Cross-cultural invariance of consumers' price perception measures: Eastern Asian perspective

By: Kittichai (Tu) Watchravesringkan, Ruoh-Nan Yan, Jennifer Yurchisin

Abstract:

In response to the impact of market globalization and concerns over the universality of marketing measures, this study seeks to examine the measurement invariance of consumers' price perception scales cross-culturally with samples drawn from four Eastern Asian countries, i.e. China, South Korea, Taiwan, and Thailand, using multigroup confirmatory factor analysis (MGCFA). In addition, this study further examines the differences and similarities in the mean levels of consumers' price perceptions across the four samples. A convenience sample of undergraduate college students was employed. A total of 958 students with business-related majors completed a questionnaire in Beijing, China; Seoul, South Korea; Taiwan, Taiwan; and Chonburi, Thailand. Having established psychometric properties and demonstrated the partial scalar invariance of measurements and structural parameters, the results indicated that the consumers' price perception scale containing five dimensions (i.e. price-quality schema, prestige sensitivity, value consciousness, sale proneness, and price mavenism) appears to be useful in Eastern Asian cultures. In addition, results of latent mean comparison revealed not only some similarities but also differences related to the five dimensions of price across the four Eastern Asian samples. The main limitation is the issue of generalizability of the findings because of the use of student samples. This study is among the first to examine cross-cultural invariance of consumers' price perception within Eastern Asian countries using MGCFA.

Keywords: prices | consumer behavior | China | South Korea | South East Asia

Article:

Introduction

As firms have continued to expand their businesses globally due to the impact of domestic market saturation, rising foreign market opportunities, or a combination of both, understanding how consumers in different countries make their consumption choices has become critical to a firm's

external operation. Such cross-cultural knowledge can help a particular firm develop effective and efficient global retail strategies while gaining a competitive advantage in foreign markets. [58] Verhage et al. (1990, p. 320) suggested that global retailers "need to be very cautious in accepting any theories or techniques that are proven to be successful in their home markets" because the same home market practices may not be effective means to succeed in foreign markets. This seems to suggest that cultural differences may prevent successful standardized retail strategies ([17] de Mooij, 2000; [31] Jin and Sternquist, 2003; [55] Tai, 1997; [64] Zhou and Nakamoto, 2001). However, others state that globalization may create convergence of the needs and tastes of consumers worldwide, suggesting the potential of standardized retail strategy ([40] Moore et al. , 2003; [54] Sternquist et al. , 2004). Expansion of retailers into foreign markets would be simple if consumer differences across the globe were predictable ([2] Albers-Miller and Gelb, 1996).

To understand global consumers' shopping behaviors, consumers' price perception should be studied because of its importance as a product cue that influences consumer decision making in all cultures ([23] Helegeson and Beatty, 1985). According to [37] Lichtenstein et al. (1993), price is a multidimensional cue that possesses two roles: positive and negative. These two different roles of price have been found to have strong predictive validity on consumers' marketplace responses and behaviors across cultures ([37] Lichtenstein et al. , 1993). That is, consumers in general are likely to use price information to determine products' value and/or quality ([16] Dawar and Parker, 1994). On the other hand, it is evident that consumers' reactions to price cues are in some ways culture specific in that consumers' values and norms vary cross culturally ([31] Jin and Sternquist, 2003; [64] Zhou and Nakamoto, 2001). While previous cross-cultural comparisons of consumers' price perception have highlighted some of the differences that exist between westerners (e.g. Americans) and non-westerners (e.g. Chinese, Koreans), little empirical knowledge is available concerning comparisons of price perceptions of East Asian consumers (for an exception, see [54] Sternquist et al. , 2004).

The Eastern Asian markets have been receiving academics' and practitioners' attention due to their rapid transition to market economies, which has made them lucrative and promising for many global firms ([50] Shao et al. , 1999). For example, China has transitioned itself toward a market economy much faster and to a much greater extent than other Eastern Asian countries ([33] Kim et al. , 2006; [49] Schramm, 2006). In addition to China, countries such as South Korea and Taiwan are viewed as Asian Tigers because of their economic performance ([6] Arnott et al. , 2007). Thailand is also considered a new Southeastern Asian candidate for Tiger status because of its emerging economy ([6] Arnott et al. , 2007; [42] Muscat, 1994). Thus, it is interesting to examine whether differences and similarities exist related to how consumers in these four countries perceive price cues in the marketplace. Such knowledge can influence the type of strategies that firms develop and adopt to enhance firm performance. In addition, although East Asian consumers tend to share some similarities in terms of values, norms, and philosophies (e.g. collectivism, Confucianism), they also posses unique characteristics including language, political climate, geography, demographics, industrial and economic structures, and culture and consumption patterns that offer many exciting and challenging opportunities for global firms ([55] Tai, 1997).

The purposes of this study are threefold. First, from a methodological perspective, we seek to examine whether consumers' price perception measures are invariant across four Eastern Asian cultures, namely China, South Korea, Taiwan, and Thailand. Assuming measurement invariance, we then proceed to examine cultural differences in multidimensional aspects of price among these groups. Lastly, we demonstrate a sophisticated method, multigroup confirmatory factor analysis

(MGCFA) - an extension of confirmatory factor analysis (CFA), used in testing mean differences of constructs in cross-cultural studies.

Consumers' price perceptions

Positive role of price

The psychological view explains that consumers may perceive high price as an indication of quality, status, and/or prestige, which positively affects their decisions ([36] Lichtenstein et al. , 1990). In this view, the price of a product signals the consumer that the product is of high quality or prestige. Based on [37] Lichtenstein et al. 's (1993) pricing taxonomy, there are two dimensions associated with the positive role of price: price-quality schema and prestige sensitivity.

As defined by Lichtenstein et al. , price-quality schema refers to a consumer's generalized belief that the level of price is positively associated with the level of quality. From a psychological view, purchasing a high-priced product may enhance one's feeling about oneself because consumers are likely to equate high price with high quality. Typically, those who have less experience and/or limited knowledge about products will rely on this mental shortcut strategy ([4] Alsamdan, 1996). Prestige sensitivity refers to the favorable perception of price cues based on the buyer's feelings of prominence and status when purchasing high-ticket items ([37] Lichtenstein et al. , 1993). [38] McGowan and Sernquist (1998) note, from a conspicuous consumption view, price sensitivity is associated with socially visible consumptive behavior. Also, purchasing a high-priced product may enhance one's self image ([34] Levy, 1959), leading one to believe that he or she is associated with higher status or prominence in a social circle. Thus, the feeling of prestige associated with high price can positively affect the purchase behavior of consumers.

Negative role of price

From an economic perspective, the price of a product can negatively affect consumers' purchase behavior ([37] Lichtenstein et al. , 1993). That is, higher prices can repel consumers away from purchasing a product as a result of consumers' implied monetary sacrifices, in terms of money outlay, and non-monetary sacrifices, in terms of psychological consequences and/or lack of benefits received from the products ([37] Lichtenstein et al. , 1993). [37] Lichtenstein et al. (1993) identified four dimensions associated with the negative role of price: value consciousness, price consciousness, sale proneness, and price mavenism.

