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WHAT IS HAMPERING ONLINE SHOPPING IN CHINA?

CAROL XIAOJUAN OU

CITY UNIVERSITY OF HONG KONG

iscarol@cityu.edu.hk

CHOON LING SIA

CITY UNIVERSITY OF HONG KONG

iscl@cityu.edu.hk

PROBIR BANERJEE

CITY UNIVERSITY OF HONG KONG

pkbanerj@cityu.edu.hk

ABSTRACT

This paper explores the reasons for the slow growth in online shopping in China by using Turban and King's framework of online consumer buying behavior. We study the impact of factors in the framework with respect to sales achievements of eBay and EachNet, two prominent online shopping ventures in the U.S. and China respectively. Our findings indicate that the major deterrents to online shopping in China are consumers' lack of trust in online vendors, legal concerns, low-price-oriented market stimuli, limited choice of goods, and infrastructural inadequacy like under-developed payment systems and system insecurity. The higher sales of eBay may be attributed to the presence of attributes that are lacking in the Chinese context. Theoretical and practical implications of the findings are discussed.

Keywords: Electronic commerce (EC), information technology (IT), interpretive study

INTRODUCTION

The annual economic growth of China reached almost 10% on average in the past decade, and predictions are that China is poised to become the second largest economy in the world in 20 years [30]. As a part of the Chinese government's ninth five-year plan, the agenda of "Golden Projects" launched in 1993 aimed at modernizing the IT infrastructure by establishing a data communication network on a nationwide scale. Specific implementation measures included expanding the telecommunications capacity (Golden Marco and Golden Switch Project), building an infrastructure for the use of IT (Golden Bridge Project), developing a credit card verification scheme (Golden Card Project), and monitoring the Internet devel-

opment projects (Golden Intelligence Project). The measures subsequently created a favorable macro-environment for the development of online shopping in China [5].

However, in spite of these efforts since 1993, online shopping in China is still in its infancy [33]. The return on investment (ROI) of Chinese-content leading commercial websites is still negative [4] though they are trying to follow the successful business models used in the U.S. Some examples are the online book retailer: Dangdang -- Amazon; content provider: Sina -- Yahoo; and online auction site EachNet -- eBay. Besides the negative ROI of these leading commercial websites, the projections of online shopping growth in China are disappointing [35]. Data from Forrester Research also indicates that online sales volume in China accounted for only a small

proportion, less than 3.03%, of the worldwide online sales in 2004 (see Table 1 for online sales figures of some countries) [14]. Thus, in the backdrop of China's potential to become a significantly larger economy, this phenomenon prompts an in-depth investigation. The broad overall question therefore is "What is hampering the growth of online sales in China"?

Table 1: Worldwide Online Sales in 2004 [14]

Area	2004 (US\$ Billion)	% of worldwide online sales in 2004
North America	US\$3,456.4	50.91%
United States	US\$3,189.0	46.97%
Canada	US\$160.3	2.36%
Mexico	US\$107.0	1.58%
Asia Pacific	US\$1,649.8	24.30%
Japan	US\$880.3	12.97%
Australia	US\$207.6	3.06%
Korea	US\$205.7	3.03%
Western Europe	US\$1,533.2	22.58%
	US\$81.8	
Latin America		1.20%
Others	US\$68.58	1.01%
Total	US\$6,789.8	100.0%

While previous studies have investigated the development of electronic commerce (EC) in China, it appears that a large number of external factors that significantly influence online shopping have been excluded in previous studies. In order to provide a better and more thorough understanding of the phenomenon, we employ Turban and King's framework [32] in this study. The framework stresses four major factors that impact consumers' online buying decisions: (1) environmental characteristics, which refer to the pivotal environmental or structural conditions for online purchase and sales, such as government regulations and the legal system, payment

infrastructure, and logistics network; (2) personal characteristics that cover demographic data of EC consumers and culture issues; (3) marketing stimuli, which emphasizes price, promotion, product and quality in the online sales context; and (4) online vendors' controlled systems that refers to the vendors' provision of logistics, technology, and customer service. The factors in the framework cover three levels - country, marketplace and the individual consumer.. Thus the framework allows for a comprehensive evaluation of the reasons that are hampering the growth of online shopping in China. In this multi-level perspective, we evaluate two online shopping sites, Each-Net and eBay, the former directed at China (where online shopping rate is relatively low) and the latter at the U.S. (where online shopping rate is relatively high).

In the next section we present an overview of the literature and theoretical foundation. In section 3 we discuss the research methodology used in this study. Section 4 discusses consumer concerns in China as compared to the U.S. The last section discusses the theoretical and practical implications and future research directions.

