

**MOTIVATIONS ON ONLINE BOOK-SHOPPING OF
UNIVERSITY STUDENTS IN CHINA**

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Project submitted as partial requirement for the conferral of
Master of Science in Business Administration, at ISCTE – University Institute of
Lisbon, 2014

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September 2014

Abstract

E-commerce is developing really fast in China. The existence of local famous online book stores along with Amazon leads to recession of physical book stores. More and more people turn to buy books online which makes physical book stores become a place only for exhibiting hardcopies. Young and highly educated people are the main group contributes to the growth of internet user scale in the past 5 years in China. The purpose of this dissertation was to study the motivations drive university students to buy books online based on utilitarian and hedonic motivation value. A questionnaire was developed to collect data from China.

Results show that, two utilitarian values and one hedonic value were identified. Ease to Access and Cost Saving are utilitarian values, the results show that both of them have significant positive influence on utilitarian motivation of online book shopping. Ease to Access has much important impact on utilitarian motivation than Cost Saving. Authority & Enjoyment has significant impact on hedonic motivation of online book shopping motivation as a hedonic value.

Hedonic motivation has positive influence impact on search intention in the context of online book shopping, while utilitarian motivation do not affect search intention. Both utilitarian and hedonic motivation have no impact on purchase intention of online book shopping. The results show that search intention triggers purchase intention. Hedonic motivation could generate search intention and indirectly generate purchase intention, which is the phenomenon called impulsive shopping.

Key words: motivation, utilitarian value, hedonic value, online book shopping

JEL Classification: M3, M31

Resumo

O E-commerce está a desenvolver-se muito rápido na China. A existência de famosas livrarias online, juntamente com a Amazon leva à recessão de livrarias propriamente ditas. Há cada vez mais pessoas a comprar livros online, fazendo com que as livrarias físicas se tornem num lugar apenas para exibir cópias impressas. Jovens e pessoas altamente qualificadas são o principal grupo que contribui para o crescimento em escala dos consumidores online nos últimos 5 anos na China. O objetivo desta dissertação foi estudar as motivações que levam os estudantes universitários a comprar livros online com base nos valores utilitaristas e hedonistas. Foi elaborado um questionário para recolher dados a partir da China.

Os resultados mostram que foram identificados dois valores utilitários e um valor hedonista. A Facilidade de Acesso e Redução de Custos são os valores utilitários, os resultados confirmam que ambos têm influência positiva significativa sobre a motivação utilitária para comprar livros online. A Facilidade de Acesso tem um impacto importante na motivação utilitária, sendo maior do que na Redução de Custos. Autoridade & Prazer tem um impacto significativo sobre a motivação hedonista na linha motivação comercial para a compra de um livro.

A motivação hedonista tem um impacto positivo na intenção de busca do contexto de um livro, enquanto a motivação utilitária não afeta essa intenção. Ambas as motivações utilitaristas e hedonistas não têm impacto sobre a intenção de compra dos livros online. Os resultados mostram que a intenção de busca do contexto desencadeia a intenção de compra. A motivação hedonista poderia gerar a intenção de busca e indiretamente gerar a intenção de compra, que é o fenómeno designado por compras impulsivas.

Palavras-chave: motivação, valor utilitarista, valor hedonista, compras de livros online

Classificação JEL: M3, M31

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List of Abbreviations

AE	Authority & Enjoyment
AS	Authority & Status
AV	Adventure
CS	Cost Saving
CV	Convenience
EA	Ease to Access
HM	Hedonic Motivation
HV	Hedonic Value
IA	Information Availability
PI	Purchase Intention
SC	Sociality
SE	Sense
SI	Search Intention
SL	Selection
UM	Utilitarian Motivation
UV	Utilitarian Value
IDA	Idea
KMO	Kaiser-Meyer-Olkin Measure
LNAE	Ln(Authority & Enjoyment)
LNIDA	Ln(Idea)

1 Introduction

The Internet and information technology bring huge influence and changes to people's life and the ways people do business. The development of information technology also provides new ways to reach the end market, which has increase the popularity of online shopping (Lian & Lin, 2007). The number of people who is online increase 676.3 percent over past 4 years, according to Internet World Stats (2013).

According to the survey of How Digital Influences How We Shop around the World reported by Nielsen (2012), the Internet penetration rates are continuing to increase steadily, especially in developing countries. This survey also shows that 33% of respondents have the online purchase intent of hard copy books and physical subscriptions, which is in the second position.

The research by China IntelliConsulting Corp. (2012) indicates that the market size of online shopping in China reached 8090 hundred million Yuan in 2011, the number of online shoppers was 2.12 hundred million, and the percentage of people who bought books & audio and video products was 20.9%, which was 4th position after clothing, digital products & electric appliance and furniture.

The rise of online shopping brings interaction between customers and technology. Internet could provide high interaction so that consumers can communicate with corporates and other consumers easily. Low cost, convenience, easy communication, information availability and even higher quality of products and services dramatically reduce the advantages of conventional shopping (Hoffman & Novak, 1996; Szymanski & Hise, 2000).

Physical bookstore is a segment that living in a hard time due to strike of online book store. In U.S., Barnes & Noble became the only national bookstore chain in the U.S. in 2011. In the next ten years, Barnes & Noble plans close nearly 20 retail stores each year (Laura, 2013), and it indicates that the profit earned from physical retail stores is not attractive due to the high rent and human capital cost. According to the source of Publishers Weekly, there were 11 leading U.S. bookstore chains in Spring 1991 including Borders and Barnes & Noble, however, there were only 6 left in autumn

2011. In U.K., there are 140 retailers are having financial problems and regarded as in “critical level” (Richard, 2012). And the level of “significant” distress had increased 85% which the retailers of books, news and stationery experienced (Bebbies Traynor Group, 2012).

Situation in China is similar. According to a survey held by All-China Federation of Industry & Commerce, until 2011 nearly half of the physical bookstores closed in the past 10 years (Xiaokai Liu, 2011). According to CNNIC (2010), the number of people who is shopping on B2C online stores had reached 99.36 million in China. Books had become one of the best sell categories in China. Compare to offline physical store, 35.9% of customers prefer shopping books and audio-visual products online.

Besides, according to iResearch (2012), the characteristic of Chinese online shoppers in 2011 is young people, 60.8% of online shoppers’ age are between 18 and 30, and 42.5% of them are undergraduate students. According to the 31th Report of the Situation of Internet Development of China (CNIC, 2013), by the end of December 2012, young and highly educated group becomes the most important group to the growth of internet user scale in the past 5 years in China and undergraduate students play main role. The appearance of online book stores has already changed people’s book shopping patterns, which leads to recession of physical book stores. Young people, especially undergraduate students participate mainly in online shopping.

Thus, this study is trying to study university students in order to discuss the following questions:

1. What influences university students to buy books online?
2. What kinds of motivation could have influences on university students’ that drive them to shop with online book stores?

2 Literature Review

2.1 Consumer Behavior

2.1.1 Definition

Consumer behavior is an important topic for marketing since it became a single field of study during the 1960s. There are plenty of researches about consumer behavior and the definition of consumer behavior is diverse.

Williams (1982) thinks consumer behavior is a gather of opinions, activities and influences related to purchasing commodities or services processes held by consumers. Engel *et al.* (1986) define consumer behavior as “*those acts of individuals directly involved in obtaining, using, and disposing of economic goods and services, including the decision processes that precede and determine these acts*”. Consumer behavior according to Solomon *et al.* (1996) “*is the study of the processes involved when individuals or groups select, purchase, use or dispose of products, services, ideas or experiences to satisfy needs and desires.*” Schiffman and Kanuk (1997) think consumer behavior study the process of individuals decide to spend their resources on consumptive things. Kenneth A .Coney (2000) thinks consumer behavior is a study to understand how individuals, groups and organizations choose, acquire, use and dispose products, services, experience and thoughts, and the influence to consumers and society, in order to fulfill their demands.

To summarize, the key words of consumer behavior are “processes and activities”, “select, purchase, use or dispose of products and services” and “satisfy needs and desires”. Thus, the definition of consumer behavior could be stated as:

The processes and activities involved when individuals select, purchase, use or dispose of products and services to satisfy needs and desires.

To the online shopping perspective, the definition of online consumer behavior could be sated as:

In the context of Internet, the processes and activities involved when individuals select,

purchase, use or dispose of products and services to satisfy needs and desires.

2.1.2 Some Research Models on Consumer Behavior

In order to understand consumer behavior better, some research models were established in order to explain it. Consumer behavior models show the factors that can influence consumer behavior in a simplified literal way. Nicosia model (Nicosia, 1976) is mainly about a firm's relationship with its potential consumers. However, Nicosia model is lack of explanation and definition of external variables (Lunn, 1974) and it is criticized due to lack of empirically test (Zaltman, Pinson and Agelman, 1973). Howad & Sheth model proposed in 1969 (Howard & Sheth, 1967) is a comprehensive model and probably the most frequently quoted model for consumer behavior, but it cannot explain all buyer behavior. In addition, EKB model (Engel, Kollat and Blackwell, 1990) mainly bases on purchasing decision-making process to analyze consumer behavior. Moreover, there are still a lot of models for studying consumer behavior, such as Bettman's information processing model (Bettman, 1979), Sheth-Newman gross model of consumption values (Sheth *et al.* 1991) and Stimulus-Response model of buyer behavior (Middlenton, 1994).