Value is "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" ([63] Zeithaml, 1988, p. 14). Thus, a consumer's perceived value represents "a tradeoff between the quality and benefits they receive in the product relative to sacrifice they perceive by paying the price" ([39] Monroe, 1990, p. 46). Based on these definitions, value consciousness is conceptualized as consumers' concern regarding the ratio of quality received to the monetary sacrifice in a transaction ([37] Lichtenstein et al. , 1993; [39] Monroe, 1990). Generally, researchers have used the term "price consciousness" to refer to a variety of price-related cognitions ([62] Zeithaml, 1984). According to [37] Lichtenstein et al. (1993, p. 235), price consciousness is "the degree to which the consumer focuses exclusively on paying low prices." This dimension of price has been found to have an impact on consumers' search behavior for low-priced products ([3] Alford and Biswas, 2002). Sale proneness is defined as "an increased propensity to respond to a purchase offer because the sale form in which the price is presented

positively affects purchase evaluations" ([37] Lichtenstein et al. , 1993, p. 235). From the acquisition-transaction utility theory, [56] Thaler (1985) explained that an individual purchases a product not only to receive pleasure from the purchase (acquisition utility), but also to acquire value or merit from the deal (transaction utility). Thus, those who are sale-prone are likely to perceive the price of a product presented in the form of a sale as a good deal, which subsequently may affect their propensity to purchase. [37] Lichtenstein et al. (1993, p. 235) defined price mavenism as:

> [...] the degree of which an individual is a source for price information for many kinds of products and places to shop for the lowest prices, initiates discussions with consumers, and responds to requests from consumers for marketplace price information.

Those who are price mavens tend to influence others' decisions ([21] Feick and Price, 1987).

Cultural influences on consumers' price perceptions

Culture has been viewed as a powerful force influencing consumers' attitudes and behaviors ([57] Tse et al. , 1989). Culture provides guidelines to behaviors ([20] Feather, 1997), influences the way members in the society interact and socialize with others ([47] Rokeach, 1973), and influences people's responses to and preference for different situations ([20] Feather, 1997). As [14] Clark (1990) suggests, each cultural or national group tends to possess different national characters (e.g. behavioral patterns and/or personality characteristics) that make them distinct from each other. [24] Hofstede (1991, p. 12) further states that countries "are a source of a considerable amount of common mental programming of their citizens." Thus, it is interesting to examine the role of culture in influencing consumers' perceptions of price among Eastern Asian consumers who tend to share some similarities and differences. Such similarities and/or differences may be due partly to cultural manifestations such as values and symbols ([48] Roth, 1995).

There is empirical evidence suggesting that culture can have an impact on how consumers perceive price cues. Researchers have shown that consumers' perceptions of price are sensitive to cultural differences such that individuals from different countries tend to exhibit different score patterns in terms of the dimensions of price ([31] Jin and Sternquist, 2003; [64] Zhou and Nakamoto, 2001). For example, using MGCFA with a student sample, [64] Zhou and Nakamoto (2001) found that while Chinese consumers displayed higher scores related to prestige sensitivity, they also displayed lower scores related to price-quality schema, price consciousness, and sale proneness than their American counterparts. However, they also found that Chinese and American consumers perceive price cues in terms of value consciousness in the same manner. [31] Jin and Sternquist (2003) compared Korean and American college students on the multidimensionality of price using multivariate analysis of variance (MANOVA) and reported a great deal of differences between the two samples in relation to price cues. They found that Korean consumers displayed higher levels of price consciousness and sale proneness, but lower levels of prestige sensitivity, value consciousness, and price mavenism than their American counterparts. However, they did not find a significant difference between Korean and American consumers related to price-quality schema.

Although evidence suggests that there are differences and similarities on the dimensions of price perception across cultures ([31] Jin and Sternquist, 2003; [64] Zhou and Nakamoto, 2001),

these previous studies compared mean levels on the dimensions of price perception between westerners and easterners. Little work has compared price perception with samples drawn from various Eastern Asian countries. In addition, cross-cultural researchers still express a concern in extending theories and their associated constructs from the USA to other countries because the instruments developed in one country may not measure the same construct in other countries ([28] Hui and Triandis, 1985). Thus, extensive replication and extension research should be conducted before empirical generalizations are made ([27] Hubbard and Vetter, 1996).

Table I [Figure omitted. See Article Image.] summarizes past empirical cross-cultural studies that have employed [37] Lichtenstein et al. (1993) pricing taxonomy regarding consumer price perception. There are two major research streams of these previous studies. That is, one stream assessed the universality of the dimensions of price perception cross-culturally ([38] McGowan and Sernquist, 1998; [40] Moore et al. , 2003; [54] Sternquist et al. , 2004) and the other stream of research compared the means related to dimensions of price perception cross-culturally ([31] Jin and Sternquist, 2003; [64] Zhou and Nakamoto, 2001). The current study is in line with the latter stream of research. However, only one of these cross-cultural studies employed a sophisticated method of examining differences in the latent means of those dimensions ([64] Zhou and Nakamoto, 2001). Therefore, there is indeed a need for more studies related to cross-cultural comparisons of price perception before findings can be generalized.

Research hypotheses

To meet the first objective of the study, which is to examine whether consumers' price perception measures are invariant across cultures, thus making the cross-cultural comparison meaningful and valid, a test for the universality of measures (i.e. measurement invariance) across the four Eastern Asian samples is needed ([29] Irvine and Carroll, 1980). Measurement invariance refers to "the extent to which the content of each item is being perceived and interpreted in exactly the same way across samples" ([13] Byrne and Watkins, 2003, p. 156). Measurement invariance may have caused conclusions from past research to be "at best ambiguous and at worst erroneous" ([53] Steenkamp and Baumgartner, 1998, p. 78) because differences in ratings might have been attributed to the way the measures were employed or interpreted rather than to true differences. Therefore, we proposed that:

H1: Consumers' price perception measures are invariant among China, Korean, Taiwanese, and Thai participants.

Assuming measurement invariance, the second objective was set forth to examine cultural differences in multidimensional aspects of price among these groups. The third objective, to demonstrate a sophisticated method used in testing for the mean differences of constructs in cross-cultural studies, was embedded in both the first and second objectives. It is commonly agreed that culture influences marketing efforts and consumer responses ([57] Tse et al. , 1989). Existing evidence revealed that the way the consumer in a specific country perceives price cues could be attributed to cultural differences ([31] Jin and Sternquist, 2003; [64] Zhou and Nakamoto, 2001) because each culture has its own unique set of beliefs, value orientations, attitudes, and behaviors. Therefore, we hypothesized that:

Table I. A summary of previous cross-cultural studies that employed Lichtenstein's *et al.* (1993) price perception scales

Cultural comparison	McGowan and Sernquist (1998) USA – Japan	Zhou and Nakamoto (2001) USA – China	Moore et al. (2003) USA – Poland	Jin and Sternquist (2003) USA – Korea	Sternquist et al. (2004) Korea – China
		College Students			
Sampling and sample size	US = 132	US = 106	US = 342	US = 132	Korea = 243
	Japan = 135	China = 120	Poland = 335	Korea = 244	China = 163
	Total = 267	Total = 226	Total = 677	Total = 376	Total = 406
Dimensionality of price perception					
Price-quality schema					
No. of items of original scale	4	4	4	4	4
No. of items of reduced scale	4	4	4	4	4
Reliability of reduced scale	0.69[a]	USA = 0.82	USA = 0.86	USA = 0.89	Korea = 0.85
		China = 0.57	Poland = 0.84	Korea = 0.85	China = 0.69
Prestige sensitivity					
No. of items of original scale	9	9	9	9	9
No. of items of reduced scale	2	4	2	9	9
Reliability of reduced scale	0.89[a]	USA = 0.82	USA = 0.88	USA = 0.86	Korea = 0.91
		China = 0.57	Poland = 0.75	Korea = 0.91	China = 0.78
Value consciousness					
No. of items of original scale	7	7	7	7	7
No. of items of reduced scale	2	5	Deleted*	7	7
Reliability of reduced scale	0.92[a]	USA = 0.79		USA = 0.88	Korea = 0.84
		China = 0.71		Korea = 0.84	China = 0.88
Price consciousness					
No. of items of original scale	Not examined	5	5	5	5
No. of items of reduced scale		4	4	5	5
Reliability of reduced scale		USA = 0.79	USA = 0.88	USA = 0.79	Korea = 0.87
		China = 0.68	Poland = 0.83	Korea = 0.87	China = 0.82
Sale proneness					
No. of items of original scale	Not examined	6	6	6	6
No. of items of reduced scale		Deleted**	3	6	6
Reliability of reduced scale			USA = 0.80	USA = 0.82	Korea = 0.83
			Poland = 0.72	Korea = 0.83	China = 0.80
Price mavenism					
No. of items of original scale	Not examined	Not examined	6	6	6
No. of items of reduced scale			3	6	6
Reliability of reduced scale			USA = 0.85	USA = 0.92	Korea = 0.93
			Poland = 0.81	Korea = 0.93	China = 0.85
Statistical analysis	MGCFA	MGCFA	MGCFA	MGCFA	CFA
Mean comparison across groups	No	Yes	No	Yes	No