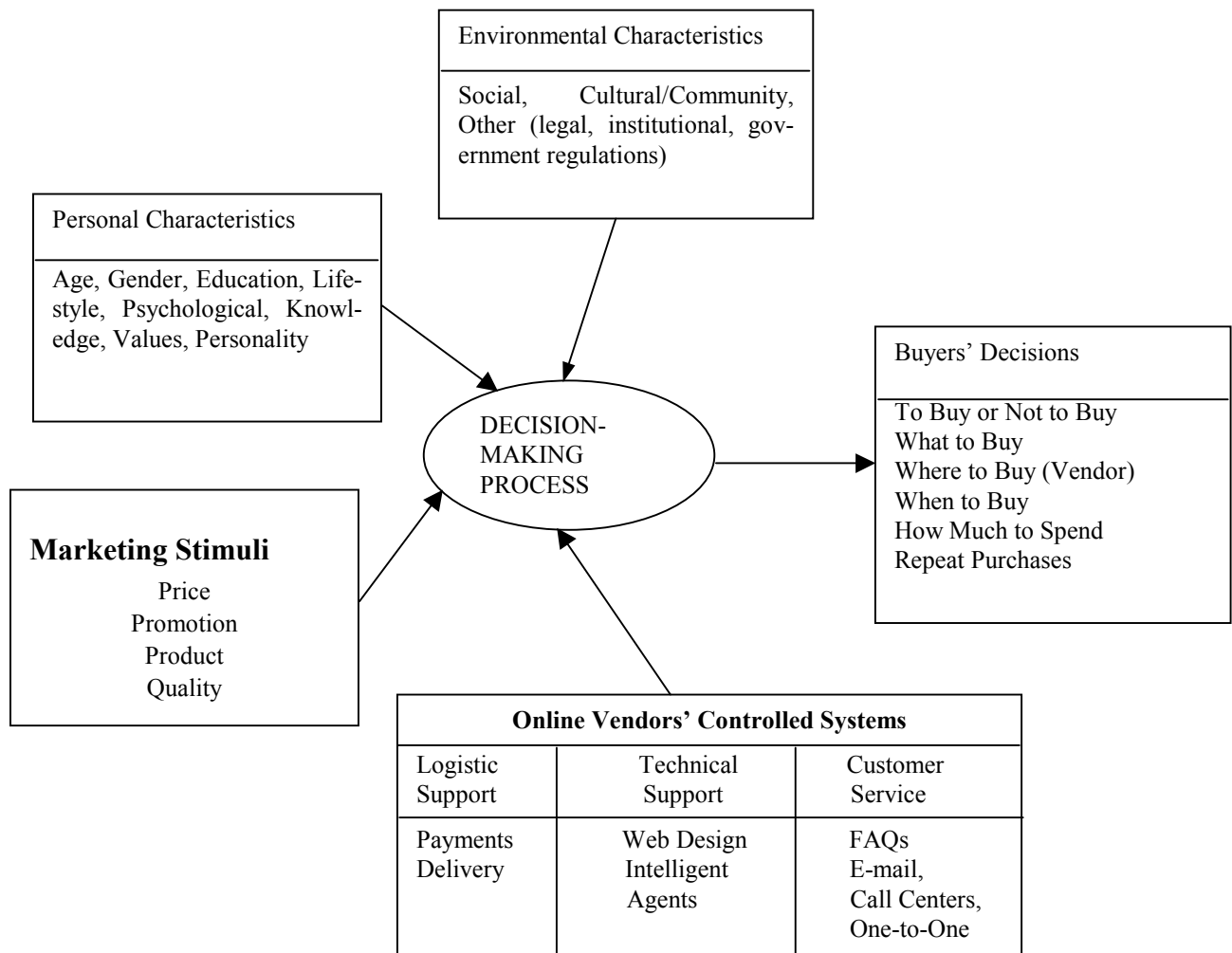
LITERATURE REVIEW AND THEORETICAL FOUNDATION

Our review of prior research on online shopping behavior indicates that while one or more factors of the framework have received individual attention, a comprehensive analysis encompassing all the factors (internal factors e.g., consumer characteristics and consumer attitude, as well as external environmental factors e.g., environmental characteristics, market stimuli, and vendors; controlled systems) has not yet been undertaken, resulting in a partial understanding of the phenomenon. Table 2 provides a summary of our review. Dimensions not covered in the study are represented by --. Since Turban and King's [32] framework of consumer behavior covers all factors - internal as well as external (see Figure 1), we test the efficacy of this framework to comprehensively explain online buying behavior in China. We also compare the Chinese context with that in the U.S. to gain a better understanding of how the factors in the framework impact online buying behavior in two characteristically different environments.

Table 2: Summary of Literature Review

Studies	Environmental characteristics	Market stimuli	Consumer characteristics	Vendors' controlled systems	Consumer attitude/decision
[5]	Technical infrastructure and regulatory framework for EC, supporting industries	--	Demand conditions	--	--
[18]	Economic infrastructure: commercial, corruption, security concerns, ideology, and enforcement	--	--	--	The development of EC in China: growth of EC
[29]	Online payment system, government Internet policies, legal framework, and telecommunications environment factors	--	IT knowledge, EC knowledge	--	Attitude toward EC
[2]	Lack of real credit cards, lack of a centralized settlement system	--	Inherent values and attitudes of Chinese people	--	Order online, pay offline pattern
[13]	Technological infrastructure	--	Cultural impediments to EC such as trust, attitude toward debit	Off-site/online transaction systems	Acceptance and development of EC
[26]	Environmental uncertainty: regulation and interference by the state and its officials	Relationship with the public and third parties	--	Key to EC success in China: value-added service, online card payments, distribution, attract online customers, online customization, warehousing support, security	--
[22]	Incomplete policies, Internet costs, slow Internet, copyright problems	--	--	Information quality, information flow, management mechanism	--
[36]	Popularity of the Internet	--	Individual characteristics	Characteristics of the Internet in China	Adoption and usage of the Internet
[33]	--	Price, quality, merchandise range, advertising, promotion	Demographics	User-friendly web sites	Purchasing frequency

Figure 1: EC Consumer Behavior Model [32]



RESEARCH METHODOLOGY

This research is essentially positivist in that an extant framework guides the investigation. The framework includes factors that impact at three levels -- a macro-level environmental dimension, a marketplace-level dimension and a micro-level individual dimension. We believe that this multi-level perspective is necessary to fully understand the situational context and its impact on the target behavior. We use literature regarding environmental factors and data collected by CNNIC in 2005¹ [6] to interpret environmental and personal factors. At the marketplace level (i.e., marketing stimuli and vendors' controlled systems), we use two online shopping market leaders, eBay and EachNet², as the basis to illustrate the relevance of

marketplace-related factors in online behavior of consumers China. At the individual level, we again use data from CNNIC and panel interviews to investigate consumers' attitudes with respect to online shopping. In addition, interview data from face-to-face discussions with 20 Chinese consumers provides a first-hand view of the reasons why Chinese consumers hesitate to shop online. Turban and King's framework provides guidelines for development of the interview protocol. In the interview, the interviewees were asked open-ended questions, as well as semi-structured questions based on factors in the framework. Some direct quotes of interviewees are provided in the data analysis section to justify the deductions made. environmental and personal factors. At the marketplace level (i.e., marketing stimuli and vendors' controlled systems), we use two online shopping market leaders, eBay and EachNet³, as the basis to illustrate the relevance of marketplace-related factors in online behavior of consumers China. At the individual level, we again use data from CNNIC and panel interviews to investigate consumers' attitudes with respect to online shopping. In addition, interview data from face-to-face discussions with 20 Chinese consumers provides a first-hand view of the reasons why Chinese consumers hesitate to shop online. Turban and King's framework provides guidelines for development of the interview protocol. In the interview, the interviewees were asked open-ended questions, as well as semi-structured questions based on factors in the framework. Some direct quotes of interviewees are provided in the data analysis section to justify the deductions made.