With the fast development of Internet and e-commerce, online consumer behavior has become a popular research field. Some researchers draw theories from classical consumer behavior research (Skinner, 1938; Fishbein, 1967; Bettman, 1979; Folkes, 1988), and some other researchers believe online shopping behavior is mostly similar to offline except seeking convenience (Liang and Lai, 2000; Keen *et al.*, 2000; Srinivasan *et al.*, 2002). However, several researchers consider online shopper is not only the people shop online but also the people use computer, which makes online consumer behavior differing from offline behavior (Ba and Pavlou, 2002; Pavlou and Fyngenson, 2006). Thus, the impact of information system attracts more and more attention (Gefen *et al.*, 2003; Jarvenpaa *et al.*, 2000; McKnight and Chervany, 2002). Cheung *et al.* (2005) find out that most of researchers use the Theory of Reasoned Action and its family theories (Technology Acceptance Model and the Theory of

Planned Behavior) to analyze online consumer behavior. And the Expectation-Confirmation Theory (ECT) and Innovation Diffusion Theory (IDT) are also utilized to study online consumer behavior too (Cheung *et al.*, 2005).

2.1.3 Impact Factors of Consumer Behavior

Existing researches about impact factors of consumer behavior mainly try to divide factors into different categories. Mostly the classification of impact factors include two categories, inner factors and outer factors, or in other words, personal factors and environmental factors. Some researchers may develop additional categories beside of personal and environmental factors, in order to acquire detailed insight of consumer behavior. J. Stávková *et al.* (2008) summarized several categories proposed by different researchers:

Nicosia *et al.* (2002) identified environmental factors (economy, family, social and culture) and psychological factors (attitude, demand, personality, motivation). Blacken (2003) proposed two groups, environmental factors (culture, social class, opinion leader, family and other reference group) and personal factors (personality, motivation, knowledge and attitude). Jagdish N. Sheth & Banwari Mittal (2004) classified impact factors into two groups: environmental factors (economic situation, topography, climate, ecology characteristics, technology and government policy) and personality factors (gender, age, personality, social class, colony, culture, race and genetic characteristics). Brown (2006) classified factors into three groups, personal (sex, race, age), psychological (motivation, perception, lifestyle, ability & knowledge, attitude and personality) and social (opinion leaders, references groups, social class, roles & family influences and culture & sub-culture). Foret & Procházková (2007) identified product factors (primary usage, quality) and intangible factors (image, consultancy and post-scale service). Fatimah *et al.* (2012) identified five groups, including cultural factors (culture, sub-culture, social class), social factors (groups, family, role & statues), personal factors (age, life cycle stage, occupation, economic situation), psychological factors (motivation, perception, learning) and marketing mix

(price, product, promotion, placement).

For the factors which may influence online consumer behavior, Cheung *et al.* (2005) make a summary about it. After studying existing studies, Cheung *et al.* (2005) propose that impact factors of online consumer behavior could be separated into five major domain areas about factors influencing online consumer behavior. The research of Cheung *et al.* (2005) offers a deep insight of the impact factors studied by previous researchers.

First, are the individual/consumer characteristics, referring to internal individual factors and behavioral characteristics, including attitude, satisfaction, demographics, flow, trust, motivation, perceived risk and personal innovativeness. Second, are the environmental influences, referring to the structural influences, including market-related issues (uncertainty, competition and concentration). national and international issues (legal structure, trade restrictions and culture), the key constructs are exposure and perceived behavioral control subjective norm. Third, are the product/service characteristics, referring to knowledge about the product, product type, frequency of purchase, tangibility and product quality. The key constructs are price, product type and product knowledge. Forth is medium characteristics, referring to both traditional IS attributes (ease of use, quality, security and reliability) and Web-specific factors (navigation, interface and network speed). Convenience, navigation, ease of use, shopping aids, information quality, security and usefulness are key constructs. The last domain area is merchants and intermediate characteristics, referring to the key attributes/features of the online stores. Key constructs include brand, service quality, privacy and security and control.

2.2 Motivation

Motivation is a core concept to consumer behavior and they have close connection to each other in many ways. Usually people pay for products and services due to something that motivate them to do so, such as want or needs. Motivation has been considered as an important factor about studying consumer shopping behavior both

online and offline (Nicosia, 2002; Brown, 2006; Fatimal *et al.*, 2012; Christy Cheung *et al.*, 2005). This study will focus on consumer's motivation, in order to obtain deeper insight of consumer behavior, in the context of online book shopping.

2.2.1 Definition

The term motivation appears early in psychology. Usually the term motivation was adopted by functionalist philosophers and psychologists when studying voluntary action behaviors (Forgas *et al.*, 2005). The term motivation has a wide range of meaning in different situation or background. On the Webster's New Collegiate Dictionary, a motive is "*something (a need or desire) that causes a person to act.*" And motivate means "*to provide with a motive*", so the word motivation is "*the act or process of motivating*".

The definition of motivation from Guay *et al.* (2010) is "*the reasons underlying behavior*". And Broussard and Garrison (2004) define motivation as "*the attribute that moves us to do or not to do something*". In the psychology perspective, according to Landy and Becker (1987), the motivation is "*the internal mental state of a person which relates to the initiation, direction, persistence, intensity and termination of behavior*", while the managerial meaning of motivation is "*the activity of managers to induce others to produce results desired by the organization or, perhaps, by the manager*" (Sudhanshu and S.S.Chauhan, 2013). The academic motivation definition proposed by Gottfried (1990) is "*enjoyment of school learning characterized by a mastery orientation; curiosity; persistence; task- endogen; and the learning of challenging, difficult, and novel tasks*". In the shopping context, motivation could be said as the driving force within consumers makes them to shop.

All in all, a particular behavior could be aroused by a set of reasons while this set of reasons is motivation. Thereby, in this study, the definition of motivation is:

The general set of reasons drive a person to take some action.

Thus shopping motivation could be described as:

The reasons drive a person to shop.

Moreover, the motivation drives consumers to shop online could be described as:

The reasons drive a person to shop online (through Internet).

2.2.2 Some Theories on Motivation

Motivation always refers to any sort of general drive or inclination to act (Baumeister and Bohs, 2007). Usually needs will be the motivation that cause behaviors, and when those needs have been fulfilled, there will be some type of reward to the person (Shanks, 2011). In Kotler's point of view, when a need appears and reach a sufficient level of intensity, it will become a motive to drive the person to act (Kotler, 2002).

a) Drive Theory

Freud is the originator of psychology. His drive theory could be treated as the paragon for explaining all facets of intrapsychic and interpersonal phenomena, not only including the base and primordial urges of unconscious desire, but also advanced mental and physical activities (Mills, 2004). According to Freud, a person may not fully understand what motivated him or her to act. The real motivation to a behavior may hide beneath the conscious, the reason known by the person who act maybe just is the superficial level of desire.

b) Hierarchy of Needs Theory

Maslow proposed his hierarchy of needs theory back in 1943 which has already become a famous and widespread use theory. He believed human have their potential to achieve the highest levels of their capabilities (Maslow, 1970). He identified five types of human needs and these are activated in a hierarchical manner.

Physiological needs are biological needs of the human being which are the most basic needs as the starting point for motivation theory. Safety needs are the second level of human motivation, and emerge when physiological needs are relatively well gratified. Belongingness and love needs emerge when both the physiological and the safety needs are satisfied. Next are the needs of esteem. When the needs of esteem are satisfied, a person will feel self-confident and valuable. Self-actualization is the need occupied the top of Maslow's pyramid of human needs. This need refers to the one's

need to be what one wants to be to achieve the ultimate peace with one-self (Maslow, cited in Shafritz & Ott, 1996).

According to Maslow, the five needs are aroused from the lowest-order need (physiological needs) to the highest one (self-actualization), which means each needs emerge after the prior needs are satisfied, although not completely. There are exceptions to the hierarchy manner of needs. To some people, self-esteem needs or belongingness & love needs may be the most important needs than others. The average people will be satisfied 85% of belonging-love needs, 40% of self-esteem needs and 10% of self-actualization needs. Although the theory is famous, Maslow never verified it but just presented it as a frame work for future research (Nigro & Nigro, 1973).

c) Two-factor Theory

Herzberg's theory is also called two-factor theory that distinguished dissatisfiers (factors that cause dissatisfaction) from satisfiers (factors that cause satisfaction). These two types of factor are also named motivators and hygiene factors. Motivators are the factors which will lead to positive satisfaction arising from intrinsic condition of the job itself, such as recognition, achievement or personal growth. While, the hygiene factors will not lead to positive satisfaction. But the absence of them will lead to dissatisfaction. Mostly hygiene factors are from extrinsic condition, like company policies, working place, supervisory practice or wages.

Although Herzberg's theory makes enterprise managers pay more attention to the working contents and working satisfaction, there still are several drawback about this theory. The number of sample group is only 203 which is not enough, meanwhile the main subjects are mainly engineers and accountants, which means they barely worry about their salary, security and working condition, thus these factors may not be motivators to them.

In Solomon *et al.* (2006)'s point of view, Herzberg's theory gives marketers positive implication which is marketers should identify and focus on offering satisfiers or motivators for customers to purchase, and avoid dis-satisfiers that might un-sell their products.

d) Expectancy Theory

Expectancy theory was first developed by Victor Vroom (1964) for work settings. In this theory, the main idea is that people believe they will obtain better performance because of their stronger effort, and finally receive the rewards they want. Moreover, there are four assumptions in the expectance theory (Vroom, 1964).

