Consumers' Online Information Search: A Cross-Cultural Study between China and Western Europe

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Abstract

Consumers in China increasingly turn to the Internet to acquire commercial information. This trend is expected to continue since Internet penetration and consumer spending keep growing steadily. Based on 32 hours of interviews with students and business professionals in China, and a questionnaire completed by a sample of 1140 Chinese and Belgian students, we find a number of significant differences between Chinese and Western Europeans in their online search process for information prior to a purchase. The differences occur in frequency, goal, types of information sought, types of websites used, website usage patterns, and contribution of user opinions. We explore explanations for these differences by digging into cultural, behavioral, economic, technical, and other fundamental differences between China and Western Europe. Our findings have important implications for marketing practitioners in China, especially for multinational corporations that enter China and that are not familiar yet with the Chinese environment.

Keywords: Online marketing; Search behavior; Cross-cultural; Internet; Consumer; Information

Acknowledgements

We wish to express our appreciation to Tong Zhao and Yi Li You for familiarizing us with China and for assisting us with full enthusiasm in finding survey respondents in China. We gratefully acknowledge the support of the Flemish Interuniversity Council - University Development Cooperation (VLIR-UOS) for awarding a scholarship that enabled a journey to China for field research and we thank Tsinghua University for hosting the principle author during his stay in Beijing. The work was partly supported by the National Natural Science Foundation of China (70621061, 70871068, 70890082).

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Introduction

With China's rapid economic development during the last 30 years, consumer purchasing power has increased significantly (Cui and Liu 2001; Gavin 1994; Piturro 1994). China's becoming a more interesting market for businesses has lead to an increase in the number of alternative products that consumers can spend money on (Fan and Xiao 1998). One source of information that consumers consult is the Internet, which has equally experienced a boost in development in China during the last few years.

The number of Chinese Internet users now surpasses that of any other country in the world, having soared to 298 million in January 2009 (CNNIC[2] 2009) from 162 million one and a half year earlier (CNNIC 2007a). The Internet penetration[3] is now 22.6%, which is still much below that of Europe (43.7%) and the U.S. (72.5%) at the end of 2007 (ITU 2008a) but above that of most other developing countries and expected to continue growing. Not only has an increasing part of Chinese people access to the Internet, they also make extensive use of it (Goldsborough 2008; Meyer, Michael and Nettesheim 2009; Universal McCann 2008).

However, the Chinese Internet landscape looks differently from that elsewhere in the world. As many multinational Internet corporations have experienced difficulties in penetrating the Chinese market, the main players are almost all Chinese: not Google, but Baidu is the main search engine, eBay has not been able yet to come close Taobao's popularity, and Amazon faces strong competition from Dangdang.

With such a large Internet population and increasing consumer spending, better understanding the role of the Internet in decisions made by Chinese consumers becomes particularly relevant. Since China and Western Europe differ fundamentally in various ways, there will likely be differences in the way consumers from these two regions search for information on the Internet prior to making a purchase. Identifying these differences will help companies improve their online marketing strategies. These arguments motivate why it makes sense to investigate the following research question: **How do people in China differ from people in Western Europe with regard to their search on the Internet for information prior to a purchase?**

The goal of this research is to make an assessment of these differences and provide explanations for these differences by taking into account fundamental characteristics that are typical of China, without being limited to one type of factors but including relevant factors that are cultural, behavioral, economic, technical… in nature. Six aspects of the information search will be looked into: frequency of searching online, goal of online search, types of information sought, types of websites used (search engines, forums, consumer websites), usage patterns on these websites, and contribution of user opinions. The focus is on tangible products, not services or intangible products.

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[2] China Internet Network Information Center (CNNIC) is the administrative agency responsible for Internet affairs under the Ministry of Information Industry of the People's Republic of China.

[3] *Internet penetration* is commonly defined as the percentage of the total population that is an Internet user. Definitions of an *Internet user* vary slightly between countries. CNNIC defines it as any Chinese citizen aged six and above that has used the Internet in the past half year (CNNIC 2009). ITU statistics are based on nationally reported data (ITU 2008b).

The remainder of this paper is organized as follows. The next section discusses some fundamental characteristics of China that affect the online search process. Then we formulate the research hypotheses, partly based on these fundamental characteristics. The subsequent section describes our methodology, followed by a section that presents our results and analysis. A concluding section contains a summary, implications for practitioners, limitations and suggestions for future research.

Fundamental Characteristics of China

For the non-Chinese reader, it may be useful to give an overview of some fundamental characteristics of China that make the country different from Western Europe and that are likely to influence the way Chinese search for information on the Internet prior to a purchase. In what follows, we summarize (1) the typical online information sources accessed by Chinese, (2) Chinese culture, and (3) China's rapid evolution during the last 30 years. All three of these factors will motivate our research hypotheses, which are formulated in the next section. When we formulate the research hypotheses, we will introduce new, additional factors that also impact the online search process prior to a purchase. These additional factors are not separately explained in this section because they are easy to understand by readers both familiar and not familiar with China.

Online sources of information for consumers

Search engines

Unlike in many countries, Google is not the dominant search engine in China. In September 2008, the Chinese company Baidu had a market share[4] of 60.9%, followed by Google (27.0%) (CIC 2008). Surveys of CIC[5] (2008) and CNNIC (2007b) indicated that Baidu's share of a local submarket in China rises as the area is more rural, while Google goes the opposite. The report of CNNIC also describes the typical Google user as being aged 25 and above, well-educated and having a relatively high income.

In China, Baidu is dominant over Google mainly for two reasons. First, a CNNIC study found various numbers that demonstrate that Baidu's growth has been driven by its inclusion of deep-links to – possibly illegal – MP3 files (W. Lu 2005). A deep-link is a direct link to a file that can be downloaded without many additional (search) operations. Second, Baidu has a better relationship with the Chinese Government than Google does (Hachigian 2001), partly because it is not as reluctant as Google to censor the information it provides (Liu Bin, analyst at research firm BDA China, in Einhorn 2006a).

Even if Baidu's advantage in these two areas was greater five years ago than now, the firm has a first-mover advantage with a long-term impact. Many Chinese use Baidu because most of their peers do so. Note that Baidu faces quite some controversy, even though Baidu is the most popular search engine. Most notably, the position of a

[4] CIC's calculations of market shares are based on daily usage. Alternatively, market share is sometimes defined as the percentage of people that use a search engine as their primary search engine.
[5] China IntelliConsulting Corporation (CIC) is a credible market research company based in Beijing, China.

website in the search results is not based on an objective analysis of the quality of the website, since the list with search results contains paid results mixed with and nearly indistinguishable from natural results[6]. Other examples are given by Sunday Star Times (2008), Tang (2008), Einhorn (2006b), and Tschang (2008).

Forums

Online forums are communities that are organized around topics discussed by a large number of people. For technical legacy reasons, Chinese are used to calling them Bulletin Board Services (BBSs)[7], while Western Europeans call them discussion forums, message boards, and variations on this. In the remainder of this paper, we will refer to BBSs as forums.

