaboration is defined as all companies in the supply chain actively working together as one toward common objectives (Bititci, Martinez, Albores, & Parung, 2004), who also said that other terms used to describe this situation are relationships, partnerships or alliances. Vereecke and Muylle (2006) state that supply chain collaboration involves integrating the real demand perspective into supply chain thinking. Other researchers even use the term 'integration' interchangeably with 'collaboration'. According to

O'Leary-Kelly and Flores (2002, p.226), "integration refers to the extent to which separate parties work together in a cooperative manner to arrive at mutually acceptable outcomes". In general, there are two types of integration: internal and external. Internal integration is that across various parts of a single organization: external integration is that which occurs between organizations (Chen, Mattioda & Daugherty, 2007). Internal integration is the extent to which logistics activities interact with other functional areas; external integration is the coordination and collaboration with other supply chain members (Gimenez & Ventura, 2005).

Researchers agree that collaboration involves not only information sharing, but also joint efforts which include joint planning, joint decision making, and joint problem solving (e.g. Ballou, 2007; Bowersox et al., 2010; Sheu, Yen, & Chae, 2006; Simatupang & Sridharan, 2004). The definitions of collaboration are summarized in the following Table.

Collaboration appears when companies recognize that the traditional arm's length relationship is insufficient to solve problems or to achieve desired goals (Fites, 2000; Wagner, Macbeth, & Boddy, 2002). An example is Chrysler, which survived a financial crisis because it had transformed the organization relationships with suppliers from adversarial to collaborative (Dyer, 2000). In the Caterpillar Company, its close relationships with dealers and customers helped its turnaround (Fites, 2000).

Many and various forms of collaboration practices have emerged. These include: vendor managed inventory (VMI), continuous replenishment programs (CRP), efficient consumer response (ECR), and collaborative planning, forecasting, and replenishment (CPFR). Wal-Mart and P&G are two com-

Table 1: Definitions of Collaboration

Authors	Definitions
Mentzer et al. (2000)	Collaboration means that all companies in the supply chain are actively working together as one toward common objectives.
McLaren, Head, and Yuan (2002)	Collaboration is a recent trend in supply chain management that focuses on joint planning, coordination, and process integration between suppliers, customers, and other partners in a supply chain
Bititci et al. (2004)	The term collaboration is often used when individuals or organizations work together toward a common aim. The other terms that are used to describe this situation are relationships, partnerships or alliances.
Simatupang and Sridharan (2004)	Collaboration consists of three dimensions, namely information sharing, decision synchronization, and incentive alignment. *Information sharing* aims to capture and disseminate timely and relevant information to enable decision makers to plan and control supply chain operations. *Decision synchronization* refers to joint decision making at planning and operational contexts. *Incentive alignment* refers to the degree to which chain members share costs, risks, and benefits.
Bonet and Pache (2005)	True collaboration exists when the trading partners have a balance in power and are interdependent. The willingness of decision-makers to collaborate in the long-term is important.
Min, Roath, Daugherty, Genchev, Chen, Arndt, and Richey (2005)	The principal features of collaboration are information sharing, joint planning, joint problem solving, joint performance measurement, and leveraging resources and skills.
Bowersox el al. (2010)	Supply chain management consists of firms collaborating to leverage strategic positioning to improve operating efficiency. They highlight the collaborative relationship within and across organizational boundaries through information sharing and joint planning.
Naesens, Gelders, and Pintelon (2007)	Collaboration is about identifying and exploiting win-win situations and thus an opportunity for each partner. A collaborative supply chain simply means that two or more independent companies work jointly to plan and execute supply chain operations assuming greater success than when acting in isolation.

Source: Developed by the author.

panies which have experimented with CPFR since 1995, with significant success. Early adopters of CPFR such as Nabisco and Wagmans, reported a greater than 50% increase in sales (Attaran & Attaran, 2007).

Spekman, Kamauff, and Myhr (1998) concluded that a shift is essential in the level of intensity, from adversarial to collaborative relationship among trading partners. Adversarial (arm's length) relationships are purely transactional, implying a zero-sum game, because if one wins, the other loses (Kampstra, Ashayeri, & Gattorna, 2006). Cooperation is the threshold level for interaction, where firms exchange essential information and sign long-term contracts with some suppliers/customers. At the next level is coordination where both parties specify workflow and information exchange and are engaged in making seamless many of the traditional linkages among trading parties (Spekman et al., 1998). The aim of coordination is to synchronize flows and to automate some routine decision-making processes so as to improve speed and accuracy (Kampstra et al., 2006). Collaboration engages partners in joint planning and processes above the levels reached in less intense trading relationships (Spekman et al., 1998). This is demonstrated in the following diagram.

However, not all collaboration is successful. Kotabe and Swan (1995) demonstrated that the efforts of cooperating firms may have a negative impact on the innovativeness of their products. The failure may be due to the inherent difficulty in recognizing the commercial potential of a dramatically innovative product. Also, Mitchell and Singh (1996) suggested that collaboration can sometimes turn on the user, as firms which become dependent on a single partner may lock into obsolete capabilities following sudden and substantial changes in technology or market segmentation. Ackerman (1996) identified several reasons why logistics partnerships fail: the partners fail to reach an understanding about the job to be done, the seller overpromises, and service failure becomes intolerable for the buyer.

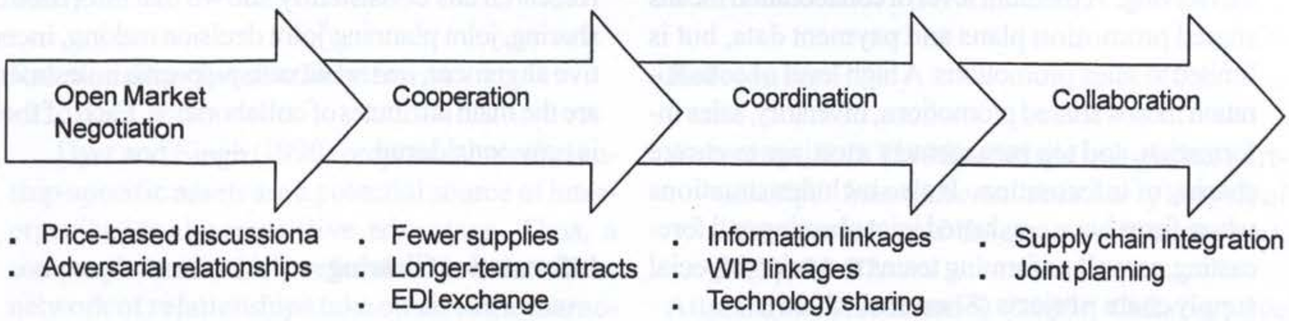
While not all partnering relationships have been successful, the potential benefit from the synergy of working together is significant, and has attracted many firms interested in long-term involvement with exchange partners (Bowersox, 1990; Kumar & Corsten, 2005). Collaborative efforts often contribute to improvements in efficiency, effectiveness and profitability (Min et al., 2005). Consequently, collaboration should lead to a win-win-win situation for all participating partners as well as the end customers (Bititci et al., 2004), although it is not necessarily an equal win for all partners. A summary of the benefits of collaboration is shown in Table 2.

Usually, the motive for supply chain collaboration is the improvement of organizational performance. Mentzer et al. (2000) suggested that supply chain collaboration can deliver powerful competitive advantages (Wagner et al., 2002) if the right enablers are in place and the barriers are overcome.

Degrees of Collaboration

Despite the range of potential benefits, different degrees of collaboration lead to different results. According to Sheu et al. (2006), the degree of collaboration is measured by the activities performed by the collaborating firms, such as the amount of information sharing, joint planning, and problem solv-

The Key Transition from Adversarial to Collaborative Relationships



Source: Spekman et al. (1998, p.634)

Table 2: Benefits of Collaboration

Authors	Benefits of Collaboration
Kalwani and Narayandas (1995)	▪ Reduced costs ▪ Higher profitability
Mentzer et al. (2000)	▪ Reduced inventory ▪ Improved customer service ▪ More efficient use of human resources ▪ Better delivery through reduced cycle times ▪ Faster speed to market of new products ▪ Stronger focus on core competencies ▪ Enhanced public image ▪ Greater trust and interdependence ▪ Increased sharing information, ideas, and technology ▪ Stronger emphasis on whole supply chain ▪ Improved shareholder value ▪ Competitive advantage over other supply chains
Wagner et al. (2002)	▪ Greater awareness of customer service ▪ Raised performance expectation ▪ Increased information transference ▪ Accurate forecasting jointly ▪ Improved competitiveness.
Simatupang and Siharan (2004)	▪ Increasing sales ▪ Ensuring on-time delivery ▪ Lowering inventory costs ▪ Reducing out-of-stock items ▪ Creating accurate forecasts ▪ Better return-on-investment ▪ Reducing obsolete inventory ▪ Reducing lost sales ▪ Cutting order cycle time ▪ Increasing market shares ▪ Reducing markdowns.
Min et al. (2005)	▪ Efficiency, effectiveness and profitability ▪ Reinforcement and expansion of the relationship
Udin, Khan, and Zairi (2006)	▪ Customer service improvement ▪ Cost reductions ▪ Efficient use of resources ▪ Business process improvement

Source: Developed by the author

ing. A low level of collaboration means very little information exchange, and no joint planning or problem solving. A medium level of collaboration means shared promotion plans and payment data, but is limited to sales promotions. A high level of collaboration means shared promotions, inventory, sales information, and top management meetings to ensure sharing of information. It also includes situations where firms have conducted joint planning and forecasting, as well as forming teams to work on special supply chain projects (Sheu et al., 2006).

Simatupang and Sridharan (2004) proposed three dimensions of collaboration: information sharing, decision synchronization, and incentive alignment. Research has consistently shown that information sharing, joint planning/joint decision making, incentive alignment, and relationship-specific investment, are the main attributes of collaboration. Each of these is now considered.

Information Sharing

Koh, Demirbag, Bayraktar, Tatoglu, and Zaim

(2007) considered information sharing to be one of the activities to promote effective management of a supply chain. They defined information sharing as the information communicated between partners where the accuracy, adequacy, and timeliness are criteria of the quality of information. Similarly, Zailani and Rajagopal (2005) viewed information sharing as an exchange of information among company, customers and suppliers. It is also seen as the extent to which the chain members share their private information about supply chain operations over time (Simatupang & Sridharan, 2004). This sharing includes sales, promotion, inventory payment, and top management meetings (Sheu et al. (2006).

Joint Planning/Joint Decision-Making

Simatupang and Sridharan (2004) used the term decision 'synchronization' for the degree to which the chain members are involved in joint decision making at the planning and operational levels. Sheu et al. (2006) stated that firms and their partners may jointly plan forecasting, category management, new product design, promotion campaigns, display designs, and advertising. Bagchi, Ha, Skjoett-Larsen, and Soerensen (2005) suggested that firms may share decision-making in research and development, procurement, inventory management, manufacturing, and supply chain design.

Incentive Alignment

Incentive alignment is the degree to which the chain members share costs, benefits, and risks of collaboration (Simatupang & Sridharan, 2004). Collaboration in supply chain design and operation with key suppliers and customers lead to risk, cost, and gain sharing of incentive alignment (Bagchi et al., 2005).

Relationship-Specific Investment

Dyer and Singh (1998) proposed that relationship-specific assets are a potential source of interorganizational competitive advantage. Thus, a company's assets which are involved in an inter-firm network of relationships take on an extra characteristic because of their use in conjunction with the assets of an alliance partner. Together, these 'joint' assets help lower total value chain costs, lead to greater product differentiation and fewer defects, and accelerate product development cycles.

Such investment is made necessary by the nature of a partnership. On the one hand, suppliers in long-term relationships could face higher inventory costs because of specialized investments, such as warehousing facilities to support just-in-time systems of customers. This leads to more frequent deliveries and higher transportation costs (Frazier, Spekman, & O'Neal, 1988).

On the other hand, substantial research on supply chain collaboration illustrates the benefit gained from learning effects and relationship-specific economies of scale, which lead to eventual lower costs (Kalwani & Narayandas, 1995). Ruben, Boselie, and Lu (2007) indicated that in exchange for long-term contracts, collaborating companies are required to invest in specific assets. Batt (2003), and Cadilhon, Fearne, Moustier, and Poole (2003) proposed that opportunistic behavior and the risk involved in such investments may be reduced by relationship contracts and mutual trust. Firms are required to invest time, personnel, money, training, technology up-dates and other resources to ensure sustainable collaboration (Min et al., 2005). In addition, the feedback from Indian organizations provided evidence that the success of relationships depends in part on the amount of investment in time and resources that the parties make in the relationship (Sahay, 2003). The literature above makes a convincing case for the need for relationship-specific investment to make collaboration effective. Hence, it is concluded that supply chain collaboration is a very broad field and needs further investigation to understand its practical value (Min et al., 2005; Barratt, 2004).

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FUNDAMENTAL FINANCIAL FACTORS DETERMINING THE MARKET VALUE OF THE EQUITY: AN EMPIRICAL STUDY OF LISTED MEDIA AND PUBLISHING FIRMS IN THAILAND

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Abstract

This research is aimed at bringing empirical literature in Thailand's media and publishing market from a financial perspective. The study throws light on how media and publishing equities are relevant to financial statement factors. In this study, the researcher employs regression analysis to examine the relationship between equity value and eight financial statement factors. The Fixed Effect Least-Squares Dummy Variable Model is estimated using Newey-West standard errors method after solving heteroscedasticity and serial correlation problems. The relationship found between the variables of interest indicates the importance of fundamental financial factors to equity investment in this industry. The results offer an implication beyond theoretical expectations about Thailand media and publishing, in which value is primarily driven by soft factors.

INTRODUCTION

As a mirror of a firm's financial conditions (Stowe et al., 2002; Brigham and Ehrhardt, 2005; Damodaran, 2002; 2006; TAS1, 2009), financial statements are applied diversely to business and financial requirements: performance and compensation management, financing and lending decision, and equity investment (Barth et al., 2001). The role of published statements in equity investment came to prominence, particularly, after Enron and WorldCom were mired in financial scandal. The past crises together with Enron and WorldCom cases have contributed to the lack of confidence in the released financial information; as a consequence, several measures have been introduced to enhance financial transparency and reporting standards (Islam, 2000; Linsley and Shrives, 2005).

As mutually pointed out by Brigham and Ehrhardt (2005) and Damodaran (2002), fundamental analysis based on published statements is of the essence in equity investment because it helps to hedge against investment risks. Nevertheless, the past crises have raised concerns about the reliability of accounting statements. This causes ambiguity in the role of financial statements data in equity trading, particularly, in trading of media and publishing securities, values of which are driven by soft variables.

Several scholars (Berman, 2004; Flew, 2004; Biagi, 2010) cited that as a business in the context or informational industry, media and publishing firms are run by a variety of soft elements of contents, content creators, creative artist, technology, and the like. Also, as stated by Berman (2004, p.37), "media companies survival or failure in 2010 is based not just on creative content, but on creative intelligence - about customers, markets, and the value of digital assets". These imply influential role of soft elements in driving values of media and publishing equities. If the key drivers of industry values are the soft variables, sensibly, investors are likely to adjust their opinions on equity values based on the informational contents of those variables.

If so, what is the role of published statement information in equity investment? Stowe et al. (2002) stated that in service industry, humans are key operating factors; physical capital as represented by book equity seems to be less important and cannot be considered as a value indicator.

These discussions motivate this researcher to seek an answer to the question: *Is there a relationship between fundamental financial statement factors and the market values of media and publishing equities?*

In spite of public influence, financial researches in Thailand's media and publishing industry are quite limited, especially, value relevance research. Prior researches in Thailand's media and publishing industry have mostly related to social or non-financial studies. In this study, the researcher aims at bringing additional understanding relating to the industry from a financial perspective.

Media and Publishing industry in Thailand

According to The Stock Exchange of Thailand (SET) (2009), the media and publishing industry comprises the business corporations engaging in the production and distribution of media and publishing contents: entertainment media (sound recording, motion picture, radio and television broadcaster), publishing, and printing house. This definition is in accordance with the definition of the content and media industry provided in the International Standard Industrial Classification (ISIC Revision 4.0) developed by United Nations (2008). In this regard, Thailand's media and publishing industry can be classified into 4 major categories: 1.Publishing of books, periodicals and other publishing activities, 2. Motion picture, video and television programme activities, 3. Sound recording and music publishing activities, 4. Programming and broadcasting activities.