The first assumption is that people join an organization with their expectations about their motivations, needs and past experiences. The second assumption is that the behavior of an individual is caused by conscious choice which means people behave with their own will under their own expectance calculations. The third assumption is that people want different things from the organization such as good salary, job security, advancement and challenges. The forth assumption is that people will optimize outcomes among alternatives for their own sake.

Based on these four assumptions, there are three key elements of the expectancy theory. They are; expectance, instrumentality and valence. The expectance is the possibility valued by person that their effort will generate a given level of performance. The instrumentality is the possibility valued by person that their given level of performance will lead to various work outcomes. And the valence is how strong an employee's preference is for a specific reward. Suggested by Vroom, the relation among motivation, expectance, instrumentality and valence could be expressed as below:

$$\text{Motivation} = \text{Expectancy} \times \text{Instrumentality} \times \text{Valence} \quad (2.1)$$

The influence from three key elements to motivation is not the simple addition but multiplication. Thus even they are all low, the result of the multiplier effect, in the right side of the equation, lead to higher levels of motivation. Meanwhile, the multiplier assumption also implies if one of the three elements is zero, the level of motivation is also zero (Fred, 2011).

All in all, Vroom's expectancy theory does not suggest specific idea about what motivate people which makes itself different from the theories of Maslow, Herzberg and other researchers. Expectancy theory makes contribution to the managers during setting goals. Under the suggestions of expectancy theory, in a managerial point of

view, employees could be motivated by altering the person's effort-to-performance expectancy, performance-to-reward expectancy, and reward valences (Fred, 2011).

2.2.3 Shopping Motivation

Understanding consumers' behavior and needs could benefit companies or marketers. Based on the understanding of consumers' motivation, companies can not only develop spontaneous desire in consumers' mind, but also develop it over time by advertising and other media.

In the research field, the traditional cognition, affect, and behavior (CAB) model is a favorable model which considers people go shopping because they need to buy certain products or services. Then Tauber (1972) first explores the motivation of shopping behavior with a range of psychosocial needs that go beyond the purchasing of products and services. Tauber (1972) identifies two types of psychological needs: personal and social. The personal motives include role-playing needs, diversion, learning about new-trend, sensory stimulation, self-gratification and physical activity. The social motives include the needs for social experiences, status and authority, peer group attractions, pleasure in bargaining and communication with others.

Hirschman and Holbrook (1982) extend Tauber (1972)'s idea, they add pleasure, feeling, aesthetics, emotion, and enjoyment as new motivations. Following Tauber's study, Westbrook and Black (1985) suggested seven dimensions of shopping motivation, while Arnold and Reynolds (2003) focus on motivations about hedonic and non-product in nature. According to Dawson *et al.* (1990), shopping motivation can be more product oriented (acquiring products or services) or experience oriented (hedonic oriented). A hedonic oriented person focuses on fun, sensory, excitement (Babin *et al.*, 1994; Arnold and Reynolds, 2003), and also the fulfillment of needs as gaining ideas, improving personal wellbeing, and socializing with others (Tauber, 1972; Buttle and Coates, 1984).

Consumer buying behavior is expressed when needs activated, but the benefit gained from product orientation and experience orientation are different: utilitarian benefit

and hedonic benefit. Several studies indicate that customers go shopping with utilitarian motives, also with experiential motives, which means consumers shop to acquire product and service or they shop to shop (Bloch and Richens, 1983; Hoffman and Novak, 1996; Schlosser and Kanfer, 1999).

a) Utilitarian Motivation

The definition of Utilitarian motivation is that this kind of motivation is goal oriented, decision effective mission critical, and rational (Hirschman and Holbrook, 1982; Batra and Ahtola, 1991; Engel *et al.*, 1993). The utilitarian benefits are objectives, functional product attributes (Engel *et al.*, 1990). Utilitarian benefits are the necessary functional and instrumental benefits of the products or services in contrast to luxuries. Utilitarian shopping relates to achieve the shopping objective in an efficient manner, it is task-oriented and rational (Hirschman and Holbrook, 1982; Batra and Ahtola, 1991). All in all, the behavior of a person to shop with utilitarian motivation is task-oriented and seeking to accomplish a mission, the utilitarian benefits are acquired or not depends on the mission is completed or the mission is completed efficiently during the process.

b) Hedonic Motivation

Hedonic motivation includes emotional responses, sensory pleasures, daydreams and esthetic considerations (Hirschman and Holbrook, 1982). The behavior with hedonic motivation relates to seek happiness, fantasy, awakening, sensuality and enjoyment. According to Bloch and Bruce (1984), Sherry (1990) and Babin *et al.* (1994), shopping behavior is not only a task or a mission to complete, customers will go to shop just for enjoy the shopping process to acquire experiential and emotional benefit. We can say hedonic motives is similar to utilitarian motives as task seeking, however, the different is the “task” of hedonic motives is about hedonic fulfillment (Babin *et al.*, 1994).

The research of hedonic motivation extent the understanding of shopping motivation and now become the most important thing along with utilitarian motivation to the companies to maintain competitive advantage (Parson, 2002).

2.2.4 Online Shopping Motivation

Online shopping behavior is the process of buying products or services through the Internet (Li & Zhang, 2002). What drive a person to shop are the reasons or needs, namely shopping motivation (Jansen, 2006), and the motivations drive an individual to shop online are online shopping motivations.

The success factors of online retailing are the attraction and retention of consumers. Thus influence factors of accepting or refusing online shopping are critical to marketers. Chang *et al.* (2005) propose a categorization of factors with three categories: a) perceived characteristics of the Internet as a sale channel, b) consumer characteristics and c) characteristics of the product for summary. Liudmila and Jurgita (2009) summarize several factors in each categories based on researchers' investigation.

For the perceived characteristics of the Internet as a sale channel, two factors are identified, barriers and benefits. Barriers factor includes Internet security/privacy concerns, low perceived trust, perceived stress and lack of sociality. Benefits factor includes usefulness, ease of use, convenient, enjoyment/adventure, rewarding, information availability, selection, price/charge/cost saving, value (sales, bargains, discount), idea (discover new trends), perception that needs will be met and control/authority.

The consumer characteristics include demographics (age, gender, education, household income and family composition), shopping (recreational, economic, convenience, socialization), experience (Internet use, shopping innovativeness, previous online purchase, compatibility, self-efficacy and peer influence) and personal traits (personal innovativeness, innovativeness of checking of new websites, consumer personality type).

The last is characteristics of the product which includes customized products or services, usability of storefront, brand and name recognition, product type, handling merchandise and perceived service quality.

Liudamila and Jurgita (2009) also identify two groups of factors are motivation

dimensions (convenience, product variety, purchase surrounding, information depth and brand) and demotivation dimensions (risk, economic, conditions and ability, time and socialization and sense) on Lithuanian consumers. In their research, the strong motives drive people to shop online is convenience dimension and product variety dimensions while the brand dimension and information depth dimension are the least specific features of this group. The strong point not to shop online is the perceived risk dimension. The respondents are much concerned with security of their private information but they do not consider payment system security is a threat to them. Lack of sense to the products or services bought online raises the perceived risk of consumers.

Mary *et al.* (2000) identify different important factors related to goal directed and experiential online shopping behavior. For the goal directed buying, the most important factors include accessibility/convenience, selection, information availability, control of sociality and commitment to Goal (not experience). For the experiential buying, the factors include ambiance/atmosphere, positive sociality, positive surprise, commitment to experience as important as or even more important than goal.

Andrew and Vanitha (2004) propose several motives of shopping include shopping convenience (include time saving), information seeking, immediate possession, social interaction, the retail shopping experience and variety seeking. Their research identifies overall shopping convenience as a motive for shopping online, and so do social interaction and variety seeking. However, time saving and recreation and enjoyment are not identified as motives to online shopping.

To *et al.* (2007) identify several factors that may have influence to utilitarian motivation or hedonic motivation. In addition, they also study the influence caused by utilitarian and hedonic motivation to search intention and purchase intention. The research indicates that consumers of online shopping have both utilitarian and hedonic motivations. Both types of motivation drive search intention and purchase intention. Furthermore, Factors including cost saving, convenience, selection and information availability are important utilitarian values, while adventure/explore and authority & status are important hedonic values.

Ceren (2012) studies the relationship among shopping motives (utilitarian and hedonic value), concern factors (privacy and security) and search intention and purchase intention about Turkey consumers. The conclusion of this study is Internet shoppers purchase for both utilitarian and hedonic values, but when they concern about personal security, they will not go shopping online. Turkey consumers will be driven by hedonic value to search but not by utilitarian value. This result do not support the conclusion proposed by Jamiszewski (1998) and To *et al.* (2007), both of their conclusion show that search intention would be influenced by both utilitarian and hedonic value. Moreover, the study of Ceren (2012) indicates that both utilitarian and hedonic values have important impact on purchase intention, especially hedonic value has important impact on both search and purchase intentions. Although utilitarian value has no impact on search intention, it has stronger impact on purchase intention than hedonic value.

Demographic of consumer is also an important factor. According to table X, age and gender are the most popular demographic factors researchers frequently studied before. Teo (2001) examine education as demographic factor. The previous online purchase is also an important demographic factor researchers considered (Foucault and Scheufele, 2002; Vijayarathy, 2004; Barkhi and Wallace, 2007). To *et al.* (2007) and Ceren (2012) record years on the Internet of consumer.