While forums are less frequently used in the English-language Internet, they are extremely popular in China, where they have attained surprising levels of sophistication (G. Lu 2008; iResearch 2007; Kuo 2009). The main reason why forums are so popular in China is related to anonymity. On anonymous forums, Chinese are more expressive and unhampered to say what they really think because they are not inhibited by the strong social norms and political limitations of freedom of expression (L. Jin 2005, Q. Jin 2005). Another reason became apparent during our pilot interviews with students. Many of them use forums because the opinions and perspectives of many people with similar interests can be grouped and centralized around all kinds of topics. This is not surprising, given that China is a collectivistic society where people highly value the opinion of their peers (further discussed in the next section).

Consumer websites

In this study, consumer websites are considered websites centered on products and allowing consumers to post their comments about products. These may or may not be at the same time a selling platform or linking to sellers. China has some hugely popular and advanced consumer websites. Taobao is the biggest one, with a share of 83.8% in the C2C market, followed by PaiPai (9.0%) and eBay's Eachnet (7.2%). The B2C market is more evenly shared, with the three main players being Dangdang (16.2%), Amazon/Joyo (15.4%), and 360buy (15.0%) (iResearch 2008). Most of them arrange information in very detailed categories, allowing filtering product search results by brand, type, technical specifications, price range, etc.

Confucian influence on China since 2500 years

The teachings of Confucius (551-478 B.C.), perhaps the most famous Chinese philosopher, influenced several Asian countries including China, Japan and Korea (Yeung and Tung 1996). Confucius advocated a hierarchical state run by ethical scholar-bureaucrats (Mooney 2007). Even if Confucian values have been under attack by communism in

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[6] Baidu's paid search results are shown on top and have the word "Promotion" (推广) next to the displayed URL. Natural results follow and are succeeded by the words "Baidu Snapshot" (百度快照). Research firm China IntelliConsulting said 90% of Chinese search users does not differentiate between the two (Tschang 2008).

[7] BBSs were originally based on an older technology. They were accessed from a terminal program via a Telnet connection, while online forums were created with the advent of the WWW. Today, BBS are also based on the WWW.

the 1900s, facing the fiercest opposition during China's Cultural Revolution (1966-1976), the 2500-year Confucian tradition deeply permeates Chinese society and culture and is even reviving strongly (Mooney 2007). In this section, we examine how Confucian influence is still apparent in China's culture and society.

Moderate expressiveness and spontaneity

Confucius emphasized a harmonious society and the appropriate arrangement of interpersonal relationships (Abbot 1970; Bond and Wang 1983; Lockett 1988; Tan 1990). Social behavior is still tightly governed by norms and rules. These norms and rules depend on one's situation-specific role definition and are strongly based on the principle of reciprocity (Bond 1991; Hofstede and Bond 1988; Hwang 1987; Yang 1993). Since there has always been a high tendency to conform and a discouragement to voice personal opinions, emotions and behavior in an independent way, Chinese are generally less expressive and spontaneous (Gao, Ting-Toomey, and Gudykunst 1996; Schütte and Ciarlante 1998).

Great trust towards in-group members and distrust towards out-group members

Chinese society is built around clan-like networks, with close family members and kinship at the core (Tan 1990; Yau et al. 2000). Trust in a Confucian-influenced society is based on personal and particularistic ties (Kao 1996; Olsen 1972). There is a strong distinction and gap between "in-group" (family and friends) and "out-group" (mostly strangers) (Qi 2008; Yeung and Tung 1996). People seek social exchanges and build reciprocity among family members and friends (Qi 2008). These interpersonal interactions generate information about the trustworthiness of each other (Putnam 1995). Consequently, in-group members are trusted almost blindly (Yau et al. 2000). If Confucius emphasized the filial piety and obligations to the family, this implies that the moral obligations and duties to anyone outside the family are noticeably weak (Fukuyama 1995). In a business environment, behavior towards out-group members is opportunistic and there is deep distrust of out-group members (Björkman and Kock 1995), since there are few interpersonal interactions to generate information to assess trustworthiness (Qi 2008; Yau et al. 2000).

Cooperative behavior and information exchange

Unlike the more individualistic Western Europe, China is a collectivistic society. Decisions are more often influenced by opinions of other people and herd behavior is more common (Moss and Vinten 2001; Sun, Horn and Merritt 2004; Teng and Laroche 2006). Several authors have found that collectivistic individuals are more inclined to engage in cooperative behavior and information exchange than individualistic individuals (Cox, Lobel and McLeod 1991; Hofstede 1980; Thomas 1999; Wagner 1995). These results are also valid for purchase decisions (Doran 2002; Tseng and Stern 1996).

High-context

The situation-centered and relation-centered mindset of the Chinese, explained above, fits with Hall's (1976) classification of China as a high-context culture, as opposed to low-context. He proposes that in a social interaction, events and context (i.e. information surrounding the event) combine to produce a given meaning. "A high-context

interaction is one in which most of the information is in the context, while very little is in the coded, explicit, transmitted part of the message" (Hall 1976, p. 79). The result is that Chinese pay more attention to context and have a communication style that is rather indirect, implicit and symbolic.

This difference is evident in all aspects of communication, including language (both verbal and written), patterns of social organization, legal codes and business systems (Gudykunst and Nishida 1986). Masuda and Nisbett (2001) found that, when looking at an image, East Asians are more focused on the context or field as a whole and on relationships of objects with the context or field ("holistic thought"), whereas Westerners are more focused on objects and tend to detach objects from the field ("analytic thought"). Another study that tracked participants' eye movements when they were viewing web pages found that Chinese participants spread their fixations over the whole page and moved their eyes much more back and forth among the contents, staying repeatedly in different areas for a short time, while Americans concentrate their fixations more on certain areas (e.g. titles and navigation objects) (Dong and Lee 2008).

China's rapid evolution that initiated 30 years ago

The revival of China's economy was initiated by Deng Xiaoping in 1978 with the establishment of special economic zones (SEZs) and a series of policies to attract foreign direct investments. Important changes in Chinese society have been observed during the period of rapid economic expansion that followed.

First, the business environment has not been developing as rapidly as the economy, as is shown by undeveloped market structures, the lack of coherent business laws, an unstable political climate, and strong governmental control over limited resources (Batra 1997; Luo and Peng 1999; Nee 1992; Xin and Pearce 1996). Second, with the transition from a planned economy to a market economy, Chinese may be becoming more individualistic. Before, Chinese behavior had always been based on role obligations, not on self-interest (Yeung and Tung 1996). Now, Chinese managers are adopting certain Western-like values (Birnbaum-More, Wong and Olve 1995) such as a higher degree of "Machiavellianism" and tolerance to risk (Ralston, Gustafson and Terpstra 1995). A third change, perhaps exacerbated by the first two observations – an immature business environment combined with more individualistic values – is a high degree of opportunistic behavior in economic transactions with out-group members, i.e. members with whom no trust relationship has been developed yet (Chen, Peng and Saparito 2009; Leung 1988; Redding 1993). Examples of opportunistic behaviors include misrepresentation, manipulation, lying, cheating, and deception (Anderson 1988; John 1984; Williamson 1985). In China, this manifests itself for example in deceptive advertising, counterfeit products, and overpriced products of imperceptible low quality (Efendioglu, Yip and Murray 2005; Fan and Xiao 1998; Ho 2001; Ho and Sin 1988). The increased gap between rich and poor, accompanying the rapid economic expansion, may have further increased opportunistic behavior. Such a large gap in wealth is an unstable situation in China, which has a long egalitarian tradition (Zheng 1994).