With accessibility to the nationwide audiences, media impacts the public and have a multiplicity of applications. As stated by Nogsuan (2005) and Biagi (2010), they are used politically and commercially. Core revenues of the industry are generated mainly from selling advertising spaces (Pongsudhirak and Karnchuchat, 2003; Tangkitvanich, 2003). Thus, growing trend towards Thailand's media can be observed through advertising spending. As reported by Nielsen Media Research, advertising spending on media during the years of 2004 - 2008 amounted to US$ 2,422 million, US$ 2,560 million, US$ 2,586 million, US$ 2,649 million, and US$ 2,576 million, respectively. Among other media, television broadcasters consistently occupy the lion's share of advertising spending in the market (56%-59%) during such periods. The value of the industry is driven by several soft factors such as patents, contents, star artists, technology, and the like. This is a high value business with a wide base covering all age groups of consumers.

LITERATURE REVIEW

Reliability and value relevance testing

The applications of published statements in equity investment have been widely researched. Nevertheless, previous value relevance studies in the media and publishing industry are still rare, particularly, studies in Thailand. Most have related to social or non-financial studies: Pongsudhirak and Karnchuchat (2003) examined key concepts concerning the establishment of public service broadcasting in Thailand. Tangkitvanich (2004) examined the content and structural regulation of public broadcasting in Thailand. Nogsuan (2005) discussed the role of mass media in the general elections. Dilokvanich (2005) studied the implication of organization and programming change: the case of Channel 9. Tangkitvanich et al. (2007) investigated the possibility and the process of establishing television for kids. Thailand Development Research Institute (TDRI) (2009) examined the role of information and communication technology industries in Thailand.

The past reliability and value relevance studies in other countries have been ambiguous on the role of published statements in equity investment. Stanga (1976) stated that corporate reports are important sources containing information about a firm. Besides, as researched, investors rely on this information and utilize it to make informed decisions (Epstein and Pava, 1995; Naser et al., 2003; Razeen and Karbhari, 2004; Alattar and Khater, 2007). Nevertheless, Barth et al. (2001) discussed that after the equity market collusion in 1929, the Securities Act of 1933 was passed to keep listed firms from misleading investors by incomplete financial statement data (according to them, an authority of the Stock Exchange Commission applied today is derived from such Act). These imply that published statements play a key role in equity investment, whereas the past crises are key factors in shaping investors' confidences on financial statements.

Reliability and value relevance of published statements have been widely researched and dimensions of such researches have been widely discussed. At an early stage, Stanga (1976) observed annual report disclosure practices of industrial corporations in U.S. and found that many smaller firms create disclosure practices following the leading firm rather than satisfying informational needs of investors. Epstein and Pava (1995) examined U.S. firm shareholders' perceptions on corporate reports and revealed that the shareholders perceive the usefulness of the reports. Naser et al. (2003) researched the Kuwaiti Stock market and reported that investors value the traditional accounting statements, whereas they perceive less credibility of nonfinancial data included in the same corporate reports. Razeen and Karbhari (2004) reported that based on Saudi users, the statement of cash flow is far less useful in comparison to other statements. Similarly, Alattar and Khater (2007) found that Qatar respondents have realized the value of annual reports.

In the extant studies, the researchers have tested value relevance of accounting data by examining association between financial statement amount and equity value. Fundamental financial statement information is incorporated in equity values when the two factors are associated (Barth et al., 2001; Hand, 2003; Rahman and Mohd-Saleh, 2007). This is the method in defining whether investors rely on and utilize financial statements in equity investments (Barth et al., 2001). Prior researchers conducted the studies by relying heavily on large samples (cross-industrial analysis) or the whole equity market-based analysis. Most of them have mutually aimed at determining whether equity value is relevant to two accounting factors: book value of equity and earnings. Although those researchers have employed the same practices to test value relevance of the same accounting factors, motivations behind each research have been variously discussed.

Graham and King (2000) questioned whether different accounting practices among six Asian countries (Indonesia, South Korea, Malaysia, the Philippines, Taiwan, and Thailand) affect financial statement users differently. Based on the data during 1987-1996, they found that book equity and earnings are positively relevant to equity prices in all countries. Nevertheless, in Thailand, the explanatory power of book value is greater than earnings in most of the periods under focus. Ibrahim et al. (2002) studied the data during 1990-1997 and revealed that Malaysian investors perceive the usefulness of balance sheet numbers and utilize them to determine the market value of all sample firms. As a consequence of implementation of new accounting standard, El Shamy and Kayed (2005) researched the Kuwaiti Stock market. According to them, earnings have informational content beyond book equity in real estate sectors and the labor intensive industry (financial, services, investments firms), whereas book equity better explains market equity in the industrial sector. Rahman and Mohd-Saleh (2007) conducted a study based on data spanning 2004-2006 of the firms listed on the Bursa Malaysian market. They reported that in the presence of agency problem, value relevance of book equity and earnings is weakened. Contrary to others, Amir and Lev (1996) found that financial statement variables (book equity and earnings) are irrelevant to market equity value in the wireless communication firms.

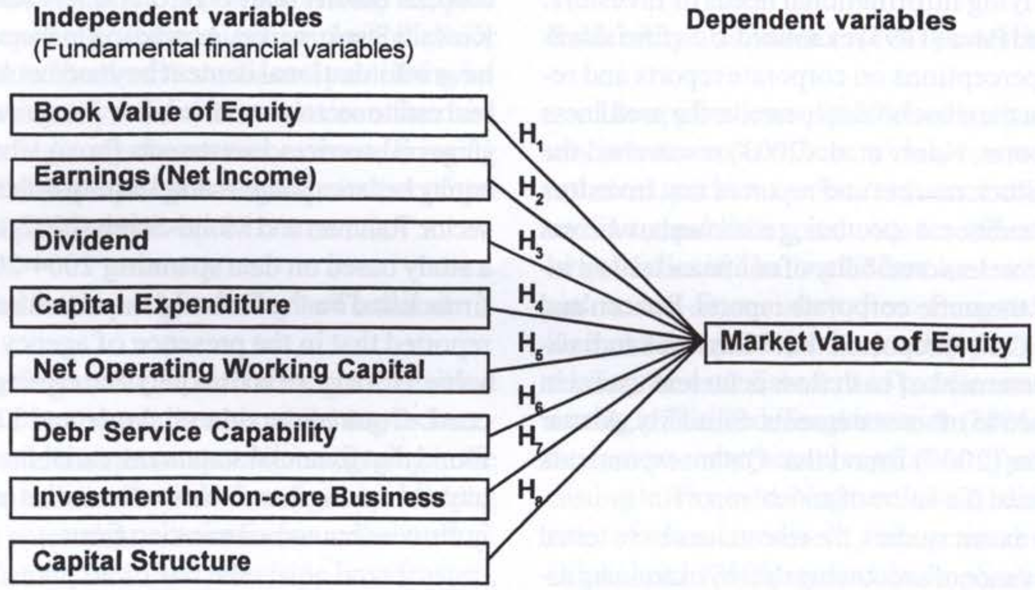
RESEARCH FRAMEWORK

Prior researches have adopted the same theoretical model to test value relevance of financial statement data, where market value of equity is expressed as a function of current book equity and earnings. In this study, the researcher intends to explore whether the market value of equity is also sensitive to the change in other financial statement factors in addition to book equity and earnings. Brigham and Ehrhardt (2005) stated that value of equity is influenced by several financial factors such as revenues, operating assets, required investment in operations, financing decisions, and risk factors. In this respect, the current researcher formulates the research framework as illustrated in Figure 1. The current research framework demonstrates that the market value of equity is driven by several fundamental financial statement factors: book equity, earnings (net income), dividend, capital expenditure, net operating working capital, debt service capability, investment in noncore business, and capital structure.

HYPOTHESIS STATEMENTS

In light of the research question and fundamental financial variables presented in the research framework, the researcher hypothesizes the following statistical alternative statements:

Figure 1: Research Framework



H1a: There is a statistically significant relationship between the change in the book value of equity and the change in the market value of equity.

H2a: There is a statistically significant relationship between earnings (net income) growth and the change in the market value of equity.

H3a: There is a statistically significant relationship between dividend growth and the change in the market value of equity.

H4a: There is a statistically significant relationship between the change in capital expenditure and the change in the market value of equity.

H5a: There is a statistically significant relationship between the change in net operating working capital and the change in the market value of equity.

H6a: There is a statistically significant relationship between the change in debt service capability and the change in the market value of equity.

H7a: There is a statistically significant relationship between investment in non-core business growth and the change in the market value of equity.

H8a: There is a statistically significant relationship between the change in capital structure and the change in the market value of equity.

RESEARCH METHODOLOGY

The researcher targeted all 25 media and publishing firms as presented on the master list retrieved July 24, 2009 from the Stock Exchange of Thailand. Financial statement data and equity prices of the sample were drawn from the Bloomberg database, in which the researcher found unequal spanning of data during the years 1990-2008. To control undesirable effect of unbalanced data causing improper statistical output, the researcher trimmed the initial dataset. This, consequently yielded the balanced panel data of 100 firm-year observations from 20 firms spanning 2004-2008. The financial data related to all the variables of interest are measured regarding relative change of prior year value (t-1) and the current year value (t). In Table 1, the measurement of each variable is presented under its definition.

Statistical treatment of data

The researcher employed multiple regression analysis to scrutinize the relationship between the variables of interest and exploited Ordinary Least Squares Method (OLS) to estimate the empirical model. This is a practical method in observing dependency of one variable on another (Black, 2004; Gujarati and Porter, 2009; Wooldridge, 2009). In dealing with panel data, researchers are likely to face heterogeneous effects of sample firms that differently influence the response of dependent variable on independent variable (Gujarati and Porter, 2009). To tackle this problem, the researcher allowed the

Table 1: Definitions of Variables and Measurements

Variable	Measurement
Dependent Variable:	
Market value of equity (MVE) refers to the price of equity at the end of the year	$\frac{[(MVE)_t - MVE_{t-1})]}{MVE_{t-1}}$
Independent Variables:	
Book value of equity (BVE) is the yearend amount of total shareholders' equity	$\frac{[(BVE)_t - BVE_{t-1})]}{BVE_{t-1}}$
Earning or Net income (NI) refers to net income earned during the fiscal year and is available to common shareholders exclusive of extraordinary items.	$\frac{[(NI)_t - NI_{t-1})]}{NI_{t-1}}$
Dividend (DIV) refers to dividend amount paid by a firm in any fiscal year.	$\frac{[(DIV)_t - DIV_{t-1})]}{DIV_{t-1}}$
Capital expenditure (CAPEX) refers to the total yearend amount of capital expenditure.	$\frac{[(CAPEX)_t - CAPEX_{t-1})]}{CAPEX_{t-1}}$
Net operating working capital (NOWC) refers to the sum of yearend balance sheet value of cash, near cash, accounts receivable, inventories, after subtracting accounts payable and accruals.	$\frac{[(NOWC)_t - NOWC_{t-1})]}{NOWC_{t-1}}$
Debt service capability (DSC) is measured by taking EBITDA coverage ratio as the measurement. $\text{EBITDA Converage Ratio}_t - \text{EBITDA Converage Ratio}_{t-1}$ Where, EBITDA* coverage ratio can be obtained by the following function: $\frac{(\text{EBITDA + Lease Payments})}{(\text{Intereste Expense + Principal Payments + Lease Payments})}$ *Earnings Before Interest, Tax, Depreciation, and Amortization.	
Investment in non-core business (INV) is the sum of yearend amount of short term investment in marketable security, long term investment, and investment in associated companies.	$\frac{[(INV)_t - INV_{t-1}]}{INV_{t-1}}$
Capital structure (CS) refers to the yearend debt amount relative to equity. $\frac{[(BVL)_t + BVL_{t-1})}{2} - \frac{(BVL)_t + BVL_{t-1})]}{2}$	

Note: BVL refers to the book value of liability at the end of the calendar year. BVE refers to the book value of equity at the end of the calendar year.

model to capture firm effect by incorporating firm-dummies into the model. The empirical model of this research expressed below is called The Fixed Effect Least-Squares Dummy Variable Model.

$$MVE_{it} = a_s + b_1 BVE_{it} + b_2 NI_{it} + b_3 DIVit + b_4 CAPEX_{it} + b_5 NOWC_{it} + b_6 DSC_{it} + b_7 INV_{it} + b_8 CSit + d_1 DF01 + d_2 DF02 + d_3 DF03 + d_4 DF04 + d_5 DF05 + d_6 DF06 + d_7 DF07 + d_8 DF08 + d_9 DF09 + d_{10} DF10 + d_{11} DF11 + d_{12} DF12 + d_{13} DF13 + d_{14} DF14 + d_{15} DF15 + d_{16} DF16 + d_{17} DF17 + d_{18} DF18 + d_{19} DF19 + e_{it}$$

Where,

as. = the intercept value of the base firm

$b_{1...8}$ = the regression estimators of the independent variables of BVE, NI, DIV, CAPEX, NOWC, DSC, INV, and CS respectively.

$d_{1...19}$ = the estimated parameters for the fixed effect dummy variables.

MVE_{it} = the market value of equity of firm *i* at the end of year *t*

BVE_{it} = the book value of equity of firm *i* at the end of year t

NI_{it} = net income of firm i at the end of year t

DIV_{it} = dividend payment of firm i at the end of year t

$CAPEX_{it}$ = capital expenditure of firm i at the end of year t

$NOWC_{it}$ = net operating working capital of firm i at the end of year t

DSC_{it} = debt service capability of firm i at the end of year t

INV_{it} = investment in non-core business of firm i at the end of year t

CS_{it} = capital structure of firm i at the end of year t

DATA ANALYSIS

To obtain BLUE estimators, the properties of the dataset exploited to estimate the model must satisfy the basic assumptions of the method of least squares (Black, 2004; Gujarati and Porter, 2009; Wooldridge, 2009). Several tests have been conducted to ensure compliance with the required assumptions of the least squares. The tests have involved testing of stationarity, multicollinearity, heteroskedasticity, and serial correlation. Pair-wise correlations were observed to detect multicollinearity. Augmented Dickey-Fuller (ADF) Test was conducted to test unit root. From testing, the results confirm that the data are stationary and there is no multicollinearity problem. Nevertheless, heteroskedasticity and serial correlation problems are of concern in this research.

Test of heteroscedasticity

The White test and the Breusch-Pagan-Godfrey (BPG) test are the statistical testing techniques widely accepted for diagnosing heteroscedasticity problem (Gujarati and Porter, 2009; Wooldridge, 2009). The researcher conducted the disturbance tests utilizing both methods. The EViews program tabularly reveals the detection results in Table 2.

The probabilistic values of the F-statistics obtained from the White (.0324) and the BPG (.0003) tests are statistically significant at the 5 % confidence level. Thus, the statistical null hypothesis that the disturbances are equally spread or have equal variances for any values of exogenous is then rejected. The result affirms the suffering of heteroscedasticity of the data health. Even if the heteroscedasticity does not create the biasness and inconsistent properties to the model, the efficiencies of the estimators are in ruins (Ibrahim et al., 2002; Gujarati and Porter, 2009).

Test of serial correlation

Similar to the heteroscedasticity, the serial correlation does not cause the biasness and inconsistent properties to the model, but the estimators are inefficient. In other words, they are not the best estimators. This is because one of the groundbreaking least square assumptions of zero correlation amongst the residuals is relaxed (Gujarati and Porter, 2009). This research employed Breusch-Godfrey Serial Correlation LM to test the statistical null hypothesis that there is no serial correlation amongst the residual orders. The result rejects the statistical null

Table 2: The Result of Heteroscedasticity Test

The White Test			
F-statistic	1.743412	Prob. F(27,72)	.0324
Obs*R-squared	39.53245	Prob. Chi-Square(27)	.0566
Scaled explained SS	125.9340	Prob. Chi-Square(27)	.0000
The Breusch-Pagan-Godfrey Test			
F-statistic	2.794999	Prob. F(27,72)	.0003
Obs*R-squared	51.17485	Prob. Chi-Square(27)	.0033
Scaled explained SS	163.0219	Prob. Chi-Square(27)	.0000

hypothesis with the statistically significant p-value of .0000 at the level of confidence of 5%. This finding indicates that the health of the dataset suffers from serially correlated problem. Table 3 shows the test results.