2.2.5 Search Intention and Purchase Intention

There are two types of search intention identified by Janiszewski (1998) including goal-directed search and exploratory search. The customers with goal-directed orientation are mainly shopping efficiently with a clear goal and substantial shopping plan. Thus the search behavior taken by them is for collecting relative information of the target product. The exploration-oriented customers search for browsing shop to enjoy the searching process. In the online shopping context, search behavior is much easier to be took compare to offline shopping because the Internet and technology increase searching efficiency and decrease the limitation of space, which make the

browsing medium more convenient and lead to increasing customers' search intention.

Li and Zhang (2002) consider the online shopping intention could be described as the willingness to purchase in an Internet store. According to Fishbein and Ajzen (1975), the behavioral intention is a valuable predictor of behavior, while Sheppard *et al.*'s (1988) research proves that the average correlation between intentions and behavior is 0.53. Therefore, the stronger the behavioral intentions of online shopping is, the much possible the consumer to shop online. Meanwhile, in accordance with the research of Moe (2003), when a goal-oriented customer acquire enough or needed information, they may generate purchase intention. And one the exploration-oriented customer suffer emotional stimulation, they may have impulsive purchasing or unplanned shopping behavior. Thus both goal-oriented and exploration-oriented searching behavior could have impact on purchase intention.

2.3 Research Hypothesis

The purpose of this study is to study what motivation factors may have influence on online book shopping. The motivation factors are categorized into two groups, utilitarian motivation and hedonic motivation. Moreover, the other purpose of this study is to discuss the influence of motivation on search intention and purchase intention. This study references and modifies To *et al.* (2007)'s research model and hypotheses to adapt to study online book-shopping motivation and behavior.

2.3.1 Utilitarian Value and Motivation

Utilitarian motivation is one of two main types of motivation related to online shopping behavior. Former researchers identified several specific values which may influence utilitarian motivation. There are six values identified by To *et al.* (2007), but two values were removed due to the context of book-shopping. First is lack of sociality, which means customers may be motivated to shop online due to the lack of bother from sales people. In the book store of China, staffs will not work and sale as

other physical stores, which makes it no sense that lack of sociality drives people to buy books online. Regarding the other removed value, customized products or service is not possible because the books are written by writers and the packaging, shipment, design and transaction method are determined and provided by the online bookstores. Therefore, there are four values identified in this study referenced from To *et al.* (2007).

Cost saving

According to Keeney (1999, cited in To *et al.*, 2007), due to the lower expenditure of product cost and browsing cost, shopping online is more cost saving than offline. Also, the saving of rent, store installation, decoration and personnel are other reasons why shopping online is cost saving (Miller, cited in To *et al.*, 2007). In addition, due to the reasons stated above, the price will be lower than physical store which becomes monetary incentives for consumers because they experience cost saving and achieve higher level of economic control, and as a result, this kind of price promotion exhibit significant positive correlations with Internet use (Charney and Greenberg, Flanagin and Metzger, Wolin and korgaonkar, cited in Angeline & Monika, 2010).

Convenience

Shopping online provides no limitation of time, space or weather and 24/7 nonstop service (Burke, cited in To *et al.*, 2007). Convenience is viewed as the most compelling motivation in online shopping context because customer can shop online 24/7 easily at home (Swaminthan, Lepkowska-White, & Rao, 1999). Wolfinbarger and Gilly (2001, cited in To *et al.*, 2007) consider the convenience of online shopping is from the comfortable and convenient shopping environment provided by using Internet. According to Liudmila and Jurgita (2009), convenience is the factor has the most important effect.

Selection

Alba *et al.* (1997, cited in To *et al.*, 2007) and Wolfinbarger and Gilly (2001) pointed out that online stores have more products for selection than physical store, and even the “niche” products also can be found online brings variety advantage to online shopping compare to offline shopping. Meanwhile, the possibility to make

comparison through Internet increases customers' variety seeking behavior (Rohm and Swaminathan, 2004). For utilitarian consumers, numerous choices brings more possibility to find the most appropriate products they want.

Information availability

According to Hoffman and Novak (1996), the Internet makes it possible for consumers to receive the specific information they need from a wider variety of information than before. Online shopping also makes it easier to compare, search and access information than in physical store (Lynch and Ariely, 2000).

All the hypothesis related to utilitarian motivation are stated below.

H1. Utilitarian value has significant positive impact on utilitarian motivation of online book shopping.

H1a. Cost saving has significant positive impact on utilitarian motivation of online book shopping.

H1b Convenience has significant positive impact on the utilitarian motivation of online book shopping.

H1c. Selection has significant positive impact on the utilitarian motivation of online book shopping.

H1d. Information availability has significant positive impact on the utilitarian motivation of online book shopping.

2.3.2 Hedonic Value and Motivation

Hedonic motivation is the other type of online shopping motivation. There were five values identified by To *et al.* (2007) but Value was removed in this study. Value refers to the pleasure felt by customer when they negotiate with the sales people during a bargaining process (Westbrook and Black, 1985). In To *et al.* (2007)'s point of view, value will be obtained through the shopping process, which provide increased sensory involvement and excitement. However, the Chinese customers have consensus that they certainly will find discount in online book stores and the price are the same in difference online stores. Therefore, value would not be a motive. Moreover, this study further adds one variable which is sense of the product. According to Liudmila and Jurgita (2009), lack of sense to the products or services bought online raises the

perceived risk of consumers. In Westbrook and Black (1985)'s point of view, stimulation is that during shopping process a person may have the motivation to quest novel and interesting stimuli from the retail environment. Such stimulation might involve the sensory, emotive, and/or cognitive faculties. Therefore, sense of product or service could be a valuable value to hedonic motivation. There are five hedonic values identified in this study.

Adventure/explore

According to Westbrook and Black (1985), the adventure of shopping means that consumers may feel novel and interesting and experience the joy of exploration during shopping. Webster *et al.* (1993, cited in To *et al.*, 2007) propose that people will have curiosity when interacting with computer which will lead to an action of adventure as a result.

Social

Tauber (1972) proposes several social motives may influence shopping behavior. Alba *et al.* (1997) thinks that desire for social interaction may influence the choice of retail format such as physical store, catalog or online setting. Arnold and Reynolds (2003) suggests that many people enjoy spending time to shop with friends or family members. Wolfenbarger and Gilly (2001) believe consumers can acquire pleasure when sharing information and shopping experiences with the friends known through the Internet or in the virtual community.

Idea

This value is that consumers may learn about new trends through go shopping (Arnold and Reynolds, 2003). Due the wide variety of information from the Internet, consumers can discover and secure new trends easily which becomes one of the strongest motivation of online shopping (Parsons, 2002). Consumers can learn the new books, the bestseller books or the most famous book around the world through the Internet.

Sense

In the online context, it is difficult to have sense of the product or product-trail experiences. According to Liudmila and Jurgita (2009), lack of sense to the products

or services bought online raises the perceived risk of consumers. Because the most valuable thing of a book is the content and online retailers cannot post all the content online for consumers to read, lack of sense will be a challenge to attract recreational shoppers who may just want to have a glance of a book in the physical book stores.

Authority and status

Parson (2002) considers consumers would have a higher level of control and authority during shopping online because they can decide the things they see and buy, the time to receive and then time to make orders. To *et al.* (2007) think consumers can acquire the feeling of authority and status by controlling over technology.

All the hypothesis of hedonic motivation are stated below:

H2. Hedonic value has significant positive impact on Hedonic motivation of online book shopping.

H2a. Adventure/explore has significant positive influence on the hedonic motivation of online book shopping.

H2b. Sociality has significant positive influence on the hedonic motivation of online book shopping.

H2c. Idea has significant positive impact on the hedonic motivation of online book shopping.

H2d. Lack of sense has significant negative impact on the hedonic motivation of online book shopping.

H2e. Authority and status has significant positive impact on the hedonic motivation of online book shopping.

2.3.3 Shopping Motivations, Search Intention and Purchase Intention

For the utilitarian oriented consumers, they prefer to search and collect the useful information during shopping in order to acquire the thing they want to complete the “mission”; while hedonic oriented consumers need to search online during aimless browsing for acquiring enjoyment from what they find and the searching process. Thus, both utilitarian and hedonic motivation would have impact on search intention

of online shopping. The eleventh and twelfth hypothesis are:

H3. Utilitarian motivation has significant positive impact on the search intention of online book shopping.

H4. Hedonic motivation has significant positive impact on the search intention of online book shopping.

Babin *et al.* (1994) suggest that hedonic motivation will have stronger influence on unplanned purchase behavior than utilitarian motivation. Based on Babin *et al.* (1994)'s opinion, To *et al.* (2007) suggest that hedonic motivation will have impact on purchase intention through search intention indirectly. However, the study of Ceren Topalovğlu (2012)'s on Turkish consumers indicates that both utilitarian and hedonic value could influence purchase intention. Thus, the thirteenth and fourteenth hypothesis are:

H5. Utilitarian motivation has significant positive influence on the purchase intention of online book shopping.

H6. Hedonic motivation has significant positive impact on the purchase intention of online book shopping.

Shim *et al.* (2001)'s research proposes that the search intention of online shoppers has a positive impact on their purchase intention. Based on this conclusion, the fifteenth hypothesis is:

H7. The search intention has significant positive impact on purchase intention of online book shopping.

