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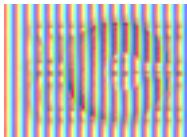
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Marketing high-tech products in emerging markets: the differential impacts of country image and country-of-origin's image

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Abstract

Purpose – The purpose of this paper is to investigate consumers' behavior in emerging countries. In particular, it simultaneously assesses the effects of country image and country-of-origin's image on consumers' uncertainty, aspiration and purchasing intention of high-tech products.

Design/methodology/approach – Based on a sample of 479 Chinese consumers, structural equation modeling was used to test the hypothesized relationships.

Findings – Results show that compared to country-of-origin, country's image is a more effective tool in reducing consumers' uncertainty and increasing their aspiration to purchase high technology products. Contrary to country's image, however, country-of-origin's image plays a considerable role in influencing the product image.

Research limitations/implications – The major role of a country-of-origin is to influence product image while that of country's image is to increase consumers' aspiration to acquire its product and diminish their uncertainty and hesitation about buying the product. In other words, the image of a product is much more prone to the effect of country-of-origin's image than country's image.

Practical implications – Marketers should understand that consumers in emerging countries are ambivalent when they consider the purchase of complex products. On the one hand, highlighting the country image can contribute in alleviating consumers' uncertainty and increasing their aspiration to purchase sophisticated and complex products. On the other hand, promoting the country-of-origin's image can prove an effective means to improve product image in emerging markets.

Originality/value – Most of the previous studies have focused on one of the two concepts (i.e. country's image or country-of-origin), interchangeably used both of them, and relatively ignored their simultaneous impact on consumer behavior. The present study has tried to address this shortfall through simultaneously studying their influences on product image and consumer purchase intention; and highlighting their differential impacts.

Keywords Country image, Country-of-origin's image, Product image, Emerging markets, Consumers' uncertainty and aspiration, Consumers, High-tech products, Purchase intention

Paper type Research paper

An executive summary for managers and executive readers can be found at the end of this article.

1. Introduction

The country-of-origin's image (COO) is often considered a factor likely to influence consumers, through reducing the complexity of their purchasing decisions (Papadopoulos and Heslop, 2002). Likewise, the country's general image (CI), though often interchangeably used with country-of-origin (e.g. Heslop *et al.*, 2008; Koubaa, 2008; Roth and Romeo, 1992; Wang and Yang, 2008), was also found to influence

consumers' purchase decisions (Martin and Eroglu, 1993). Studies on the country's effects have helped multinationals in developing and tailoring their global marketing strategies. As Kim and Chung (1997) suggested, research on the impact of the country-of-origin provides some guidelines for multinationals on how to compete effectively in a global market. However, most of previous studies have focused on recognized advanced countries, such as Japan, the US or Western Europe; that produce high quality products and have well established brands (Kaynak and Kara, 2001). Countries that have been unable to distinguish themselves in the production or marketing of their national products have been relatively ignored. For this reason, the present study intends to concurrently examine the role of country image and country-of-origin's image in influencing consumers' purchase intention of products coming from a country with little differentiation and reputation in a particular industry. A particular focus will be attributed to the attitude of Chinese consumers towards Canadian high-tech products. The choice of Canada and China are explained by the following rationale. Unlike Japan, the USA, and Western Europe, and despite its

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good image and the development of its technological industry (Cyr and Re, 1999), few refer to Canada as a producer of technology or even other consumer goods. Thus, Canada has relatively failed to capitalize on its image and build a reputation in a specific industry (e.g. high-tech industry) (Papadopoulos *et al.*, 1994). This fact is not helping Canadian firms that are concerned with their growth strategies and constantly seek market opportunities, particularly in emerging countries such as China (Stanger and Hemerling, 2005). However, to succeed in the Chinese market; companies must demonstrate certain competitiveness not only with local Chinese firms but also with the increasing number of multinational rivals that are targeting China. In line with this opinion, Chen and Periera (1999) stated that multinationals compete for customers in the newly opened market economies and face rivalry from different countries of origin. To take advantage of opportunities in the emerging markets, it is essential for multinationals to stand out among competitors. Amongst competitive advantages favoring developed countries, one can mention the impact of country's effect (i.e. COO and CI). This is particularly true in the case of high-tech products since consumers tend to appreciate complex and sophisticated products from industrialized countries known for their innovations and leading position in the high-tech sector. However, consumers in emerging countries are likely to be torn between their risk aversion and their aspiration to purchase high-tech products. Therefore, in attempt to contribute to the body knowledge of country's effect, the present study aims at simultaneously investigating the roles that country's image and country-of-origin's image may play in alleviating consumers' uncertainty and increasing their aspiration to acquire newly introduced high-tech products. In particular, the current research intends to respond to the following questions:

- What are the differential impacts of the country's image and the country-of-origin's image on consumers' from emerging markets?
- How do the country's image and the country-of-origin's image influence consumers' uncertainty, aspiration, and ultimately their purchase intention of newly introduced high tech products?

To respond to these questions, a review of the literature is first presented. In particular, our review aims at highlighting consumers' uncertainty and aspiration on one hand and the roles played by the country's image and the country-of-origin's image in explaining consumers' behavior. In the same section, our research hypotheses are developed and a model to understand the different relationships amongst the variables is proposed. Subsequently, an empirical investigation tests the research hypotheses. Data analysis and a discussion of the findings are also exposed in this section. Finally, the paper presents the implications of the results and the limitations of the research.