Gujarati and Porter (2009) posited that in handling of heteroscedasticity and serial correlation problems, Newey-West standard errors method is appropriate to be used to solve statistical problems and estimate the regression model.

THE EMPIRICAL RESULTS

Table 4 demonstrates the results of panel data regression of equity values on the set of fundamental financial factors using Newey-West HAC Standard Errors & Covariance.

Table 3: The Result of Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test			
F-statistic	9.835794	Prob. F(5,67)	.0000
Obs*R-squared	42.33035	Prob. Chi-Square(5)	.0000

Table 4: The Results of Panel Data Regression of Equity Values on The Set of Fundamental Financial Factors

$$MVE_{it} = a_s + b_1 BVE_{it} + b_2 NI_{it} + b_3 DIV_{it} + b_4 CAPEXit + b_5 NOWC_{it} + b_6 DSC_{it} + b_7 INVit + b_8 CS_{it} + d_1 DF01 + d_2 DF02 + d_3 DF03 + d_4 DF04 + d_5 DF05 + d_6 DF06 + d_7 DF07 + d_8 DF08 + d_9 DF09 + d_{10} DF10 + d_{11} DF11 + d_{12} DF12 + d_{13} DF13 + d_{14} DF14 + d_{15} DF15 + d_{16} DF16 + d_{17} DF17 + d_{18} DF18 + d_{19} DF19 + e_{it}$$

Variables	**Coefficient**	**t-statistics**	**p-value**
X1_BVE	-0.009808 (b_1)	-2.317342	**.0233***
X2_NI	-0.009950 (b_2)	-0.347517	.7292
X3_DIV	0.114654 (b_3)	1.549215	.1257
X4_CAPEX	0.007591 (b_4)	1.934192	.0570
X5_NOWC	0.037043 (b_5)	2.102669	**.0390***
X6_DSC	0.000030 (b_6)	1.944003	.0558
X7_INV	0.058224 (b_7)	4.155571	**.0001***
X8_CS	0.001436 (b_8)	2.713955	**.0083***
DF01	-0.677004 (d_1)	-1.333905	.1864
DF02	0.316171 (d_2)	2.872952	**.0053***
DF03	0.478463 (d_3)	3.342958	**.0013***
DF04	0.127839 (d_4)	1.106295	.2723
DF05	0.022383 (d_5)	0.200999	.8413
DF06	-0.003481 (d_6)	-0.007257	.9942
DF07	0.016021 (d_7)	0.144420	.8856
DF08	-0.075444 (d_8)	-0.782164	.4367
DF09	0.012424 (d_9)	0.077433	.9385
DF10	-0.500646 (d_{10})	-2.491155	**.0150***
DF11	0.423747 (d_{11})	0.956975	.3418
DF12	-0.069348 (d_{12})	-0.686694	.4945
DF13	0.283738 (d_{13})	3.268913	**.0017***
DF14	0.047207 (d_{14})	0.702170	.4848
DF15	0.146858 (d_{15})	0.822606	.4134
DF16	0.145904 (d_{16})	1.152382	.2530
DF17	-0.093668 (d_{17})	-0.531995	.5964
DF18	0.372881 (d_{18})	3.867186	**.0002***
DF19	0.042702 (d_{19})	0.408153	.6844
F-statistic Adjusted R^2	9.963767 .709696		.0000

*Significant at the level of .05 (two-tailed)

The results show that the regression estimators of book value of equity, net operating working capital, investment in non-core business and capital structure are statistically significant at $p < .05$. These confirm an acceptance of statistical alternative hypotheses 1a, 5a, 7a, and 8a. The negative estimator of book equity (b1 = - 0.009808) indicates that the market reacts to the change of this factor concerning the presence of informational asymmetry. The positive estimator of net operating working capital (b5 = 0.037043) expresses the market responses to the change of this factor regarding its importance to a firm's operation. The positive estimator of investment in non-core business (b7 = 0.058224) shows that the market responses to the change of this factor considering investment opportunity as income and value drivers. The positive estimator of capital structure (b8 = 0.001436) demonstrates reaction of the market to the change of this factor. This is because capital structure is a factor that determines growth opportunity and tax benefit while it also causes financial risk. The adjusted R^2 shows that the obtained model explains interaction between the market equity value and the set of fundamental financial variables of about 70.96 percent.

The results also show that the estimated parameters of fixed effect dummy variables (DF02, DF03, DF10, DF13 and DF18) are statistically significant at $p < .05$. This indicates that the differences among firms statistically and significantly influence the response of market value of equity on the selected independent variables.

The statistical insignificances of earnings (net income), dividend, capital expenditure, and debt service capability at $p > .05$ show that statistically, the market does not react to the change of these factors. The results fail to support hypotheses 2a, 3a, 4a, and 6a.

CONCLUSION AND FURTHER RESEARCH

This research is aimed at examining whether equity values of Thailand's media and publishing firms reflect informational contents of financial statement factors. The researcher employed regression analysis to study the relationship, where OLS method allowed for capturing firm effect is used to estimate the model. The statistical problems (heteroscedasticity and the serial correlation) are remedied using Newey-West standard errors method. The study accept the statistical alternative hypotheses that equity values are statistically and significantly relevant to book equity, net operating working capital, non-core business investment, and capital structure. The results imply that financial statement data are value relevant. This is consistent with Graham and King (2000), Ibrahim et al. (2002), Naser et al. (2003), Razeen and Karbhari (2004), El Shamy and Kayed (2005), Alattar and Khater (2007), Rahman and Mohd-Saleh (2007) who also reported value relevance of financial statement amounts. The results also evidence that the responses of equity values on fundamental factors differ among the sample firms.

The facts underlying statistical insignificances of some factors are grounded in a few possible reasons. As perceived by the market, earnings do not reflect true operating performance because the amounts include nonrecurring transactions. This result is consistent with Amir and Lev (1996), who reported that in the labor intensive industry, earnings are irrelevant. Also, it is consistent with Graham and King (2000), who found that in Thailand, book equity is more powerful than earnings in explaining market equity. The fact that earnings is regarded as inferior to book equity in explaining equity values of service industry was also revealed by El Shamy and Kayed (2005).

The results also imply that in this industry, investors prefer capital gains to dividend yields. This is consistent with tax preference theory. The fact that debt service is not of concern to equity investors reflects their short-term behaviors. It also implies that long-term credit conditions of firms may not concern the investors because the investors can diversify their portfolios to mitigate investment risks. In addition, capital expenditure representing physical capital seems to be less important in the labor intensive industry.

In conclusion, the results lend an implication beyond theoretical expectation about Thailand's media and publishing industry, which is considered a labor-intensive industry. The findings indicate the importance of fundamental financial factors to equity investment in Thailand's media and publishing industry, the value of which is primarily driven by soft factors. That is, in addition to informational contents of soft variables, investors employ financial statement information to value equity.

Most importantly, in the broad perspective, even if Thailand goes through another economic and/or subprime crisis, the results indicate no change of investors' decisions in using the criteria in determining the market value of equity. Financial and non-financial information are significant compliments to equity investment in the eyes of the SET investors. Further research can be conducted to see how ethical standards and good governance of firms influence or weaken value relevance of financial statements information.

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A REVIEW OF STATISTICAL METHODS IN THE FINANCIAL DISTRESS LITERATURE

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Abstract

The objective of this study is to provide a review regarding the statistical methods applied in financial distress studies. It is revealed that previously, there were no consistencies in statistical methods used to develop the financial distress prediction models. Indeed, the ability of models in predicting the likelihood of firms' financial distress is doubtful. Hence, the review of this study helps raise researchers' awareness on constructing the financial distress prediction model in terms of usefulness and limitations of statistical methods on sample selection, statistical techniques, and validity test. This would enable them to develop a model that mitigates the biased outcomes, enhances' the model's predictability, and ultimately, one which suits their needs.

INTRODUCTION

Since the 1960s, there has been an increasing interest in the development of financial distress prediction models. The primary purpose of such model development is to provide an early warning tool to predict the incidence of firm's failure promptly and most accurately. Since the consequences of the firms' failure, e.g. the bankruptcy of firms during Asian financial crisis in 1997, the failure of Enron and WorldCom in 2002, the banks' failure during the U.S. subprime crisis in 2008 and the European financial scandals in 2010, have severely affected the health of individuals, firms, industries, nations, and ultimately worldwide countries, the financial distress prediction model then enables a number of stakeholders such as investors, creditors, managers, auditors and government authorities to take either preventive or corrective actions to avoid or mitigate the potential losses which would incur (Keasey & Watson, 1987).

There are many important issues that should be considered when developing the models. First is the selection of firms' financial distress event as the dependent variable. Many forms of failure have been recently used as a proxy of firms' financial distress, for instance, the negative earnings, nonpayment of a preferred stock dividend, default on loan principal and/or interest payment, loan renegotiation, formal liquidation, and bankruptcy petition. However, one should be aware that the model developed by using one proxied event is not effective to be used to predict the likelihood of another failure's event, for instance, Gilbert, Menon, and Schwartz (1990) found that the prediction model, in which the bankruptcy is used as the proxy of firms' financial distress, cannot discriminate the bankrupt firms from other financially distressed ones because financial conditions of bankrupt firms tend to be different from those of financially distressed firms.

Moreover, the choices of predictors included in the model should be carefully screened. Suntraruk (2010) found that the primary causes of firms' failure are the firms' weak operation, the firms' mismanagement, and the external factors. In her study, the firms' weak operation is reflected by the financial ratios. Initially, financial ratios are one of the most recognized predictors that have been employed in predicting the likelihood of firms' failure since the late 1960s, e.g. the studies of Altman (1968), Ang, Cole, and Lin (2000), Beaver (1966), Charitou, Neophytou, and Charalambous (2004), Deakin (1972), Nam and Jinn (2000), Ohlson (1980). Even though these financial ratios can reflect the financial performance of firm, they are subject to manipulation and window-dressing (Casey & Bartczak, 1985; Lee & Yeh, 2004; Opler & Titman, 1994). Hence, the non-financial data should additionally be considered as other potential predictors of firms' financial distress (Argenti, 1976; Keasey & Watson, 1987; Gilbert et al., 1990). Corporate governance variables are non-financial that are factors used extensively. They can reflect the quality of firms' management and the attitudes of management toward firm performance. Gompers, Ishii, and Metrick (2003) evidenced that corporate governance can induce a firm's value through the reduction of agency cost. They suggested that firms with effective corporate governance show better performance in terms of higher stock returns, higher profits, higher sales growth, lower capital expenditure, and fewer acquisitions. Lastly, the macroeconomic variables, external factors, are other non-financial variables that significantly affect the health of firms. Many economists have believed that the macroeconomic phenomena, such as a tight monetary policy (Altman, 1971), high interest rate (Charitou et al., 2004), the state of economy (Dambolena & Khoury, 1980; Mensah, 1984), high inflation (Liou & Smith, 2007; Tirapat & Nittayagasetwat, 1999), are attributed to the failure of firms. Because of these, both financial and non-financial variables are important predictors applied when constructing a financial distress prediction model.

In addition, sample selection is important for developing and testing financial distress prediction models. If a set of inappropriate sample is employed, the estimated model may provide biased outcomes. Moreover, the statistical techniques implemented in the prediction models do not show consensus as several limitations in the methodological development have been noticed. Hence, the predictive ability of the various techniques used might be in doubt. Furthermore, once the model is developed, it is crucial to determine whether the derived model can effectively predict the likelihood of firms' financial distress; in other words, whether the estimated model is valid. The procedure is to examine the success of the financial distress prediction model in terms of classification accuracy rate should be considered.

Therefore, this study is aimed to provide a review summary describing the usefulness and limitations of statistical methods, including sample selection, statistical techniques, and validity test, applied extensively in the existing financial distress prediction literature. This review summary would provide benefits to those who are searching for the statistical methods appropriate for the development of the financial distress prediction models.

The paper is organized as follows. Section II discusses the procedures of sample selection. Section III explains the choices of statistical techniques employed when developing the model. Section IV describes the validity test used to access the effective of financial distress model in predicting the incidence of firms' failure.

SAMPLE SELECTION PROCEDURES

Many prediction models in the financial distress studies are developed by using equal samples of financially distressed and healthy firms. The financially distressed firms, as the dependent variable, are first observed and then the healthy firms are paired (Altman, 1968; Aziz & Lawson, 1989; Beaver, 1966; Charitou et al., 2004; Daily & Dalton, 1994a, 1994b; Dambolena & Khoury, 1980; Wilcox, 1973). The matching criteria that have been largely accepted are industry classification and asset size. Hence, a healthy firm is in the same industry group and has approximately the same size as each of the financially distressed firms (Altman, 1968; Altman, Eom, & Kim, 1995; Beaver, 1966, 1968; Dambolena & Khoury, 1980; Wilcox, 1973). Alternatively, Daily and Dalton (1994a) matched a financially distressed firm with a healthy firm of the same size and sales volume. However, in their additional study, the matching criteria are based on industry, year, and size (Daily & Dalton, 1994b).

A benefit of one-to-one matching procedure above is to provide some controls for firms' environment. Without a matched-sample design, the healthy firms would significantly differ in terms of the industry and size; hence the models developed for the purpose of firms' classification may attempt to discriminate between large and small firms, or between one industry and others (Jones, 1987). Another benefit is that the matching criterion would mitigate the effects of the industry and size factors that might cause an unclear relationship between independent variables and probability of firms' financial distress. Hence, industry classification should be considered in any financial distress study (Beaver, 1966). The other benefit is for the purpose of comparison. Since different industries, having different environment factors, and different probabilities of firms' financial distress, the direct comparison of the same ratios calculated by different firms in different industries can be annulled (Casey & Bartczak, 1985). Although the ratios of two firms are similar, the comparison of the firms' ratios from different asset size can be meaningless (Beaver, 1966). However, there exist criticisms on industry and size matching. Firstly, it would limit the findings only to firms of equal size (Casey & Bartczak, 1985). Secondly, it would ignore the predictive ability of size and industry as exogenous measures (Keasey & Watson, 1991). Moreover, the matched sample design above does not allow the sample to be drawn at random. Estimating models on nonrandom, matching samples, violates the random sampling assumption and in turn results in biased parameters and probability estimates (Manski & Lerman, 1977).

Zmijewski (1984) revealed that two types of biases exist when nonrandom sampling is selected. The first bias is the choice-based sample bias in that it arises from "oversampling" financially distressed firms. To a great extent, a financial distress event infrequently occurs and often the financially distressed firms are of unequal proportion to the healthy ones. Hence, a sample probability of the former group tends to be greater than its population probability. This results in understating classification and prediction error rates. Zmijewski (1984) empirically found that the existing studies using the nonrandom samples have an overstated financially distressed firm sample, causing the choice-based sample bias to be present. However, if the researchers would like to reduce such bias, Zmijewski (1984) suggested that they employ the estimation technique such as weighted exogenous sample maximum likelihood. Using such a technique allows the sample selection to reflect the true population, meaning that the estimated probability distribution can approach the population distribution.

The second bias arising from nonrandom sampling is the sample selection bias that is influenced by the incomplete data of financially distressed firms (Zmijewski, 1984). When a researcher estimates the model, both the parameters and probabilities can still be obtained if a researcher does not carefully consider the incomplete data that are not distributed randomly in the population (Heckman, 1979). In general, the financially distressed firms tend to have incomplete data, causing the probability of firms' financial distress to be negatively related to the probability of complete data. Suppose a researcher randomly draws the financially distressed firms from the whole population. The probability of firms' financial distress is likely to be high. The sample with high probability of firms' financial distress tends to have low probabilities of being selected. In contrast, if a researcher draws the financially distressed firms from the complete data sample only, the probability of financial distress given complete data is lower than in the former case. The sample with low probability of financial distress tends to have high probabilities of being selected. Hence, the estimated probabilities would understate the population probabilities when ignoring the incomplete data. Zmijewski (1984) empirically evidenced that most financially distressed firms are both young and small. Such firms are more likely to have incomplete data; hence there exists a sample selection bias.