Research Hypotheses

Frequency

In a study about Chinese' and Americans' examination of unpackaged food prior to a purchase, Ackerman and Tellis (2001) found that Chinese have a desire for more information when doing a purchase. Several fundamental differences between China and Western Europe may explain this. First, Chinese people are more price-conscious than Western Europeans when buying private consumption goods[8] (Ackerman and Tellis 2001; Fan and Xiao 1998; Li and Gallup 1995; Scarry 1996). Second, businesses in China, besides belonging to the distrusted out-group, show more opportunism towards consumers. Several students vented their concerns about counterfeit during this research' pilot interviews. Third, as in many developing countries, the retail market is much more fragmented in China than in Western Europe (Economist 2003; Helsell 2000; Lenartowicz and Balasubramanian 2009; Poncet 2005), dominated by 9.2 million very small (one- and two-person) retail shops with average annual sales of 20,000 USD (Batra 1997). Large shopping centers exist with many small stores all selling the same, so consumers tend to get lost in the overload. To avoid this, they likely first look for information in order to narrow down both the number of possible products and the number of possible stores. Fourth, it is more difficult to know the fair price for a product because there are no standard prices. Bargaining is a widespread practice in China (Fang 1999; Jacobs et al. 1991).

In particular, Chinese may look for more commercial information *on the Internet* than Western Europeans because detailed product information is difficult to acquire and reliable information sources may not be available to most consumers (Ho 2001; Zhou, Su and Bao 2002). Small stores in a fragmented retail market do not send out as many brochures about a wide range of products as large retailers in Western Europe do, for example. Therefore:

> **H_1:** Chinese look for information on the Internet prior to a larger share of their purchases than Western Europeans.

Goal

Consumers in China face a greater risk of opportunistic behavior by businesses than Western European consumers. Moreover, companies are considered as out-group members by Chinese consumers and are therefore not trusted easily even if the risk of opportunism would be the same as in Western Europe. Because of this low trust, Chinese prefer to meet face-to-face before closing – especially costly – transactions and delay their final decision until then (Efendioglu, Yip and Murray 2005). That way, they can create trust beforehand (Kshetri 2007; Yau et al. 2000). In Confucian cultures, the importance of personal interaction in business and consumer transactions is likely to remain significant in the Internet era (Samiee 1998). In addition to problems of trust, there is also an overload of alternative products in China because the retail market is so fragmented.

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[8] Chinese are not necessarily more frugal when it comes to public consumption goods or gifts (Yau 1994).

For these reasons, it seems likely that Chinese will not search for information on the Internet as much as Western Europeans in order to make a final decision on a product. Narrowing down the large number of alternatives may be a more important concern for Chinese than for Belgians. Also, compared to Western Europeans, finding a trustworthy store may be a more important goal. Therefore:

> **H_2:** The various possible goals when searching for information on the Internet prior to a purchase are not equally important to Chinese and Western Europeans.

Type of information

Three possible types of information are distinguished: objective facts (price and product characteristics), reviews by professional experts, and others' opinions. Many consumers use recommendations (the second and third type of information) as a heuristic to cope with the large amount of information available during online search processes (Smith, Menon and Sivakumar 2005). Still, price and product characteristics are likely the main type of information searched, both in China and Western Europe, because it is essential to narrow down the large number of alternatives. Using the Internet to find this type of information may be even more important for Chinese than for Western Europeans, because the former have less broad access to such information in the small stores in the more fragmented Chinese retail market. As pricing is often not standardized but strongly impacted by bargaining (Fang 1999; Jacobs et al. 1991), consumers need to acquire information on a fair market price before going to a store. Further, Chinese will less likely seek expert reviews on the Internet as primary type of information because they have relatively little trust in out-group members, a group to which professional experts belong. Finally, more Chinese than Western Europeans may primarily search for others' opinions because the Chinese collectivistic society stimulates cooperative behavior and because others' experiences are particularly helpful in revealing the possible untrustworthiness of a provider. Therefore:

> **H_3:** Chinese and Western Europeans attach different priorities to the different types of information sought on the Internet prior to a purchase.

Starting point of online search

We distinguish three main starting points of a search for information on the Internet prior to a purchase: forums, consumer websites, and search engines.

There are some very popular and advanced Chinese consumer websites, such as Taobao. Chinese likely make greater use of such websites to compare alternatives and share user opinions for four reasons. Firstly, information needs of consumers may be more complex in China than in Western Europe. In both regions, information about aspects such as price, product characteristics, user friendliness, and durability is desirable. In China, however, it is not only desirable but even critical to also have information about the vendor's trustworthiness and the manufacturer's possible reputation for counterfeit or unperceivable low quality, as there is still considerable risk of opportunistic behavior by businesses in China. Avoiding a bad buy is especially important because there is lack of

decent regulation about consumer rights such as return policies, even if consumer power is increasing (Ho 1997; Ho 2001). Secondly, as the retail market is more fragmented in China, consumers cannot rely as well on the reputation of the many sellers and manufacturers because most are relatively unknown. Thirdly, Ackerman and Tellis (2001) found that Chinese examined more alternatives per product than Americans do, mainly because they are more price-conscious. Fourthly, consumer websites are just like forums good places to cooperate against the distrusted businesses, which are distant from the in-group.

In addition to consumer websites, the use of forums is widespread in China and enables consumers to share information about products and sellers. If consumer websites and forums are so popular in China, Chinese will more likely than Europeans remember their favorite consumer websites and forums. Consequently, they will more likely go directly to their favorite websites when they need commercial information, rather than first using a search engine. Therefore:

> **H_4:** Chinese more often than Western Europeans go directly to forums and consumer websites when searching for information on the Internet prior to a purchase, whereas Western Europeans more often start on a search engine.

Usage pattern on search engines

While Google limits sponsored results on top of the search results to maximum three and clearly distinguishes them from the regular search results below them, Baidu's results generally contain more sponsored results that users can hardly distinguish from regular results and that take more space. Since sponsored results are not likely the most relevant ones, Google users might click faster and higher when the list of search results appears. Baidu users will more likely scroll down a little, whether or not they are aware of the fact that the first results are paid. Apart from technical aspects of particular search engines, also behavioral characteristics of people themselves may influence the way they make use of a search engines. Chinese communicate and absorb information in different ways than people from low-context cultures. This may impact the way they assess the list of search results. An explorative eye tracking study based on 50 students found that the technical and behavioral factors just discussed may indeed have an impact on how people use search engines (Enquiro Research 2007). Therefore:

> **H_5:** Chinese and Western Europeans display different usage patterns on search engines.