2.3.4 Research Hypothesis Graph

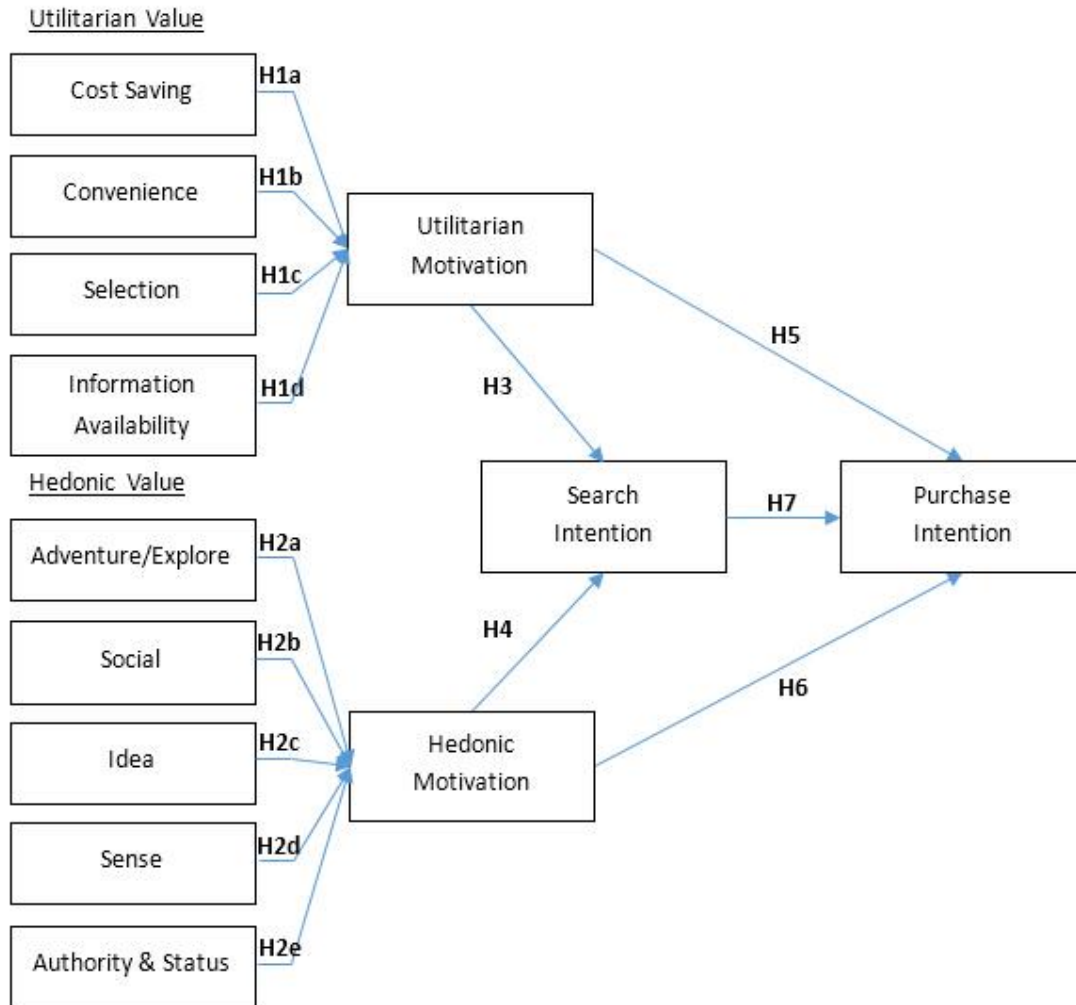


Figure 1 Research model and hypotheses

2.4 Summary

In this part, the author reviews several research theories, models and researchers' opinions about consumer behavior and motivation in the context of both shopping and online shopping. This study references and modifies To *et al.* (2007)'s research model and identifies 7 main hypotheses along with 9 sub-hypotheses in order to explore the relationship among motivations, search intention and purchase intention of online book-shopping.

3 Methodology

On the basis of the literature review, the author has established the research model of this study. In order to analyze the data of the research, seven research hypotheses and nine sub-hypotheses are set up. The hypotheses are focusing on the relationship among Utilitarian values, Hedonic values, Utilitarian motivation, Hedonic motivation, Search intention and Purchase intention. A questionnaire survey is held as a tool to collect primary data in order to test the hypotheses, because according to Saunders *et al.* (2003), for collecting descriptive and explanatory data about opinions, behaviors and attributes, using a questionnaire is the best way.

3.1 Pilot Test

There are two steps of the pilot test. The first step is to obtain an initial Chinese translation of the questionnaire by the way of English-Chinese-English process, because the questionnaire survey would be conducted in China. Meanwhile, because the items of the questionnaire were all in English and referenced from To *et al.* (2007)'s research, Liudmila and Jurgita (2009)'s research and Ruoqiao Ma *et al.* (2010)'s research, in order to conduct the survey in China, the questionnaire should be translated into Chinese. Thus, a pilot test should be implemented.

The whole questionnaire was translated into Chinese from English by the author. And then, Zongyuan Li who is a master student in ISCTE-IUL, major in Finance, was invited to revise the Chinese questionnaire into English. Then the author discussed with Zongyuan Li about the differences between the original questionnaire and the translation of Zongyuan Li, in order to clarify the misunderstanding about Chinese wording. After further discussion, an initial Chinese questionnaire was obtained under the help of Zongyuan Li.

The second step is to release the initial Chinese questionnaire to 10 people from the target group to answer the questionnaire, they are the students from different universities including one student named Lü Zou who is major in English and Translation. In this step, the goal is to test the initial Chinese questionnaire under

different points of view, to see if there are any other misunderstandings or the diction which is not clear. For example, about the translation of “in my own universe”, Lü Zou suggested this item consisted of two parts: the feeling of free and the feeling of happiness and enjoyment. Thus he suggested to utilize the special way of translation, to combine literal translation and liberal translation. Moreover, the 10 students suggested to scramble the items of questionnaire because the respondents may have tendentiousness when they find several items have similar meanings to the one they just answer. And they also suggested to divide the whole questionnaire into parts because they thought if the questionnaire could be divided into parts, the respondents might not feel there were too many items to answer.

After the pilot test the author amended the questionnaire. First is to amend the diction of each item to make it much more clear and easy to understand, for example the item “in my own universe” mentioned above. Second is to divide the whole questionnaire into three parts, Utilitarian & Hedonic value, Utilitarian & Hedonic motivation, and Search intention & Purchase intention. Third is to scramble the items of the part Utilitarian & Hedonic value to avoid the tendentiousness of the respondents. After the amendments of questionnaire, the formal version was obtained and ready to release.

3.2 The Questionnaire

The questionnaire has four parts, including Demographic data, Utilitarian & Hedonic value, Utilitarian & Hedonic motivation and Search & Purchase intention.

For the part of Demographic data, it requires the respondents to fill in their basic information, including Gender, Age, Graduate School, Residence, Education Background, Online Shopping Experiences, Internet Use History and The Favorite Book-shopping Website.

For the part of Utilitarian & Hedonic value, several specific factors are identified with related items. Regarding Utilitarian values, it includes Cost Saving, Convenience, Selection and Information Availability, and the items for each factor are quoted from To *et al.* (2007)’s research. Regarding Hedonic values, it includes Adventure/explore,

Social, Idea, Sense and Authority & Status. The items of Sense are quoted from the researches of Liudmila and Jurgita (2009) and Ruoqiao Ma *et al.* (2010). The rest of items are all quoted from To *et al.* (2007)'s research.

For the part of Utilitarian & Hedonic motivation, the items are quoted from To *et al.* (2007)'s research, while To *et al.* (2007) used the measurement of utilitarian and hedonic motivations developed by Voss *et al.* (2003).

For the part of Search & Purchase intention, the items are quoted from To *et al.* (2007)'s research.

The part of Utilitarian & Hedonic value and Search & Purchase intention adopted a seven-scale Likert scale, with 1 representing total disagreement and 7 representing total agreement. The part of Utilitarian & Hedonic motivation adopted a seven-scale semantic differential measurement.

3.3 The Samples

Respondents of this study are university students including 3-Years college students, bachelor students, master students and Ph.D. students, because university students become the main group for buying books, and also the earliest group to learn and adopt Internet and E-commerce. The way to collect the data is convenient sampling. A total of 313 questionnaires were distributed through Internet, 257 were valid. The valid response rate was 82.1%. The samples with online shopping experience less than 1 year, and Internet use history less than 1 year were considered as low persuasion, which means their opinions were not representative enough as light online shoppers. After deleting the light online shoppers, 238 were valid, the valid response rate was 76.0%.

3.4 The Tool

In this study, the software SPSS 22.0 and Eviews 6.0 are used to analyze the data collected by the questionnaire survey.

4 Result

4.1 Demographics

The respondents of this study are students who also are Internet users in China that have Internet shopping experience.

The number of male respondents is 85 (35.7%) while female respondents is 153 (64.3%). People aged between 23 and 24 comprise about 87 (36.6%) of the respondents; people aged between 25 and 26 comprise about 85 (35.7%); people who is 22 and younger than 22 comprise 38 (16%) while people who is 27 and over 27 comprise 28 (11.8%) of the respondents. Thus, people who aged between 23 and 26 are the major group of this study.

There are 194 (81.5%) respondents have no oversea education background, which means their whole education is taken under the education system of China; and there are 44 (18.5%) respondents have oversea education background.