2. Literature review and research hypotheses

2.1 Consumers' uncertainty

Dowdles (1997) and Baillargeon (2003) have demonstrated that the level of consumers' familiarity with a specific product may greatly affect their willingness or reluctance to adopt products. According to Mitchell and Papavassiliou (1999), some of the options that consumers may have when their uncertainty (i.e. confusion) reaches a high level are: to postpone the purchase of the product or abandon it, and to

seek additional information. For this reason, Gardner *et al.* (2000) suggest that companies marketing high technology products should take into account consumers' uncertainty about their need for such products. They stated that uncertainty about high technology products can be broken down into three elements. The first element of uncertainty is the technology itself, the second is the volatility of the competition (Mohr, 2000), and the third is the uncertainty of the market. The latter comes from the fact that consumers are not used to the attributes of the new technology and do not yet display the needs that are supposed to be met by the product under consideration (Gardner *et al.*, 2000; Kosnik and Moriarty, 1989; Mohr, 2000). Consumers must experience a long process of adaptation before purchasing the technology (Mohr, 2000). This process can produce a delay in the adoption of innovation and slow down a firm's performance (Mohr, 2000). Thus, for a complex product, consumers' purchase intention constitutes a long cognitive process (Häubl, 1996). This process includes motivations to acquire information on the product, to seek information on other similar products and to test and try the product. In line with this view, Leek and Kun (2006) have observed this behavior when investigating Chinese consumers' purchase intention of a computer. They reported that 41.1 percent of Chinese consumers would make a considerable effort to search for information and 60.1 percent would be willing to spend extra time shopping to get more information on the product. This might be explained by their fear of technology. Higgins and Shanklin (1992) used the term "technological fear" to explain consumers' reluctance in adopting high-tech products. They identified four types of technological fear: fear of technological complexity, fear of rapid obsolescence, fear of social rejection, and fear of physical harm. The lack of standards of comparison in the industry can also further delay adoption of the technology (Mohr, 2000). In other words, in order to speed up the adoption of a new technological product, a company should reduce consumers' uncertainty and their risk aversion (Mohr, 2000; White *et al.*, 2000). Therefore, we put forward the following hypotheses:

- H1. The higher consumers' perceived image of high technology products, the lower their uncertainty to acquire those products.
- H2. The higher consumers' uncertainty to acquire high technology products, the lower their purchase intention of those products.

When considering the purchase of complex products, the influence of the country-of-origin seems to be very important (Ahmed *et al.*, 2002). According to Cerviño *et al.* (2005), one of the first definitions reported in the literature describe the country-of-origin as a snapshot, a representation and a cliché that business people and consumers link to the products of a particular country. Authors such as Lantz (1998) and Ahmed *et al.* (2005) depict the concept of a country-of-origin as being the result of the country's stereotypes. According to them, stereotypes affect the way in which people categorize information. The effect of the country-of-origin may vary according to the degree of complexity of the product. For instance, Ahmed and d'Astous (2001) argue that the effect of the country-of-origin is greater when evaluating automobiles than videocassettes. Ahmed *et al.* (2005) add that there is a relationship between uncertainty and the level of economic development of the country-of-origin. According to these authors, consumers prefer to purchase complex products

coming from industrialized countries, thus reducing the perceived risk of the product. The next hypothesis considers the relationship between country-of-origin and consumer uncertainty:

H3. The higher the country-of-origin's image, the lower consumers' uncertainty to acquire its high technology products.

Another extrinsic factor that seems to contribute in influencing consumers' uncertainty is the country image. Country image and Country-of-origin are two distinct concepts and both are measured differently (Martin and Eroglu, 1993). Country image is defined as "the total of all descriptive, inferential and informational beliefs one has about a particular country" (Martin and Eroglu, 1993, p. 193). Nagashima (1970, p. 68) gives a more detailed definition of the country image:

It is the picture, the reputation, the stereotype that businessmen and consumers have of a specific country. This image is created by such variables as representative products, national characteristics, economic and political background, history, and traditions.

Despite that some studies have demonstrated that country image is unidimensional (e.g. Roth and Romeo, 1992), others have identified that the construct is multidimensional and covers different aspects such as innovativeness, workmanship, economic development, etc. Specifically, Laroche *et al.* (2005) conclude that country image comprises a cognitive, affective, and a conative component. Significant events in a given country, whether favorable or unfavorable, can improve or harm the country's image (Papadopoulos and Heslop, 2002). The 1988 Olympic Games in South Korea helped improve that country's image (Jaffe and Nebenzahl, 1993). However, the 1989 events in Tiananmen Square in China (Beijing) hurt the country's image (Papadopoulos and Heslop, 2002). Previous studies attributed therefore different aspects to country image by referring to the country's political image, economic image, environmental image, and so on.

International managers were called on to assess the extent to which country image may affect product quality and consumers' purchase behavior (Martin and Eroglu, 1993). This applies also for the case of high-tech products. Indeed, when consumers want to purchase products possessing complex characteristics that are difficult to evaluate, they consider extrinsic attributes (Yong, 1996), such as the country image (Laroche *et al.*, 2005). Thus, a link might exist between the image of a country and consumer uncertainty. More precisely, a favorable image of a country diminishes consumer uncertainty about products coming from this country. Leifeld (1993) confirms this view and reports that country image considerably influences consumers' risk evaluation and their likelihood of purchase. Hence, the next hypothesis stipulates that:

H4. The higher the country's image, the lower consumers' uncertainty to acquire its high technology products.

2.2 Consumers' aspiration

Another phenomenon that characterizes consumption of complex (and luxury) products, particularly in emerging countries, is consumers' aspiration to acquire goods that reflect their success. According to Miller (1976, p. 67), consumers' level of aspiration is defined as "a system of expectancies that consists of what can be, what ought to be,

and what probably will be". He added that the aspiration level is positively related to one's success. Likewise, Olshavsky and Miller (1972) reported that the stronger one enjoys success, the higher is his level of aspiration. Consumers' aspiration to buy a product reflects a situation where several factors (such as, demographic variables, brand knowledge, attitudes towards a product, etc.) contribute to affecting their purchase behaviors. Since these factors change rapidly, companies are encouraged to carry out continuous research to monitor consumers' aspiration and ultimately their purchase decision. For example, in the past two decades, Chinese consumers have enjoyed a remarkable improvement in their standard of living resulting in an increasingly desire for branded products (Cui and Liu, 2001). Changes in the local market conditions of China stimulate consumers' aspiration to have a better lifestyle through the acquisition of prestigious products (McEwen *et al.*, 2006; O'Cass and Choy, 2008), particularly electronic and information technology ones (Chang and Cheng, 2002). Thus, Chinese consumers are likely to become increasingly avid to acquire high technology products that may satisfy their need to belong to a certain social class and reflect their success in life. This is in line with the opinion of Hamann *et al.* (2007) who concluded that people purchase high technology products primarily for prestige rather than to satisfy particular needs. Consumers' intention to buy prestigious brands to reflect status is also observed in other Asian countries such as Singapore. In their study, Kwon *et al.* (1999) could identify a sizable segment of Singaporeans classified as "aspirers". These were reported to be early adopters of new ideas and products, materialistic, like to receive attention, and have a desire for status. This discussion leads to the following hypotheses:

H5. The higher consumers' perceived image of high tech products, the higher their aspiration to acquire those products.