¹ The survey conducted by CNNIC in January 2005 includes online and telephone survey. In this 15th semi-annual survey, online questionnaire was posted on the official website of CNNIC (<http://www.cnnic.net.cn/>) for one month. Most popular Information Content Providers (ICPs) and Internet service providers (ISPs), such as sina.com and tom.com, etc., had linkages to this questionnaire. Telephone survey in 31 provinces of China was conducted offline. Subjects came from 31 provinces of China. There were 23,506 and 19,344 valid responses respectively in the online and telephone surveys. Questions used in this survey are multiple-choice questions, for instance, Question 13 -- "Did you buy anything online in last year?" and Question 19 -- "In your point of view, what is the major problem existing in online shopping in China?"

² eBay and EachNet. Both these companies have recently drawn global attention with their impressive growth rates (Cobb, 2004). In 2004, EachNet became eBay's sister auction site in China. They have the same business model but operate in different countries. Both are leading auction sites and have a mass of online vendors and buyers. The Gross Merchandise Sales (GMS) of EachNet in the year of 2004 was US\$0.306 billion, compared to eBay's recorded volume of US\$34.2 billion. The two sites therefore provide an interesting comparison in regard to their con-

trolled systems and they also provide insights of the U.S. and Chinese online shopping behavior.

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DATA ANALYSIS

Environmental Characteristics for Online Shopping in China

The environmental factors are evaluated in two different situational contexts, i.e. China and the U.S. The sub-factors covered are government regulations and interventions, legal system, payment environment and logistic network system.

Government Regulations and Interventions on Internet Sales. The Chinese government's contradictory regulatory posture (both encouragement and control at the same time) is a significant threat to successful EC in China [18], explained in detail in the next paragraph. In addition, regulations governing online transactions in China are still inadequate [25]. In the U.S., online shopping is an important part of EC and regulated by the market. That is, the government only intervenes when it believes it is necessary. All development of online shopping and other sectors of EC in the U.S. are under the banner of private-sector leadership [27]. The private sector provides appropriate assistance in establishing mechanisms to protect consumers in online purchasing and consumption. The government's participation in B2C and C2C sectors only involves regulatory support without any direct intervention [27].

In China, however, the government directly controls many EC-related activities and the interventions are a characteristic of business operation in China [18, 37]. According to Haley [18] and Kennedy [20], the Chinese government, on the one hand, apparently encourages EC (online purchase and sales), while on the other hand it uses diverse measures to control EC activities. Companies are required to get several levels of authorization and support from local government to establish and operate online ventures. William Cobb, the senior vice president for international business of eBay, agrees that the recognition from local government is important for operating (online sales) business in China [8]. The Ministry of Information Industry (MII) indicates that it will continue to retain control over EC, e.g., ISPs, in the coming few years regarding investments in and operations of these companies [20]. Furthermore, the prohibition of foreign investments in online-shopping-related services such as logistics, seen as competitors of state-owned enterprises (SOEs) and government service providers such as the post office still exists [18]. The Ministry of Finance exercises control over issuing banks' credit card policies. Regulations governing Internet usage have created uncertainties regarding the

legality of foreign investment in Internet companies in China [15]. Protection of local Internet firms also leads to their inefficiency and limits consumer choices [18], which further constrains the growth of Internet sales volume.

In summary, government regulations that prohibit foreign investments in online-shopping-related industries such as ISPs and logistics support, and government's control of online payment mechanisms appear to have impeded online shopping in China [19].

Legal System. Since 1996, the United Nations Commission on International Trade Law has adopted a Model Law for Internet sales in the U.S. Under this Model Law, the legal framework for EC is legislated by the state governments in consultation with the National Conference of Commissioners on Uniform State Laws. This approach helps in providing a mature legal environment, which in turn builds online consumers' confidence in Internet transactions [27].

The current legal system in China imposes some constraints on the establishment of an effective Internet transaction system [5]. Many ministries have powers for authorizing and controlling the development of online shopping [20]. Each ministry/commission/agency, such as the State Council, Ministry of Finance, Ministry of Public Security, State Encryption Management Commission, MII, State Secrets Bureau, China Securities Regulatory Commission, Municipal Industry and Commerce, and Municipal Government, has its own regulations for Internet sales [5]. The overlapping authority of state agencies and ambiguous enacted laws have deterred the development of EC in China [26]. Lack of a rule-of-law system creates opportunities for online fraud [18], which threatens the success of online sales in China. All our interviewees express concern due to the lack of laws protecting online consumers in China. For example, one interviewee complained "I don't think there is any law or regulation that can protect us from online fraud in China. At least I don't know any of them." Another interviewee said, "I have been cheated around four times in the last three months even though they were not big transactions. I don't know where I can have my complaints heard." Chinese consumers, who have little legal recourse if the online transaction goes wrong, will be reluctant to abandon traditional marketplaces and go online [26]. Hence, an immature legal system appears to be one of the inhibitors for online purchasing in China.

Payment Environment. In the U.S., the most common way to conduct Internet transactions is through credit card payment. According to [14], 70% of

Internet purchases in the U.S. were paid online by credit cards. Third-party protection of online transaction, such as that provided by TRUSTe, is adopted by most U.S. web-sites.