Consistent with Zmijewski (1984), Palepu (1986) claimed that the use of nonrandom samples is more likely to provide unreliable predictive results. The ability of such a model to predict the probability of financial distress of firms is overstated unless the appropriate estimation techniques are used. Also, the classification error rate estimates cannot reflect the performance of models in the population.

Hence, to avoid biases in both parameters and probability estimates arising from the matched sample, many researchers have avoided using the matching technique by increasing the number of matching sample. This technique yields a number of samples that is close to population probability. For instance, Ohlson (1980) included 105 bankrupt firms and 2,058 non-bankrupt firms in his study. Moreover, Boritz, Kennedy, and Albuquerque (1995) used 41 bankrupt firms and 4,099 non-bankrupt firms for their estimation sample. Also, Chen, Marshall, Zhang, and Ganesh (2006) developed the bankruptcy prediction model by using 89 unhealthy firms and 940 healthy firms. However, some researchers have employed the matching technique, but increased the number of healthy firms' samples in different proportions. This means that instead of using a one-to-one matching by both industry and size, Casey and Bartczak (1985) matched the 60 bankrupt firms with 203 non-bankrupt firms based on the industry alone. Platt, Platt, and Pedersen (1994) also used 35 bankrupt firms paired with 89 non-bankrupt firms in the same industry.

CHOICES OF STATISTICAL TECHNIQUES REGARDING MODEL DEVELOPMENT

There are no consistencies in prior financial distress literature on the statistical techniques employed in the prediction models. In general, there are four popular standard statistical techniques used to derive the models; univariate analysis, multivariate discriminant analysis, probit/logit analysis, and neural networks. Each technique has both benefits and limitations.

1. Univariate Analysis

Initially, the univariate analysis was applied as the basic econometric technique in financial distress studies. It was first recognized by Beaver (1966) in order to predict the likelihood of firms' failure through financial ratios. Under this method, a financial ratio of the interested firm is compared to a perceived benchmark ratio to discriminate a failed firm from one that is not. This analysis allows the predictive ability of ratios to be tested one ratio at a time, implying that the individual variable can directly signal an impending problem. In addition, the validity of the univariate analysis depends on the assumption of a proportional relationship between two factors (Keasey & Watson, 1991). If this assumption is violated, the conclusions may be faulty. For instance, it is found that the proportionality assumption could be violated if a constant term in the relationship between the two factors, creating the ratio, is anticipated, e.g. for the profits to sales ratio, the profits may not be correlated to the sales (Whittington, 1980). Hence, it might not be proper to describe the relationship between profits and sales by using such a ratio. Nonetheless, such violation of the proportionality assumption seems to be ignored because the benefit received from the outstanding performance of the financial ratio analysis in describing the relationships between financial ratios is much greater than the costs arising from the violation of proportionality assumption (McDonald & Morris, 1984).

Although the univariate analysis based upon the financial ratios is easily applied and can effectively predict the financial distress status of a firm, Beaver (1966) suggested that a researcher may consider the multi-ratio analysis when different ratios are examined at the same time. Therefore, the prediction results based on the multi-ratio analysis would be better.

2. Multivariate Discriminant Analysis

Altman (1968) was among the first to make additional changes to Beaver's (1966) univariate analysis. He introduced a multivariate approach in which two or more different variables included in the bankruptcy models are examined simultaneously. The approach is known as the multivariate discriminant analysis. The objective of discriminant analysis is to obtain the linear combination of variables that best separate the bankrupt firms from the non-bankrupt ones. Then, Altman (1968) developed the discriminant model, known as the "Z-score" model, by using manufacturing firms which went bankrupt during 1946 to 1965. He found that out of twenty two potential ratios, five ratios are best used to classify the bankrupt/non-bankrupt firms. These five financial measurements are objectively weighted and then included in the ultimate model as follows:

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5 \quad (1)$$

where, X_1 = working capital/total assets, X_2 = retained earnings/total assets, X_3 = earnings before interests and taxes/total assets, X_4 = market value of equity/book value of total liabilities, X_5 = sales/total assets, Z = overall index.

To predict the status of a firm, the values for each financial measurement are summed up to arrive at an overall score. As the Z score is 2.67 or above, the firm is classified as non-bankrupt; in contrast, as the Z score is 1.81 or less, the firm is classified as bankrupt. However, as the Z score is between 1.81 and 2.67, the score falls into the grey area (zone of ignorance), conclusions cannot be drawn on the status of the firm (Altman, 1968). This grey area is the potential drawback of the Altman's Z-score model.

Although a vast variety of financial distress research has applied the multivariate discriminant analysis and indicated a high accuracy rate of classification (Keasey & Watson, 1991), discriminant analysis is subject to several limitations. Firstly, discriminant analysis does not practically provide an independent significance of the individual variable (Keasey & Watson, 1991; Mensah, 1984; Ohlson, 1980). Hence, the significance of each independent variable is less emphasized than the estimated Z-score for a given observation. Secondly, the discriminant analysis assumes that the predictors are multivariate normally distributed and their variance-covariance metrics are equivalent for both groups (Keasey & Watson, 1991; Ohlson, 1980). The deviations from this assumption may provide suboptimal results. In addition, under the above assumptions, the discriminant analysis prevents the use of dummy independent variables which somehow can improve the predictability of the financial distress models. Moreover, the application of a model developed by the discriminant analysis is limited to a binary discriminant decision - that is prediction of bankrupt/non-bankrupt firm (Ohlson, 1980). Finally, the discriminant analysis does not indicate the probability of firms' financial distress (Nam & Jinn, 2000).

3. Probit/Logit Analysis

Regarding the aforementioned limitations of the multivariate discriminant analysis, many researchers alternatively employ the probit or logit analysis. Stock and Watson (2003) explained that the probit or logit analysis is designed for the binary dependent variables. It is then suitable for the nonlinear regression models where the dependent variable has value only for 1 and 0, e.g. 1 for the financial distress and 0 for otherwise. Moreover, the probit and logistic models are similar in that they can help ensure that the predicted values are strictly between zero and one and they both use the cumulative probability distribution function (*c.d.f.*). However, the probit regression employs the standard normal *c.d.f.*, whereas the logistic regression applies the logistic *c.d.f.* This is the only significant difference between the probit and logistic models. Even though both models provide very similar results, the logistic model is preferred due to its more easy-to-use mathematical techniques (Doran, 1989). The following is the mathematical concept that underlies the logistic regression model.

Initially, in terms of linear regression model, an observation of the outcome variable is expressed (Gujarati, 2003) as:

$$E(Y X_1, ..., X_k) = B_0 + B_1X_1 + ... + \beta_k X_k + \varepsilon \quad (2)$$

where, the outcome variable, Y, is assumed, conditional on k independent variables, $X_1, X_2, ..., X_k$, to have a normal distribution, and ε represents the random error which is assumed to be normally distributed.

However, Dickman (2003) suggested that if Y, is a binary variable, the left-hand side of the equation 2 represents a probability of interest, lying between 0 and 1. The $Pr(y = 1 X_1, ..., X_k)$ should then equal to $E(Y X_1, ..., X_k)$ in which the Y takes only two values, 1 and 0. The following is the new model.

$$\pi(X) \;=\; Pr(Y = 1 X_1, ..., X_k) = \beta_0 + \beta_1 X_1 + ... + \beta_k X_k \quad (3)$$

where, $\pi(X)$ = the probability of the outcome of interest, lying between 0 and 1.

As shown in Equation 2, the right-hand side of the equation can be any value between -∞ and +∞, but the left-hand side of the equation 3, presenting nonlinear relationship, lies between 0 and 1. To change the range of values on the left-hand side of equation 3 to be as the linear relationship as in equation 2, the natural logarithm (*ln*) of an odds ratio, $ln(\frac{\pi(x)}{1 - n(x)})$ should be applied instead of $\pi(X)$ in which $\frac{\pi(x)}{1 - n(x)}$ represents the odds ratios of the outcome of interest, lying between 0 and -∞ and $ln(\frac{\pi(x)}{1 - n(x)})$ lies between -∞ and +∞. The simple logistic regression model then has the form as follows:

$$ln(\frac{\pi(x)}{1 - n(x)}) = \beta_0 + \beta_1 X_1 + ... + \beta_k X_k \quad (4)$$

where, $ln(\frac{\pi(x)}{1 - n(x)})$ is the log odd or the logit.

Therefore, according to equation 4, the logistic model is able to test the hypothesis regarding the linear relationships between the likelihood of the outcome of interest, *logit (Y)*, and their independent variables (*Xs*). In addition, the π is the logit coefficients in which the positive or negative β reveals that the independent variables (X) increases or decreases the logit (Y).

To calculate the β is to apply the maximum likelihood estimation (MLE). Such a technique does not require any assumption on the distribution of independent variables, and in turn can directly provide the probabilistic estimators (Field, 2000; Gilbert et al. 1990; Keasey & Watson, 1991; Nam & Jinn, 2000; Ohlson, 1980; Simpson & Gleason, 1999). Moreover, the MLE technique provides the unknown coefficients of independent variables that are the values most likely to have occurred (Stock & Watson, 2003). In other words, the coefficients selected are those having the maximized value of the probability of drawing the data actually observed. Indeed, the values of unknown coefficients in the logistic regression model are those which maximize the log likelihood function, which is identical to minimizing the sum of squared residuals in the Ordinary Least Squares (OLS) regression (Diebold, 2004). Therefore, the MLE provides the unknown coefficients of independent variables that allows a researcher to select the best independent variables of models used to predict the observed value of the outcome of interest (Casey & Bartczak, 1985; Hosmer & Lemeshow, 2000).

Furthermore, Peng, Lee, and Ingersoll (2002) mentioned that when taking antilog of equation 4 on both sides, the predicted probability of the outcome of interest (π) can be obtained as follows:

$$\pi = Pr(Y = 1, X_1 = x_1, x_2 = x_2, ..., X_k = x_k)$$

$$= \left(\frac{\varepsilon^{B_0 + B_1X_1 + \dots + B_kX_k}}{1 + \varepsilon^{B_0 + B_1X_1 + \dots + B_kX_k}}\right) \quad (5)$$

Hence, the equation 5 is used to assess the probability of the outcome, given *Xs*. This equation can also be applied to examine the success of the model to predict the probability of the outcome of interest via the validity test.

Due to its wide range of benefits, the logit analysis has been extensively recognized in prior financial distress prediction studies. Firstly, the logistic regression analysis is more appropriate when a model has a dependent variable in qualitative forms (Field, 2000), particularly, for the studies regarding the development of financial distress prediction model where the dependent variable is a binary variable presenting two states of nature; financial distress and health. Secondly, the use of logit analysis can overcome a serious limitation of the univariate analysis and multivariate discriminant analysis where the assumption of normal distribution of variable is required because the logit analysis does not require any distribution assumption of independent variables (Keasey & Watson, 1991). Furthermore, the logit analysis provides an access to the significance of the individual independent variables included in the model. The usefulness of specific information, such as the financial ratios and firm-specific information can be identified and the conditional probabilistic estimates of firms' financial distress can be determined (Keasey & Watson, 1991). In addition, together with the logistic regression analysis, the maximum likelihood statistics are employed. With this maximum likelihood method, researchers are able to select the best or most contributives independent variables included in the model (Hosmer & Lemeshow, 2000). Moreover, using logit analysis through the cumulative probability function, as shown in equation 5, the probability of firms' financial distress for the purpose of prediction can be obtained (Ohlson, 1980). Finally, the results from the logistic regression analysis are easily interpreted and a number of statistical software packages are extensively available for this purpose (Keasey & Watson, 1991).

4. Neural Networks

The multivariate discriminant analysis and logit analysis suffers from certain limitations, such as the multicollinerity, probability distribution, and nonlinear relationship. If the data used or models developed do not follow such assumptions, the results from these analyses are questionable. Because of these, many researchers have found that the neural networks are an alternatively useful methodology in which the above limitations can be ignored completely. Etheridge and Sriram (1997) examined the performance of the neural network for the purpose of prediction of firms' financial distress by comparing it to the multivariate discriminant and logitistic regression models. They found that though the multivariate discriminant and logistic models provide the lowest classification error rates, the neural network outperforms the former models with the consideration of the small relative error costs.

In addition, Zurada, Foster, Ward, and Barker (1998) evidenced that the neural networks can better describe the complex relationships between and among variables than the logistic regression analysis can. Considering only the predictive accuracy, they found that a neural network should be specifically applied for the more complex dependent variables e.g. the multi-state variables, while a logistic model should be utilized for binary dependent variables. Moreover, Eftekhar, Mohammad, Ardebili, Ghodsi, and Ketabchi (2005) confirmed that the neural network is appropriate when applied to a model with nonlinear complex interactions. However, it is found that the neural network methodology somewhat does not provide superior results than the discriminant analysis and logistic models (Charitou et al., 2004; Coats & Fant, 1993). Consequently, perhaps there is more than one type of methodology which properly identifies whether firms are experiencing financial distress (Ohlson, 1980).

Furthermore, Nittayagasetwat (1996) was among the first Thai researchers to employ an artificial neural network (ANN) technique to develop the bankruptcy prediction model for the U.S. firms filing for bankruptcy during 1991 to 1993. He found that the prediction model developed by using the ANN yields superior results in predicting the likelihood of bankruptcy accurately than the prediction model developed by using the logit analysis, regardless of transformed or untransformed financial accounts.

Even though the neural network analysis can overcome the problems of the multivariate discriminant analysis and logit analysis and the models developed based on the neutral network techniques sometimes provide a higher accurate rate of classification, it is not applicable when the objective of the study is to obtain the significance of independent variables (Etheridge & Sriram, 1997). Indeed, it is more difficult to interpret the meaning of independent variables included in the neural network model, compared to the logistic regression model (Eftekhar et al., 2005). Hence, it is more useful to apply the neural network analysis if a researcher would like to develop an effective early warning model used to explain nonlinear complex relationships between and among variables.

Table 1 summarizes four statistical techniques employed in prior studies.

VALIDITY TEST

It is crucial to determine whether the estimated model developed through any statistical techniques mentioned above can effectively predict the likelihood of firms' financial distress; in other words, whether the estimated model is valid. The procedure here is to examine the success of the financial

Table 1: Statistical Techniques in the Financial Distress Studies

Methodology	Characteristics	Literature
Univariate Analysis	Helps examine the predictive ability of ratios to be tested one ratio at a time. Shows the relationship between two variables But, has limited ability to examine many ratios at the same time.	Beaver (1966)
Multivariate Discriminant Analysis	Examines two or more different variables simultaneously. Assumes multivariate normally distribution and variance-covariance metrics. But, prevents the use of dummy variables and does not provide probability of firms' financial distress and significance of predictors.	Altman (1968)
Probit/Logit Analysis	Designs for the binary dependent variable. Helps develop the nonlinear regression model with assumption of cumulative distribution function. Provides probability of firms' financial distress and significance of predictors. Does not require assumption on the distribution of predictors.	Ohlson (1980)
Neural Network	Helps explain a very complex relationship. Does not require any distribution assumption. But, does not provide significance of individual variables.	Etheridge & Sriram (1997)

distress prediction model in terms of classification accuracy rate on a set of firms that are independent of the original sample.

Although a majority of studies have tested the model's validity, it is questionable whether the independent holdout sample should be from the same time period as the estimation sample. Keasey and Watson (1991) reported that the use of a holdout sample from the same time period as the estimation sample is appropriate only when the financial distress predictors are stationary over time. In fact, Platt and Platt (1990) found that the relationships between the dependent and independent variables as well as the relationships among the independent variables are less likely to be stable over time according to the changes in the economic environment. Grice and Dugan (2001) additionally noted that as the periods of estimation and holdout sample are the same, the classificatory accuracy rates are upwardly biased and the holdout sample is not proportional to actual bankruptcy rates.

As a consequence, it is imperative that the holdout sample should be from future-dated periods different from the estimation periods because it not only helps reduce the above upward biases, but also provides evidence that the model can be consistently applied for the subsequent periods. The future-dated holdout sample is then preferred by many researchers. Altman and McGough (1974) used the data from the 1970-1973 period to examine the validity of Altman (1968)'s multivariate discriminant model. In addition, Moyer (1977) applied Altman (1968)'s model for the sample from 1965 to 1975. Zurada et al. (1998) used the 1989 holdout sample for the validity test on the financial distress prediction model estimated by using the 1988 sample. Ward and Foster (1997) developed the financial distress prediction model by applying the sample firms during 1988 to 1989, whereas the sample for 1990 firms is used for testing the strength of the estimated model. Moreover, Charitou et al. (2004) estimated the prediction models by using the data between 1988 and 1994 and tested the validation for data in the period during 1995 to 1997.