H6. The higher consumers' aspiration to acquire high tech products, the higher their purchasing intention of those products.

Cerviño *et al.* (2005), as well as Laroche *et al.* (2005), stipulate that consumers' attitude towards a product tends to be positive when their attitude towards the country-of-origin is favorable. Papadopoulos and Heslop (2002) add that while the image of a particular product may be weaker or stronger than that of the country-of-origin, both of them evolve in the same direction. As an example, they refer to French fashion that is considered better than Japanese fashion. However, when a consumer has a more favorable image of Japan, he/she tends to think that Japanese fashion is superior.

Johansson *et al.* (1985) and Laroche *et al.* (2005) report that the impact of the country-of-origin can be very influential when consumers do not know the product. For example, because of their lack of experience with (and information on) foreign products, consumers from emerging and developing countries tend to place confidence in the country-of-origin to make their product evaluation (Yong, 1996). Additionally, consumers from developing and emerging countries tend to perceive products coming from the developed world as of high quality. Confirming this opinion, Cui and Liu (2001) stated that in order to attract the upper end class of Chinese consumers, multinationals should emphasize the quality and the prestige of "foreign made" products.

It is also argued that it is hard to sell complex products (e.g. computers, smart phones, etc.) solely through promoting tangible attributes (Crowley and Zajas, 1996). Thus, in selling high technology products, extrinsic and intangible attributes count as much as intrinsic and tangible ones. Confirming this view, Lantz (1998) reported that extrinsic attributes provoke a certain type of consumer behavior like the willing to buy or not to buy a product. It is then possible to believe that a good country's image and a positive attitude towards the product's country-of-origin may have an influence on consumers' aspiration. Therefore, the following hypotheses serve to verify the impact of country's image and COO on consumers' aspiration to purchase high technology products:

- H7.* The higher the country-of-origin's image, the higher consumers' aspiration to acquire its high technology products.
- H8.* The higher the country's image, the higher consumers' aspiration to acquire its high technology products.

Additional hypotheses were considered in the present study. First, two positive relationships between country-of-origin and product image (*H10*) and product image and consumers' purchase intention (*H11*) were included in the research model. These relationships have been substantially highlighted by several studies in the field (e.g. Ahmed *et al.*, 2005; Laroche *et al.*, 2005; Lee and Ganesh, 1999). Second, a relationship between a country's image and a product image is hypothesized. This relationship was not thoroughly investigated in the literature; however one can assume that the effect of country's image on product image might be similar to that of country-of-origin. Indeed, the relationship between a country's image and the product can be explained by the way consumers tend to categorize knowledge in their memories (Lee and Ganesh, 1999). Consumers tend to use primary information before employing more complex information. Information concerning a country is considered primary information compared to that concerning the product itself. Subsequently, when consumers positively evaluate a country, their evaluation of products coming from that country tends to be positive (Lee and Ganesh, 1999). Additionally, Lantz (1998) contends that a country may have a certain image for some products but not necessarily for all other categories of products. In other words, there is a relationship between a country's image and the product image. For instance, a high technology product will be perceived positively if it is promoted as a brand coming from a country (like Japan) with a good image/reputation in the production of this product. Consequently, we can posit the following hypotheses:

- H9.* The higher the country's image, the higher the image of its high technology products.
- H10.* The higher the country-of-origin's image, the higher the image of its high technology products.
- H11.* The higher the perceived image of the technological product, the higher consumers' purchase intention of that product.

Based on our review of the literature, we propose to model the relationships identified amongst the relevant variables of the current research (Figure 1).

3. Method

3.1 Research design

In order to implement this study, one branded high technology product from an industrialized country (BlackBerry from Research In Motion (RIM), Canada) and one emerging market where this product was launched (China) were chosen. The rationale for this selection and design is presented hereafter.

First, Canada, despite its general good image (e.g. an economically developed country), does not enjoy a specific "marketing identity" (e.g. Papadopoulos and Heslop, 2000) or have the reputation of a high-tech country, like Japan, Germany and the USA. Therefore, the choice of this country can help determining the differential impacts that country's image and country-of-origin's image might have on consumers' purchase intention.

Second, there are numerous studies examining Canadian consumers' attitude towards foreign products (Ahmed and d'Astous, 2001; Ahmed *et al.*, 2002; Baillargeon, 2003) while studies examining foreign consumers' attitude to Canadian products are less common (Ahmed and d'Astous, 2004).

Third, China represents one of the most attracting and promising emerging markets. In particular, the Chinese market is recording a remarkable growth in the sector of information and communication technology (Chang and Cheng, 2002).

Fourth, Canada's exports to China, including high-tech products, have increased significantly in recent years (Roy, 2004). Therefore, examining Chinese consumers' perceptions of Canadian high-tech products seems to be a proper choice for our research.