In China, the cash payment method is still popular in “Internet transactions” due to the inherent cash-based culture and immature credit card payment system [25, 29]. Only a few Internet malls or vendors provide credit card payment or other online payment methods such

as debit card transaction [26]. The history of the credit card system is short. The first credit card was issued by Guangdong Development Bank in Guangdong province in December 1995, followed by some other banks. However, the systems are not compatible with other internationally issued credit cards [20]. Thus, the infrastructure for handling electronic payment in online shopping is still inconsistent with international standards [13].

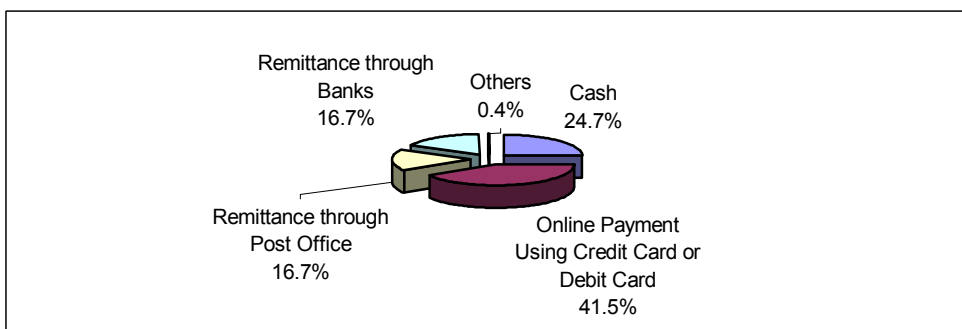


Figure 2: Payment methods of online purchases in China [6]

Cash payment is currently an acceptable solution to the current payment issues and trust problems that exist with respect to Chinese online purchases [13]. Several interviewees in our panel discussion pointed out that if they shopped online, they would only pay after checking the quality of the goods. According to them, although the online payment method was available in some websites, these systems were perceived to be insecure. Given the common face-to-face (FTF) cash payment method popularly practised in Chinese society, the strategy of “order online, pay offline” is a compromised method of online purchase in China [2].

More than a half (58.5%) of Chinese online purchases are done in two steps -- “order online, pay offline” [6]. Only 41.5% of Internet users paid online in 2004 (see Figure 2), which is much fewer than the 70% in the U.S.)

Although the online order plus offline transaction method works for the website platforms, online sellers, and online consumers in China at present, the convenience of such a system in the long-term and hence the growth of online shopping, remains doubtful [26].

Logistics Network Environment. Logistics is an important component of the online shopping

fulfillment processes. Internet shopping is not only about web technology allowing consumers to search information or order online. It also includes physical delivery of the goods purchased. In order to enhance the efficiency of product transportation, the delivery function of online shops in the U.S. is outsourced to third-party professionals such as FedEx, UPS, DHL, etc. [2]. Packages can be shipped across the country within a few days [19]. Such a well-developed logistics industry provides a supporting infrastructure for the penetration of online shopping in the U.S.

The network connecting consumers’ orders, online sellers’ confirmations, warehouse inventory management, and goods transportation facilitates online deals [19]. Comparatively speaking, the logistics industry in China offers poor support for fulfillment of online shopping transactions [20]. Given China’s geographic size, only the state itself has the resource and capability to build and operate such a national delivery system.

The state-owned Post Office is the only medium to reach all remote regions in China. One reason for the poor logistics network is lack of foreign competition in logistics operation [19]. Online buyers and sellers have few choices in selecting a logistics provider. Online sup-

pliers have difficulty reaching the remote districts without the support of the state-owned Post Office. With the high negotiation and operation cost, only a few large Internet shopping malls can co-operate with the state-owned Post Office. Mecox Lane, 8848, and Dangdang, for example, have outsourced goods delivery to other third-party logistic service providers.[26]. Foreign companies licensed for distribution have only limited access to a few cities. Under such a condition, online consumers usually wait for goods delivery for at least one week [19]. In the panel discussion, one participant stated, “It seems that I can only use the post office to send or get my package.

There are a few other choices but they are very expensive. Sometimes, the delivery by the post office is extremely slow. Service quality cannot be guaranteed.”

Another interviewee had the bad experience of receiving a broken umbrella that he had ordered online and that had been delivered by the Post Office. China intends to phase out the restrictions on foreign investments in logistics in accordance with the WTO agreement [19], and this is likely to speed up goods delivery to less-developed remote regions. At the time of writing, however, logistics remains a challenge for online shopping business in China [5].

In summary, the differences between the U.S. and China in terms of Government Regulations and Interventions, Legal System, Payment Environment and Logistics Network Environment provide a clear perspective of how these factors impact online shopping. A comparison of the two contexts is given in Table 3.

Table 3: A comparison of environmental characteristics of online shopping

Environmental Characteristics	China	The U.S.
Government Regulations and Interventions	Significant government interventions in online sales firms; EC companies need supports from the central and the local government.	EC is developed under the banner of private-sector leadership, while the government only intervenes when necessary.
Legal System	Different kinds of authorizations and regulations are issued from ministries and municipal governments; Immature legal system; Less information exposure of online consumer protection.	A Model Law for EC; Mature legal systems in EC.
Payment Environment	Cash-based culture; International credit card is not accepted; Online payment system is still at an infant stage; Online credit card payment is not available in most transactional websites.	Mature usage of credit card; Mature online payment systems.
Logistics Network Environment	Restrict policy in foreign investment in logistics industry; Limited choices of delivery company; Delayed delivery time.	Short delivery time; Mature and well-connected distribution network.

Personal Characteristics

The profile of Internet users has changed in China. The 15th CNNIC survey [6] indicates that the highest proportion (35.3%) of Internet users is composed of young people between 18 and 24 years old (see Table 4).