The percentage of classification accuracy is imperative to examine the validity of the prediction model and its success to correctly classify a sample. The degree of predictive ability is positively related to the classification accuracy rate (Beaver, 1966). Obviously, the high accuracy rate is as the result of low classification error rate. Hence, most studies have considered the Type I and II concepts (Altman, 1968; Charitou et al., 2004; Lee & Yeh, 2004). Type I is the accurate classification of a financially distressed firm, while Type I error is the misclassification of a financially distressed firm as a healthy one. Type II is the accurate classification of a healthy firm, whereas Type II error is the misclassification of a healthy firm as a financially distressed one (Beaver, 1966). However, the high accurate classification rate or the low classification error rate is preferable.

To classify and predict whether a firm is a financially distressed or healthy firm, the probability of firms' financial distress for each firm is calculated from the cumulative probability function as shown in equation 5:

$$Pr\,(Y) = \left(\frac{\varepsilon^{B_o + B_1X_1 + \dots\dots + B_kX_k}}{1 + \varepsilon^{B_o + B_1X_1 + \dots\dots + B_kX_k}}\right) \qquad (5)$$

where, $Pr\,(Y)$ is the estimated probability of financial distress for firm i; e is the exponential function; $\beta_1, \beta_2, \dots \beta_k$ are slope coefficients of the estimated model; and $X_1, X_2, \dots X_k$ are the actual values of independent variables (holdout sample).

Once the probability of financial distress, $Pr\,(Y)$, for each firm in the independent holdout sample is obtained, each firm is classified into a financially distressed or a healthy one based on a cutoff score. Since the value of dependent variable of the logistic equation is the probability bounded between zero and one (Hosmer & Lemeshow, 2000), a cutoff score of 0.50 is appropriate for the determination of classification accuracy (error) rate. As the estimated probability is more than 0.50, the firm is classified as being in financial distress and if less than 0.50, the firm is classified as healthy (Casey & Bartczak, 1985, Gilbert et al., 1990; Lee & Yeh, 2004; Nam & Jinn, 2000; Ohlson, 1980). Nonetheless, a use of other cutoff points differing from 0.50 will result in a difference in the classification rates of Type I and Type II. Even though the 0.50 cutoff score is arbitrary; it has been frequently used in many prior bankruptcy studies (Casey & Bartczak, 1985, Gilbert et al., 1990; Lee & Yeh, 2004; Nam & Jinn, 2000; Ohlson, 1980).

CONCLUDING REMARKS

This paper provides the review on the existing financial distress studies with the emphasis being placed upon the statistical methods employed to develop the financial distress prediction models. It is revealed that a procedure to select the sample is one crucial issue. The questions regarding the sample size with respect to the matching techniques should be clear because it would raise the biased parameters and probability estimates if a set of inappropriate sample is chosen. Moreover, the types of dependent variables and independent variables should be considered. Using different types of variables, e.g. quantitative, categorical, and/or ordinal variables, impacts the choices of statistical techniques used to construct the model and affect the prediction model's implication. Since different statistical techniques, e.g. univariate analysis, multivariate analysis, logit analysis, and neural networks, have different assumptions, the violations on the statistical assumptions would create the biased results. Also, the use of statistical techniques should be rested upon the objectives of the study since different statistical techniques provide different applications, e.g. examining simple or complex relationships, obtaining the probability of the outcome, or providing the significances of individual predictors. Furthermore, the success of the derived financial distress model is the ability of the model in predicting the likelihood of firms' financial distress, future event, and discriminating the financially distressed firms with the most accuracy. Hence, prior to the actual implementation of the derived model, the testing on the model's predictability through the Type I and II analysis on the independent holdout sample should be implemented.

In conclusion, it becomes clear that each statistical method is useful, but has some limitations. As the appropriate statistical methods are employed, there would be little doubt on the biased outcomes of the financial distress prediction model. A better understanding on these issues should be emphasized to develop the reliable financial distress prediction model, in additional to consideration of the selection of financial distress events and choices of predictors.

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IMPULSE PURCHASING BEHAVIOR: A STUDY ON HYPERMARKET CUSTOMERS IN BANGKOK

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The aim of this research was to examine the relationship between marketing stimuli (price promotion, mass distribution, self service, prominent store display, small size), customer characteristics (excitement, esteem), customers' product awareness from word of mouth, social norms, and impulse purchasing behavior of hypermarket customers in Bangkok. Data was collected from 400 respondents who were 18 years and above, both male and female, using questionnaires at the exit of 16 selected hypermarkets in Bangkok. An analysis of the data proved that all the aforementioned independent variables except self service had significant positive relationships with impulse purchasing behavior of hypermarkets customers. The strongest relationship was between social norms, word of mouth and impulse purchasing behavior. These findings indicate that marketers have yet to find the relevant in-store stimuli needed to promote customers' impulse decisions. On the other hand, these findings illustrate that customers should be cognizant of in-store stimuli present in hypermarkets to trigger impulsive behavior.

The great influence of impulse behavior on customer buying suggests it is an area of important study (Bayley and Nancarrow, 1998; Hausman, 2000). In the U.S.A. alone, impulse buying generated over \$4 billion in annual sales (Kacen and Lee, 2002, cited in Park, Kim and Forney, 2006). With the growing acceptance of multi-channel retailing, customers are constantly exposed to marketing stimuli that promote impulse buying (Dawson and Kim, 2009). The studies done on impulse purchasing behavior in the last four decades demonstrates that almost ninety-percent of the customers make an impulse purchase (Welles, 1986, cited in Hausman, 2000). In addition, thirty to fifty-percent of all purchasers can be considered impulse buyers (Hausman, 2000). Recent researchers agree that impulse purchasing is increasing among customers because of its hedonic and affective components (Hausman, 2000). There is an underlying upward trend in unplanned purchasing (Cobb and Hoyer, 1986) and tendencies to shop in supermarkets and hypermarkets increase this trend of purchasing impulses (Welles, 1986 cited in Bayley and Nancarrow, 1998). Several informative websites have reported the purchasing trends of Thai customers in hypermarkets. There is an increased flow of customers in hypermarkets diverted from department stores and small side street markets and a survey conducted by AC Nielsen's Thailand found that seventy-percent of all shoppers in Bangkok visited a hypermarket at least once a month (www.highbeam.com, accessed on 22/03/2010). Therefore, the objectives of the study are as below:

1. To study the relationship between marketing stimuli such as: price promotion, mass distribution, self service, prominent store display, small size and impulse purchase behaviour of hypermarket customers.
2. To study the relationship between customer characteristics such as: excitement, esteem and impulse purchase behaviour of hypermarket customers.
3. To study the relationship between customers's product awareness from word of mouth, social norms and impulse purchase behaviour of hypermarket customers.

LITERATURE REVIEW

Price

Price is an important factor in a customer's purchase decision. A customer pays attention to prices, compares prices and makes use of this information in purchase decisions (Diaz, 2004). Since, the customers compare the prices, high involvement products are less likely to be bought by the customer on impulse because these products are more expensive and they take more time and efforts to buy (Bayley and Nancarrow, 1998). Therefore, low-involvement products with low price are more likely to be bought impulsively. Thus, short-term cuts on the prices have become the normal strategies applied by the manufactures and retailers or the shopping mall operators. In-store stimuli such as price promotion, sampling, coupons (Abrat and Goodey, 1990), signs, and some of the promotional technique are considered to be impulse triggers (Kollat and Ronald, 1969). At what price level an item becomes an impulse item cannot be precisely determined (Stern, 1962).

Mass Distribution

"The more numerous the outlets in which an item is available, the more opportunities the customer has to find and buy it" (Stern, 1962, p.61). Therefore, the array of numerous products boosts the impulse purchasers. All kinds of retail markets offer many varieties or assortments of products. Customers value great variety, therefore, retailers should focus on offering a variety to their customers (Hoch, et al., 1999). Mass distribution of multiple products paves the way for the impulse buyers to purchase items from the assortment lot without much reasoning. The impulse customers have everything at their disposal to be purchased in a single visit when they encounter huge number of products displayed before them. Customers rank the variety of assortment right behind location and pricing when naming reasons why they patronize their favourite stores. Variety is more important to customers; therefore, they are more likely to go to a store that offers more variety. When particular desires are not well formed, the issue of variety matters even more because of a desire to become more educated about what is available while maintaining a degree of flexibility. A perception of variety also matters when there is a motive or need for variety (Hoch, et.al., 1999).

Self-Service

Self service, encouraged in most of the recent hypermarkets, triggers the impulse buying behavior of customers. Self -service activities and transactions can be performed by the customers without the assistance or need of an employee (Globerson and Maggard, 1991). "Certainly, self-service permits the shopper to buy more quickly and with greater freedom" (Stern, 1962, p.61). Self-service allows the customers to know the products by touch and feel, which help them make a purchase decision (Bultez and Naert, 1998). Therefore, "one way to improve profitability is to let the customer do some of the work" (Globerson and Maggard, 1990, p.35).

Prominent Store Display

Impulse purchasing habits are increasing among the customers because of the increased, well organized and attractive display of all the products the retailers have. Impulsive buying is estimated to account for over $4 billion of annual sales in the United States and has been linked to a rapid increase in technologies, allowing for instant gratification through the immediate accessibility to products desired (Zhang and Shrum, 2008).

Displays of all kinds of items are more appealing to the customers and their emotions. Displays are very important when it comes to the supermarkets, because there is 'self-service' encouraged in most of the hypermarkets. Since there is self-service, the customer can see the product, touch the product and know the product in order to make a purchasing decision. Thus, in self-service selling situations, display is an important marketing instrument (Bultez and Naert, 1998). Since there is an array of product displayed in hypermarkets, the customers impulse mood will be evoked which might lead to a purchase. However, they always consider the size of the product an important factor in purchasing it ultimately.

Small Size or Light Weight

The factors other than the price, self-service, mass distribution and prominent display, the size or the light weight influences the impulse purchasing behavior of the customers (Stern, 1962). Further studies in this field show that the problems concerning weight will have an influence on making a purchasing decision in impulse purchasing. If the item is heavier, the customer may not intend to buy impulsively (Stern, 1962). On the other hand, if the product is light weight and small in size, impulse purchasing behavior will be more prone to occur (Stern, 1962). Even though the item purchased on impulse can be handy enough, the customers usually appraise it merely from the point of its easy storage.

Customer Characteristics

Harmancioglu et.al., (2009) viewed that new product knowledge and customer's excitement and esteem work as antecedents to impulse buying intention and behavior. Shopping experiences might lead to satisfying hedonic desires and an up-liftment of feelings and fun. These feelings of upliftment and fun in the shopping experience can increase the excitement and esteem of customers motivating impulse buying intention. Rook and Fisher (1995) found that customers tried to suppress their feeling of impulse tendencies because they wanted to be perceived as mature, rational and not just moved by impulse tendencies. Conversely, Housman (2000) found that customers made impulse purchases to satisfy their esteem and self-actualization needs. However, Harmancioglu et.al., (2009) argued that esteem may foster impulse intentions but hinder impulse purchasing behavior.

Customers' Product Awareness

Product awareness gained by customers by means of word of mouth and social influences also cause impulse buying intention. Existence of 'communicating members of a social system' fosters the purchasing decision of other customers. The dynamism of word-of-mouth has an influencing power on customers' purchase intentions. Ajzen and Fishbein (1980) refer to social norms as customers' relevant others' preference which influences their purchase intentions. Customers try to comply with relevant others' expectations or what others think when making purchases (Harmancioglu et al., 2009).

IMPULSE PURCHASING BEHAVIOR

Impulse buying is referred to as an immediate purchase without a pre-plan for a specific product to be purchased (Beatty and Ferrell, 1998). It happens when self control resources of the customer depletes and when he/she experiences greater impulse buying urges and these urges can be interpreted as increased impulse-buying behavior (Zhang and Shrum, 2009). The concept of impulse is defined by different researchers who have explored it in their research studies. Impulse is referred as "a strong, sometimes irresistible urge; a sudden inclination to act without deliberation" (Rook, 1987, p.189). Impulse buying comes into effect when a customer is attracted by stimuli present in his/her shopping environment (Rook, 1987). Impulse purchasing is an 'unplanned' purchase. An 'unplanned' purchase can be measured by studying the difference between the actually purchased goods and the intended purchase list on post purchase. Rook (1987), considers impulse purchasing as 'in-store planning' that the customer makes when encountered by the stimuli present there. It is a reactive behavior in response to some stimulus (Rook, 1987). Some researchers have appraised an impulse as a positive behavior. For example, a spontaneous gift for an ill friend, a sudden decision to pick up the tab for a meal, or simply taking advantage of a two-for-one in-store special are impulse buying instances that may represent kind, generous, and practical activities, respectively. When, impulse buying is more virtuously motivated, it is likely to draw out more positive normative evaluations (Rook and Fisher, 1995). Conversely, some other researchers view that impulsive behavior has a long history of being associated with immaturity, primitivism, foolishness, defects of the will, lower intelligence and even social deviance and criminality (Rook and Fisher, 1995). Researchers have found that personal differences tend to affect impulse behavior. These researchers are of the opinion that those persons who are most inter-dependent tend to inhibit the impulse buying than that of those who are independent. And those persons who are inter-dependent are considered to be more patient with their decision than those who are independent who make hasty decisions. Therefore, the studies suggest that those who have more patience are able to keep their impulse controlled suppressing the impulse purchasing (Zhang and Shrum, 2009). When impulse behavior is considered in the realm of consumption of products, it turns to be characterized as a conflict between the desire to consume and the will power to resist it (Zhang and Shrum, 2009).

Impulse purchasing is considered to be something "fast", "urgent", "forceful", "emotional", "spontaneous" when compared to contemplative buying. When the impulse purchasing behavior occurs, the customer does not think more but just grabs the product instead of choosing the best one. Absence of "forethought" can also be called impulsive buying when a customer purchases a product or service without a prior plan (Rook, 1987).

RESEARCH FRAMEWORK

The conceptual framework for this study is adapted from previous studies. These are three sets of variables suggested by some of the previous researchers on studying the subject matter on impulse purchase in different retail contexts. Stern (1962) identified nine product related marketing stimuli which are relating to impulse purchasing and therefore, 5 out of those nine variables are considered in this study under the head of 'marketing stimuli'. Harmancioglu et.al., (2009) studied customer characteristics (excitement and esteem) and product awareness from word of mouth and social norms as antecedents of impulse buying behaviour.

The researcher lay down nine pairs of null and alternative hypothesis in accordance with the objectives of this research. Hypotheses are as follow:

$H_0$1: There is no significant relationship between **price promotion** and impulse purchasing behavior of hypermarket customers.

$H_0$2: There is no significant relationship between **mass distribution** and impulse purchasing behavior of hypermarket customers.

$H_0$3: There is no significant relationship between **self service** and impulse purchasing behavior of hypermarket customers.

$H_0$4: There is no significant relationship between **prominent store display** and impulse purchasing behavior of hypermarket customers.

$H_0$5: There is no significant relationship between **small size** and impulse purchasing behavior of hypermarket customers.

$H_0$6: There is no significant relationship between **excitement** and impulse purchasing behavior of hypermarket customers.

$H_0$7: There is no significant relationship between **esteem** and impulse purchasing behavior of hypermarket customers.