There are 150 (63%) respondents live in South China while 88 (37%) respondents live in other parts of China, for example, East China, North China, Central China or West-north China.

There are 169 (71.0%) respondents who have bachelor degree, while 61 (25.6%) respondents have master degree; only 2 (0.8%) respondents have Ph.D. degree and 6 (2.5%) has 3-year college degree.

The number of respondents who have 1 to 3 years online shopping experience is 85 (35.7%), and 118 (49.6%) respondents have 4 to 6 years online shopping experience which is approximately half of the respondents, 30 (12.6%) respondents have 7 to 9 years online shopping experience while only 5 (2.1%) have over 9 years of experience.

About the Internet use history, the majority is the people who have used Internet over 9 years with the number of 126 (52.9%), the second largest group is the people who have used Internet between 7 and 9 years with the number of 61 (25.6%), and then 48 (20.2%) respondents have 4 to 6 years Internet use history, and only 3 (1.3%) respondents have used Internet between 1 to 3 years.

This study asked the respondents to apply their most frequent book-shopping website for answering the questionnaire. It shows that Dangdang.com is the most popular website in this study with 94 (39.5%) respondents use it as their most frequent book-shopping website. The following is Amazon.cn with 81 (34.0%) respondents. 38 (16.0%) respondents use Taobao.com as their most frequent website while 22 (9.2%) respondents use JD.com as their most frequent website. Only 3 (1.3%) respondents do not use those websites mentioned above as their most frequent website.

4.2 Validity

For the purpose of assessing convergent and discriminant validities, there are three scales of the questionnaire with total 45 items were subjected to principal components analysis with varimax rotation. For the scale of Utilitarian & Hedonic value, there are two sub-scales which are Utilitarian Value and Hedonic value (To *et al.*, 2007). And the rest of scales are Utilitarian & Hedonic Motivation (Voss *et al.*, cited in To *et al.*, 2007) and Search & Purchase Intention (To *et al.*, 2007).

4.2.1 Utilitarian Value Scale

There are 13 items used to measure four research variables by using principal components analysis first. Because item IA2 and SL2 contribute to two different components based on the value of rotated component matrix under the rotation method of Varimax and the pattern matrix and structure matrix under the rotation method of Direct Oblimin, both item IA2 and SL2 should be deleted. After deleting item IA2 and SL2, there are only two items SL1 and IA1 in component 3, which is less than 3 items and is not enough to represent a component. Therefore, item SL1 and IA1 are deleted. The final outcome of factor analysis of Utilitarian Value Scale is shown below.

KMO and Bartlett's Test

According to Kaiser (1974), the KMO measure of sampling adequacy has to be higher than 0.60, so that the factor analysis could be proceed. The KMO measure is 0.859 shows a level of favorable, the approximate chi-square is 649.830, degree of freedom is 36, and the significance level is 0.000 which is <0.01. All the values indicates it is appropriate to proceed factor analysis.

Table 1 KMO and Bartlett's Test of Utilitarian Value Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.859
Bartlett's Test of Sphericity	Approx. Chi-Square	649.830
	df	36
	Sig.	0.000

Component Matrix

There are two rotation method used to discriminate principal components, Varimax and Direct Oblimin. Both ways show the similar outcome.

Table 2 Principal components of Utilitarian Value Scale

Scale items		Factors	
		1	2
IA3	Internet makes acquiring information easily.	0.752	
SL3	I can access wide selection when buying books online.	0.749	
CV4	Buying books online is convenient to me.	0.687	
CV3	Buying books online fits with my schedule.	0.668	
CV2	I can buy books online without going out.	0.583	
CS1	Buying books online can save my money.		0.861
CS2	I spend less when I go online shopping.		0.748
CS3	Buying books online offers me the competitive price.		0.687
CV1	I can buy books online whenever I want.		0.673

Factor Naming

Based on the outcome of principal components analysis, there are two main factors are identified. Factor 1 includes the item of IA3, SL3, CV4, CV3 and CV2, originally those items focus on testing Information Availability, Selection and Convenience which are the factors identified by To *et al.* (2007).

Thus the main attribute of factor 1 is convenience, along with lesser attribute of information availability and selection. Based on the items, the main characters among items of factor 1 are “easy to access selection”, “easy to access information” and “easy to involve in online book-shopping process physically and psychologically”. Thus the author names the factor 1 as “Ease to access”.

For factor 2, the main attribute is cost saving due to three items are for testing Cost Saving originally in To *et al.* (2007)’s research, while the lesser attribute is convenience. The meaning of CV1 could be understood as saving a person’s resources (energy to visit physical bookstore, time for scheduling the visit). Thus factor 2 could

be named as “Cost Saving”.

4.2.2 Hedonic Value Scale

There are 16 items used to measure four research variables by using principal components analysis first. Several items are deleted due to different reasons. Item SC2 is removed because it contributes to two different components. And then item SE1 shows negative relation to a component which means maybe there is problem about this item, it should be deleted. Item AS3 is removed because there are only one item (AS3) in that component. Item SE2’s loading is lower than 0.500 while other are higher than 0.500, and it contributes to two different components, it should be removed. Item IDA1 is removed because it contributes to two different components. Item AV3 is removed because of the same reason as IDA1. Item SC1 is removed because in the Structure Matrix produced by the Direct Oblimin method, SC1 has similar loadings to those three components. SC3 and SC4 are removed because they are the only two items in that component which is not enough to consist a component.

KMO and Bartlett’s Test

The KMO measure is 0.801 shows a level of favorable, the approximate chi-square is 501.908, degree of freedom is 21, and the significance level is 0.000 which is <0.01. All the values indicates it is appropriate to proceed factor analysis.

Table 3 KMO and Bartlett’s Test of Hedonic Value Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.801
Bartlett’s Test of Sphericity	Approx. Chi-Square	501.908
	df	21
	Sig.	0.000

Component Matrix

There are two rotation method used to discriminate principal components, Varimax and Direct Oblimin. Both ways show the similar outcome.

Table 4 Principal components of Hedonic Value Scale

Scale items		Factors	
		1	2
AS1	When shopping online I feel in control.	0.811	
AV2	I find buying books online stimulating.	0.773	
AV1	Buying books online makes me feel like I am in my own universe.	0.769	

AS2	During buying books online, I have control over my online shopping process.	0.641
IDA2	I can keep up with the new books.	0.853
IDA3	I can see what new books are available.	0.824
SE3	The book assessment provided in online book stores is helpful to know more about the books.	0.647

Factor Naming

Based on the outcome of principal components analysis, there are two main factors are identified. Factor 1 includes the item of AS1, AV2, AV1 and AS2, originally those items focus on testing Adventure/explore and Authority & Status which are the factors identified by To *et al.* (2007). Based on the items, the author names the factor 1 as “Authority & Enjoyment”.

For factor 2, the main attribute is to get the idea of new trend due to two items are for testing Idea originally in To *et al.* (2007)’s research, while the lesser attribute is the sense of books. The meaning of LS3 could be understood as getting the idea of how books are assessed. Thus factor 2 could be named as “Idea”.

4.2.3 Utilitarian & Hedonic Motivation Scale

The second part of the questionnaire is Utilitarian & Hedonic Motivation scale which was developed by Voss *et al.* (2003) and cited in To *et al.* (2007)’s research. There are 10 items in the scale.

KMO and Bartlett’s Test

The KMO measure is 0.909 which is very high, the approximate chi-square is 2291.385, degree of freedom is 45, and the significance level is 0.000 which is <0.01. All the values indicates it is appropriate to proceed factor analysis.

Table 5 KMO and Bartlett’s Test of Utilitarian & Hedonic Motivation Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.909
Bartlett’s Test of Sphericity	Approx. Chi-Square 2291.385
	df 45
	Sig. 0.000

Component Matrix

There are two rotation method used to discriminate principal components, Varimax and Direct Oblimin. Both ways show the similar outcome. In addition, because Voss *et al.* (2003) and To *et al.* (2007) both did factors analysis before and had already

discriminated two main factors, thus in this study the author restricts 2 components to be extracted.

Table 6 Principal components of Utilitarian & Hedonic Motivation Scale

Scale items		Factors	
		1	2
Buying books online is...			
UM2	Helpful/unhelpful	0.925	
UM1	Effective/ineffective	0.900	
UM3	Functional/not functional	0.895	
UM5	Practical/impractical	0.873	
UM4	Necessary/unnecessary	0.693	
HM5	Enjoyable/unenjoyable		0.904
HM2	Exciting/dull		0.900
HM4	Thrilling/not thrilling		0.876
HM1	Fun/not fun		0.823
HM3	Delightful/not delightful		0.762

4.2.4 Search & Purchase Intention Scale

The third part of the questionnaire is Search & Purchase Intention scale which was developed by To *et al.* (2007). There are 6 items in the scale.

KMO and Bartlett's Test

The KMO measure is 0.870 which is very high, the approximate chi-square is 1148.625, degree of freedom is 15, and the significance level is 0.000 which is <0.01. All the values indicates it is appropriate to proceed factor analysis.

Table 7 KMO and Bartlett's Test of Search & Purchase Intention Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.870
Bartlett's Test of Sphericity	Approx. Chi-Square	1148.625
	df	15
	Sig.	0.000

Component Matrix

There are two rotation method used to discriminate principal components, Varimax and Direct Oblimin. Both ways show the similar outcome. In addition, because To *et al.* (2007) did factors analysis before and had already discriminated two main factors, thus in this study the author restricts 2 components to be extracted.