A good proportion of the users are high school or under high school students (Table 5). Statistics also reveal that the monthly income of most Internet users (accounting for 34.2%) is less than \$500 per month. In general, teenagers and students with low or without income make up the majority of Chinese Internet users (see Figure 3).

Table 4: Profile of Internet Users' Age [6]

Below 18	18-24	25-30	31-35	36-40	41-50	51-60	Above 60
16.4%	35.3%	17.7%	11.4%	7.6%	7.6%	2.9%	1.1%

Table 5: Profile of Internet Users' Educational Level [6]

Under High School	<i>High School</i>	Junior College	Bachelor	Master	Doctor
13.0%	29.3%	27%	27.6%	2.7%	1.4%

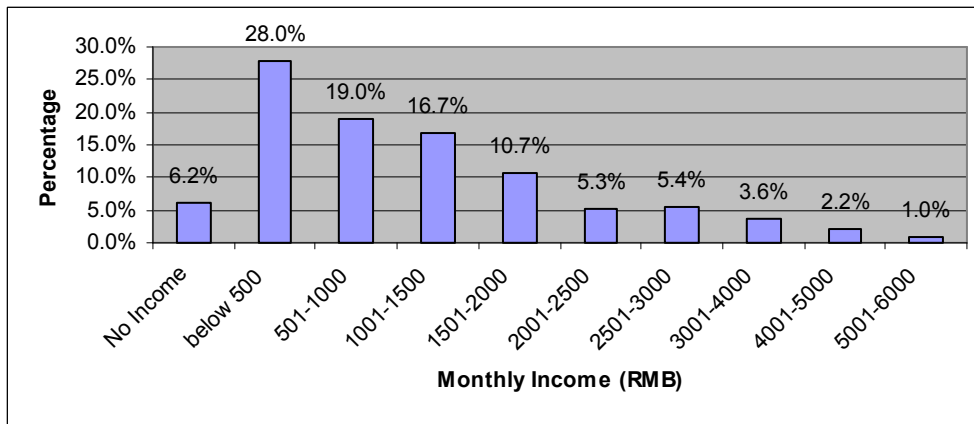


Figure 3: Profile of Internet Users' Monthly Income [6]

Given that the biggest proportion of Internet users are students with low or no income, low price products such as books and magazines have competitive advantages for online sales in China. Statistics indicate the book category is the first-ranked item in the online shopping category. In 2004, only 40.4% of the Internet users had ever bought goods or service online [6]. On a comparative

note, the age of the majority of Internet users in the U.S. ranges from 21 to 55 [17], and they have higher purchasing power compared to Chinese users. American consumers prefer to buy relatively high-valued products on the Internet. For example, motors, consumer electronics and computers were the three best-sold products in eBay in 2004, with sales of US\$11.1 billion, US\$3.5 billion, and

US\$3.0 billion respectively [23]. The figures indicate that the value of Internet transactions in the U.S. is significantly higher than that in China.

Besides demographic factors, individual factors also play a role. The distrusting propensity of Chinese people in any transaction is a unique aspect of Chinese culture, which has extended to online commerce as well [13]. According to the survey of CNNIC [6], the trustworthiness of online merchants is the biggest concern in conducting online transactions in China, amplified as a result of Chinese cultural characteristics [13]. In our panel discussion, all participants expressed the view that the most critical problem for online shopping in China was *the e-vendors' untrustworthiness*. Because Chinese culture does not strictly condemn copying and the legal infrastructure is not consistently applied in dealing with illegal activities [13], Chinese consumers have formed a distrusting propensity for online transactions and prefer to check products in advance. One interviewee who is reluctant to shop online also confirmed his distrusting propensity in transactions -- "The copying issue is a big concern for consumers. I cannot easily trust others in transactions because of the copying issue; there is no consumer protection by law. Even in FTF transactions I have such concerns, so how can I trust an unseen e-vendor online?" These statements demonstrate that deep-rooted cultural characteristics e.g., lack of trust, have further inhibited online buying in China. In summary, low purchasing power, lack of Internet knowledge and online transaction experience as well as distrusting propensity aggravate consumers' hesitations and hamper online purchasing behavior.

Marketing Stimuli of eBay and EachNet

As mentioned earlier, we adopt two representative cases, eBay and EachNet, to examine the impact of marketing stimuli on online shopping. They are both market leaders, the former in the U.S. and the latter in China, and have the same business model and similar mass of consumer base. Their performance therefore provides a good basis for the comparative evaluation of the status of online shopping in the two countries.

eBay is a U.S.-based online auction platform. It was founded in September 1995. In 1998 eBay launched a national marketing campaign that brought it public recognition by consumers. In 2000 eBay started its international expansion by moving into Japan, Australia, and Canada. Now it is the leading online auction and shopping site in the world where consumers and small businesses buy and

sell goods. It comprises over 18,000 categories, and listed more than 1.4 billion items in 2004.

This auction site gained popularity throughout the world by expanding marketing stimuli: various categories of items, new geographic markets, attractive advertisements, and a growing community of members [14]. The most worldwide popular websites or portals such as Yahoo and Google have affiliated hyperlinks with eBay. The depth and breadth of high-quality offers, good reputation, and marketing campaign helps in attracting and retaining sellers and buyers worldwide [16]. On the other hand, EachNet was established in August 1999, somewhat later than eBay, as the first online auction platform in China. The initial investment of EachNet was US\$29 million, which came from two parties, China High-Tech Venture Investment and American investors.

After two years of operation, EachNet received investment from eBay, totalling US\$180 million. In China, EachNet was viewed as the first mover in the online auction market and it has now become a market leader [18]. Since early 2004, EachNet has speeded up advertising in both online and offline media. The most popular Chinese TV channels, e.g. CCTV, GDTV, and STV, feature EachNet's advertisements. The majority of local ICPs, e.g. Sina.com, NetEase.com, China.com, Sohu.com and Tom.com, have added pop-up linkages with EachNet. Such advertisement promotion helps to establish EachNet's reputation [8]. EachNet had a base of 10 million registered customers on January 20 2005 [8].