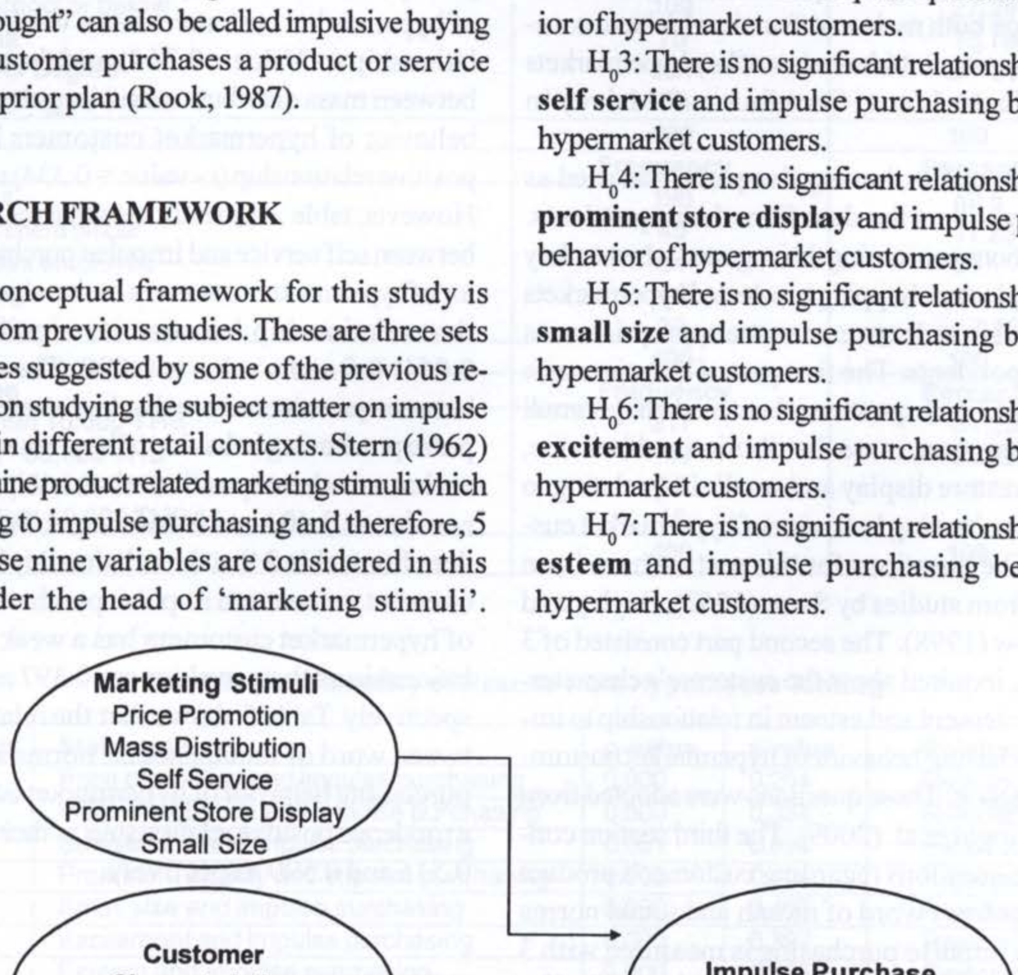

Figure 1: Conceptual Framework

$H_0$8: There is no significant relationship between **word of mouth** and impulse purchasing behavior of hypermarket customers.

$H_0$9: There is no significant relationship between **social norms** and impulse purchasing behavior of hyper market customers.

METHODOLOGY

The research method used in this study is descriptive. The target respondents were above 18 years of age both male and female who have completed shopping in 16 branches of key hypermarkets (Big C, Tesco Lotus, Carrefour and Makro) in Bangkok.

Questionnaire, having five parts, was used as the tool to collect the data from the respondents. Two questions concerning their age and whether they have compleated shopping in selected hypermarkets were asked in order to ensure the appropriateness of the respondents. The first part of questionnaire consisted of 3 each questions about marketing stimuli (price promotion, mass distribution, self service, prominent store display and small size) relating to impulse purchasing behavior of hypermarket customers. The questions for this section have been adapted from studies by Stern (1962); Bayley and Nancarrow (1998). The second part consisted of 3 questions, inquired about the customer's characteristics: excitement and esteem in relationship to impulse purchasing behavior of hypermarket customers in Bangkok. These questions were adopted from Harmancioglu et.al. (2009). The third section contained the questions regarding customer's product awareness from word of mouth and social norms related to impulse purchasing is measured with 3 questions based on Harmancioglu et.al., (2009). The fourth section consisted of dependent variable - impulse purchasing behavior of hypermarket customers - was measured with 4 questions adapted from Rook and Fisher (1995). The fifth section consisted of demographic information which were useful for the further analysis of statistical data. It provided information such as: age, gender, educational level, employment status and income. Only Thai version questionnaires were distributed at 16 selected key hypermarkets in Bangkok and surroundings. A total of 400 questionnaires were distributed and all of the 400 were turned to be valid and were used for the data analysis of the research.

Table 1 shows the highest demographic profile of respondents; the majority of them were aged 31-40, there were female (65% and male (35%). Most respondents had a Bachelors Degree (41%) and were students (49.5%). The monthly income of the majority of respondents was less than 10,000 baht (54.25%).

Table 2 indicates that the relationship between price promotion and impulse purchasing behavior of hypermarket customers has a weak positive relationship (r- Value = 0.264) and the relationship between mass distribution and impulse purchasing behavior of hypermarket customers has a weak positive relationship (r - value = 0.334) respectively. However, table 2 also indicates that the relationship between self service and impulse purchasing behavior of hypermarket customers has no significant positive relationship because its significant level 0.051>0.5 and r-value is 0.098. The relationship between prominent store display, small size and impulse purchasing behavior of hypermarket customers has a moderate positive relationship having their r- value as 0.404 and 0.466 respectively. It is evident from table 2 that the relationship between excitement, esteem and impulse purchasing behavior of hypermarket customers has a weak positive relationship as their r-values are 0.397 and 0.383 respectively. Table 2 shows that the relationship between word of mouth, social norms and impulse purchasing behavior of hypermarket customers has a moderate positive relationship as their r-values are 0.516 and 0.590 respectively.

CONCLUSION

Eight out of nine variables show low or medium positive relationships with impulse purchasing behavior of hypermarket customers in Bangkok.

From the hypotheses 1, the study identified that price promotion has a significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok, which means the null hypothesis is rejected. This implied that in-store stimuli such as price promotion, sampling, cou-

Table 1: The Summary of Demographic Characteristics

Age	Frequency	Percent
18 - 20	69	17.25
21 - 30	228	57
31 - 40	76	19
41 - 50	20	5
More than 50	7	1.75
Total	**400**	**100**
Gender	**Frequency**	**Percent**
Male	140	35
Female	260	65
Total	**400**	**100**
Education	**Frequency**	**Percent**
High school or below	109	27.25
Diploma	75	18.75
Bachelor Degree	164	41
Master Degree or above	52	13
Total	**400**	**100**
Job	**Frequency**	**Percent**
Student	198	49.5
Government officer	45	11.25
Business employee	84	21
Housewife	44	11
Others	29	7.25
Total	**400**	**100**
Income	**Frequency**	**Percent**
Less than 10,000 THB	217	54.25
10,001 - 30,000 THB	141	35.25
30,001 - 50,000 THB	26	6.5
More than 50,000 THB	16	4
Total	**400**	**100**

Table 2: The Summary of Results from Hypotheses Testing

Hypothesis	Statement	p-value	r-value	Relationship
1	Price promotion and impulse purchasing	0.000	0.264	Rejected
2	Mass distribution and impulse purchasing	0.000	0.334	Rejected
3	Self-service and impulse purchasing	0.051	0.098	Failed to Reject
4	Prominent display and impulse purchasing	0.000	0.404	Rejected
5	Small size and impulse purchasing	0.000	0.466	Rejected
6	Excitement and impulse purchasing	0.000	0.397	Rejected
7	Esteem and impulse purchasing	0.000	0.383	Rejected
8	Word of mouth and impulse purchasing	0.000	0.516	Rejected
9	Social norms and impulse purchasing	0.000	0.590	Rejected

pons (Abrat and Goodey, 1990), signs and some of the promotional technique are considered to be impulse triggers (Kollat and Ronald, 1969). In a global survey conducted by The Nielsen Company, an overwhelming 88 percent of Thai customers voted "Good Value for Money" as the most important consideration when choosing a hypermarket, exceeding the global average (Khooha, 2008). Nielsen also finds 85 percent of Thai customers consider "good value" as a top consideration when choosing a grocery store - outperforming other considerations like product range, location/convenience and environmental friendliness, etc (Khooha, 2008).

From the hypotheses 2, the study identified that mass distribution has a significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok, which means the null hypothesis is rejected. It implied that shoppers use product assortments and other in-store stimuli to remind them of their shopping needs; that is, shoppers make some purchase decision in the store rather than relying solely on a shopping list (Kollat and Willett, 1969). Variety is more important to customers; therefore, they are more likely to go to a store that offers more of a variety. When particular desires are not well formed, a perception of variety matters even more because of a desire to become more educated about what is available while maintaining a degree of flexibility. A perception of variety also matters when there is a motive or need for variety (Hoch, et.al., 1999).

From the hypotheses 3, the study identified that self-service has no significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok, which means the null hypothesis is not rejected. This might be because, with increased experience in shopping in hypermarkets, Thai people, especially in Bangkok, have got used to selecting products by themselves without the intervention of store personnel.

From the hypotheses 4, the study identified that prominent store display has a significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok, which means the null hypothesis is rejected. It implied that displays of all kinds of items are more appealing to the customers and their emotions. Displays are very important when it comes to the hypermarkets, because the customer can see the product, touch the product and know the product in order to make a purchasing decision. Thus, in self-service selling situations, display is an important marketing instrument (Bultez and Naert, 1998).

From the hypotheses 5, the study identified that small size has a significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok, which means the null hypothesis is rejected. It implied that the size or the light weight influences the impulse purchasing behavior of the customers. If the item is heavier, the customer may not intend to buy impulsively. On the other hand, if the product is light weight and small in size, impulse purchasing behavior will be more prone to occur (Stern, 1962).

From the hypotheses 6 and 7, the study identified that excitement and esteem have a significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok, which means the null hypotheses are rejected. It implied that customer's excitement and esteem work as antecedents to impulse buying intention and behavior. Shopping experiences might lead to satisfying hedonic desires and an upliftment of feelings and fun. These feelings of upliftment and fun in shopping experience can increase the excitement and esteem of customers motivating impulse buying intention. Rook and Fisher (1995) found that customers tried to suppress their feeling of impulse tendencies because they wanted to be perceived as mature, rational and not just moved by impulse tendencies. Conversely, Housman (2000) found that customers made impulse purchases to satisfy their esteem and self-actualization needs.

From the hypotheses 8 and 9, the study identified that word of mouth and social norms have significant positive relationship with impulse purchasing behavior of hypermarket customers in Bangkok, which means the null hypotheses are rejected. It implied that Product knowledge gained by customers by means of word of mouth and social influences also cause impulse buying intention. Existence of 'communicating members of a social system fosters the purchasing decision of other customers. The dynamism of word-of-mouth has an influencing power on customers' purchase intentions. At the same time social norms also has a relationship with impulse purchasing behavior. The Nielsen study showed that Asian shoppers are also most likely to listen to word-of-mouth and friends who tell them where to get the best value (Khooha, 2008). Ajzen and Fishbein (1980) refer to social norms as customers' relevant others' preference which influences their purchase intentions. Therefore, customers try to comply with relevant others' expectations or what others think when making purchases (Harmancioglu, et al., 2009).

RECOMMENDATIONS

The study revealed there are significant positive relationship between marketing stimuli (price promotion, mass distribution, prominent store display and small size), customer characteristics (excitement, esteem), product awareness (word of mouth, social norms) and impulse purchasing behavior of hypermarket customers in Bangkok. However, one of the marketing stimulus, self - service, stands out to be not having significant positive relationship with impulse purchasing behavior of hypermarket costumers in Bangkok.

According to the findings, price promotion has a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. Findings show that the price promotions stimulate the costumers to impulsively purchase the product. When the customers are in hypermarkets, they tend to pay attention to the price promotional schemes of any product and purchase them. The customers want to make use of that rare chance at once and get the products for themselves. Therefore, the marketers can offer more promotional schemes to attract the costumers in each product category in the hypermarket. Marketers should make the costumers aware about the price promotions prior to their visit to hypermarkets through any proper means. Signs, pole cards and the like might be used to provide information as well as to attract attention. And also, marketers can attract the attention of hypermarket customers to the price promotion through the working staff in the hypermarket. Or there can be a special area only for price promotion within the hypermarket itself. Customers can make a pre-plan on what kinds of products they would purchase when they are surrounded by price promotion products.

According to the findings, mass distribution has a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. Findings show that the costumers value variety of products under one roof and they like to make a quick purchase on what they want when there is an enormous range of products available in front of them. The costumers substitute the massively distributed products as their shopping list. Therefore, marketers can locate the hypermarkets in the very busy area of the city. It will attract many busy costumers to impulsively purchase when they see the large volumes of products in front of them serving as their shopping list.

According to the findings, prominent store display has a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. Findings show that display of items in the hypermarkets shall stimulate the impulsive buying behavior of costumers. Therefore, the marketers have to increase the ways and means to display their products in an attractive manner to capture the mindset of the customers as they enter the hypermarkets. Display can be improved by arranging proper lightings and creating a musical atmosphere when a customer approaches to the product in order to attract the customers to the products. It can help the customers to see the product at glance and making purchasing decision.

According to the findings, small size has a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. Findings show that the customers believed that the small size factor has a relationship in stimulating their impulse purchasing behavior. Therefore, the marketers need to promote more of light weight product in hypermarkets in order to increase their sales by creating impulsivity among costumers. Marketers have to think most modern technologies to adapt to their production realm to make products a light weight and small in size. This will in turn shoot up the impulsive purchasing behavior of customers.

According to the findings, excitement has a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. The atmosphere of the shopping environment can influence customer emotions and their perceptions in relation to the overall quality of the store in terms of the uniqueness of the product, and service levels (Baker et al.,1994) the purchase price (Areni and Kim, 1993) and purchase volume (Milliman, 1982). For instance, the use of carefully selected music creates an immediate distinction for a store by establishing the right mood. Music can motivate the subconscious and create a first and lasting impression. Similarly, it is a well known fact that colors tend to evoke emotions, reactions or moods in people, marketers can therefore make use of brighter colors in their stores because sun colors such as red, yellow and orange are said to increase excitement and create a sense of fun (Schiffman and Kanuk, 2007).

According to the findings, esteem has a positive relation with impulse purchasing behavior of hypermarket customers in Bangkok. Findings show that purchase of items increased the esteem of the costumers and therefore they purchased them impulsively. Hence, the marketers have to call for attention to provide a wide assortment of goods in hypermarkets which will increase the esteem of the customers while they are in hunt for an item proper to meet their needs. Marketers also have to find out what items create esteem among customers.

According to the findings, word of mouth has a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. Findings show that word of mouth could make the customers to impulsively purchase an item. Therefore, marketers have to work towards creating authentic opinion leaders speaking about their product from customers to customers. It will happen only when the customers are satisfied with the product they purchased. Creating customer satisfaction is a key point in letting the word of mouth happens by itself.

According to the findings, social norms have a positive relation with impulse purchasing behavior of hypermarket costumers in Bangkok. Findings show that relevant other's opinion has made the customers to impulsively purchase. Studies show that a customer would think about what others think about them if they purchased certain items. To keep up the norms of society, the customers ended up in purchasing items. Therefore, marketers have to make efforts to bring into the notice of customers about what others think about when they buy certain items or marketers should classify items according to the social standard of people. This needs more effort and study about the prevailing social norms of the society concerning different products.

Further Research

This research limits the scope of the study to hypermarket customers in Bangkok only. The data was collected from the target population at previously selected hypermarkets - Big C, Carrefour, Tesco Lotus and Makro - in and around Bangkok. Further studies can be carried out to find what particular category of items make customers to impulsively purchase.

This research studied only nine factors that are relating to impulse purchase behavior of hypermarket customers in Bangkok. Hence, future studies should identify other variables which can influence impulse purchasing behavior of hypermarket customers in Bangkok. It would be beneficial to study why self-service could not relate to impulsive purchasing behavior of hypermarket costumers in Bangkok while there is a boom in hypermarkets in Bangkok. The study is conducted only in hypermarkets in Bangkok. It would be interesting to see if similar results are obtained in other provinces in Thailand.