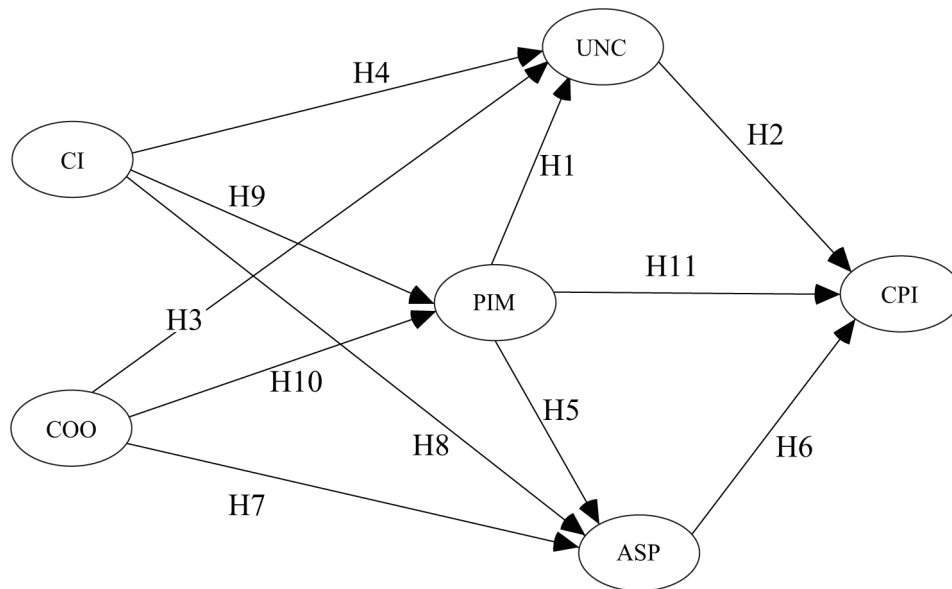
Last but not least, the current study coincides with Research In Motion's decision to launch its BlackBerry product (wireless service) in China, in conjunction with its partner China Mobile Communication Corporation (Babbage, 2006). Given its recent introduction in the Chinese market, the BlackBerry could be considered an ideal product to test the effect of country image and country-of-origin's image on consumers' uncertainty and aspiration to purchase Canadian high technology products.

3.2 Questionnaire and measurement scales

The design of the questionnaire was inspired from previous studies on country image and country-of-origin (Roth and Romeo, 1992). In total, seven sections were considered. The first two bear on Canada's overall image and Canada's image in relation to high-tech products. The next four sections measure the product (BlackBerry cell phone) image, consumer uncertainty avoidance, consumer aspiration, and purchase intention. Finally, the last section of the questionnaire concerns respondents' demographic variables.

To assess Canada's image (i.e. CI), 14 items were mainly selected and adapted from the instruments of Laroche *et al.* (2005) and Martin and Eroglu (1993). The second section of the questionnaire refers to Canada's image as a manufacturer of high technology products (i.e. COO); five items were chosen for this section and derived from previous studies by Häubl (1996), Darling and Wood (1990), and Laroche *et al.* (2005). To further enhance understanding of the following four sections of the questionnaire (i.e. sections related to product image, uncertainty, aspiration, and purchase intention), a short text informing the respondents about the company (RIM) and the product concerned (BlackBerry cell

Figure 1 The differential impacts of country's image and country-of-origin's image on consumers' uncertainty, aspiration and purchase intention of high technology products



phone) was introduced. Concerning the section on product image, the research of Cerviño *et al.* (2005), Laroche *et al.* (2005), Lee and Ganesh (1999), and Yong (1996) were used. Four items were selected to measure the BlackBerry's image. For the uncertainty variable, the current study considered the research of Dholakia (2001), which measured consumers' risk perception, and that of Ahmed *et al.* (2005) which measured consumers' risk purchase of technological products. Three items were selected to measure the variable uncertainty avoidance. For the section measuring consumers' aspiration, since no pre-tested scales were found, the authors developed a scale of six items that are inspired and partially derived from the measurement instruments proposed by Klein *et al.* (1998), and Chinen *et al.* (2000). As for the items measuring consumer's purchase intention, six items were mainly derived from the previous research of Laroche *et al.* (2005) and Papadopoulos and Heslop (1993). Since most questionnaires on product image, country image use interval scales (e.g. Cerviño *et al.*, 2005). In all the previous sections, five-point Likert scales are used with the levels defined as follows: (1) completely disagree, (2) disagree, (3) no opinion, (4) agree, and (5) completely agree. Finally and concerning the last section of the questionnaire (demographic variables), variables such as age, gender, annual income, educational level, and the type of employment were considered.

The questionnaire was translated into Chinese by a person of Chinese origin, with a Master's in Business Administration. To ensure linguistic and conceptual equivalence between the Chinese version and the original, a back-translation from another translator was obtained (Klein *et al.*, 1998). The second translation was done by a professor of Chinese origin with a doctorate in translation. It is important to note that the word BlackBerry was translated into Chinese characters. However, given that the Chinese characters give the impression that one is referring to "blackberries" and to avoid confusing the respondent, the words "BlackBerry" in Latin characters and its translation were juxtaposed.

3.3 Sample characteristics

Conducting an empirical research in China is not an easy task. The country has a big population which is composed of heterogeneous consumer segments. Thus, selecting the right sample for a particular study is a challenge for marketing researchers. The sample respondents were randomly recruited using the expertise of a private research agency in China. Because of the gap in purchasing power amongst its different regions, as well as between its rural and urban areas (Cui and Liu, 2001; Wu and Delong, 2006), data collection was completed in the urban areas, particularly in cities where it is easy to find boutiques and commercial centers that sell foreign products (Yong, 1996). Amongst these cities, Shanghai, Beijing and Guangzhou were selected since they have the most advanced retail commercial environments in the country (PricewaterhouseCoopers, 2005/2006). After selecting the cities, the next task was to identify and approach the right respondents (e.g. affluent consumers and yuppies). Cui and Liu (2001) found that Chinese consumers, particularly those living urban areas, can be classified into four groups: working poor, salary class, little rich, and yuppies. The latter represent the smallest segment (5 percent) with an income ten times larger than the biggest segment, poor workers (55 percent of the population). They added that the "yuppies" and to less extent the "little rich" were identified as consumers who usually seek and prefer branded and foreign goods. Consequently, the present study attempted to reach consumers with sufficient income to allow for the purchase of somewhat expensive products such as high-tech devices. To do so, the questionnaire was distributed in certain locations (i.e. shopping centers and best-known shopping streets for branded products) that are likely to be frequented by our target consumers. Referring to Wu and Delong's (2006) study, the questionnaire was distributed in three locations with major commercial centers in Shanghai, also known as the major economic centers of the city. These three places or shopping locations are Xujiahui, Huaihai Road and Nanjing Road. In Beijing, the questionnaire was distributed in

four major shopping streets: Wangfujing, Xidan (characterized by large department stores), Dongdan (particularly selling major brand names) and Qianmen. In Guangzhou, the Changshou Lu area, with its many boutiques and shopping centers, was considered.