Notes: [a] Reported only for a Japanese sample; MGCFA – multigroup confirmatory factor analysis; MANOVA – multivariate analysis of variance; CFA – confirmatory factor analysis. * = Deleted from final analysis; excessive cross-loadings; ** = Deleted from final analysis; lack of measurement invariant

H2:   Chinese, Korean, Taiwanese, and Thai participants exhibit significant differences in different dimensions of consumers' price perception.

Methodology

Participants and procedure

A questionnaire was completed by 958 business undergraduates in Beijing, China; Seoul, South Korea; Tainan, Taiwan; and Chonburi, Thailand. College students were deemed appropriate in this study because they have the tendency to be homogenous on certain demographic information, which allows for more accurate predictions and offers a stronger test of the theory ([18] Douglas et al. , 1994). Previous cross-cultural studies on consumers' price perceptions have employed students as a sampling unit ([40] Moore et al. , 2003; [54] Sternquist et al. , 2004; [64] Zhou and Nakamoto, 2001; see Table I [Figure omitted. See Article Image.]). The selection of students as participants is particularly important in our study because the comparable populations help to maximize the equivalence of sampling groups ([43] Poortinga and Malpass, 1986). [25] Hofstede and Bond (1988) also contended that ensuring a matched sample by using college students, as opposed to a national sample of adults, is important in cross-cultural studies because it minimizes the risk of extraneous variables (e.g. age, education) posed by the heterogeneity of a national sample. Of the Chinese sample (n =208), 36.5 percent were female, 90.9 percent were 18-21 years of age; of the Korean sample (n =269), 76.3 percent were female, 71.0 percent were 18-21 years of age; of the Taiwan sample (n =233), 55.5 percent were female, 47.2 percent were 18-21 years of age; and of the Thai sample (n =248), 71.4 percent were female, 99.0 percent were 18-21 years of age.

Measurements

We borrowed the 37-item 6-dimension (price quality schema = 4 items, prestige sensitivity = 9 items, value consciousness = 7 items, price consciousness = 5 items, sale proneness = 6 items, and price mavenism = 6 items) Consumers' price perception scale developed by [37] Lichtenstein et al. (1993). The original scale was tested in the grocery shopping context. In the present study, the items from the original scale were slightly modified to be suitable in the apparel shopping context. The apparel shopping context was selected for the present study because it has been a major focus in many previous cross-cultural studies ([40] Moore et al. , 2003; [54] Sternquist et al. , 2004). Furthermore, the choice of the apparel context was deemed appropriate because apparel products are likely to be products with which college students have some familiarity purchasing on their own. Additionally, both status and value are product characteristics that can be associated with apparel products ([45] Richins, 1994) and would be relevant to some dimensions of price perception examined in this study. The questionnaire was drafted in English and then translated into Chinese, Korean, and Thai. The Chinese questionnaire was drafted using simplified Chinese characters whereas the Taiwanese questionnaire was drafted using traditional Chinese characters. These questionnaires were then back-translated into English by bilingual graduate students ([10] Berry, 1980). Therefore, translation and calibration equivalences were established. These two types of equivalence answered questions related to whether a construct can be measured by the same items and the units of measure are the same cross-culturally ([41] Mullen, 1995).

Results

Psychometric properties

Initial reliability. We first performed reliability analysis on each dimension of price perception for each individual sample. Although consumers' price perception is an established scale that has been reported to have a strong reliability in the original and cross-cultural studies ([37] Lichtenstien et al. , 1993; [31] Jin and Sternquist, 2003; [54] Sternquist et al. , 2004), the current study is exploratory in nature. Thus, Cronbach's α =0.60 was used as a cutoff ([46] Robinson et al. , 1991). Results revealed that, while reliabilities of the prestige sensitivity, the value consciousness, the sale proneness, and the price mavenism dimensions exceeded the acceptable level across samples (α =0.70) and were either similar or better on some dimensions as compared to previous cross-cultural studies (Tables I and II [Figure omitted. See Article Image.]), reliabilities of the price-quality schema (α ranged from 0.57 in Chinese sample to 0.73 in Thai sample) and the price consciousness (α ranged from 0.39 in Thai sample to 0.80 in Korean sample) dimensions did not meet the acceptable level for an established scale. An attempt was made through removing items that exhibited low item-to-total correlations to improve the reliability of these two dimensions of price across samples. The reliability of the price-quality schema dimension (after deleting one item, "You always have to pay a bit more for the best") met the cutoff of 0.60 across samples despite the fact that these reliabilities of the reduced scale for price-quality schema were lower than previous studies (Tables I and II [Figure omitted. See Article Image.]). However, an attempt to improve reliabilities for the price consciousness dimension across samples through removing items with low item-to-total correlations was not successful. Accordingly, the price consciousness measure was removed from subsequent analysis. In addition, since the objective of this study was to examine the applicability of consumers' price perception measures in an Eastern Asian context, a new scale related to the price consciousness measure was not developed to replace the original one that was removed. Thus, in the final analysis, the price consciousness dimension was eliminated, leaving 31 items and five dimensions of the consumers' price perception scale (i.e. price-quality schema (three items), price sensitivity (nine items), value consciousness (seven items), sale proneness (six items), and price mavenism (six items)) exhibiting acceptable reliability levels on each dimension across the samples.

 Dimensionality. As originally developed, consumers' price perception was predicted and reported to have a multidimensional structure ([37] Lichtenstein et al. , 1993). Thus, to examine the multidimensional structure of consumers' price perception in the current study, a set of CFA was executed using the maximum likelihood technique in each of the four samples. As a result, the 31-item five-factor structure of consumers' price perception for the Chinese sample revealed a $\chi2$ /df of 2.17 and a CFI of 0.90; for the Korean sample a $\chi2$ /df of 2.92 and a CFI of 0.90; for the Taiwanese sample a $\chi2$ /df of 2.94 and a CFI of 0.91; and for the Thai sample a $\chi2$ /df of 3.41 and a CFI of 0.88. While some researchers suggest a ratio of $\chi2$ to degrees of freedom that ranges from 1.00 to 5.00 and a CFI value greater than 0.90 indicate an acceptable fit to the data ([59] Wheaton et al. , 1977), others suggest a CFI value of 0.80 or higher as an adequate fit to the data ([11] Brown and Cudeck, 1993; [26] Hu and Bentler, 1999). In addition, a number of researchers have noted that it is usually more difficult to attain satisfactory fit indices when latent constructs contain a large number of items such as the one currently studied ([7] Bagozzi and Heatherton, 1994; [61] Wong et al. , 2003). Based on these criteria for fit indices, the results revealed that the level of fit

Table II. Descriptive statistics, internal reliability and results of CFA on 31-item 5-factor structure of price perception across four Eastern Asian countries