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DETERMINANTS OF EXPATRIATE CROSS-CULTURAL ADJUSTMENT AND ITS EFFECT ON PERFORMANCE

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Abstracts

An increasing rate of globalization makes it crucial for multinational corporations not only to aim beyond making a presence in the international market but also to sustain their competitive advantages. Global human resource management strategy plays an important role in maintaining success in the international business market through the means of expatriates' cross-cultural adjustment. This conceptual paper uses the lens of resource-based and contingency theories to shed light on the determinants of expatriates' cross-cultural adjustment and its effects on performance. Three groups of cross-cultural adjustment determinants were suggested: strategic learning, subsidiary supports and motivation of expatriates. In addition, this paper proposes that cultural distance moderates the relationship between these 3 groups of determinants and cross-cultural adjustment and, lastly, spouse adjustment moderates the relationship between cross-cultural adjustment and expatriates performance.

INTRODUCTION

Multinational corporations (MNCs) are establishing subsidiaries around the world to create a presence and sustain their competitive advantage in the global arena (Moran, Palmer & Borstorff, 2007) under pressure from the changing business environment (Haile, Jones & Emmanuel, 2007). Technological advancement such as telecommunication, transportation, network system, public infrastructure and government liberalization create powerful networks and lower national boundaries. The need for effective and qualified expatriates has increased significantly with the boom of internationalization (Lee & Li, 2008). In order for international expansion to be successful, expatriates with effective international capabilities, including ability to adapt to different cultures and sometimes fluency in foreign languages, are needed (Black and Mendenhall, 1989; Haile et al., 2007). Expatriate failure (Andreason, 2003; Lee, 2007) lowers the return on investment of the international expansion (McNulty & Tharenou, 2004). These human resources should be managed appropriately so MNCs can operate successfully within boundaryless international markets (Black & Mendenhall, 1989; Black, Mendenhall & Oddou, 1991; Colakoglu & Caligiuri, 2008; Caligiuri, Phillips, Lazarova, Tarique, & Burgi, 2001; Littrell, Salas, Hess, Paley & Riedel, 2006).

Unfortunately, MNCs have been severely plagued by the recurring problems of significantly high premature return rates (Mendenhall & Oddou, 1985; Haile et al., 2007; Tung, 1987) that create significant explicit as well as opportunity costs. Previous research has focused on three separate areas of expatriation: 1) selection, 2) cross-cultural training and 3) spouse and family issues. This research paper incorporates these areas into the same framework with a more practical view to examine the influence of these factors towards cross-cultural adjustment (CCA) of expatriates and self-reported performance.

Research Objectives

It was found that problems in expatriation include a) inability to adjust to the physical and cultural differences; b) spouses' and children's difficulties during their adjustment process; c) lack of certain skills for cross-cultural interaction; and d) lack of technical abilities or motivation to work overseas (Littrell et al., 2006; Tung, 1981, 1982). Recent researchers have examined the variables relating to individual differences; i.e. cross cultural training (CCT) (e.g. Haile, et al., 2007; Littrell et al., 2006, etc.); unfortunately there is still no single framework that conceptualizes this phenomenon with sufficient empirical support.

This paper has the following objectives:

Firstly, this paper proposes a conceptual model that places the main focus on the role of expatriate's cross-cultural adjustment. This is very likely to be the key success factor for better performance of the overseas assignments under the context different from one's own.

Black et al. (1991) suggested several determinants for CCA, i.e., job factors, organizational factors, non-work factors and individual factors. However, some variables have not been statistically significant in predicting CCA. Therefore, this paper modifies Black et al. (1991)'s and Shaffer, Harrison and Gilley (1999)'s models to create a model that can better determine CCA. Furthermore, some constructs are incorporated into the model to increase the model's explanation power. These constructs include the role of strategic learning, motivational factors, and the role mentor programming.

Lastly, this model suggests that CCA can increase the expatriates' level of self-reported performance and this relationship is moderated by family adjustment. Cultural distance between home and host countries is proposed as having a negative impact on the relationship between CCA's determinants (i.e., strategic learning, subsidiary supports, and motivation) and CCA. Moreover, family adjustment would have a positive impact on the relationship between CCA and performance.

LITERATURE REVIEW

Expatriation

Expatriation represents a significant investment among MNCs (Black, 1988; Black et al, 1991; Shaffer et al., 1999), but little research has examined underlying variables that might influence expatriate success and failure in the international assignment (Minter, 2008). As reported by Shannonhouse (1996), the costs of expatriate failure were as high as $1 million per failure for U.S. firms. In addition, the early return rate was estimated to be as high as 40% (Black & Mendenhall, 1990) and an expatriate's decision to return to his or her home country early can be very costly for MNCs (Littrell et al., 2006).

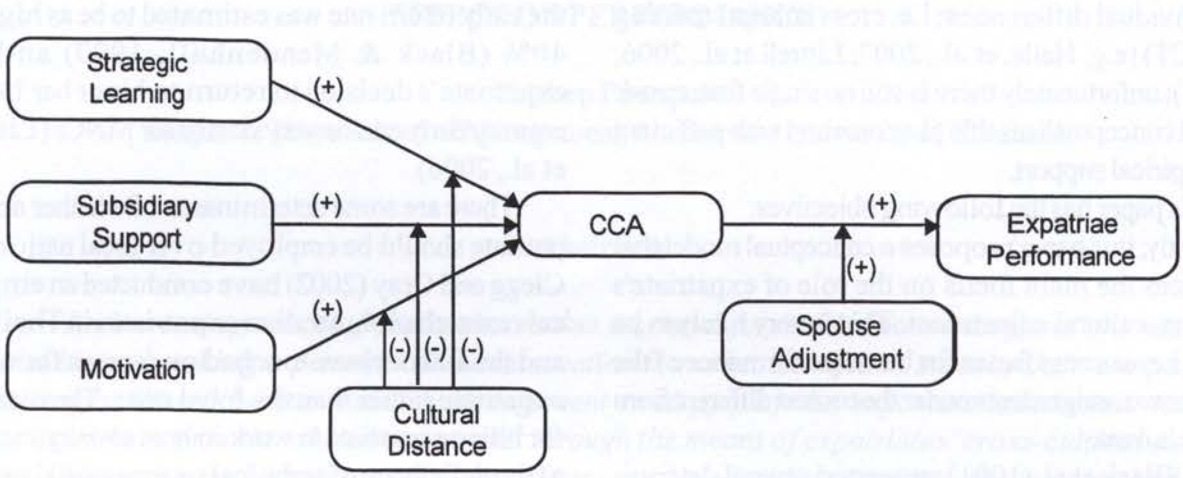
There are some determinants of whether an expatriate should be employed over local nationals. Clegg and Gray (2002) have conducted an empirical research on Australian expatriates in Thailand and the authors have touched on reasons for using expatriate rather than the local ones. The reasons for hiring expatriate to work in host country include a) the deficiency of technical or managerial expertise in the host country; b) head office believes that an expatriate will allow for greater control of the local operations; c) the posting is part of a planned career structure in which overseas experience will allow for promotion upon returning to head office; and lastly d) the existence of business opportunities for which no previous market or supplier in the host country existed (Clegg & Gray, 2002).

Conceptual Model

The following figure presents the determinants of CCA. These proposed determinants are expected to have positive relationship with expatriate performance through CCA, moderated by cultural distance and spouse and children adjustment. In this model, the independent variables include strategic learning, subsidiary supports, and motivation. The mediator of this model is the ability of expatriate to adjust cross-cultural factors (CCA) which will have a positive impact on expatriate performance in the host country location.

In addition, two moderators are proposed, cultural distance between home and host countries is expected to negatively moderate or diminish the positive relationship between strategic learning, subsidiary supports and motivation and CCA. The second moderator in the model, spouse and children adjustment, would positively moderate the relationship between CCA and expatriate performance. The following sections will present a review of constructs incorporated into the model with the explanation and linkages of relationships (see figure 1).

Figure 1: A conceptual model of expatriate cross-cultural adjustment



Cross-Cultural Adjustment

More recently, research studies have found that adjustment to international assignments should be considered as a multidimensional construct consisting of three distinct dimensions of adjustment: 1) work adjustment; this refers to the adjustment to the new job requirements 2) interaction adjustment with individuals in the foreign country and 3) general adjustment to the foreign culture and living conditions abroad (Black, 1988). Researchers also identified several sets of factors that impact these three dimensions (Black et al., 1991). Shaffer, Harrison and Gilley (1999) reported the impact of 1) job factors, 2) organizational factors, 3) personal factors 4) non work factors and 5) individual factors as they pertain to expatriate adjustment. International firms that reduce the amount of uncertainty associated with expected behaviors in the work situation (role clarity) while allowing managers more space in adapting the work role and setting to themselves (role discretion), rather than having to adapt to the situation and provide social support from coworkers and superiors are likely to result in expatriates' better work adjustment in the foreign assignment (Shaffer et al., 1999). International firms also need to communicate more realistic objectives relating to the levels of performance in early stages of the foreign assignment so that too much is not expected of expatriate performance too soon (Mendenhall, Dunbar & Oddou, 1987). Apart from work adjustment, expatriates also learn how to adapt to individuals in the foreign culture, interaction adjustment to the culture and living conditions abroad. As a consequence, CCA plays a crucial role in stimulating performance of expatriate.

Strategic Learning

Learning Organization

Learning could be described as how people recreate themselves in response to external changes to gain a new appreciation of the world (Senge, 1990; Yamazaki & Kayes, 2004). Peter Senge has introduced the Learning Organization Theory (Fard, Rostamy & Taghiloo, 2008) which can be applied to the context of expatriate cross-cultural adaptation. Senge defined a learning organization as "an organization that is continually expanding its capacity to create its future" (Senge, 1990, p.14). In addition, his ideas are presented in the book called "The Fifth Discipline" which elaborates that learning organizations are organizations where people continually expand their capacity to create the results they truly desire, new patterns of thinking are nurtured, collective aspiration is set free and people are continually learning how to learn together (Senge, 1990; Senge, Kleiner, Roberts, Ross & Smith, 1997). Senge (1990) perceived learning organization as an innovation incorporated into organizational functioning that turned to be the model for the future and it is needed by MNCs.

With a similar ideal type of learning organization of Senge, Guns (1996) conceptualizes learning-based organization as a pathway in getting the job done better and seeks out the best way to improve long term performance. Senge (1990) attempted to distinguish learning organizations from traditional authoritarian controlling organizations through the possession of mastery in certain basic disciplines. Senge proposed five components that are gradually converging for innovating learning organization. The absence of any of these components would critically affect the organizational success (Senge, 1990; Senge et al., 1997; Walton, 1999). These five components are: System Thinking, Personal Mastery, Mental Models, Building Shared Vision and lastly Team Learning.

According to Senge (1990), these disciplines are not naturally emerged, but learning organization needed to implement certain strategies to develop and encourage the five core disciplines of a learning organization. As the consequence, this paper adopts the fifth discipline and conceptualizes the effect of strategic international human resource management to positively influence effectiveness of cross cultural adjustment.

A growing number of multinational firms have tried to become learning organizations in which the focus is on the importance of international human resource training and development (Lee & Li, 2008; Yamazaki & Kayes, 2004). As defined by Luthan; Barton and Delbridge (cited in Lee & Li, 2008, p. 601) "learning is the acquisition of skills and abilities that results in a relatively permanent change in behavior contended that the way in which training takes place can be extremely important". Referring to the contingency theory that emphasizes the context of international human resource training, the fit or congruence between teachings (training) and learning is vital to achieve expatriate training effectiveness (Lee & Li, 2008). The expatriate training effectiveness refers to satisfaction, commitment and involvement of expatriate in international workplaces that would signal higher performance of both expatriate and rate of success in the international expansion assignment (Lee & Li, 2008; Yamazaki & Kayes, 2004).

The cross-cultural training is influenced by discrepancy in national culture, such that this relationship has caught a lot of attention from various scholars. Significant amount of studies in the field have contended that differences in national culture of the oversea assignments (cultural distance) between the home and the host countries would lead to a higher level of difficulties for expatriates in their cross-cultural training (Black, 1988, Black et al., 1991; Lee & Li, 2008; Tung, 1987; Pothukuchi, Damanpour, Choi, Chen & Park, 2002). It was found that the contingency fit between the teaching modes, the learning style of the expatriates and the perceived cultural differences between home country and host country will significantly influence the effectiveness of expatriate training (Lee & Li, 2008). Learning is turning to be a hot issue for both domestic and international human resource management, acquiring novel knowledge from diversity would be beneficial for both organization and individual manager. It is crucial for expatriate to be adaptive as "effective managers no longer work solely in the comforts of their home culture, but also must learn to work across cultures" (Yamazaki & Kayes, 2004).

Expatriate Learning and Cross-Cultural Adaptation

The cross-cultural learning sheds new light on the role of the individual learning as a process of adaptation to various cultures (Yamazaki & Kayes, 2004). The interaction between home and host cultures provides an alternative to the understanding of cross cultural research by suggesting that specific learning strategies might be necessary for expatriates in the face of particular cross-cultural learning situations.

The person-culture congruence model explains cross cultural learning as a function of the congruence between personal competencies acquired in home culture and the competencies acquired by the host culture. The congruence between a personal competency and the culture and the degree to which a person is able to learn those competencies imply the degree to which effective cross cultural adaptation can occur. For expatriate assignments, having a high learning orientation will help employees to function easier and more effectively, thereby increasing the likelihood of completing the assignment and achieving specified organizational goals (Porter & Tansky, 1999, p.57).

Using learning orientation assessment for expatiate manager is an excellent application with which to begin (Porter & Tansky, 1999, p.58). Maintaining a learning perspective through ambiguous situations seems particularly relevant to expatriates. They face a high degree of unfamiliarity and unclear reactions from others on a day to day basis. Viewing these conditions as part of the learning process seems vital to expatriate success. Those who will sacrifice learning opportunities in order to avoid any potential appearance of failure will be particularly hampered in adjusting to the differences of other cultures (Porter & Tansky, 1999, p.57).

Previous research suggested that it is important for organizations to provide language training and social opportunities for the expatriates to interact with foreign nationals. In addition to the pre-departure cross cultural training and good compensation and benefits packages, firms should provide expatriates and their family members with continued in-country support in order to facilitate all three dimensions of adjustment (Andreason, 2003).

It is now generally recognized that organizations learn because individuals learn (Kamoche, 1997; Senge, 1990), headquarter could also learn and acquire valuable international knowledge through the learning process of expatriates. This view highlights the importance of learning at the individual level, a vital condition that must be satisfied before organizations can achieve learning (Kamoche, 1997).

Kamoche (1997) provokes the concept of knowledge creation through learning. The concept of learning is at the heart of IHRM for two reasons: recognizing the potential strategic value of knowledge as well as recognizing that the strategic value of resources is sustainable to the extent that the knowledge generated from the utilization of these resources in the firm's productive activities subsequently enhances that firm's capacity to carry out these activities.

The implications for IHRM are that the scope for organizational learning exists if the knowledge acquired by individual in international assignments can be diffused across the organization. The notion of experiential learning therefore appears relevant to IHRM due to the role of experience in knowledge creation in international activities where individuals develop mechanisms for adaptability and task accomplishment in new cultural settings (Kamoche, 1997, p.216). Hence, the first proposition is posed as:

Proposition1: The level of strategic learning would facilitate expatriates' cross-cultural adjustment ability.

Motivation of Expatriate

There are few research papers that examine the role of motivational factors on the degree of adjustment of expatriate. This research paper advocates the importance of motivational factors of expatriates. Three motivational factors would be incorporated into the model of this paper. Motivational factors are proposed in this model as one of the powerful mechanism that could facilitate the ability of expatriate to better adjust in the cross-cultural environment. This research would take the opportunities to bind such motivational factors together instead of adopting other famous and well accepted models motivation (such as Maslow hierarchy of needs, Herzberg two factor theory, etc.) as those well structured theories might be able to conceptualize and generalize motivation under home country but might lose its explaining power in the intra-cultural context.

It was found that expatriates accept international assignments as they expect to gain some advancement in their career and are attracted by the assignment (Clegg & Gray, 2002). Clegg and Gray (2002) conducted a research study to examine the Australian expatriates in Thailand and found that career progression, remuneration package offered, and change in lifestyle were the first three attributes of motivation that influenced expatriates to accept the assignment in a city of hardship with tropical temperatures, traffic congestion and pollution, like Bangkok.