The total number of validated questionnaires that were collected in Beijing, Guangzhou and Shanghai was 479. The final sample composition includes 56 percent of respondents from the city of Shanghai, 31 percent from Beijing and 13 percent from Guangzhou. Respondents between 18 and 24 years of age constituted 21 percent of the sample, and those aged 25 to 34 represented 40 percent, while respondents aged 35 to 44 comprised 24 percent of the sample. Of this sample, 55 percent of respondents were married and 50 percent were men. Almost 49 percent had at least a Bachelor's degree, 31 percent work in the public sector, and 31 percent are self-employed. Finally, almost a third (32 percent) of the sample has a monthly salary between RMB2,301 and RMB4,300 (i.e. between US\$297 and US\$535), while another third (32 percent) has a salary of more than RMB4,300 (i.e. more than US\$535). Statistical information provided by the China Statistical Yearbook (2008) is summarized in Table I. These data show that our sample compares relatively well on several demographic variables with the population of the chosen cities. It should be noticed, however, that our respondents have higher revenues than the average income of people living in the three considered cities of China. As the Blackberry product is mainly targeted to affluent consumers who have a higher potential to purchase expensive devices, we judge that the current research respondents qualify well for this study.

4. Data analysis and results

Data is analyzed primarily through structural equation model (SEM) using (AMOS 16.0). The maximum-likelihood (ML) is selected as the method of model estimation. The analysis tests used are root mean-square residual (RMR), the goodness-of-fit index (GFI), Tucker-Lewis index (TLI), and the comparative fit index (CFI). Acceptable fit for the RMR is 0.05 or less and for TLI, GFI and CFI, the acceptable fit is 0.9 or higher.

Due to the relatively large number of items, the model fitness results were not satisfactory. Bagozzi and Heatherton (1994) report that unsatisfactory fit may occur when measurement models have more than four or five items per factor and sample sizes are large. Therefore and because previous studies argued that country image is multidimensional (Laroche *et al.*, 2005), the current

research considered the exploratory factor analysis (EFA) as a method to reduce the number of items measuring that variable. The principal component method was applied and only factors with Eigenvalues of unity and greater were kept. The resulting factors were then rotated to simple structure using varimax rotation. The results of this procedure led to a three-factor solution for the variable country's image (eight items). The convergent and discriminant validities of the obtained factors were evaluated by computing the average variance extracted (AVE) (Fornell and Larcker, 1981). The AVE was greater than 0.5 and path estimates were significant at $p < 0.05$, providing, therefore, evidence of convergent validity. Hence, the final model structure is composed of 31 items. The confirmatory factor analysis (CFA) was then used to test the reliability and the discriminant validity of the retained measurement scales. The reliability of the measurements was assessed by using the composite reliability index ρ (Joreskog's rho). All the coefficients were greater than the acceptable value of 0.6 (Nunnally, 1978) and therefore indicate a good reliability (see Table II). Additionally, for the variable country's image, the average variances were higher than their corresponding factors' squared correlation; thus indicating adequate discriminant validity between its dimensions. The analysis of the final model shows a remarkable improvement in the model fit indices. The reported values are 0.043 for the RMR, 0.903 for the CFI, 0.86 for the GFI, and 0.904 for the IFI.

Before proceeding with the SEM regression results, the retained independent variables were examined for evidence of multicollinearity. All correlations were small (see Table III) and the tests of the tolerance and VIF (the variance inflation factor) values were reported to be within the acceptance range of collinearity (Hair *et al.*, 2006; Neter *et al.*, 1990). Indeed, VIF scores ranged between 1.123 and 1.303. Furthermore, the condition index value was 34.165. Hence, the hypothesis of the presence of multicollinearity can be rejected (Hair *et al.*, 2006).

Table IV presents the details of the SEM regression results and the nature of the relationships between the different constructs of the model. A look at these results confirms the positive and significant relationships that exist between product image on one hand and country-of-origin and purchase intention on the other hand. *H10* and *H11* are further confirmed. However, country's image is found to have no significant influence on product image. Therefore, *H9* is rejected. When examining consumers' uncertainty, the results show that this latter is negatively and significantly related to country-of-origin's image, country's image, and consumers' purchase intention. Thus, a positive country-of-origin's image and country's image play a significant role in reducing consumers' uncertainty and consequently increasing their purchase intention. *H2*, *H3*, and *H4* are accepted. However, when examining the relationship between product image and consumers' uncertainty, the results show that the former has no significant impact on the latter. Thus, *H1* is rejected. With respect to consumers' aspiration, the results show that it is positively and significantly affected by product image, country-of-origin, and country's image. Thus, consumers' aspiration to acquire a product tends to increase when the product image, the country-of-origin, and the country's image tend to be positive. Therefore, *H5*, *H6*, and *H7* are accepted. Finally, consumers' aspiration is found to significantly stimulate their purchase intention of high-tech products. *H8* is retained.