Dimensions	Country			
	China	Korea	Taiwan	Thailand
Price-quality schema (three items): mean values	4.17 (1.13)	3.92 (1.11)	3.90 (1.12)	3.79 (1.18)
∝	0.62	0.67	0.66	0.71
Composite reliability	0.63	0.69	0.68	0.71
Variance extracted (percent)	38.00	43.33	41.33	44.67
Prestige sensitivity (nine items): mean values	3.71 (1.03)	3.45 (1.07)	3.66 (1.08)	3.48 (1.08)
∝	0.83	0.87	0.88	0.85
Composite reliability	0.83	0.87	0.88	0.85
Variance extracted (percent)	36.00	42.67	44.67	40.22
Value consciousness (seven items): mean values	5.00 (0.89)	5.36 (0.95)	4.79 (0.95)	5.01 (0.99)
∝	0.75	0.83	0.83	0.80
Composite reliability	0.75	0.83	0.83	0.80
Variance extracted (percent)	31.43	41.43	41.29	37.57
Sale proneness (six items): mean values	4.71 (1.01)	4.20 (1.33)	4.72 (0.98)	4.48 (1.05)
∝	0.79	0.87	0.83	0.81
Composite reliability	0.79	0.88	0.83	0.81
Variance extracted (percent)	38.17	55.53	44.67	41.67
Price Mavenism (six items): mean values	3.38 (1.16)	3.81 (1.14)	3.78 (1.16)	3.57 (1.23)
∝	0.87	0.88	0.90	0.88
Composite reliability	0.87	0.88	0.89	0.88
Variance extracted (percent)	52.00	54.17	58.50	54.00

Notes: Stand deviation is in the parentheses

was satisfied for Chinese, Korean, and Taiwanese samples and was moderately satisfied for the Thai sample.

To uncover whether price perception is indeed a multidimensional construct across the four samples, we also compared the $\chi2$ figures to the degrees of freedom for the five-factor structure model with those of a two- and one-factor structure model in each of the four samples ([8] Bagozzi and Phillips, 1982). The one-factor structure model was specified by combining all five dimensions of price perception into a one-factor structure model. The two-factor structure model contained one factor composed of the two dimensions representing the positive role of price (price-quality schema and prestige sensitivity) and another for the negative role of price (i.e. combining all three dimensions of value consciousness, sale proneness, and price mavenism). We found that the five-factor structure model performed better (a significantly lower $\chi2$ relative to degrees of freedom) than the two- and one-factor structure models across the four samples. Thus, consumers in these four East Asian countries are likely to perceive price cues as a multidimensional construct, comprised of price-quality schema, prestige sensitivity, value consciousness, sale proneness, and price mavenism.

Convergent and discriminant validity. Convergent validity was assessed based on the criteria that the indicator's estimated path coefficient is statistically significant (i.e. t >1.98) on its respective underlying latent construct ([5] Anderson and Gerbing, 1988). All lambdas were 0.45 or higher across samples, except one item assessing price sensitivity for the Thai sample (λ =0.31, t =4.75) and one item assessing value consciousness for the Chinese sample (λ =0.25, t =3.20). In addition, [22] Fornell and Larker (1981) suggest a composite reliability of at least 0.60 as an indicator of convergent validity. Thus, convergent validity was established on each dimension of consumers' price perception across samples.

Discriminant validity was assessed by performing a confidence interval test for each pairwise correlation in each of these four samples. This test involves calculating a confidence internal of ±2 standard errors around the correlation between the factors and determining whether this interval includes a value of 1.0 ([5] Anderson and Gerbing, 1988). The highest pairwise correlation was between value consciousness and sale proneness (0.77 with a standard error of 0.05 found in the Taiwanese sample). This test provided evidence of discriminant validity. In addition, we performed the $\chi2$ difference tests on each of the estimated interfactor correlations (i.e. [straight phi]). For each correlation, we compared the differences of the values of $\chi2$ obtained from the constrained and unconstrained models. As a result, the value of $\chi2$ of the unconstrained model was significantly lower than the constrained model for each pairwise correlation across samples. Thus, discriminant validity was supported. In sum, the 31-item five-factor structure model of consumers' price perception revealed good psychometric properties across the four samples.

Testing hypotheses

Invariance models testing

Given the objective of the study in examining mean differences of the dimensionality of consumers' price perception across the four samples, it is important to establish measurement invariance across samples. We employed a MGCFA procedure, which allows one to examine whether the instrument used to measure the dimensions of a scale operates equivalently across

samples ([66] Byrne, 1994). MGCFA is a powerful and versatile technique used in examining measurement equivalence across groups ([53] Steenkamp and Baumgartner, 1998). To implement MGCFA, [53] Steenkamp and Baumgartner (1998) suggested that, if the goal of the study is to compare construct means across samples, the sequence of three steps of testing measurement invariance need to be followed (i.e. configural[arrow right]metric[arrow right]scalar) with at least the establishment of partial scalar invariance prior to comparing mean differences.

We first specified, for each sample, the model as consisting of five correlated first-order factors, corresponding to a three-item price-quality schema, nine-item prestige sensitivity, seven-item value consciousness, six-item sale proneness, and six-item price mavenism factor. Next, we estimated a hierarchy of multigroup measurement invariance models where the hierarchy begins with the unconstrained model (i.e. configural invariance model). As a result, the configural invariance model (Model 1) produced a $\chi 2$ (1,696) of 4,849.92, $\chi 2$ /df = 2.86, RMSEA of 0.092, TLI of 0.89, and CFI of 0.90, which indicates the same factor patterns across the four samples and the significance of all factor loadings to their respective latent construct. This model was used as a baseline model for comparison with a subsequent model (i.e. constrained model) in the hierarchy (Table III [Figure omitted. See Article Image.]).

In the next full metric invariance model, we constrained all factor loadings to be invariant across samples. The metric invariance model was conducted due to the likelihood that item measurements may not be invariant across samples. We then compared the results of the full metric invariance model (Model 2) with the configural model (Model 1). The full metric invariance model (Model 2) produced a $\chi 2$ (1,774) of 5,094.91, $\chi 2$ /df = 2.87, RMSEA of 0.094, TLI of 0.89, and CFI of 0.89 (Table III [Figure omitted. See Article Image.]). The increase in the $\chi 2$ of Model 2 over the Model 1 was significant ($\Delta\chi 2$ =244.99, Δdf = 78, p <0.05). Thus, the full metric invariance model did not exist. Although desirable, [53] Steenkamp and Baumgartner (1998) suggest that full metric invariance is difficult to achieve in practical applications, especially when dealing with more than two groups. Thus, it has been advocated to accept the partial metric invariance model. In assessing a partial measurement invariance model (Model 3), we relaxed some factor loadings, resulting in a $\chi 2$ (1,723) of 4,886.87, $\chi 2$ /df = 2.84, RMSEA of 0.092, TLI of 0.89, and CFI of 0.90. Results of Model 3 revealed a significant improvement in model fit as compared to Model 2. In addition, when compared with Model 1, the increase in the $\chi 2$ of Model 3 was not significant ($\Delta\chi 2$ =36.95, Δdf = 27, p >0.05). Thus, it was concluded that partial metric invariance had been achieved across samples.