However, there was a wide gap in the performance of the two online ventures. According to eBay's annual report, the GMS of eBay and EachNet in the year 2004 varied widely, the former achieving US\$34.2 billion compared to US\$0.306 billion achieved by the latter. The reasons for such significant variations are now analyzed.

Competition in the online sales market leads to keen pricing campaigns. Chinese Internet platforms, e.g. Dangdang (book-sales platform) and Taobao (another C2C market platform), employ a low price strategy. EachNet also promotes product sales with the price of $\square 1$ for bidding up goods. The most popular product sold online is the book category, accounting for 58.8% of products that online consumers bought in China. The prices of books vary from US\$0.13 to US\$25.

Correspondingly, the top product types sold in eBay's U.S. site are vehicles and accessories, totaling US\$11.1 billion sales in 2004 [1], whose prices are much higher than books. Interestingly, on July 25, 2005, the number of items listed in the cars and accessories category

in EachNet was only 3,070 while in eBay, 832,988 items were listed. eBay's Motors Site also states that over 1 million vehicles have been sold in eBay. This statistics demonstrates the significant difference of products in terms of categories, price and choices, which contributes to the big gap of online sales volume between China and the U.S.

Our interview data corroborates this finding, in that interviewees mention that limited choice of products in online sites has inhibited consumers' shopping intention. For example, one interviewee expressed his disappointment with a shopping experience – "Several weeks ago, I wanted to buy a football jersey. After searching all possible websites including EachNet, I only found five online stores selling football jerseys. The choice was much less than I had expected." This data is also consistent with Efendioglu and Yip's study [13], which shows that the lack of choice is a major reason for dissatisfaction in using online shopping in China.

Therefore, we can conclude that although advertisement promotion helps establish EachNet's reputation in the market and attracts new customers in China, the relative low-price strategy, low-value product orientation and limited choices in the online environment impedes any increase in the online sales volume.

Vendors' Controlled Systems

In this section we investigate the impact of vendors' controlled systems on the development of online sales market. The analysis, once again, is done based on a comparison of eBay and EachNet.

According to eBay's annual report of the year of 2004, the successive year-over-year growth was primarily the result of a mass of users and listings, efficiency in matching buyers and sellers, efficient delivery, and excellent customer service. On the other hand, in spite of the high reputation in China and the huge investment, the

convenience of online transactions is not reflected in EachNet's controlled systems (see the comparisons in Table 6). Even as a leading auction website in China, EachNet is described as "eBay's patient bid on China" without positive ROI in near future as cited by *BusinessWeek Online* [8]. In this section, we will describe these two vendors' controlled systems as representative cases of the U.S. and China market.

Payment Methods. In eBay, the common way to settle payment is by credit card. The buyer pays the seller after the auction using an online transaction. Then the seller ships the goods upon receiving payment information. There are many payment methods provided by eBay:

Credit card: Card issuers provide 100% customer protection if online fraud or misrepresentation occurs. Customers in the U.S., Australia, U.K., Japan, Mexico, France, and Canada can send online payment via email, which is enabled and protected by the PayPal Program.

Escrow: buyers can pay via Escrow.com, a third party which manages the entire payment process. Buyers can choose to activate payment through Escrow after all conditions of the transaction are satisfied.

Other online payment services: eBay offers additional measures to protect online payment, such as a debit card with personal identification number (PIN). All online payment methods are under the protection of the Federal Trade Commission.

E-Bay also warns buyers with the message "Never Pay for goods with Cash". Users paying in cash would not receive any protection of the Fraud Protection Program from eBay.

Table 6: Characteristics of Vendors' Controlled Systems

Sectors	EachNet	Ebay
Logistic Support/ Payment Methods	Cash payment; Debit card; Remittance from post office or bank; No credit card payment.	No cash payments; Credit card; Debit card; Escrow program.

Sectors	EachNet	Ebay
Logistic Support/ Delivery	Post office; Self-transportation; Cooperating with 5291.com and Quick-Horse Express Co Ltd.	Third-party logistics providers like FedEx, UPS etc. allows delivery of goods within a few days
Customer Service	Multimedia guide show; Live online help during office time; No information regarding customer service via telephone calls provided in the website.	Multimedia guide show; 24-hours live online help; 24-hours call center; In-house customer support term called SafeHarbor.
Technical Support/ Website Design	Privacy and security protection by VeriSign; No credit checks for buying; Credit-appraisal system; Lack of network stability.	Privacy and security policy pro- tected by VeriSign with a TRUSTe seal; No credit checks for buying; Credit-appraisal system; High website stability.
Technical Support/ Intelligent Agents	Bidding agents	Bidding agents

In EachNet, there are three types of payment methods: debit card, remittance from post office or bank account, and Face-to-Face (FTF) cash payment. FTF cash payment is still a popular method to handle online purchases [2]. Regarding debit card payment, only two banks, the Industrial and Commercial Bank of China (ICBC) and the China Merchant Bank (CMB) are endorsed by EachNet. Even when carrying out online payment by debit card, consumers need to download a gateway system connected to the corresponding bank. There is no credit card payment in EachNet yet. For most Internet purchases in China (accounting for 58.5% of all payment methods), consumers place an order online, and then go to the local post office to remit payment or they pay by cash [6].

Since the trust-worthiness of vendors is a major concern for doing business in China, the cash-payment culture carries over to the online shopping context for the sake of consumers' self-protection [13]. At the current stage, the combination of online (only debit card) and traditional payment methods is considered acceptable practice by all parties in China [13]. However, such off-line payment methods of transferring money through the two popular banks (i.e., ICBC and CMB) or post office is an illustration of inconvenience of online shopping in China.