Contribution of user opinions

Chinese are likely to contribute more opinions on the Internet for various reasons. First, China is a more collectivistic society than Western Europe, where people often engage in cooperative behavior and information sharing. Second, consumer protection laws are still not firmly in place in China as much as in Western Europe. By cooperating, consumers can better avoid bad buys. Third, a basic principle of Confucianism is the principle of reciprocity which, unlike in the West, encourages giving back *more* than was received (Yeung and Tung 1996). Another principle of Confucianism is *xia*, a term that carriers the same connotation as "knight" in the West. Those in

positions of power and authority can gain face and reputation by helping the weak (Yeung and Tung 1996). Chinese will thus contribute opinions more likely than Western Europeans, even if they have not yet gained as much or are unsure if they will gain in the future. Anonymity does not impede building a reputation, as one interviewee explained during the pilot interviews. Consequently, the principles of reciprocity and "knight" still apply online. Fourth, Chinese consumers are less shy to express opinions online than in the offline world, where social behavior has always been governed by rigid norms and rules. They are likely to exploit the opportunity that anonymous platforms offer them to be heard.

In a study comparing Korea and the U.S., Yun, Park and Ha (2008) concluded that more Korean retail websites adopted consumer review functionality than U.S. websites did for similar reasons as just hypothesized. Therefore:

H_6: The ratio posting/visiting on consumer websites is higher for Chinese than for Western Europeans.

Methodology

In the early phases of this research, the author has made a two-month journey to Beijing in order to collect data and to better grasp cultural and societal specificities of China by immersing in the local environment.

During the first month, meetings were held with managers of Yourzine, an online marketing company in Beijing (6 hours in total). This helped us gain a better understanding of the Internet landscape in China and how it differs between China and Western Europe. Research hypotheses were developed and refined iteratively by doing a literature review parallel to conducting pilot interviews with Chinese students and Chinese or foreign business professionals in China. The goal of the interviews was to explore experiences, visions and motivations of individuals (Blanchet 1995). The discussed topics include their Internet usage and the link with fundamental characteristics of China with regard to culture, society, economy, technology, etc. We opted for semi-structured interviews, as this type makes sure that the framework set out based on existing literature is followed, while still allowing adding or dropping questions when felt appropriate (DiCicco-Bloom and Crabtree 2006; Gill et al. 2008). 12 business professionals were interviewed one-on-one (8 hours in total). We selected those that occupy leading positions (CEO, director, manager), as they are best positioned to describe the business landscape in China. The first 10 students were interviewed in groups of three or four (2 hours in total). The other 22 students were interviewed one-on-one (16 hours in total). The list of prepared questions evolved continuously, as insight in the topic increased. All interviews were conducted in English and all but two happened face-to-face (the other two by telephone). At the end of this first month, four telephonic interviews were conducted with Belgian students (3.5 hours in total) to further assess the plausibility of the final hypotheses about differences between Chinese and Western Europeans. Four is a small but large enough number because we were already sufficiently familiar with Western European culture and habits.

During the second month of field research in China, a structured questionnaire was developed and distributed to collect quantitative data on the final research hypotheses. The sample (N = 1140) consists of Chinese and Belgian students. The sample only comprises students because (1) budgetary constraints impeded selecting a sample

representative for all Chinese consumers and (2) a more homogeneous sample allows for better comparison between two countries. Chinese students visiting the main dining halls on campus of four different universities in Beijing were asked to complete a printed version of the questionnaire. The same was done at four different student restaurants in two cities in Belgium (Leuven and Kortrijk). Since the questionnaires were collected in the student restaurants of different universities, the sample is representative for most students and not just those studying a specific subject. Further, as students currently comprise 33.2% of the Chinese Internet population (CNNIC 2009), one third of the Chinese Internet population falls under the scope of this study. Even though Belgium lies central in Western Europe, a sample from a larger country (e.g. France, Germany) may have been more appropriate to compare with a Chinese sample. Belgium was chosen because of time and budgetary constraints. 169 Belgians and 49 Chinese were contacted through our personal network and completed an electronic version of the questionnaire on the Internet. The questionnaire contained 39 questions and was translated from English to Chinese and Dutch, to avoid a bias towards English-speaking students in both countries. We did the translation to Dutch. The translation to Chinese was done by a final-year student at Tsinghua University, which requires students to take an English test prior to being admitted. The Chinese translation was then verified and edited by another Tsinghua University student that has won Tsinghua University's English Speech Competition in 2007 (among 300 other participants). Douglas and Craig (2006) suggest such an iterative and collaborative approach to minimize a possible bias in translation of the questions. The main questions of the questionnaire, i.e. the ones that are necessary to verify the hypotheses, have predefined answers between which respondents can choose. In addition, the questionnaire contained open questions to possibly gain further insight. Students could choose to answer in English or their mother tongue. The answers that were in Chinese, were translated afterwards by another final-year student of Tsinghua University. A bias in translation of the responses is unlikely to be of great concern, given that (1) it is only applicable to some of the questions, (2) these questions are secondary to the research, and (3) the answers were often of very simple, e.g. listing a number of products.

Statistical analysis and design of charts was done using SPSS. Answers to most questions consist of exactly one option out of a predefined nominal or ordinal list of options. To compare the answers of Chinese and Belgians, the Pearson Chi-Square test for independence of two variables is appropriate. When the answer to a question is a scale variable, the means for Chinese and Belgians are calculated and the significance of their difference is assessed through ANOVA.

One should be careful when interpreting answers to questionnaires in cross-cultural studies. Some researchers have concluded that response styles such as extremity are not a problem in cross-cultural research (Chen, Lee and Stevenson 1995; Schmitt and Allik 2005). Others raise concerns that apparent substantive differences across cultures may be artificial, deriving (at least in part) from differences in response styles (van de Vijver and Leung 1997). Dolnicar and Grün (2007) showed that a small part of the difference in responses between Asian and Australians could be attributed to different response patterns that are rooted in cultural differences. Chinese less often chose the extreme answers and preferred the "mild" options. Hamamura, Heine and Paulus (2008) found that East Asians tend to respond more ambivalently and moderately.

The responses to the questionnaire used in this research can be interpreted with confidence. Any bias due to differences between Chinese and Belgians in response patterns is unlikely. Most of the questions in our questionnaire have a predefined list of answers that is nominal in nature, not ordinal. For all these questions, possible differences between Chinese and Belgians in their inherent extremity of responses will not pose any problems. For the few questions where an ordinal scale is used, results are sometimes transformed to mitigate the problem and it will be taken into account that part of the difference between Chinese and Belgians may be explained by different response patterns. Moreover, we gained additional insight in the topic by conducting interviews, allowing us to interpret the data from the questionnaire more accurately. Such a multi-method approach, including interviews and a questionnaire, is advisable in studies involving culture (Leung et al. 2005; Yaprak 2008).

Results and Analysis

Sample demographics

A sample of N = 1140 was selected. Demographics are shown in Table 1. The average age of Chinese respondents is slightly higher than that of Belgian respondents but an analysis of interaction effects showed that this does not explain much difference in responses. The main reason for the higher age of Chinese respondents is probably that many study programs in China last a year longer than those in Belgium. Chinese respondents mainly study at Tsinghua University (50%), Beijing Institute of Technology (16%), Beijing International Studies University (12%), and Peking University (11%). Note that all of these universities offer programs in all main academic disciplines, so BIT and BISU are not only offering programs in technology or international studies. Belgian respondents mainly study at K.U.Leuven (62%) and Campus Kortrijk of K.U.Leuven (18%).