As indicated, mean comparisons on the dimensionality of consumers' price perception can only be performed if it can be shown that the scales displayed at least partial scalar invariance ([53] Steenkamp and Baumgartner, 1998). If partial scalar invariance exists, then mean differences across samples can be attributed to true differences in observed items, not due to differences in interpretations of questionnaires. In an initial scalar invariance model (Model 4), we constrained the intercepts to be invariant across samples. Table III [Figure omitted. See Article Image.] revealed that Model 4 produced a $\chi 2$ (1,753) of 5,186.40, $\chi 2$ /df = 2.96, RMSEA of 0.095, TLI of 0.88, and CFI of 0.89 (Table III [Figure omitted. See Article Image.]). The increase in the $\chi 2$ of Model 4 over Model 3 was significant ($\Delta\chi 2$ =299.53, Δdf = 30, p >0.05). In addition, results of Model 4 revealed an inferior fit as compared to Model 3. Next, we examined a partial scalar invariance model (Model 5) by relaxing some intercepts, resulting in a $\chi 2$ (1,741) of 4,909.15, $\chi 2$ /df = 2.82, RMSEA of 0.092, TLI of 0.90, and CFI of 0.89 (Table II [Figure omitted. See Article Image.]). When comparing Model 5 with Models 1 and 3, the increase in the $\chi 2$ of Model 5 was not significant ($\Delta\chi 2$ =59.23, Δdf = 45, p <0.05; $\Delta\chi 2$ =22.28, Δdf = 18, p <0.05, respectively). In

Table III. Assessment of measurement invariance and latent mean differences across four Eastern Asian countries

Model specification		X^2	df	X^2 / df	RMSEA	CFI	TLI	ΔX^2 (df)	p-value
M1	Configural invariance	4,849.92	1,696	2.86	0.092	0.89	0.90		
M2	Full metric invariance	5,094.91	1,774	2.87	0.094	0.89	0.89	244.99 (78)[a]	< 0.001
M3	Partial metric invariance	4,886.87	1,723	2.84	0.092	0.89	0.90	36.95 (27)[a]	> 0.05
M4	Initial scalar invariance	5,186.40	1,753	2.96	0.095	0.89	0.88	336.48 (57)[a]	< 0.001
M5	Partial scalar invariance	4,909.15	1,741	2.82	0.092	0.89	0.90	59.23 (45)[a]	> 0.05

Note: [a] Compared to M1

addition, the results of Model 5 revealed a superior model fit as compared to Model 4. Therefore, it can be concluded that partial scalar invariance was achieved.

In sum, the results of measurement invariance testing and the evidence of partial scalar invariance led us to conclude that H1 was partially supported.

Mean comparison across samples

Given evidence of partial scalar invariance, we then proceeded to conduct latent mean comparisons using MGCFA as suggested by [53] Steenkamp and Baumgartner (1998) to examine whether the mean of each dimension of consumers' perceived price is different across the four samples. If so, which group's mean is different from the mean of the other groups? Unlike t -tests or analysis of variance (ANOVA) techniques in which the effects of standard deviation of latent means are involved in the calculations and may lead the results to be spurious, latent mean comparisons using MGCFA estimates and parcels out the effect of measurement errors in the calculation of the standard deviations of the latent construct ([65] Singh, 1995; [67] Williamson and Thomson, 1986).

Table IV [Figure omitted. See Article Image.] revealed that the various mean comparison results. It is clear that when comparing latent means for the price-quality schema dimension, the model yielded an inferior fit to the partial scalar invariance model (Model 5), $\Delta\chi2 =15.41$, $\Delta df = 3$, $p <0.01$. Thus, it is suggested that the mean of the price-quality schema dimension is significantly different across the four groups. To identify which group's mean differs from the others on this dimension of price, six pair-wise mean difference tests (e.g. China and Korea, China and Taiwan, etc.) were carried out and $\chi2$ fit values were compared. Results revealed that the Korea sample did not have a significantly different mean value when compared to the Taiwan sample ($\Delta\chi2 =1.55$, $\Delta df = 1$, $p >0.05$) or the Thailand sample ($\Delta\chi2 =1.99$, $\Delta df = 1$, $p >0.05$). However, the China sample did have a significantly different mean value when compared to the Korea ($\Delta\chi2 =4.25$, $\Delta df = 1$, $p <0.05$), Taiwan ($\Delta\chi2 =4.42$, $\Delta df = 1$, $p <0.05$), and Thailand ($\Delta\chi2 =6.02$, $\Delta df = 1$, $p <0.05$) samples. Thus, results imply that Chinese (M =4.17) participants are more likely to equate high price with high quality than their Korean (M =3.92), Taiwanese (M =3.90), and Thai (M =3.79) counterparts whereas Korean, Taiwanese, and Thai participants tend to display price-quality schema in a similar fashion.

With respect to the prestige sensitivity dimension, the model also yielded an inferior fit to Model 5 ($\Delta\chi 2 = 12.40$, $\Delta df = 3$, $p <0.01$). This suggests that the mean of the prestige sensitivity dimension was significantly different across the four groups. To identify which group's mean differs from the others on this dimension of price, the same procedure as mentioned above was carried out. Results revealed that the China and Taiwan samples did not have significantly different mean values ($\Delta\chi2 =1.88$, $\Delta df = 1$, $p >0.05$), and a similar result was found for the comparison between the Korea and Thailand samples ($\Delta\chi2 =1.26$, $\Delta df = 1$, $p >0.05$). However, the China sample did have a significantly different mean value when compared to the Korea ($\Delta\chi2 =4.77$, $\Delta df = 1$, $p <0.05$) and Thailand ($\Delta\chi2 =4.55$, $\Delta df = 1$, $p <0.05$) samples. In addition, the Taiwan sample did have a significantly different mean value when compared to the Korea ($\Delta\chi2 =4.03$, $\Delta df = 1$, $p <0.05$) sample. Thus, results imply that Chinese (M =3.71) and Taiwanese (M =3.66) participants are more likely to associate high price with status and prestige than their Thai (M =3.48) and Korean (M =3.45) counterparts. However, Chinese and Taiwanese participants tend to associate high price with status and prestige in the same way. In addition, Korean and Thai participants tend to display prestige sensitivity similarly.

Table IV. Cross-cultural comparisons of consumers' price perception scale means

Dimensions: consumers' price perception	M5 (Partial scalar invariance): based model mean values				ΔX^2 (df = 3): mean value invariant	*p*-Value
	China (*a*)	Korea (*b*)	Taiwan (*c*)	Thailand (*d*)		
Positive role of price						
Price-quality schema	4.17 *bcd*	3.92 *a*	3.90 *a*	3.79 *a*	15.41	< 0.01
Price sensitivity	3.71 *bd*	3.45 *ac*	3.66 *b*	3.48 *a*	12.40	< 0.01
Negative role of price						
Value conciousness	5.00 *bc*	5.36 *acd*	4.79 *abd*	5.01 *bc*	21.71	< 0.001
Sales proneness	4.71 *bd*	4.20 *acd*	4.72 *bd*	4.48 *abc*	31.22	< 0.001
Price mavenism	3.38 *bc*	3.81 *ad*	3.78 *a*	3.57 *b*	31.77	< 0.001

Notes: For any price perception scales, italicized letters next to any country's mean value indicate the other countries' mean values from which this mean significantly differs either at $\propto$ = 0.05, 0.01, or 0.001, as indicated by X^2 difference test.

In terms of the value consciousness dimension, the model also yielded an inferior fit to Model 5 ($\Delta\chi2$ =21.71, Δdf = 3, p <0.001). This suggests that the mean of the value consciousness dimension was significantly different across the four groups. To identify which group's mean differs from the others on this dimension of price, the same procedure was carried out. Results further revealed that the Korea sample did have significantly different mean values when compared to the Thailand ($\Delta\chi2$ =4.68, Δdf = 1, p <0.05), China ($\Delta\chi2$ =4.82, Δdf = 1, p <0.05) and Taiwan ($\Delta\chi2$ =6.74, Δdf = 1, p <0.01) samples. In addition, the China and Thailand samples did have significantly different mean values when compared to the Taiwan sample ($\Delta\chi2$ =5.01, Δdf = 1, p <0.05; $\Delta\chi2$ =4.86, Δdf = 1, p <0.05, respectively). However, Thailand and China did not have significantly different mean values ($\Delta\chi2$ =0.84, Δdf = 1, p >0.05). Thus, results imply that Korean (M =5.36) participants are more likely to be value conscious than their Thai (M =5.01), Chinese (M =5.00), and Taiwanese (M =4.79) counterparts. In addition, Thais and Chinese are more likely to be value conscious than their Taiwanese counterparts. However, Thais and Chinese tend to exhibit value consciousness in a similar manner.