Table 8 Principal components of Search & Purchase Intention Scale

Scale items		Factors	
		1	2

PI3	I will continue shopping online in the future.	0.840
PI2	I would like to purchase products or service online.	0.834
PI1	It is a wonderful way to shop online.	0.822
SI2	I would like to search products or services online.	0.859
SI1	It is a wonderful way to search products or service online.	0.803
SI3	I will continue searching products or service online in the future.	0.795

4.3 Reliability

The reliability test is implemented to test the following scales, Utilitarian Value Scale, Hedonic Value Scale, Utilitarian & Hedonic Motivation Scale and Search & Purchase Intention Scale. Moreover, reliability test is also implemented to test the reliability of each value identified by factor analysis, including Ease to Access, Cost Saving, Authority & Enjoyment and Idea.

Cronbach's alpha indicator is used to assess the initial reliability of the scales, a minimum value of 0.7 of Cronbach's alpha is acceptable (Cronbach, 1970; Nunnally, 1978). In this case, the lowest value of Cronbach's alpha is 0.724, all Cronbach's Alpha of other scales are higher than 0.724. These results indicate that all scales have acceptable reliability.

Table 9 Reliability statistics

Scales	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Utilitarian Value	0.833	0.836	9
Ease to Access	0.770	0.772	5
Cost Saving	0.782	0.782	4
Hedonic Value	0.807	0.808	7
Authority & Enjoyment	0.781	0.780	4
Idea	0.724	0.725	3
Utilitarian & Hedonic Motivation	0.928	0.928	10
Search & Purchase Intention	0.923	0.927	10

4.4 Multiple Linear Regression Analysis

4.4.1 Correlation among Exogenous Variables

In the overall model, there are four exogenous variables, they are Ease to Access, Cost Saving, Authority & Enjoyment and Idea. According to the correlation matrix, Ease to Access has medium correlation with Cost Saving (0.538, $p=0.000$) and Authority & Enjoyment (0.461, $p=0.000$) separately, while Cost Saving has low correlation with

Authority & Enjoyment (0.303, p=0.000). Idea has no correlation with Ease to Access (-0.084, p=0.199), or Cost Saving (-0.104, p=0.111), or Authority & Enjoyment (-0.021, p=0.744).

Table 10 Correlation among exogenous variables

	Ease to Access	Cost Saving	Authority & Enjoyment	Idea
Ease to Access	1			
Cost Saving	0.538**	1		
Authority & Enjoyment	0.461**	0.303**	1	
Idea	-0.084	-0.104	-0.021	1

** . Correlation is significant at the 0.01 level (2-tailed).

4.4.2 Multiple Linear Regression Model 1

Model Equation

There are two explanatory variables and one dependent variable included in this model. The two explanatory variables are Ease to Access (EA) and Cost Saving (CS), while the dependent variable is Utilitarian Motivation (UM).

$$UM = c + \beta_1 EA + \beta_2 CS \quad (4.1)$$

Correlation

Based on the result, we conclude that the correlation between Ease of Access which is the explanatory variable and Utilitarian Motivation which is the dependent variable is statistically significant (0.345, p=0.000), in accordance to the 5% significance level. Moreover, another explanatory variable Cost Saving also has statistically significant correlation (0.301, p=0.000) to the dependent variable Utilitarian Motivation, in accordance to the 5% significance level.

Table 11 Correlation of Model 1 variables

	Ease of Access	Cost Saving	Utilitarian Motivation
Ease of Access	1		
Cost Saving	0.538**	1	
Utilitarian Motivation	0.345**	0.301**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Stability Test – The RESET Test

The RESET test (Regression specification error test) is a general test to conclude about the occurrence of three types of specification errors: omission of relevant

explanatory variables, incorrect functional form and correlation between variables and the errors of the model (Ramsey, 1969).

Based on the outcome of RESET test, the F-statistic is 0.847861, the Prob. F (2,233) is 0.4296 and the Prob. Chi-Square (2) is 0.4219, we can conclude that the Linear-Linear functional form is the correct one to establish the relationship between dependent variable (Utilitarian Motivation) and explanatory variables (Ease to Access and Cost Saving).

Table 12 Ramsey RESET Test of Model 1

F-statistic	0.847861	Prob. F (2,233)	0.4296
Log likelihood ratio	1.725838	Prob. Chi-Square (2)	0.4219

Normality Test – The Jarque - Bera (JB) Test

The normality Jarque-Bera test is based on the estimates for the coefficients of skewness and kurtosis.

As the probability associated with the J-B test is 0.000000 which is lower than the significance level of 5%. Thus the residuals distribution of this sample is not normally distributed. In another word, the normality of the errors is violated. Although the OLS estimators are still Best Linear Unbiased Estimators, based on the Central Limit Theorem, the statistical inference is only valid asymptotically (Johnston and Dinardo, 2001). Moreover, based on the Central Limit Theorem, although the normality of the errors is violated, the F-test and T-test are still workable.

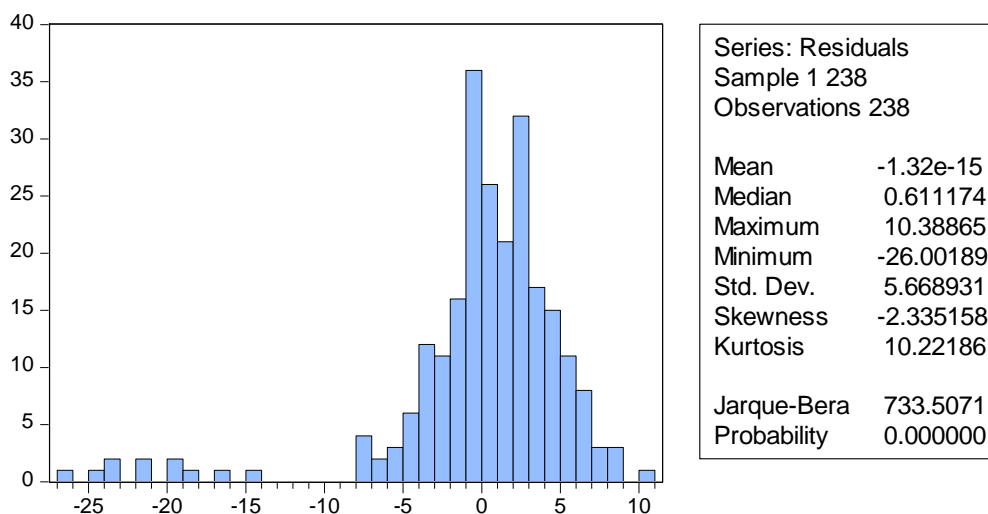


Figure 2 Result of JB Test of Model 1

Multicollinearity

The multicollinearity means the presence of perfect (or strong but not perfect) linear relationships between the explanatory variables. The VIF associated with both variables are 1.407 lower than 10. The tolerance of both variables are 0.711 which is higher than 0.10. The values of condition index are lower than 30. However, the eigenvalue of dimension 3 is 0.006 which is lower than 0.01. All in all, every indicator shows that there is very rare possibility to have multicollinearity in this mode.

Heteroskedastity – The White Test

The White test was proposed by White (1980) to check the errors’ homoscedasticity directly, and it is valid asymptotically and the errors do not need to be normally distributed.

As the significance associated with the White test (0.3644) is higher than 0.05 (significance level of 5%), we can conclude that the errors’ homoscedasticity assumption is not violated.

Table 13 The White Test statistics

F-statistic	1.085771	Prob. F (2,233)	0.3689
Log likelihood ratio	5.441913	Prob. Chi-Square (2)	0.3644

Autocorrelation – Durbin-Watson Statistic

Durbin-Watson statistic is the way to detect if autocorrelation exists in the model. If the Durbin-Watson statistic is close to 2, the possibility of existence of autocorrelation is close to 0. If D-W statistic is close to 0, there is positive relationship among residuals. When the D-W statistic is close to 4, there is negative relationship among residuals. Moreover, because the number of samples is 238, the number of parameter is 2, according to the Durbin-Watson tables, the value of d statistic is: $d_L= 1.77525$, $d_U=1.79270$. Then the regions of the Durbin-Watson statistic can be identified.

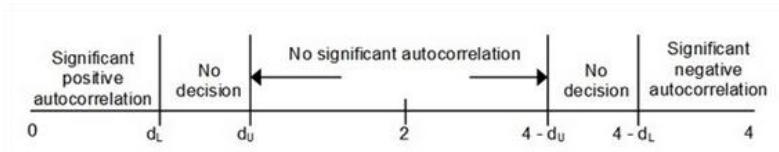


Figure 3 Durbin-Watson region

Source: Ferenc Moksony

Region I is 0 to 1.77525; region II is 1.77525 to 1.79270, or 2.20730 to 2.22475; region III is 1.79270 to 2.20730; region IV is 2.22475 to 4. In this case, the D-W statistic is 2.041 which is on region III. Thus we can conclude for the absence of errors' autocorrelation.

Model Interpretation

Based on the result of multiple linear regression, the value of R is 0.371, R square is 0.138, adjusted R square is 0.130, standard error of the estimate is 5.69300. Because the method is Enter, the value of R square change is 0.138, which means two explanatory variables could explain or eliminate 13.8% of the variance of Utilitarian Motivation. The remainder 86.2% represents the part of the Utilitarian Motivation's variance that cannot be explained by the model.