Table I Socio-demographic information of Chinese living in Beijing, Shanghai and Guangzhou

City	Shanghai	Beijing	Guangzhou
Percentage of total Chinese living in the three cities	40.3	33.7	26
<i>Gender breakdown</i>			
Male (%)	49.48	49.9	51.3
Female (%)	50.52	50.1	48.7
Percentage of married people	70.1	72.57	69.57
Average monthly salary (RMB)	3,512	3,748	2,675

Source: China Statistical Yearbook (2008)

Table II Psychometric properties of measurement scales

Construct	No. of items	Eigenvalue	Cumulative variance (%)	rho	AVE
<i>Country image</i>			63.72		
Factor 1: CI1	3	3.65		0.85	0.65
Factor 2: CI2	3	1.57		0.76	0.52
Factor 3: CI3	2	1.16		0.74	0.61
Country-of-origin: COO	5			0.85	0.54
Product image: PIM	4			0.85	0.58
Aspiration: ASP	6			0.92	0.66
Uncertainty: UNC	2			0.87	0.77
Purchase intention: CPI	6			0.91	0.63

Table III Correlation matrix between independent variables

Variables	CI	COO	PIM	ASP	UNC
Country image (CI)	1				
Country-of-origin (COO)	0.360 *	1			
Product image (PIM)	0.035	0.214 *	1		
Aspiration (ASP)	0.255 *	0.268 *	0.302 *	1	
Uncertainty (UNC)	-0.066	-0.147 *	-0.137 *	-0.321 *	1

Note: *Significant at 0.01 level

Table IV Summary of the structural equation modeling results

IV	DV	St. beta	t	p	Results	Statistics	p
<i>Hypothesis</i>							
H1	PIM	UNC	0.096	1.746	0.081	Rejected	
H2	UNC	CPI	-0.137	-3.898	0.000	Accepted	
H3	COO	UNC	-0.125	-2.336	0.019	Accepted	
H4	CI	UNC	-0.186	-2.876	0.004	Accepted	
H5	PIM	ASP	0.213	4.065	0.000	Accepted	
H6	ASP	CPI	0.760	13.792	0.000	Accepted	
H7	COO	ASP	0.132	2.709	0.007	Accepted	
H8	CI	ASP	0.376	4.955	0.000	Accepted	
H9	CI	PIM	-0.108	-1.744	0.081	Rejected	
H10	COO	PIM	0.185	3.437	0.000	Accepted	
H11	PIM	CPI	0.119	3.329	0.000	Accepted	
<i>Fit indices</i>							
Chi square/d.f						2.981	***
RMR						0.043	
GFI						0.860	
IFI						0.904	
CFI						0.903	

5. Discussion

The current study examined the differential effect of both the country's image and country-of-origin's image on Chinese consumers' behavior when considering the purchase of high technology products. The following discussion highlights their particular effects on product image, consumers' uncertainty, aspiration and purchase intention.

First, the current study found that a strong image of the country-of-origin has a positive effect on the image of its high technology products. This further confirms the general

assumption that the image of a country-of-origin influences the image of its products (Han and Terpstra, 1988; Kaynak and Cavusgil, 1983; Laroche *et al.*, 2005).

Second, results of the analysis deny the impact of country's image on product image. This non significant relationship might be explained by the fact that the construct of country's image has a broader aspect (compared to that of COO) and therefore fails in determining the image of a specific product (e.g. high-tech products). Despite that country-of-origin and country's image are both extrinsic attributes of a product, the former is found to be more relevant when evaluating a product than the latter.

Third, consumer's uncertainty avoidance and aspiration to acquire a high-tech product were found to be significantly influenced by both country-of-origin and country's image. Both of them considerably increase consumers' aspiration and significantly diminish their uncertainty when considering the purchase of complex products. Additionally, the effects of the country's image on consumers' uncertainty ($st \beta = -0.186$) and aspiration ($st \beta = 0.376$) are found to be stronger than those of the country-of-origin ($st \beta = -0.125$ for uncertainty; $st \beta = 0.132$ for aspiration). Thus, consumers seem to be much more assured by the overall country's image than the specific country-of-origin's image when considering the purchase of high-tech products.

Fourth, product image is revealed to have a significant impact on consumers' aspiration but not their uncertainty. A positive image of the product contributes in increasing consumers' aspiration but plays no role in diminishing their uncertainty.

Fifth, the study shows that consumers' purchasing intention of high technology products is much more influenced by their aspiration ($st \beta = 0.760$) than by their uncertainty ($st \beta = -0.137$) or even the product image itself ($st \beta = 0.119$). In other words, while product image has a significant direct impact on consumers' purchasing intention (Chinen *et al.*, 2000), in the case of complex products, it is consumers' aspiration and, to a lesser extent, consumers' uncertainty that have a major effect on their purchasing intention.

6. Theoretical and managerial implications

The study's findings suggest certain avenues that should be explored by academicians and international companies wishing to understand consumers' behavior in emerging countries.

The current study examined the simultaneous impact of the country's image and country-of-origin on product image, consumers' aspiration, consumers' uncertainty, and

consumers' purchase intention. Most of previous studies have focused on one of the two concepts (i.e. country's image or country-of-origin), interchangeably used both of them, and relatively ignored their simultaneous impact on consumers' purchase intention or decision. Thus, no attempts were made to distinguish their differential effects. The present study has tried to address this shortfall through simultaneously studying their influences on product image and consumer behavior. The results suggest that country image and country-of-origin's image have different roles. The results are intriguing, since they specify that the major role of a country-of-origin is to influence product image while that of country's image is to increase consumers' aspiration to acquire its product and diminish their uncertainty and hesitation about buying the product. In other words, contrary to country-of-origin, results show that country's image has no direct effect on product image. The image of a product is much more prone to the effect of country-of-origin's image than country's image. Also, the country-of-origin's image indirectly influences consumers' purchase intention through the product image. These relationships were not identified in the case of country's image, yet the latter was found to indirectly influence the purchasing intention of consumers through reducing their uncertainty and increasing their aspiration. Thus, a weak (strong) country's image would increase (decrease) uncertainty and, consequently, inhibit (stimulate) the purchase intention of consumers. Despite that these relationships were also identified in the case of country-of-origin's image; their explaining powers, however, were lower than those of the country's image.