Insert Table 1 about here

Frequency

As demonstrated in Figure 1, Chinese students look for information on the Internet prior to a purchase of a similar product (electronics, in this case) more often than Belgian students. Chinese do so in 80% of the cases on average, Belgians in 63% of the cases. The fact that there is a peak in the number of Chinese people choosing 100% confirms that the Internet is a key source of information for Chinese, unlike in Belgium where information is more easily available through other sources as well. The difference between China and Belgium is significant on the .0005-level in both an ANOVA test for equality of means and the Pearson Chi-Square test for independence of *nationality* and *frequency*. Consequently, H_1 is supported.

Insert Figure 1 about here

Figure 2 shows that Chinese and Belgian students look for information about similar products (besides electronics) on the Internet. Chinese mentioned more product types in total, another indication that they may indeed look for more information on the Internet prior to a purchase.

Insert Figure 2 about here

Goal

Figure 3 shows that for both Chinese and Belgian respondents, the most important goal when searching for information on the Internet prior to a purchase is narrowing down the alternatives in order to define a consideration set. This is logical, given that the Internet allows decreasing search costs, which allows for comparing more alternatives (Babos 2001). However, not all possible goals are equally important for Chinese and Belgian students. Narrowing down alternatives is relatively more important for Chinese, while choosing one of a few alternatives and finding the location of a store are considerably less important for Chinese (relatively to the other options). The hypothesis that the variables *nationality* and *goal* are independent is rejected ($p < .0005$). We conclude that H_2 is supported.

Insert Figure 3 about here

Type of information

Figure 4 reveals the differences in the type of information searched. As expected, objective facts (price and product characteristics) are the primary information that most Chinese (81%) as well as Belgian (65%) students look for on the Internet, but they are a priority over the other two types of information for more Chinese than Belgians. Finding others' opinions is a priority for more Belgians (12%) than Chinese (9%). However, the importance of others' opinions in China is shown by the answers to an open question that gauged for the reason to rely or not to rely on others' opinions. After coding the answers, we observe that more Belgians (13.8% of responses) than Chinese (6.1%) gave reasons *not* to rely on others' opinions. So even if Chinese attach high value to others' opinions (as decision making is more often done in a collective way in China), it is even more important for them to find objective information about price and product characteristics on the Internet. Compared with the importance attached to others' opinions, there is a much larger difference in number of Chinese (11%) and Belgians (23%) seeking expert reviews as a priority, which is logical because professional experts are even more remote from the in-group. The observed differences in type of information sought are significant ($p < .0005$) and consequently H_3 is supported.

Insert Figure 4 about here

Starting point of online search

Figures 5, 6 and 7 show how often Chinese and Belgians students make use of forums, consumer websites, and search engines respectively. The charts combine the two most extreme options on both sides of the scale to mitigate the distortion of results by Belgians' possible tendency to respond more extremely. The differences between the two nations are clear-cut. Chinese directly go to forums and consumer websites considerably more often than Belgians prior to a purchase, while Belgians rather make use of search engines. Each time the difference between Chinese and Belgian students is significant ($p < .0005$). We conclude that H_4 is supported.

Respondents were asked to write down the consumer websites that they visit. While there are a few very popular consumer websites in China, consumer websites in Belgium are a lot smaller and more diverse. This confirms our hypothesized explanation for why Belgians much less often than Chinese go *directly* to consumer websites. Consumer websites aiming at Belgians are harder to find and remember because of their limited size and exposure.

Except for eBay and Amazon, few international websites are visited by the respondents. As these websites are available in Chinese and Dutch (except for Amazon, which is not available in Dutch), we can conclude that consumers in China as well as Belgium look for consumer websites visited by people with the same language. Because language allows communicating a culture's values and norms, people with a common language will likely share such common cultural values and norms (Lamal 1991). This may be one reason why many Belgians, that generally speak English well, prefer small Dutch-language websites over advanced English-language websites: they are visited by people with a similar view on what distinguishes a "good" from a "bad" product. Other reasons may be more practical in nature: Dutch-language websites will more likely contain information about books written in Dutch, clothes from the current fashion in Belgium, products sold by Belgian stores or online sellers, etc.

Insert Figure 5 about here

Insert Figure 6 about here

Insert Figure 7 about here

Usage pattern on search engines

Table 2 shows that Google's market share for commercial information search is 30.5% among Chinese respondents, with Baidu having 67.9%. Among Belgian respondents, Google is the only significant player (99.1% market share). These market shares are comparable to Google's overall market share of 27% in China (CIC 2008) and 92% in Belgium (Edwin Design Lab 2008).

A study of CIC (2008) states that typical Chinese Google users point out that Google's searching results are better than Baidu's in term of relevance, richness, fairness (irrelevant to commercial advertising), and overall satisfaction. This is consistent with our pilot interviews, which found that Google users are slightly older, more conscious/critical about Baidu's scandals, and more caring about quality of results. Moreover, their frame of reference extends beyond China, to the whole world. For example, several Google users stated that they use Google because it is the most famous search engine *in the world*, while Chinese users argued that Baidu was most famous *in China*.

Table 2 further indicates that most Chinese students (97.8%) mainly enter search queries in Chinese, while a considerable share of Belgian students (31.5%) does not use its native language (Dutch) but English as a primary language for the search terms. There are two reasons why Chinese students enter search queries much less often in English than Belgians. First, many Chinese are not fluent enough in English to be comfortable with searching information in English, even if they are making great efforts to become proficient in English. Second, Chinese can find most information in their native language because there are so many Internet users that speak Chinese and write

web content in Chinese, which is not the case for the Dutch language. There are 298 million Chinese Internet users (CNNIC 2009), compared to only 20 million in Flanders and the Netherlands combined, the main Dutch-speaking regions in the world (CIA 2009).

Insert Table 2 about here

Figures 8, 9, 10, 11 and 12 present details on how the search process is enacted. The findings are based on students' self-perception. Due to budgetary constraints, an eye movement tracking method was not viable and a less accurate self-report method was opted for. Still the findings may hint differences between Chinese and Belgians, if it is plausible that the deviation of self-perception from actual behavior is more or less consistent between Chinese and Belgians.

There is a significant difference ($p = .004$) between Chinese and Belgians in the amount of search results looked at before clicking on one, after they appear on the screen. Belgians appear to look at fewer results before they click on one for the first time, while quite some Chinese even scroll down before clicking for the first time (Figure 8). This is consistent with the finding that Chinese generally execute their first click on a search result lower in the list than Belgians do (Figure 9, Pearson test $p < .0005$, ANOVA test $p = .02$). As hypothesized, we probably observe these differences because most Chinese use Baidu and a larger part of the screen is covered with sponsored results on Baidu than on Google, while these sponsored results are not necessarily the most relevant ones.

Figure 10 depicts a remarkable distinction between Chinese and Belgians. More than three times as often as Belgians, Chinese first click on a number of search results and open all of them at once in new browser windows or tabs, before actually looking at the web pages that they represent ($p < .0005$). One Chinese respondent noted that many Chinese use this navigation style not only on search engines but on most websites. Many Chinese websites are adapted to this navigation style by automatically opening links in new windows or tabs. Before further discussing this, we present another finding. Seemingly inconsistent with the findings that Chinese look at more results before clicking for the first time (Figure 8) and that they execute their click on a result lower in the list (Figure 9), Chinese click on a result for the first time sooner than Belgians (Figure 11), a difference that is also significant ($p = .008$).