Related to the sale proneness dimension, the model yielded an inferior fit to Model 5 ($\Delta\chi2$ =31.22, Δdf = 3, p <0.001). This suggests that the mean of the sale proneness dimension was significantly different across the four groups. Again, to identify which group's mean differs from the others on this dimension of price, the same procedure was carried out. Results further revealed that the Taiwan sample did have significantly different mean values when compared to the Thailand ($\Delta\chi2$ =6.14, Δdf = 1, p <0.05) and Korea ($\Delta\chi2$ =10.55, Δdf = 1, p <0.01) samples. In addition, the China sample did have significantly different mean values when compared to the Thailand ($\Delta\chi2$ =5.96, Δdf = 1, p <0.05) and Korea ($\Delta\chi2$ =10.03, Δdf = 1, p <0.01) samples. Furthermore, the Thailand sample did have significantly different mean values when compared to the Korea ($\Delta\chi2$ =4.34, Δdf = 1, p <0.05) sample. However, the Taiwan and China samples did not have significantly different mean values ($\Delta\chi2$ =1.12, Δdf = 1, p >0.05). Thus, results imply that while Taiwanese (M =4.72) and Chinese (M =4.71) participants are likely to be more prone to sales than their Thai (M =4.48) and Korean (M =4.20) counterparts, Taiwanese and Chinese participants tend to exhibit the same degree of sale proneness. In addition, Thai participants are also more likely to be prone to sales than their Korean counterparts.

Lastly, relative to price mavenism, the model also yielded an inferior fit to Model 5 ($\Delta\chi2$ =23.06, Δdf = 3, p <0.001). This suggests that the mean of the price mavenism dimension is significantly different across the four groups. Again, to identify which group's mean differs from the others on this dimension of price, the same procedure was carried out. Results further revealed that the Korea sample did have significantly different mean values when compared to the Thailand ($\Delta\chi2$ =4.72, Δdf = 1, p <0.05) and China ($\Delta\chi2$ =6.58, Δdf = 1, p <0.01) samples. In addition, the Taiwan sample also did have significantly different mean values when compared to the China ($\Delta\chi2$ =6.22, Δdf = 1, p <0.05) sample. However, the Korea and Taiwan samples did not have significantly different mean values ($\Delta\chi2$ =2.24, Δdf = 1, p >0.05). Also, the Thailand and China samples did not have significantly different mean values ($\Delta\chi2$ =1.83, Δdf = 1, p >0.05). Thus, results imply that while Korean (M =3.81) and Taiwanese (M =3.78) participants are more likely to perceive themselves as a source of information about products' prices available in the marketplace than their Thai (M =3.57) and Chinese (M =3.38) counterparts, Korean and Taiwanese participants tend to exhibit the same degree of price mavenism. In addition, Thai and Chinese participants also tend to display the same degree of price mavenism as well.

In sum, results of latent mean comparisons not only revealed some similarities, but also differences related to five dimensions of price (i.e. price-quality schema, prestige sensitivity, value

consciousness, sales proneness, and price mavenism) across the four Eastern Asian samples. Thus, H2 was partially accepted.

Discussion and conclusions

In response to several concerns ([27] Hubbard and Vetter, 1996; [28] Hui and Triandis, 1985; [29] Irvine and Carroll, 1980; [53] Steenkamp and Baumgartner, 1998; [58] Verhage et al. , 1990) related to the applicability of theories and/or techniques developed in western countries to other foreign countries, we examined the universality of consumers' price perception measures with evidence of the psychometric properties (i.e. dimensionality, reliability, and validity) using China, Korea, Taiwan, and Thailand samples. Through a series of CFA for the full range of items in each of these samples, the present findings illustrated that consumers' price perception was multidimensional (consisting of five dimensions: price-quality schema, prestige sensitivity, value consciousness, sale proneness, and price mavenism), reliable, and displayed convergent and discriminant validity across samples.

      Having established psychometric properties and demonstrated the partial scalar invariance of measurements and structural parameters, our results indicated that the measures of consumers' price perception with five dimensions (i.e. price-quality schema, prestige sensitivity, value consciousness, sale proneness, and price mavenism) appear to be useful in Eastern Asian cultures. Although the evidence of partial metric and partial scalar invariance suggests response bias that may have occurred due to the translation, interpretation, and meaning of particular scale items, the results of the study imply that ratings on the five dimensions of consumers' price perception can be meaningfully compared across cultures.

      The mean comparison tests revealed that, even though consumers from these four Eastern Asian countries may share similar cultures and values, they do differ significantly, to some extent, in terms of how they perceive price cues related to price-quality schema, prestige sensitivity, value consciousness, sale proneness, and price mavenism in the marketplace. Our results validate the previous findings, reporting that culture affects the way consumers in each country perceive price cues ([31] Jin and Sternquist, 2003; [64] Zhou and Nakamoto, 2001). Interestingly, mean values from Table IV [Figure omitted. See Article Image.] show that consumers from these four Eastern Asian countries seem to consistently rate value consciousness and sale proneness higher than other price perception dimensions (i.e. prestige sensitivity, price mavenism, and price-quality schema). Such findings reflect the fact that these four Eastern Asian countries have experienced a financial crisis that occurred in the mid 1990s and may have driven them to become more value conscious and prone to sales ([12] Business Korea , 1998), especially in a relatively undifferentiated retail environment where price is the primary basis of competition ([52] Srivastava and Lurie, 2001). According to [40] Moore et al. (2003), those who are value conscious or prone to sales are more likely to be found in any market that has gone through a recovery process from an economic downturn, which seems to be the case for these Eastern Asian markets. In addition, a social norm of frugality among Eastern Asian consumers may also have contributed to their value consciousness and sale proneness ([44] Redding, 1990). This norm may stem from the lack of social welfare outside of the family ([19] Fang, 1999). Accumulation of wealth within a family requires frugality on purchases of goods ([1] Ackerman and Tellis, 2001). Researchers also found that Koreans and Taiwanese display a strong preference for sales, including bargain hunting behavior ([30] Jacobs et al. , 1991; [31] Jin and Sternquist, 2003). This bargain hunting behavior

is commonly practiced in many Eastern Asian countries so it is not surprising to see that consumers from these four Eastern Asian countries rate these two dimensions of price higher than others.

From a managerial standpoint, we suggest that global firms expanding their markets to these countries need to adapt their pricing and promotional strategies accordingly. For example, while standardized marketing strategy related to price-quality schema may be applicable in Korean, Taiwanese, and Thai markets, a greater emphasis on high price as a signal of high quality may work better in the Chinese market. Likewise, the same advertisement depicting brand name, expensive apparel products that are associated with social status, authority, and prestige may be employed in both Chinese and Taiwanese markets, whereas the same ads may not be well perceived among Koreans and Thais. In addition, while ads portraying consumers discussing how price-related information can influence others' shopping decisions may be well accepted among Koreans and Taiwanese, the same ads may not work well in Thai and Chinese markets. Furthermore, although consumers from these four Eastern Asian countries perceive price cues to be related to value consciousness and sale proneness differently, global marketers who are looking to gain market share in these Asian markets may need to pay more attention to their strategy by focusing on images associated with value and promotional campaigns. Such strategy may be applicable to different types of retailers (e.g. hypermarkets, specialty stores, department stores) that are currently operating in these markets.