Having proven that country's image and country-of-origin's image play a crucial role in the decision to purchase high technology products, companies need to know how to benefit from these two concepts in the marketing or internationalization of their products. Chinen *et al.* (2000) mention, amongst other factors, that products of most advanced countries generally receive more favorable evaluations than products from less industrialized countries. Nonetheless, many countries, even among the developed ones, have failed to create a specific marketing identity in a particular industry. For instance, Papadopoulos *et al.* (1994) noticed that Canadian products have a weak presence in foreign markets and considered this as probably the most difficult obstacle to overcome. Also, previous studies reveal that when foreigners are asked about Canadian products, they name generic products, like fish or wheat, instead of mentioning precise brands (Papadopoulos and Heslop, 2000). Inevitably, enhancing the country's image could enormously facilitate the success of its products in foreign markets. This probably explains why countries are continuously striving to create a distinguished image/position at the regional level or even the global level. Also, many recent studies (e.g. Caldwell and Freire, 2004; Gilmore, 2002) have focused on the importance of branding a country in order to gain competitive advantage over other nations. This is, however, a very challenging task since creating a strong country image/country brand can take decades to be achieved. Collaborative efforts on the part of all the actors of the country, as well as producers and the government, could facilitate the enhancement of the country's image. Without promotional programs for the country and its products, a country's international positioning risks being fuzzy and confused.

For marketing managers, it is important to know that there are adequate tools allowing for their products' success in emerging markets. Considering the case of China, it is clear

that multinational firms must understand the specific environmental and cultural conditions of that country. One of these particular circumstances is that Chinese consumers are ambivalent when they consider the purchase of complex products (like the BlackBerry). These consumers are influenced both negatively by their aversion to risk and positively by their aspiration to acquire products that reflect their social status or success in life. For a company, focusing on the product image alone may not generate very satisfying results in emerging countries. Operating in a market like China, it is worth working to alleviate consumer uncertainty and increase consumer aspiration to purchase sophisticated and complex products. This could be achieved through reassuring the consumer that the product comes from a country well-recognized for its technological achievements. In other words, a company can draw more advantages from highlighting the image of its country of origin recognized for its innovativeness and high quality technological products. This is what is referred to as free riding (Barney and Zhang, 2008) where a firm can gain benefits of a country brand to market and promote its own products. This is also in line with Kaynak and Kara's (2001) opinion which stipulates that in emerging markets, consumers can be efficiently targeted by products coming from well-reputed countries/regions such as Western Europe, Japan and North America. Along with the country's image, companies, especially those operating in the technological sector, are also invited to benefit from the established image of their products. Laroche *et al.* (2005) confirm this in saying that the product image has a considerable effect on consumer behavior. Consequently, promoting the country-of-origin's image can prove an effective means to improve product image in emerging markets. Yong (1996) confirms this opinion and contends that Chinese consumers are particularly sensitive to the effect of the country-of-origin, magnifying the importance of this latter as an efficient marketing tool.

7. Conclusion

Consumers in emerging countries are ambivalent, torn between their risk aversion and their aspiration to purchase high-tech products. Hence, it is essential for multinational companies to find the adequate means to act on consumers' uncertainty and aspiration. The present study suggests that the country's image can be an effective tool that can both reduce consumer uncertainty and increase their aspiration to purchase high technology products, and that country-of-origin has a significant role in determining the product image. In order to create a competitive advantage in an emerging market, such as China, high technology companies must consider the two following points:

- 1 Further promote the country's image and country-of-origin's image in the high technology sector. This could be used as a marketing lever for all the companies operating in this sector. Indeed, promoting both the overall country's image and the "specific" country-of-origin's image could be a tactical measure that could play in favour of high-tech firms in emerging countries.
- 2 Be aware of the fact that the product image alone is not a sufficient condition for product success in emerging markets. In the case of high technology products, managing consumers' uncertainty and aspiration may further contribute in stimulating consumers' purchase intention and ultimately boosting the company's sales.

8. Research limitations

Like most research, this study has its limitations and it is important to mention them. First, doing research in China is a challenge since the country is immense and includes a number of markets. Despite that the sample was carefully selected in three big Chinese cities, results should not be generalized to the entire population of China. Secondly, to better understand consumers' attitude toward foreign products, it is interesting to identify changes in their behavior. Indeed, with foreign products' growing penetration of emerging markets, it is necessary to track changes in consumers' risk aversion and aspiration. To that end, a longitudinal study is required. Thirdly, given that this study considered only one product, the BlackBerry, the results should be interpreted with some caution. Thus, our study's hypotheses should be tested with other similar technological products or even products stemming from different technologies. Finally, there is a limitation in terms of the selection of the country where the questionnaire was administered. Given that this study was undertaken in China, it would be interesting to test the proposed model and hypotheses in other markets such as India, the ASEAN countries, or Latin America. To further improve the current research model and strengthen its hypotheses, future studies might consider the inclusion of predictors affecting country's image and country-of-origin's image.

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Appendix. Retained items (factors)

- 1 Country image:
 - Canada is an innovative country (CI1).
 - Canada is known for its hardworking people (CI1).
 - Canada is known for its trustworthy people (CI1).
 - Canada is a lovely country (CI2).
 - Canada is an ideal country (CI2).
 - Canada is a secure country (CI2).
 - Canada is a poor country (CI3).
 - Canada is not a technologically advanced country (CI3).
- 2 Country-of-origin image (with respect to the high tech industry):
 - Canada is known for the high quality of its high-tech products.
 - Canada has high-tech products that are modern and innovative.
 - Canada offers high-tech products that have a good quality to price ratio.
 - Canadian high-tech products are superior to their competitors from other countries.
 - Canada produces reliable high-tech products.
- 3 Product image:
 - The Blackberry is known for its high quality.
 - The Blackberry is a reliable product.
 - The Blackberry is very useful.
 - The Blackberry has good features.
- 4 Consumer aspiration:
 - I will be very proud to own a Blackberry.
 - I like the idea of having a Blackberry.
 - The purchase of a Blackberry is a sign of success.
 - The purchase of a Blackberry may positively influence my image among my friends.
 - I love buying imported products such as the Blackberry.
 - The purchase of a Blackberry may convey a positive image of my belonging to an affluent social class.
- 5 Consumer uncertainty:
 - I need to collect further information about the Blackberry before considering its purchase.
 - I want to try (test) the Blackberry before purchasing it.
- 6 Consumer purchase intention:
 - I am highly considering the purchase of a Blackberry.
 - I am very impressed by the Blackberry.
 - I recommend the Blackberry to others.
 - I am keen on the Blackberry.