One explanation for the observation in Figure 11 may be that Chinese find commercial information more easily because China has a few very popular and advanced consumer websites (mainly Taobao, Dangdang, and Amazon), while they are more fragmented in Belgium. These reputed websites appear high in the search results and are easily recognized, which increases the likelihood that users click quickly on them when the search results appear on the page. But if these websites are so easy to find, then why do Chinese click lower in the list of results? These well-known websites will appear quite high in the search results but, especially on Baidu (the main search engine in China), not at the very top because the first results are paid listings. If a consumer website is very well known, it will still stand out between the paid listings even if it is ranked lower, so consumers will quickly notice it and likely click on it.

However, an eye tracking study of Enquiro Research (2007) suggests there is a second explanation why Chinese click sooner, adding to the effect that stems from the difference between Chinese and Belgians in type of websites sought. Enquiro Research observed that Chinese went back and forth between the search results page and the actual websites a lot more than Americans and concluded that Chinese postpone most of the evaluation of a search result's relevancy until they see the actual webpage. Belgians, on the other hand, may do most of the assessment based on the short description that is listed together with the search result title and thus take more time to review and eliminate some of them before actually clicking on one.

Then it becomes logical why more Chinese students process websites opened in new windows in batch: as most Chinese, they postpone their assessment of the results' relevancy, which means they attribute a relatively low probability of "satisfaction" to a result when they have clicked on it (which is more or less a "guess"). Consequently, they may find it more efficient to first open more results and afterwards quickly process all of them in batch. The other alternative, processing results one by one, may be less efficient because each time one goes back and forth between the search results and a website, one needs some additional time to find back the point on the search results page where one left. However, about half of the Chinese respondents still appear to explore the results one by one, even though they postpone most of their assessment of the results' relevancy.

The data show no significant dependency relationship between navigation style (Figure 10) and speed of clicking (Figure 11), at least for Chinese (p = .139). If there would be, one could conclude that only the Chinese that open several results in new windows and then process them in batch, click faster. But this is not the case. *All* Chinese postpone their assessment of results' relevancy, not just those processing results in batch. For Chinese, that is. For Belgians, there was a rather large and significant dependency relationship (p = .078). The 17% of Belgians that look at web pages in batch click faster than those who do not, but still a little bit slower than Chinese. There can be two possible reasons why they still click slower than Chinese. Either Chinese search for websites that are easier to find (e.g. consumer websites – as discussed before) or Belgians that process results in batch still do a larger part of results' assessment based on the description on the search results page, than Chinese.

Why would Chinese generally postpone more of their evaluation of a search result's relevancy than Belgians? Hall's (1974) concept of high- vs. low- context culture may bring illumination why navigation styles are different. While a search result's description only contains essential information such as a well-formulated title and some keywords, the whole web page presents a much broader range of information, including details such as look and feel, orthography, structure, etc. Westerners prefer the simplicity of a few keywords, which do not contain exactly as much information as a whole web page but still enough to base most of the assessment of a web page's relevancy on them. Chinese websites, magazines, billboards or shops look cluttered to them, while it seems to be the way that Chinese like it. Hall explained that people from high-context cultures are better able to deal with information overload because they do not attempt to process every detail. They are used to seemingly complex environments and perhaps even need broader information than Western Europeans to base a decision on, or in other words, are less able to form an accurate judgment on the basis of a few keywords only. This may explain why they prefer the complete, information-rich web page to base most of their assessment on, rather than the keywords on the search results page.

Figure 12 depicts another unexpected finding. Only 20% of Chinese students, compared to 40% of Belgian students, do not limit their exploration of the search results to the first page, but also look at results on the following pages. On the other hand, twice as many Chinese as Belgians limit their exploration to results on the first half of the "visible screen"[9]. The difference in amount of explored search results is significant ($p < .0005$). One explanation may be that copying product reviews between websites is not uncommon in China, which several Chinese interviewees confirmed. When people search for product information, the list of search results often contains many websites that host the same, copied product review. Internet users facing this list may not explore it beyond (the top of) the first page if they believe that the rest likely contains links to the same review again. However, the peak in number of Chinese that only look at the very first few of the search results implies there is another, additional explanation. Users will only finish their search if they have merely looked at the first *half* of the visible screen if they have found what they were looking for. If there are duplicate product reviews in the results list, people would be expected to at least look at all the results on the visible screen or even scroll down. The results thus suggest that more Chinese respondents search for websites that are easy to find, which is consistent with the above-mentioned reasoning. A plausible explanation is that a large amount of Chinese respondents quickly finds one of the very popular consumer websites in China and is satisfied with this result.

In conclusion, the results show support for H_5.

Insert Figure 8 about here

Insert Figure 9 about here

Insert Figure 10 about here

Insert Figure 11 about here

Insert Figure 12 about here

Contribution of user opinions

Table 3 compares the posting activity of Chinese and Belgian students that make equal use of consumer websites. The students are grouped into three categories: "sometimes", "now and then", and "often" using consumer websites. For a same frequency of visiting, Chinese students post significantly more comments on consumer websites. This implies that H_6 is supported.

Insert Table 3 about here

[9] The "visible screen" is the part of the web page that can be viewed without scrolling down, i.e. the part above the "screen fold".

Conclusion

As the Internet penetration and purchasing power in China is growing rapidly, consumers raise their level of spending and make increasing use of the Internet to evaluate their potential purchases. This study has shown that there are distinct differences between Chinese and Western European students with regard to their search for information on the Internet prior to a purchase. First, Chinese do it prior to a larger share of their purchases. Second, fewer of them base their final decision on information found online. They rather use it to narrow down the alternatives. Third, even more for Chinese than for Western Europeans, basic facts such as price and product characteristics are the priority type of information sought. Fourth, Chinese more often go directly to a forum or consumer websites, and less often make use of a search engine. Fifth, Chinese show different navigation behavior on search engines. Sixth, Chinese contribute more opinions on consumer websites.

Figure 13 summarizes dependency relationships between these six attributes of the online search process of consumers (right column) and fundamental aspects in which China differs from Western Europe (left column). The arrows indicate which fundamental differences explain the differences in online search behavior.

These results have important implications for marketing practitioners in China, especially for multinationals that enter the Chinese market and that are not familiar yet with the Chinese environment. They cannot adopt the same online marketing strategies in China as they do in their home region. First, since Chinese use the Internet so often to search for commercial information, companies in China cannot neglect this marketing channel. Second, by understanding consumers' primary goal when searching online, companies can direct their online marketing efforts where they are most effective. Third, well-targeted advertising on consumer websites may be particularly worthwhile, given their popularity in China. Fourth, even though search engines are used less in China to find commercial information, they should be part of any business' marketing strategy since they are still an important gateway to information for the Chinese consumer. We have explored Chinese consumers' behavior on search engines. Paying Baidu to be listed on top of the search results even when not having the most relevant website is not necessarily the best strategy, as Chinese click relatively seldom on the first results. However, companies that do not appear on the first page may not be noticed at all, since Chinese rarely explore pages after the first.