Limitation and future research direction

Although the findings from this study revealed a universality of consumers' price perception using samples from four Eastern Asian countries (i.e. China, South Korea, Taiwan, and Thailand), our samples used for this study were not representative of all the consumers in each country. Thus, the generalizability of the findings may be an issue. Although the young generation of consumers in these Eastern Asian countries may have more exposure to western business and marketing practices than other older generations, it is interesting to note that these younger Eastern Asian consumers tend to place higher emphasis on value consciousness and sale proneness than other price cues. Thus, it might be worthwhile to examine price perception between younger and older generations in these markets. Moreover, additional cross-cultural studies related to price perception may be applied to other Eastern Asian and/or other European countries to provide us a complete picture of the universality of price perception.

In our study, the price consciousness dimension displayed a low reliability in three samples (i.e. Korea, Taiwan, and Thailand). Such results are contradictory to the results of previous cross-cultural studies ([38] McGowan and Sernquist, 1998; [40] Moore et al. , 2003; [54] Sternquist et al. , 2004) which reported an acceptable reliability of this measure (α >0.60). However, the problematic issue of the price consciousness measure in the present study seems to be in line with previous cross-cultural studies related to the applicability of marketing measures when the majority of the items assessing the construct deal with Likert-type items designed to be reverse-scored, i.e. four out of five items assessing price consciousness were negative items ([61] Wong et al. , 2003). In a study of the cross-cultural invariance of the materialism scale conducted by [61] Wong et al. (2003), they revealed that reverse-scored items posed challenges in cross-cultural application of the scales among Eastern Asian participants (e.g. Singaporean, Thai). Thus, additional work is still needed in developing and testing the price consciousness scale. Also, additional work may be warranted related to items assessing the price-quality schema, suggesting

the revision of one item, "You always have to pay a bit more for the best." The low level of reliability related to this particular item suggests a problem with translation from English to other languages.

Future researchers may want to examine how consumers perceive price cues related to different product and retailer choices. Particularly with the rising expansion of foreign discounters (e.g. Carrefour, Tesco-Lotus) into these Eastern Asian markets, retailers may find that their consumer base in Eastern Asia perceives price differently than the consumer base in their home territory. We further suggest that future research may want to examine the differences in price cues related to gender in the apparel context. Females, as opposed to males, are believed to be more sensitive to issues of dress and appearances ([15] Davis, 1992; [51] Shim and Bickle, 1994; [60] Wolf, 1991) and more involved with clothing ([32] Kapferer and Laurent, 1985/1986); thus, we believe that females might respond differently than males to the price cues associated with clothing. The examination of gender differences regarding price perception in different cultures is certainly a worthwhile study.

References

1. Ackerman, D. and Tellis, G. (2001), "Can culture affect prices? A cross-cultural study of shopping and retail prices", Journal of Retailing, Vol. 77 No. 1, pp. 57-82.

2. Albers-Miller, N.D. and Gelb, B.D. (1996), "Business advertising appeals as a mirror of cultural dimensions: a study of 11 countries", Journal of Advertising, Vol. 25 No. 4, pp. 57-70.

3. Alford, B.L. and Biswas, A. (2002), "The effects of discount level, price consciousness and sale proneness on consumers' price perception and behavioral intention", Journal of Business Research, Vol. 55 No. 9, pp. 775-83.

4. Alsamdan, A-R.B. (1996), "The effect of price on a product's perceived quality: the case of shopping goods", unpublished doctoral dissertation, Syracuse University, New York, NY.

5. Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modeling in practice: a review and recommended two step approach", Psychological Bulletin, Vol. 103, pp. 411-23.

6. Arnott, D., Jirachiefpattana, W. and O'Donnell, P. (2007), "Executive information systems development in an emerging economy", Decision Support System, Vol. 42 No. 4, pp. 2078-84.

7. Bagozzi, R.P. and Heatherton, T.F. (1994), "A general approach to representing multifaceted personality constructs: application to state self-esteem", Structural Equation Modeling, Vol. 1 No. 1, pp. 35-67.

8. Bagozzi, R.P. and Phillips, L.W. (1982), "Representing and testing organizational theories: a holistic construal", Administrative Science Quarterly, Vol. 27 No. 3, pp. 459-89.

10. Berry, J.W. (1980), "Introduction to methodology", The Handbook of Cross-Cultural Psychology, Vol. 2, Allyn and Bacon, Boston, MA, pp. 1-29.

11. Brown, M.W. and Cudeck, R. (1993), "Alternative ways of assessing model fit", in Bollen, K.A. and Long, J.S. (Eds), Testing Structural Equation Model, Sage, Newbury Park, CA, pp. 136-62.

12. Business Korea (1998), "Less is more", Business Korea, Vol. 15 No. 2, p. 24.

13. Byrne, B.M. and Watkins, D. (2003), "The issue of measurement invariance revisited", Journal of Cross-cultural Psychology, Vol. 34 No. 2, pp. 155-75.

14. Clark, T. (1990), "International marketing and national character: a review and proposal for an integrative theory", Journal of Marketing, October, pp. 66-79.

15. Davis, F. (1992), Fashion, Culture, and Identity, University of Chicago Press, Chicago, IL.

16. Dawar, N. and Parker, P. (1994), "Marketing universals: consumers' use of brand name, price, physical appearances, and retailer reputation as signals of product quality", Journal of Marketing, Vol. 58 No. 2, pp. 81-95.

17. de Mooij, M. (2000), "The future ins predictable for international marketers: converging incomes lead to diverging consumer behaviour", International Marketing Review, Vol. 17 No. 2, pp. 103-13.

18. Douglas, S., Morrin, K.A. and Craig, C.S. (1994), "Cross-national consumer research traditions", in Laurent, G., Lilien, G. and Pras, B. (Eds), Research Traditions in Marketing, Klewers Academics, Boston, MA, pp. 289-306.

19. Fang, T. (1999), Chinese Business Negotiation Style, Sage, Thousand Oaks, CA.

20. Feather, N.T. (1997), "Values, national identification and favouritism towards the in-group", British Journal of Social Psychology, Vol. 33 No. 4, pp. 467-76.

21. Feick, L. and Price, L. (1987), "The market maven: diffuser of marketplace information", Journal of Marketing, Vol. 51 No. 1, pp. 83-97.

22. Fornell, C. and Larker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", Journal of Marketing Research, Vol. 18 No. 1, pp. 39-50.

23. Helegeson, J.G. and Beatty, S.E. (1985), "An information processing perspective on the internationalization of the price stimuli", Advances in Consumer Research, Vol. 12, pp. 91-6.

24. Hofstede, G. (1991), Cultures and Organizations, McGraw-Hill, London.

25. Hofstede, G. and Bond, M.H. (1988), "The Confucius connection: from cultural roots to economic growth", Organizational Dynamics, Vol. 16 No. 4, pp. 5-21.

26. Hu, L. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", Structural Equation Modeling, Vol. 6 No. 1, pp. 1-55.

27. Hubbard, R. and Vetter, D.E. (1996), "An empirical comparison of published replication research in accounting, economics, finance, and management and marketing", Journal of Business Research, Vol. 35 No. 2, pp. 153-64

28. Hui, C.H. and Triandis, H.C. (1985), "Measurement in cross-cultural psychology: a review and comparison strategies", Journal of Cross-Cultural Psychology, Vol. 16 No. 2, pp. 131-52.