Delivery. Since the distribution network is very mature in the U.S., packages can be transported across the country within a few days [2]. The delivery of

Internet purchases is outsourced to an assigned third party, such as UPS, FedEx, DHL, or T&T, etc. In eBay, suppliers indicate they use the "Fast or First Class U.S. Mail Shipping", insuring the goods can reach consumers within a few days. The delivery fee is included in the product price as shown in the website.

In EachNet, consumers can choose different delivery methods, namely post, EMS, personal delivery by the seller him/her-self, and FedEx or DHL in a few large cities. EachNet cooperates with two large logistics suppliers, 5291.com and Quick-Horse Express Co Ltd, to provide individual delivery solutions. A unique businesses practice in Internet sales in China is that online vendors in most cases don't indicate the details of delivery method and delivery charge, leaving room for negotiation [9]. Customers usually discuss with the suppliers over the telephone to discuss the delivery method and negotiate the delivery charge.

Customer Service and Technical Support.

EachNet has collaborated with eBay since 2002. EachNet's customer service and technical support systems are now designed in accordance with those implemented in eBay.

Both platforms have adopted English auction, with or without a reserved price. The auctions range from toys, electronic products to antiques with a very wide product line.

Visitors can browse products for sale. Registration is required for submitting a bid or sale. Buyers can bid for goods without a credit check. Both eBay and EachNet encourage sellers and buyers to contact each other online directly. The seller pays a commission to the auction platform for each transaction.

Multimedia shows are offered for guidance on “how to register, buy, and sell”. In eBay, 24-hours and 7-days-a-week customer service team is available online. Customers can click the “Live Help” icon to request customer service. Call center is also available for real-time service. To further support its members, eBay has developed an in-house customer support team called SafeHarbor. It provides a secure trading environment and protection against trading fraud. While in EachNet, Live Help through online chat is only available during office hours. No information about customer service via telephone calls is offered on the website. Compared to SafeHarbor in eBay, in EachNet there is □2000 coverage for either items that are not received or items that are not as described in the listing.

Both eBay and EachNet indicate that the privacy policy is empowered by TRUSTe and VeriSign. However, in EachNet, privacy and security issues continue to remain a major concern for both sellers and buyers, which we discuss later.

Security configuration in eBay is executed in several ways: SysTrust assurance, firewalls, authentication process, and VeriSign. In EachNet, protection for secure transactions is also verified by VeriSign.

A credit-appraisal system insures against improper trading in both websites. In eBay, a buyer can give a rating once for each transaction. This feedback program effectively protects security and fairness in online auctions [28]. EachNet also adopts such a feedback system to ensure the fairness of online auctions.

A community is developed for visitors, buyers, and sellers to facilitate users to know each other better and discuss mutually interesting issues. Both eBay and EachNet provide peer evaluation, chat rooms, and public forums in order to encourage customers to communicate through the community.

The stability of EachNet is a great concern for customers. During the period January 1st to July 25, 2005, EachNet conducted system maintenance 34 times. Although it was announced that usual maintenance time would be three hours, the actual system down time was much longer, which caused inconvenience to users and resulted in a lot of complaints as we can see in EachNet’s discussion forum. Shao, the chairman and CEO of EachNet, agrees that “the most important lesson learned from eBay is system stability” [3].

Both eBay and EachNet utilize software agents to bid up a pre-specified price with a small increment even when buyers do not connect to the network. The purpose of such trading agents is to enable customers to complete the auction process without being present online.

Regarding website design and customer service, EachNet follows eBay to a great extent. However, although EachNet runs privacy and security protection programs powered by VeriSign, these programs were not effectively executed. First, EachNet does not provide credit card payment; however, in the authentication process of confirming a buyer or seller’s identity, the user must provide one of the three authentications: credit card number, mobile phone number, or address. Second, when the user inputs such confidential information, EachNet does not activate privacy protection programs. The same problem also occurs during the registration process. Privacy and security issues are major concerns in online transactions [21, 31], and evidently lack of adequate privacy and security protection in EachNet deters online transactions. In our panel discussion, interviewees also expressed their wariness of Internet security.

Besides privacy and security issue, EachNet lacks system stability [3] and that negatively impacts consumer satisfaction. One interviewee complained, “I can never reach the linkage of the payment center (of EachNet). The payment center is a very important part of the website’s operations, but it can never be located!”

In summary, a lack of vendor control over systems in terms of privacy, security and system stability continues to hinder consumers’ confidence in online transactions in China.

Customers’ Decisions

According to Forrester Research [14], the transaction volume of online sales in the U.S. in 2004 reached US\$3,189 billion, accounting for 46.97% of the Internet sales in the whole world market. The penetration of Internet shopping is high in the U.S. due to its mature telecommunication and information infrastructure, high-level computer literacy, Internet savvy people, the well-developed online vendors’ controlled network, and the great support from related industries [14]. Further, with the current law on Internet-sales tax exemption in the U.S., Internet commerce surge will continue to be robust. It is believed that the volume of Internet sales will be higher in the next few years [14].

Correspondingly, the online sales in China totalled □440 billion in the year of 2004 [4]. According to

CCNIC [6], 30.2% of the Internet users in China seldom or never visited commercial websites such as virtual stores or online shopping malls. Online sellers' trustworthiness (in terms of product quality and after-sales service) and security problems of online buying remained the two top concerns for consumers in China [6]. 42.3% of Internet users indicated that they may not buy online [6]. The distrusting propensity of Chinese and preference for FTF business interactions [2] further hampered the acceptance of online shopping.

Chinese Internet users presently have a wait-and-see attitude towards online shopping due to concerns of privacy and security, untrustworthiness of retailers in terms of product quality, system stability and after-sales service. Several interviewees stated that they would not use online shopping in the near future since online vendors could not guarantee trading security and product quality. They said they would want to observe the progress of online shopping. Some interviewees mentioned the risk of online shopping. One interviewee mentioned, "...Sometimes I can try for small things, i.e., low-value goods. Since I don't have enough confidence on the quality of goods (in online purchase), I will order online and check the products before paying money..." Thus the interview data highlights consumers' hesitation and explains the reasons for the low transaction volume of Internet purchase in China.