Insert Figure 13 about here

In this paper, we have increased the existing knowledge on the Internet search behavior of consumers with different cultural backgrounds and we have shown dependency relationships between Internet behavior and certain cultural, economic, behavioral, and other factors. Avenues for future research include further exploring these dependency relationships and verifying the results for samples with other characteristics.

Note

A list of the interviewees and an electronic version of the questionnaire used for this research can be obtained by contacting the corresponding author.

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Tables

Table 1. Sample demographics

		Nationality		
		Chinese	Belgian	Total
Gender	Male	320 (53.2%)	287 (53.3%)	607 (53.2%)
	Female	282 (46.8%)	251 (46.7%)	533 (46.8%)
	Total	602 (100.0%)	538 (100.0%)	1140 (100.0%)
Age	Average	22.85	20.57	21.77
	Standard deviation	2.78	2.30	2.81

Table 2. Choice of search engine and language of search query

		Nationality	
		Chinese	Belgian
Search engine used	Baidu	67.9%	0.0%
	Google	30.5%	99.1%
	Other	1.6%	0.9%
	Total	100.0%	100.0%
Language most often used to type search query	Chinese	97.8%	0.0%
	Dutch	0.0%	68.5%
	English	2.2%	31.5%
	Total	100.0%	100.0%

Table 3. Percentage of respondents that has posted five or more comments on consumer websites in the last six months

		Nationality		P-value of Pearson test for independence of *nationality* and *nr of posts* (within *frequency of consumer site use*)
		Chinese	Belgian	
Frequency of consumer website use	Sometimes	8.5%[a]	1.6%	.012
	Now and then	15.9%	4.2%	.012
	Often	19.8%	7.3%	.058

[a] *Note*: percentages are calculated towards total number of respondents within each cell of *nationality* x *frequency of consumer website use* (6 cells in total).

Figures

Figure 1. Percentage of electronics purchases preceded by an information search on the Internet

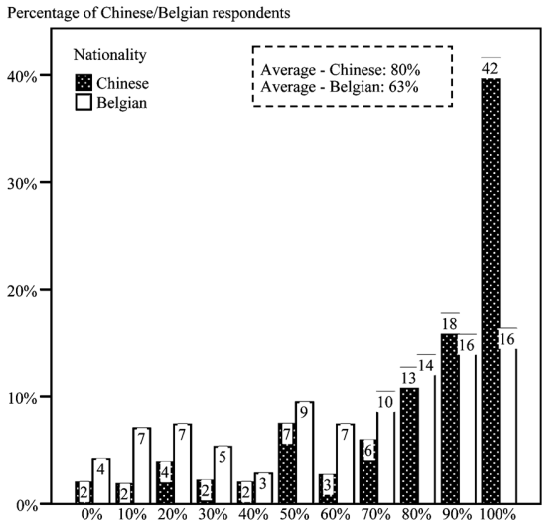

Figure 2. Products for which respondents look for information on the Internet (multiple responses possible, percentages calculated to total number of responses within nationality)

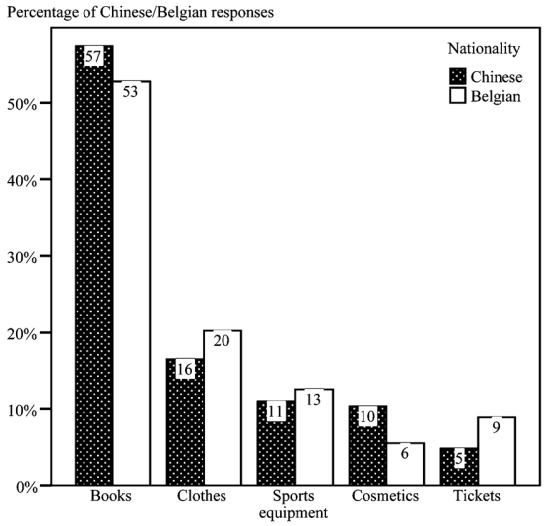

Figure 3. Primary goal when searching for information on the Internet prior to a purchase

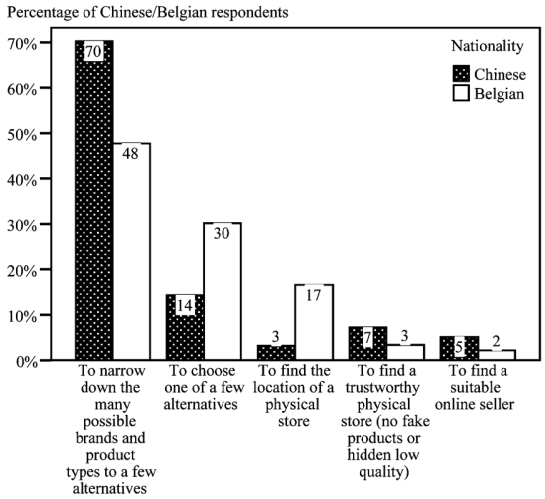

Figure 4. Primary type of information searched on the Internet prior to a purchase

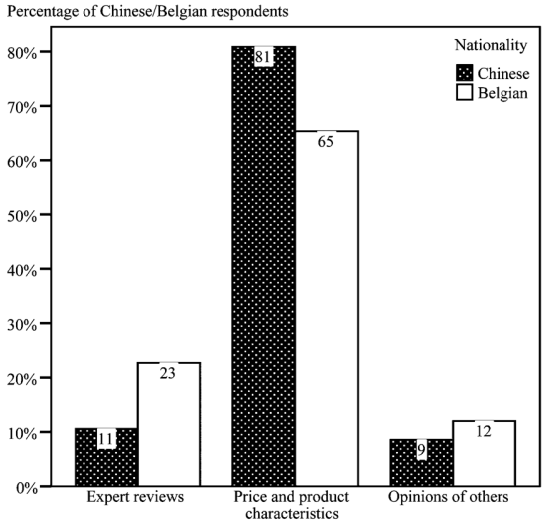

Figure 5. Frequency of search for information directly on forums prior to a purchase

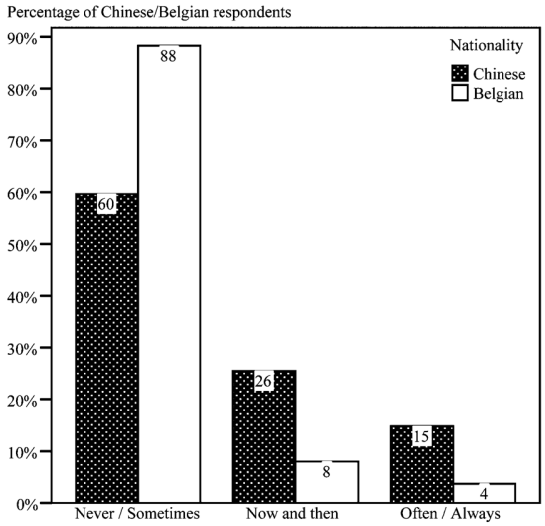

Figure 6. Frequency of search for information directly on consumer websites prior to a purchase