- I think that my surrounding people love the Blackberry.
- I would be very satisfied to own a Blackberry.

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Executive summary and implications for managers and executives

This summary has been provided to allow managers and executives a rapid appreciation of the content of the article. Those with a particular interest in the topic covered may then read the article in toto to take advantage of the more comprehensive description of the research undertaken and its results to get the full benefit of the material present.

Country of origin (COO) is widely recognized as having a significant impact on consumer decision-making. Some studies have found general country image (CI) to be influential as well. These factors have become even more important with the emergence of new market economies. As multinational organizations seek to establish a presence in such markets, they often face competition from different nations. A favorable COO image can help secure competitive advantage at the expense of these rivals. Various descriptions of COO prevail, one being that it results from how people stereotype a particular country.

According to some sources, a link exists between uncertainty and a country’s degree of economic development. It is argued that consumers believe that it is less risky to buy complex products from more industrialized nations. Different scholars point out the relevance of COO for consumers purchasing complex products. And the impact of COO can increase with product complexity. It is known that consumers are uncertain about such products, especially when they lack familiarity with them. The technology associated with certain products is a major cause of uncertainty and prompts consumers to seek additional

information before committing to buy. This could indicate a fear to adopt high-tech products.

Several researchers hold the view that correlation exists between consumer attitude towards COO and how they perceive products from that nation. These respective attitudes can differ in strength or weakness but are thought to “evolve in the same direction”. Consumers use COO to evaluate products they know little about. This tendency is evident among consumers from less developed nations, where it is usual to assume that products from more industrialized nations are of superior standard. There is some claim that selling complex products takes more than just promoting tangible attributes. Extrinsic attributes are equally influential and when COO and attitude towards the product are both positive, consumers may become more willing to buy these goods.

The image of a country is considered as distinct from COO. Various conceptualizations of CI persist but there is general agreement that it incorporates a country’s national traits, economic development, political status and tradition. A majority of academics concord with this multidimensional view and some forward the notion that CI components are cognitive, affective and conative. A nation’s image is not static but can change in the light of “favorable or unfavorable” events. In the opinion of some researchers, CI is another extrinsic attribute that can help moderate consumer uncertainty about products from a country boasting a favorable image.

A relationship between CI and product image is also suggested. Studies indicate that consumers are more inclined towards using primary information before that considered more complex. Country image information is seen as primary information when compared to information pertaining to the product. As a consequence, there is a strong likelihood that consumers will view products from a certain nation favorably when their evaluation of that country is positive. This possibility increases further if the country already has a good image for the product category in question.

Aspiration is regarded as another factor in the consumption of products that are complex and lavish. The premise is that as consumers achieve success in life, they aspire to buy products that reflect their growing status. Aspiration is also determined by such as brand knowledge, attitude towards a certain product and demographic variables. Chinese consumers provide a perfect illustration of this point. Desire for prestigious goods including electronic and hi-tech products has soared in accordance with the rapid improvement in living standards for many people in the country. Earlier evidence suggests that consumption of complex technological products reflects an ambition towards higher social status rather than fulfillment of a specific need.

These factors were examined by Souiden *et al.* in a study of Chinese respondents recruited in the cities of Shanghai, Beijing and Guangzhou. Subjects were approached in certain shopping areas to target affluent consumers seen as more likely to purchase high-tech products. A final sample of 479 was obtained. The overall profile of respondents compared

favorably on many demographic variables with the general population of these cities.

The study examined a branded high-technology product from a developed nation sold within an emerging market. The Blackberry handheld device manufactured by Research in motion (RIM) in Canada was chosen and China was the launch market. Canada was selected because of its generally positive image, albeit without a specific reputation as a high-tech manufacturing nation. Also, studies into the attitude of foreign consumers to Canadian goods are rare. Growing importance of the Chinese market was another factor considered, as was the increase during recent years of exports from Canada to China. The authors additionally believe that Chinese consumers would aspire to own a product like the Blackberry.

Data analysis revealed that:

- A strong COO positively impacts on the image of that nation’s high-tech products.
- Both COO and CI markedly reduce consumer uncertainty and increase aspiration in relation to the purchase of complex products. The impact of CI is greater.
- A positive product image significantly increases consumer inspiration but does not diminish uncertainty.
- Aspiration has a greater influence on consumer purchase intention than uncertainty and product image.

In addition, it was found that the effect of CI on product image was minimal. Souiden *et al.* suggest that this might be due to the “broader aspect” of CI when compared to COO.

Firms must learn how to utilize positive COO and CI when entering new foreign markets. It is a common failure even among some developed nations to achieve a strong image for their products. Improving the CI is a way to increase product success in overseas nations, although scholars do note that “branding a country” in this way can be a process that extends over decades and requires strong commitment from manufacturers and government among others.

In this instance, firms should emphasize COO as a means to indicate that the product is from a nation renowned for innovativeness and technological prowess. This will help ease consumer uncertainty, while increasing the aspiration to obtain complex and prestigious goods. The authors believe that a focus on CI alone would not achieve this and therefore recommend promoting both COO and CI.

China’s immense size and variety of markets prevents any generalization of results to its consumer population. Future studies might explore different Chinese consumer groups and consider other markets like India, Latin America or the ASEAN countries. Scholars could adopt a longitudinal approach to monitor changes in aspiration of risk aversion and another idea is to investigate additional products based on similar or different technologies.

(A précis of the article “Marketing high-tech products in emerging markets: the differential impacts of country image and country-of-origin’s image”. Supplied by Marketing Consultants for Emerald.)