29. Irvine, S.H. and Carroll, W.K. (1980), "Testing assessment across cultures: issues in methodology and theory", in Triandis, H.C. and Berry, J.W. (Eds), Handbook of Cross-cultural Psychology, Vol. 2, Allyn & Bacon, Boston, MA.

30. Jacobs, L., Keown, C., Worthley, R. and Ghymm, K. II (1991), "Cross-cultural color comparisons: global marketers beware", International Marketing Review, Vol. 8 No. 3, pp. 21-30.

31. Jin, B. and Sternquist, B. (2003), "The influence of retail environment on price perceptions: an exploratory study of US and Korean students", International Marketing Review, Vol. 20 No. 6, pp. 643-60.

32. Kapferer, J.N. and Laurent, G. (1985/1986), "Consumer involvement profiles: a new practical approach to consumer involvement", Journal of Advertising Research, Vol. 25 No. 6, pp. 48-56.

33. Kim, J-K., Kim, Y. and Lee, C. (2006), "Trade, investment and economic interdependence between South Korea and China", Asian Economic Journal, Vol. 20 No. 4, pp. 379-92.

34. Levy, S. (1959), "Symbols for sale", Harvard Business Review, Vol. 37, pp. 117-24.

36. Lichtenstein, D.R., Netemeyer, R.G. and Burton, S. (1990), "Distinguishing coupon proneness from value consciousness: an acquisition-transaction utility theory perspective", Journal of Marketing, Vol. 54 No. 3, pp. 54-67.

37. Lichtenstein, D.R., Ridgway, N.M. and Netemeyer, R.G. (1993), "Price perceptions and consumer shopping behavior: a field study", Journal of Marketing Research, Vol. 30 No. 2, pp. 234-45.

38. McGowan, K.M. and Sernquist, B. (1998), "Dimensions of price as a marketing universal: a comparison of Japanese and US consumers", Journal of International Marketing, Vol. 6 No. 4, pp. 49-65.

39. Monroe, K.B. (1990), Pricing: Making Profitable Decisions, 2nd ed., McGraw-Hill, New York, NY.

40. Moore, M., Kennedy, K.M. and Fairhurst, A. (2003), "Cross-cultural equivalence of price perceptions between US and Polish consumers", International Journal of Retail & Distribution Management, Vol. 31 No. 5, pp. 268-79.

41. Mullen, M. (1995), "Diagnosing measurement equivalence in cross-national research", Journal of International Business Studies, Vol. 26 No. 3, pp. 573-96.

42. Muscat, R. (1994), The Fifth Tiger: A Study of Thai Development Policy, M.E. Sharpe, Armonk, NY.

43. Poortinga, Y.H. and Malpass, R.S. (1986), "Making inferences from cross-cultural data", in Lonner, W.J. and Berry, J.W. (Eds), Field Methods in Cross-cultural Research, Sage, Beverly Hills, CA, pp. 17-46.

44. Redding, S.G. (1990), The Spirit of Chinese Capitalism, Walter de Gruyter, Berlin.

45. Richins, M.L. (1994), "Special possessions and the expression of material values", Journal of Consumer Research, Vol. 21, pp. 522-33.

46. Robinson, J.P., Shaver, P.R. and Wrightsman, L.S. (1991), "Criteria for scale selection and evaluation", in Shanver, P.R. and Wrightsman, L.S. (Eds), Measures of Personality and Social Psychological Attitudes, Academic Press, San Diego, CA.

47. Rokeach, M. (1973), The Nature of Human Values, The Free Press, London.

48. Roth, M.S. (1995), "The effects of culture and socioeconomics on the performance of global brand image strategies", Journal of Marketing Research, Vol. 32, pp. 163-75.

49. Schramm, J. (2006), "Overseas attraction", HR Magazine, December, p. 128.

50. Shao, A.T., Raymond, M.A. and Taylor, C. (1999), "Shifting advertising appeals in Taiwan", Journal of Advertising Research, Vol. 39 No. 6, pp. 61-9.

51. Shim, S. and Bickle, M.C. (1994), "Benefit segments of the female apparel market: psychographics, shopping orientations and demographics", Clothing and Textiles Research Journal, Vol. 12 No. 2, pp. 1-12.

52. Srivastava, J. and Lurie, N. (2001), "A consumer perspective on price-matching refund policies: effects on price perceptions and search behavior", Journal of Consumer Research, Vol. 28 No. 2, pp. 296-312.

53. Steenkamp, J-B.E.M. and Baumgartner, H. (1998), "Assessing measurement invariance in cross-national consumer research", Journal of Consumer Research, Vol. 25 No. 1, pp. 78-90.

54. Sternquist, B., Byun, S-E. and Jin, B. (2004), "The dimensionality of price perceptions: a cross-cultural comparison of Asian consumers", International Review of Retail, Distribution & Consumer Research, Vol. 14 No. 1, pp. 83-100.

55. Tai, S.H.C. (1997), "Advertising in Asia: localized or regionalize?", International Journal of Advertising, Vol. 16 No. 1, pp. 48-61.

56. Thaler, R. (1985), "Mental accounting and consumer choice", Marketing Science, Vol. 4 No. 3, pp. 199-200.

57. Tse, D.K., Belk, R.W. and Zhou, N. (1989), "Becoming a consumer society: a longitudinal and cross-cultural content analysis of print ads from Hong Kong, the People's Republic of China, and Taiwan", Journal of Consumer Research, Vol. 15 No. 2, pp. 457-72.

58. Verhage, B., Yavas, U. and Green, R.T. (1990), "Perceived risks: a cross-cultural phenomenon?", International Journal of Research in Marketing, Vol. 7 No. 4, pp. 297-303.

59. Wheaton, M., Muthen, B., Alwin, D.F. and Summer, G.F. (1977), "Assessing reliability and stability panel models", Sociological Methodology, Vol. 8, pp. 84-136.

60. Wolf, N. (1991), The Beauty Myth, Chatto & Windus, London.

61. Wong, N., Rindfleisch, A. and Burroughs, J.E. (2003), "Do reverse-worded items confound measures in cross-cultural consumer research? The case of the material values scale", Journal of Consumer Research, Vol. 30 No. 1, pp. 72-91.

62. Zeithaml, V.A. (1984), "Issues in conceptualizing and measuring consumer response to price", in Kinnear, T.C. (Ed.), Advances in Consumer Research, Vol. 11, Association for Consumer Research, Provo, UT, pp. 612-6.

63. Zeithaml, V.A. (1988), "Consumer perceptions of price, quality and value: a means-end model and synthesis of evidence", Journal of Marketing, Vol. 52 No. 3, pp. 2-22.

64. Zhou, Z. and Nakamoto, K. (2001), "Price perception: a cross-national study between American and Chinese young consumers", in Gilly, M.C. and Meyers-Levy, J. (Eds), Advances in Consumer Research, Vol. 28, Association for Consumer Research, Provo, UT, pp. 161-7.

65. Singh, J. (1995), "Measurement issues in cross-national research", Journal of International Business Studies, Third Quarter, pp. 597-619.

66. Byrne, B.M. (1994), "Testing for the factorial validity, replication, and invariance of a measuring instrument: a paradigmatic application based on the Maslach burnout inventory", Multivariate Behavioral Research, Vol. 29, pp. 289-311.

67. Williams, R. and Thomson, E. (1986), "Normalization issues in latent variable modeling", Sociological. Methods & Research, Vol. 15 Nos 1/2, pp. 24-43.

Further Reading

1. Bentler, P.M. (1995), EQS: Structural Equations Program Manual, Multivariate Software, Encino, CA.
2. Leszinski, R. and Marin, M. (1997), "Setting value, not price", The McKinsey Quarterly, Vol. 1, pp. 98-115.