DISCUSSION

By utilizing Turban and King's model, this study provides a theoretical understanding of the factors hampering the development of online shopping in China. By means of a comprehensive comparison of EachNet and eBay, we offer a detailed analysis of the realities of online sales in China and add to the understanding of online buying behavior in the B2C context. We have highlighted the four major factors hindering online shopping in China

namely environmental characteristics, personal characteristics, market stimuli and online vendors' controlled systems. The constraints in respect of these four factors, as discussed in this study, are presented in Table 7.

IMPLICATIONS AND FUTURE WORK

This study has important implications for both researchers and practitioners. The key variables identified in this study help to explain the gap of Internet sales volume between China and the U.S. The results of this study show that the four major categories, i.e., environmental characteristics, personal characteristics, marketing stimuli and online vendors' controlled systems, are factors that influence consumers buying decisions in China. This is in accordance with Turban and King's framework. However, our investigation indicates that some additional factors that are not specified in Turban and King's framework also significantly impede online shopping in China. For example, excessive governmental intervention and insufficient legal protection (in the category of environmental characteristics); consumers' distrust of online vendors, (in the category of personal characteristics); the business model of "order online, pay offline", low-price orientation and limited choices in the online environment (in the category of marketing stimuli); ubiquitous system insecurity and instability (in the category of online vendors' control systems) are found to be significant deterrents. Therefore, our findings suggest that the factors in Turban and King's framework may need to be enhanced with the inclusion of these additional sub-factors for a better understanding of online shipping behavior in some situational contexts, such as China.

Table 7: Summary of Comparisons

<i>Issues addressed</i>	China (EachNet)	<i>U.S. (eBay)</i>
Environmental Characteristics	Inadequate IT infrastructure; Lagging regulation; Significant government interventions;	Mature IT infrastructure; Mature legal system in EC; Government intervention when necessary; Advocating online payments; Well-developed distribution networks.

	Cash-based culture; Control of logistic systems.	
Personal Characteristics	Majority of the users are students; Low-level income; <i>Preference for low-value products;</i> <i>Distrusting propensity (culture).</i>	User ages range from 21 to 55; Better purchasing power; Preference of high-value-goods online transactions.
Marketing Stimuli	Low-price strategy; Limited choices; Book category is the top product type sold; Product quality cannot be guaranteed.	Various products with various prices; Vehicles and accessories are the top product type sold.
Online Vendors' Controlled Systems	China-based platform; Inadequate online and offline customer service; Insufficient delivery support; Deficient security and privacy protection; Unstable website system.	International platform; Adequate support from customer service; Delivery contracted out with third party; Sufficient security and privacy policy; Stable website system.
Customers' Decisions	Wait-and-see attitude; Choosing few categories of products; Low transaction volume;	Positive attitude; Buying various products; High transaction volume.

For practitioners, this study provides empirical evidence about the importance of vendor-controlled systems in stimulating online shopping behavior. Poor controls in a web-buying system, especially in the system quality side, are an impediment to Internet purchasing behavior. Despite the fact that EachNet has become eBay's sister auction site, important issues relating to security, privacy, customer service, and the network stability of EachNet remain big concerns for website users in China. In addition, the results of this study suggest that enterprises in China that plan to start EC must reconsider whether the EC models in western countries can be appropriately applied to the Chinese context, bearing in mind the differences in Chinese culture and the macro-environmental factors such as governmental policy and related-industry support. For example, the top-selling products in the U.S. (vehicles and accessories) are not appropriate for online sales in China. The operations of Internet-related companies in China are subject to risks and uncertainties relating to the laws and regulations of China [15], which further constrains the growth of Internet sales.

There are many directions for future work based on this research. The study can be replicated across different cultural contexts in developed and developing countries to highlight the impact and importance of cultural

factors on online shopping behavior. A causal model of online shopping that integrates findings from this study with the situational cultural context could also be developed and tested with a broad-based survey research. What business models would suit different cultural and environmental contexts is another possible future extension of this research.

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Probir Banerjee is a Visiting Fellow at City University of Hong Kong from where he received his Ph.D. in 2005. He has several of years of industry experience in India, Hong Kong and Canada in the areas of banking, manufacturing and retailing systems. His research interests are in the areas of IS strategy, IS Payoff, E-Government, Global Systems Development and Management, IS use in SME's and IS adoption. His publications have appeared in several refereed conference proceedings such as *Pacific Asia Information Systems Conference (PACIS)*, *America's Conference on Information Systems (AMCIS)*, *Hawaii International Conference on Systems Sciences (HICSS)* etc. and in major information systems journals such as *Decision Support Systems*, *Communications of the Association of Computing Machinery*, *Journal of Information Technology Cases and Applications Research*, *Journal of Information Technology Management and E-Government*.

AUTHOR BIOGRAPHIES

Carol Xiaojuan Ou is an instructor in the Department of Information Systems, City University of Hong Kong, from where she received her Ph.D. in 2006. Her research interests include electronic commerce, customer relationship management, knowledge management, and human-computer interaction. Her studies appear in journals such as *Commercial Research*, *Economic Tribune*, *Commercial Times*, *Knowledge-Based Economy and Modern Management*, and *China Marketing*, etc.

Choon Ling Sia is an Associate Professor at the City University of Hong Kong. He received his Ph.D. degree in Information Systems from the National University of Singapore. He is currently on the editorial board of *MIS Quarterly*, *Information and Management*, and *Journal of Database Management*. His research interests include electronic commerce, knowledge management, distributed work arrangements, and group support systems. His research work has been published in *Information Systems Research*, *Journal of Management Information Systems*, *ACM Transactions on Computer-Human Interaction*, *Journal of International Business Studies*, *Journal of the American Society for Information Science and Technology*, *IEEE Transactions on Engineering*