As a result, compensation package, career advancement and gaining new experience are proposed as motivation variables that would predict cross cultural adjustment. These three factors, i.e. compensation package, career advancement and opportunity to gain new experience, are important for both aspects of MNCs and individual expatriate, but they have been under-examined. This paper includes motivation variable as one of the crucial factors that directly predict CCA.

Compensation Package, Career Advancement and Gaining New Experience

Dowling, Welch & Schuler (1999) suggested that the compensation and benefit packages are provided for expatriate with the five ultimate objectives of attracting and retaining staff, providing an incentive for managers to leave the home country to accept foreign assignment, facilitating the transfer to the foreign location and back, maintaining an acceptable standard of living in the foreign location and lastly, providing the expatriate with opportunities for financial advancement through income and saving (Andreason, 2003). Bonache & Fernandez and Gomez-Mejia & Welbourne (cited in Clegg & Gray, 2002) shared that compensation packages accounted for differences in assignment objectives or cultural conditions are often critical factors in motivating expatriates to not only accept international assignment, but also to perform in difficult location (McNulty & Tharenou, 2004). Furthermore, the global organizational performance would yield significant improvement when such compensation packages are linked to the strategic objectives of the assignment (McNulty & Tharenou, 2004). Four most important elements of compensation are base salary, quality of accommodation and payment of children's education and bonus respectively (Clegg & Gray, 2002).

However, the problem is that expatriates often perceived that such compensation packages are "not sufficient support in being able to adjust to life abroad" (Andreason, 2003, p. 551). As the consequence, there is a need to investigate the relationship between compensation packages and CCA. To further support the above statement, Dowling et al. (1999) has also explained that as the expatriate is left to fend (i.e. financial related issues) for themselves, they may encounter with negative responses in the host-country's culture and lead to a perceived violation of the psychological contract with regard to expectations given them by their headquarter related to the nature of the assignment (Andreason, 2003). Therefore, the incorporation of the motivation variable lead to the proposition that motivation (i.e. compensation packages) is the vital variable that positively influence the perceived ability or willingness of expatriate towards the adjustment of cross cultural factors (i.e. work adjustment, general adjustment and interaction adjustment) perform in host country in which this would lower the moderating effect from cultural distance as well.

In addition to the compensation packages, career advancement is another essential variable that is a sensitive issue for expatriate and require a well treatment from headquarter. Regarding to the finding of Miller and Cheng (1976) and Clegg and Gray (2002), advancement of expatriate career or the career progression is emerged as the most influencial factor for people to accept the foreign assignment ranking higher than remuneration (Clegg & Gray, 2002). It was proposed that career advancement of expatriate is one of the motivation factors that have explaining power in enhancing the CCA, that will also minimize the negative impact created from the level of discrepancy between home and host cultural distance.

Within the same line of the spectrum, it was empirically found that gaining new experience is also playing an important role to motivate people to accept foreign assignment. The experience gained through performing under the host country location would possibly enhance job prospect upon the return of expatriate to home country (Clegg & Gray, 2002), such that expatriate could gain cross-cultural knowledge, advantage from diversity as well as learning to be an innovative and creative agent. Through these individual benefits, it would bring MNCs with higher performance at home location and other subsidiaries if appropriate international human resource management program is functional in an appropriate and effective manner.

Proposition2: Expatriates with high level of motivation (i.e. compensation package, career advancement and opportunity to gain new experience) for foreign assignment are likely to enhance cross-cultural adjustment.

Subsidiary Supports

For the international expansion assignment to be successful through the performance of expatriate in the host county, it is a mandatory role of headquarter to provide appropriate and sufficient support to stimulate CCA process. These supports include creating congruency in organizational culture between home and host countries, cross-cultural training and also motivational factors of expatriate.

Organizational Culture

Congruency between subsidiary and headquarter organizational culture eases expatriates' adjustment. Organizational culture is a vital factor that influences behaviors and styles of operation or even daily life of employees (Morgan, 2006). It is important to acknowledge that organizational culture and national culture belong to different cultural levels, in which organization culture is a subset of national ones (Black, 1988; Varner & Palmer, 2004). They share the common roles in bounding individuals together. The organization is a collectivity in which employees belong to both physically and psychologically not just a mere workplace comprising of separate individuals (Morgan, 2006).

Organization culture refers to the "social or normative glue that holds an organization together" (Sirmon & Lane, 2004, p.310). It includes the values or social ideas and the beliefs that organization members share. As a consequence of the social glue, strong organizational culture is likely to relate to high organizational performance and this phenomenon is called "cultural fit" (Sirmon & Lane, 2004; Wilkins & Ouchi, 1983) mediated by CCA of expatriate. It could be used as one part of the powerful mechanisms in converging the discrepancies in national culture headquarter and its subsidiary as well as minimize its negative moderating impact toward adjustment.

Black et al. (1991) has significantly shed light on the impact of organizational culture of home and host countries towards the degree of international adjustment of expatriates. They have put it that "the greater the difference between the organizational culture of the subsidiary organization in the foreign country compared to the organization in the home country, the more difficult the international adjustment would be" (Black et al., 1991, p.310).

Organizational cultures of both home and host countries are proposed as the sub-variable of subsidiary supports that minimize the impact of cultural distance and also positively influence the ability of expatriate to be successful in CCA. These could be achieved through creating congruence of organizational cultures of both headquarter and subsidiary as part of the subsidiary support strategy (Black, et al., 1991; Pothukuchi et al., 2002; Sirmon & Lane, 2004).

Cross-Cultural Training

Cross-cultural training is proposed as another sub-variable of subsidiary supports that should be provided to facilitate CCA. However, literature suggests that multinational enterprises (MNEs) are paying little attention to international training and management development of new expatriate assignments (Minter, 2008). Expatriates need to be selected not on technical expertise alone but also on cross-cultural fluency in order to maximize the expatriate's effectiveness and efficiency working in a different culture (Black & Mendenhall, 1990). However, in order to succeed in a globally competitive environment, MNCs need to effectively train expatriates in international capabilities, including fluency in foreign languages and in the ability to adapt to different cultures (Caligiuri et al., 2001) and probability of expatriate failure can be lowered by training programs (Caligiuri et al., 2001; Naumann, 1992).

Cross-cultural training could be defined as those educative processes that are designed to promote intercultural learning with the acquisition of behavioral, cognitive and affective competencies associated with effective interaction across culture (Landis & Brislin, 1983). Several scholars and researchers attempt to determine the factors that would facilitate the success of expatriates' international assignments (Caligiuri et al., 2001). It was found that the accomplishment of global assignment is significantly influenced by an expatriate's cross-cultural adjustment to the host country (Black & Mendenhall, 1989 Black & Mendenhall, 1990; Caligiuri et al., 2001). Moreover, some MNCs provide cross cultural training (CCT) to facilitate expatriates' adjustments regarding appropriate norms and behaviors of the host country (Caligiuri et al., 2001). This will ease out the effect of cultural distance.

The cross-cultural training process should be organized with the emphasis on both contents and skills that will enhance interactions with host-country individuals and at the same time training should be effective in reducing misunderstanding and inappropriate behaviors of expatriate (Black & Mendenhall, 1990, Morris & Robie, 2001).

In addition, the training and development of expatriates, in term of cross-cultural preparation and language programs, represents a significant financial cost to MNCs in the initial stages of an international assignment (McNulty & Tharenou, 2004). Yet, there are significant long term benefit to be gained from training in terms of better performance and cultural adjustment. Customized training and development programs can lead to more realistic expectations, higher levels of CCA, and better overall performance of expatriates (Black, et al., 1991; Black & Mendenhall, 1989; Black & Mendenhall, 1990; Caligiuri et al., 2001; McNulty & Tharenou, 2004; Pothukuchi et al., 2002).

Host and Home Mentor

According to the work of Carraher, Sullivan & Crocitto (2008), mentoring could be defined as one-on-one, hierarchical relationship between a more experienced organizational member and less experienced employee(s). Furthermore, newcomers (i.e. expatriate) are assisted by a mentor through various stages of socialization in order to increase job satisfaction, enhance performance, decrease stress, and reduce turnover. It was found that there is a significant and positive relationship between having a home-country mentor and expatriate effectiveness as well as new expatriate socialization (Mezias & Scandura, 2005).

The host country mentor may provide the most assistance during the on-site stage of the international assignment (Carraher et al., 2008; Mezias & Scandura, 2005). The host country mentor can assist expatriate to meet new co-workers, cope with different cultural norms (Carraher et al., 2008; Mezias & Scandura, 2005). In fact, it helps expatriates to assimilate into the host country culture, gain comfort with work groups and even increase expatriate commitment to the subsidiaries (Mezias & Scandura, 2005). Furthermore, host country mentor may also help to increase the expatriate's job performance by providing advices to cope with potential problems that may arise in an unfamiliar work environment as well as providing the development of wider range of skills (Carraher et al., 2008; Mezias & Scandura, 2005).

The author proposes that there is a significant and positive relationship between having a host country mentor and expatriate effectiveness. In addition to the two types of mentor (i.e. host and home).

Proposition3: Subsidiary supports (i.e. organizational culture, CCT and home & host mentor) provided for expatriates' foreign assignment are related to expatriates' cross-cultural adjustment.

Cultural Distance: Moderating Effect of Discrepancy in National Culture

Kogut and Singh (1988) have introduced a formula to calculate the degree of difference of cultural norms in one country to another which was based on secondary data of Hofstede's cultural value scale. It is the standardized measure of cultural differences calculated as the corrected deviations for differences in the variances of each cultural dimension and then arithmetically averaged (Kogut & Singh, 1988). In the proposed conceptualization of this paper, degree of cultural distance between home (headquarter) and host country (subsidiary) plays the negative moderating role towards cross-cultural adjustment. This negative moderating effect will deter positive consequences generated from independent variable of strategic learning, motivation and subsidiary supports. Majority of research supported empirically that cultural distance is the barrier for the success of any kind of international operation across countries (e.g. Black & Mendenhall, 1990; Black, et al, 1991; Kogut & Singh, 1988; Morosini, Shane & Singh, 1998; Pothukuchi et al., 2002; Shenkar, 2001; Tung, 1988) as greater cultural distance will create a greater information asymmetry between host and home countries and also reduce knowledge of the subsidiary's environment and performance (Colakoglu & Caligiuri, 2008). It was suggested that cultural distance will enhance the level of uncertainty, risk, and also transaction cost in operating oversea (Colakoglu & Caligiuri, 2008). Specifically, cultural distance will negatively impact expatriates' CCA (Black & Mendenhall, 1990; Black, et al, 1991; Varner & Palmer, 2004, Tung, 1987; Varner & Palmer, 2004) as it affects the person's mindset

(Varner & Palmer, 2004). As the consequence, the following proposition is proposed.

Proposition4: The discrepancy between home and host national cultures will deter the ability of expatriate to be successful in cross-cultural adjustment, such that cultural distance negatively moderates the relationship between strategic learning, subsidiary supports and motivation and cross-cultural adjustment.

Spouse and Children Adjustment

It is essential for MNCs to pay significant attention on the inclusion of an expatriate's family as part of the expatriation process (Andreason, 2003; McCaughey & Bruning, 2004; Porter & Tansky, 1999). Well adjusted spouse and children will influence expatriates in a positive manner with the facilitation of acculturation and adjustment procedure (McCaughey & Bruning, 2004). Expatriates may have apprehensions about whether their children's education will have necessary continuity as well as how the family will adapt to customs of another culture. According to Tung (1987), managers indicated that the spouse's inability to adjust was the number one reason for expatriate failure. Family is still a major concern in decisions related to expatriate assignments. In addition, spouse's unsuccessful adjustment is frequently the explanation offered for premature return of an expatriate (Porter & Tansky, 1999). Often, it is the spouse who handles much of the burden for family adjustments and consequently feels more stress over the transition to the host country. The spouse typically takes on household responsibilities and child care concerns, such that every element of which may require operating by new and different rules, environment and life style. Spouse may be required to make the greatest degree of adjustments with little support from organizations (McCaughey & Bruning, 2004; Porter & Tansky, 1999). The ongoing success of a manager is affected by the level of stress and dissatisfaction experienced by family members, particularly the spouse. Sending a manager to another country should be approached in terms of sending the entire family. Having selected a manager to send outside the country, the company's investment in the spouse preparation indicates a positive interest in the family's well being which in turn, may greatly increase the probability of the manager's success (Andreason, 2003; McCaughey & Bruning, 2004; Porter & Tansky, 1999).

The degree of spouse adjustment is the psychological tool to provide non-work related comfort for expatriates. Therefore, this paper separate adjustment of expatriate from family or spouse adjustment, so that each of them could be clearly observed. As the consequence, the proposition relating to spouse adjustment is proposed below;

Proposition5: Expatriates' spouse and children adjustment will positively moderate the relationship between cross-cultural adjustment and expatriate performance.

Expatriate Performance

The international assignments are significantly different from domestic assignments as they involve various differences in situational contexts, such as society, legality, economy, task techniques (Black et al., 1991; Sinangil & Ones, 2003). As the result, effective use of the knowledge and experience of previous expatriates are vital mechanism to facilitate understanding of the context of internationally assigned performance within specific foreign situations of expatriates (Black & Mendenhall, 1990; Black, et al, 1991; Sinangil & Ones, 2003).

Various scholars, for example, Adler 1983; Arthur & Bennett, 1996; Hays, 1971; Hough & Dunnette, 1992; Sinangil & Ones, 2003, studied the international assignee job performance. Arthur and Bennett (1996) suggested that the factors characterizing international job performance models have initially developed by Hays (1971) with four factors of local language ability, family situation, relational abilities and job ability. The scholars that were successful in enhancing the model and were cited by many researchers nowadays are such as Adler (1983) with four-factor models; Ronen (1989) came up with five-factor models; Tung (1981) generated a seven factor model; Campbell (1990) proposed an eight-factor model; and lastly Hough and Dunnette (1992) extended the model to eleven factors (Arthur & Bennett, 1996).

The ten dimensions of measuring expatriate job performance were developed through the integration of various previous scholars' contributions, including Eight Factor Model of Campbell (1990), Eleven- Factor Model of Hough & Dunnette (1992) and Viswesvaran, Ones & Schmidt (1996).

This paper also attempts to generalize the relationship between CCA and performance of expatriate. Previous research has proposed and proven that by holding other variables constant, the relationship between the two latent constructs is negative, such that the higher the cultural distance between home and host countries the lower the expatriate CCA and performance will be (Arthur & Bennett, 1996; Black & Mendenhall, 1990; Caligiuri et.al. 2001; Colakoglu & Caligiuri, 2008; Harrison, 1994; Haile et al., 2007; Morris & Robie, 2001; Naumann, 1992).

Proposition 6: Cross-cultural adjustment of expatriate in host country is likely to enhance performance of expatriates.

IMPLICATIONS & CONCLUSION

The number of MNCs and their subsidiaries are as many as 6500 MNCs and 850,000 corresponding foreign subsidiaries around the world (UNCTAD 2005). However, the expatriate failure was estimated between 10 to 20 per cent and even up to 40 percent (Tung, 1987, Mendenhall and Oddou, 1985, Black et al., 1991). The reasons for this failure range from the complexity of the business climate to the failure of spouse or family to adjust to an unfamiliar environment, including cultural complexity (Kamoche, 1997). The international assignment represents an opportunity to learn and bring about benefits to the operation of headquarter so that expatriate failure wastes such opportunity. This waste is so costly to both of the expatriates and their family as well as to the MNCs as a whole.

The demand for qualified expatriates to serve in overseas markets has increased significantly in the past decade (Hodgetts & Luthan, 2000). Training has become one of the most effective ways to promote the competence of expatriate managers. Based on the resource-based theory, intangible resources, such as human resource, are likely to create a sustained competitive advantage (Lee & Li, 2008; Peteraf, 1993; Reed & Defillippi, 1990). As part of the subsidiary supports provided, home and host country mentors are powerful mechanism that would enhance expatriate performance via the expatriates' adjustment. In addition, this paper has shown and placed significant attention toward motivation for expatriate. It is proposed to have crucial role in enhancing CCA. Lastly, the greater the discrepancy in cultures novelty between of home and host countries is, the greater the impact on adjustment during the international transition will be (Black et al., 1991).

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