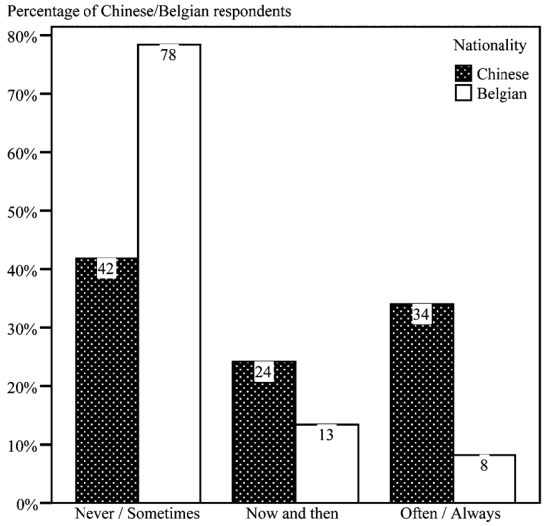

Figure 7. Frequency of search for information on search engines prior to a purchase

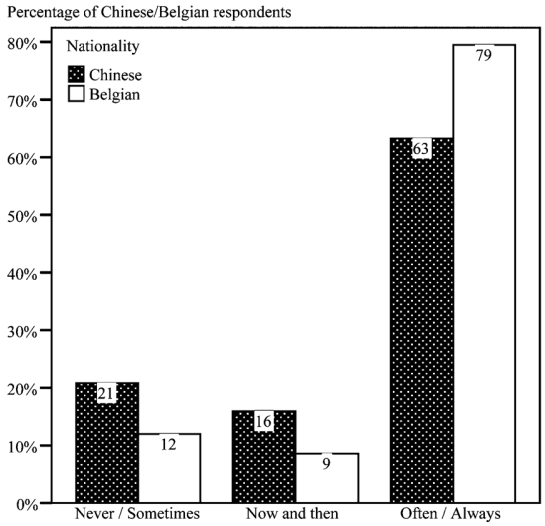

Figure 8. Amount of search results looked at before clicking on one, after they appear on the screen

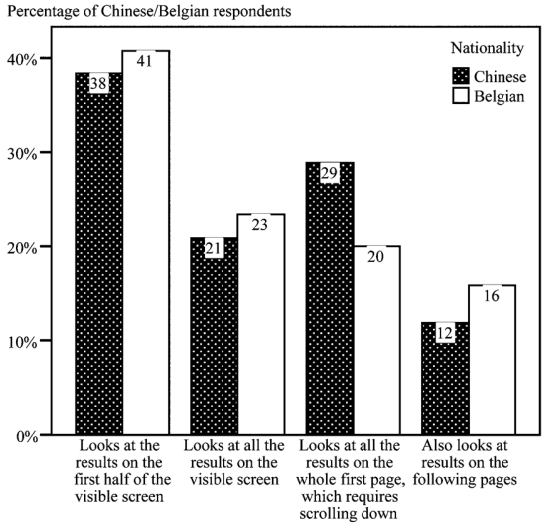

Figure 9. Percentage of times that first click is on one of first two search results

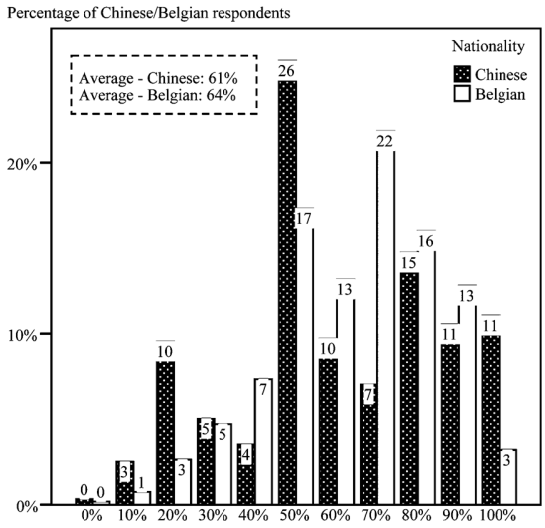

Figure 10. Action after clicking on a search result for the first time

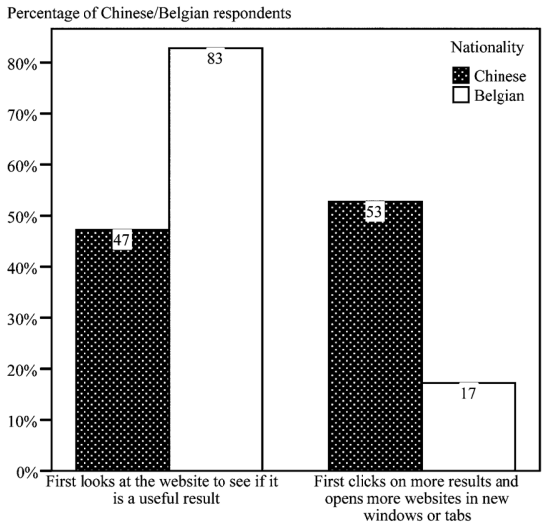

Figure 11. Seconds gone before clicking on one of the search results, after they appear on the screen

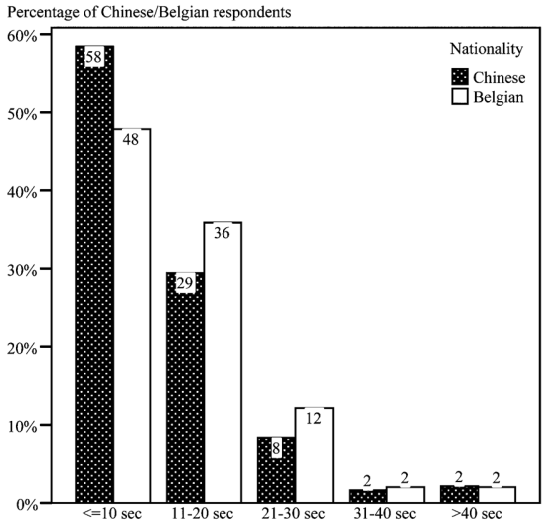

Figure 12. Amount of search results looked at when finished with exploring list of search results

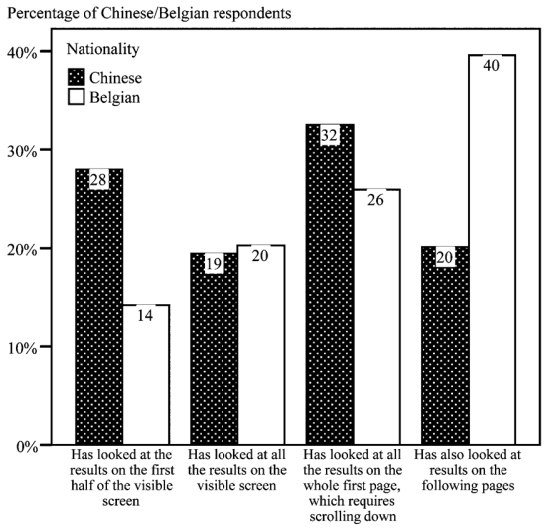

Figure 13. Proposed dependency relationships