According to the result of ANOVA, the value of F-test is 18.768 and the significance is 0.000 which is lower than 0.05, it means there is at least one of the regression coefficients is not equal to 0, in other words, there is at least one of the explanatory variables is statistically significant in accordance to the 5% significant level.

According to the T-test, both regression coefficients of Ease to Access ($t=3.583$, $p=0.000$) and Cost Saving ($t=2.262$, $p=0.025$) are statistically significant. The unstandardized coefficients of Ease to Access is 0.466, the unstandardized coefficients of Cost Saving is 0.288. The standardized coefficients Beta of Ease to Access is 0.257 while Cost Saving's is 0.163. Therefore, the unstandardized estimated equation is given by:

$$\widehat{UM} = 6.616 + 0.466(EA) + 0.288(CS) \quad (4.2)$$

In terms of the estimates meaning:

- a. 6.616: it is the expected value for the Utilitarian Motivation if the Ease to Access and Cost Saving are 0.
- b. 0.466: it is the expected variation on Utilitarian Motivation per unit change on Ease to Access if all the rest remains constant.
- c. 0.288: it is the expected variation on Utilitarian Motivation per unit change on

Cost Saving if all the rest remains constant.

And the standardized coefficients could be interpret as:

1. 0.257: for the variation of one standard deviation in the Ease to Access, and assuming everything else constant, it is expected a variation of 0.257 standard deviations on Utilitarian Motivation.
2. 0.163: it is the expected variation on Utilitarian Motivation per unit change on Cost Saving.

The beta coefficient of Ease to Access is higher than the one of Cost Saving, it means Ease to Access is the explanatory variable with higher impact on the dependent variable Utilitarian Motivation.

4.4.3 Multiple Linear Regression Model 2

Model Equation

In this model, because the RESET test of Linear-Linear functional form was statistically significant, which indicates that there may be specification errors. Under the functional form of Linear-Log, the result of RESET test was not significant, which means the problem of specification error was solved by changing the functional form. Thus the result below is using the functional form of Linear-Log.

In addition, according to the result of Collinearity Diagnostics, the eigenvalue of dimension 2 is $0.006 < 0.01$, eigenvalue of dimension 3 is $0.002 < 0.01$, and the condition index of dimension 3 is 44.093 which is higher than 30. These statistics indicates that the multicollinearity problem exist. Moreover, the value of variance proportions of Log (Idea) in dimension 3 is 0.75, therefore, in order to eliminate the multicollinearity problem, factor Log (Idea) should be deleted.

Therefore, model 2 becomes a simple linear regression model and the model equation is:

$$HM = c + \beta_1 AE \quad (4.3)$$

Model Interpretation

Based on the result of simple regression analysis, the value of R is 0.520, R square is 0.270, adjusted R square is 0.267, the standard error of the estimate is 5.19727. Here the explanatory variable Authority & Enjoyment could explain or eliminate 27.0% of

the variance of Hedonic Motivation. The remainder 73.0% represents the part of the Hedonic Motivation's variance that cannot be explained by the model.

According to the result of ANOVA, the value of F-test is 87.397 and the significance is 0.000 which is lower than 0.05, it means there is at least one of the regression coefficients is not equal to 0.

According to the T-test, the coefficients of Authority & Enjoyment ($t=9.349$, $p=0.000$) is statistically significant. The unstandardized coefficients of Authority & Enjoyment is 0.783. The standardized coefficients Beta of Authority & Enjoyment is 0.520. Therefore, the unstandardized estimated equation is given by:

$$\widehat{HM} = 7.580 + 0.783(AE) \quad (4.4)$$

In terms of the estimates meaning:

- a. 7.580: it is the expected value for the Hedonic Motivation if the Authority & Enjoyment is 0.
- b. 0.783: it is the expected variation on Hedonic Motivation per unit change on Authority & Enjoyment if all the rest remains constant.

And the standardized coefficients could be interpret as:

- a. 0.520: for the variation of one standard deviation in the Authority & Enjoyment, and assuming everything else constant, it is expected a variation of 0.520 standard deviations on Utilitarian Motivation.

4.4.4 Multiple Linear Regression Model 3

Model Equation

There are two explanatory variables and one dependent variable included in this model. The two explanatory variables are Utilitarian Motivation (UM) and Hedonic Motivation (HM), while the dependent variable is Search Intention (SI).

$$SI = c + \beta_1 UM + \beta_2 HM \quad (4.5)$$

Correlation

Based on the result, we conclude that the correlation between Utilitarian Motivation which is the explanatory variable and Search Intention which is the dependent variable is statistically significant (0.299, $p=0.000$), in accordance to the 5% significance level.

Moreover, another explanatory variable Hedonic Motivation also has statistically significant correlation (0.219, p=0.000) to the dependent variable Search Intention, in accordance to the 5% significance level.

Table 14 Correlation of Model 3

	Utilitarian Motivation	Hedonic Motivation	Search Intention
Utilitarian Motivation	1		
Hedonic Motivation	0.532**	1	
Search Intention	0.299**	0.219**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Stability Test

All the significance of RESET test under four different functional forms are lower than 0.05, which means the specification errors of model 2 is not incorrect functional forms. Linear-Linear functional form will be used to proceed the analysis.

Table 15 Ramsey RESET Test of Model 3

Functional Form	F-statistic	Prob. F	Log likelihood ratio	Prob. Chi-Square
Linear-Linear	22.31841	0.000	41.71555	0.000
Log-Log	39.15395	0.000	36.82204	0.000
Linear-Log	20.88581	0.000	39.24664	0.000
Log-Linear	22.14011	0.000	41.40967	0.000

Normality Test – The Jarque - Bera (JB) Test

As the probability associated with the J-B test is 0.396561 which is higher than the significance level of 5%. Thus the residuals distribution of this sample is normally distributed. The OLS estimators are Best Linear Unbiased Estimators, and the results of F-test and T-test are trustworthy.

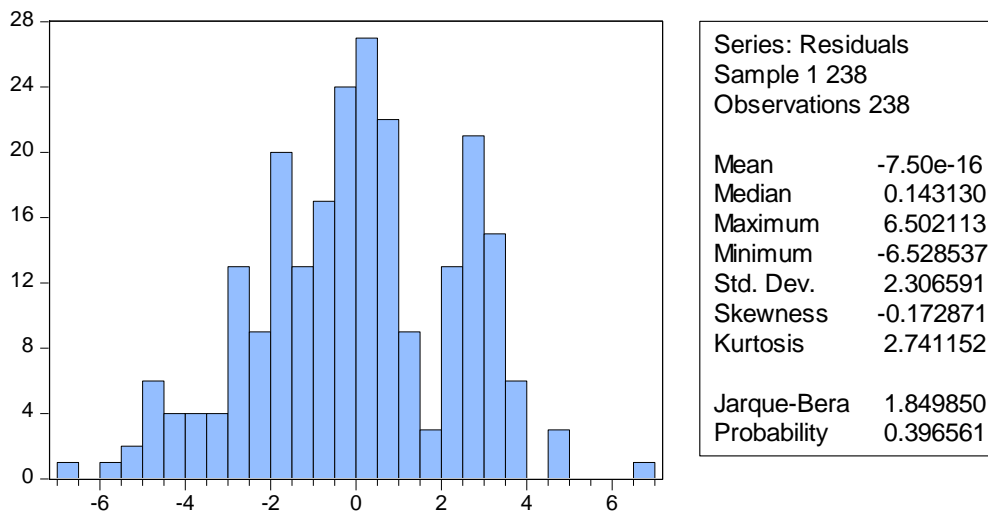


Figure 4 Result of JB Test of Model 3

Multicollinearity

The VIF associated with both variables are 1.395 lower than 10. The tolerance of both variables are 0.717 which is higher than 0.10. The values of condition index are lower than 30. The eigenvalues are higher than 0.01. All in all, we conclude there is no multicollinearity problem occurs in this model.

Heteroskedasticity – The White Test

Result

As the significance associated with the White test (0.0000) is lower than 0.05 (significance level of 5%), we can conclude that the errors' homoscedasticity assumption is violated. In addition, the results of the White test under different functional forms all shows the existence of heteroskedasticity, thus changing functional forms cannot solve the problem

Table 16 The White Test statistics

F-statistic	6.942827	Prob. F (5,232)	0.0000
Log likelihood ratio	30.97685	Prob. Chi-Square (5)	0.0000

Solution

Weighted Least Squares

In order to solve the problem of heteroskedasticity, the weighted least squares method is chosen. The most important thing is to decide the form of weight. In this study, there

are several forms are used to be a weight: $1/\text{abs}(\text{resid})$, $1/\text{abs}(\text{resid}^2)$ and $1/\text{@sqrt}(Yf)$. As the results show, the heteroskedasticity problem is not solved.

Table 17 Heteroskedasticity Test statistics

Weight	F-statistic	Prob. F	Obs*R-squared	Prob. Chi-Square
$1/\text{abs}(\text{resid})$	14.37593	0.0000	64.70755	0.0000
$1/\text{abs}(\text{resid}^2)$	44.88509	0.0000	128.1122	0.0000
$1/\text{@sqrt}(Yf)$	7.867462	0.0000	34.50421	0.0000

White Standard Errors

Although the WLS could not solve the heteroskedasticity problem, it is still possible to deduce consistent estimators for the standard errors of the OLS estimators based on the procedure proposed by White (1980).

Table 18 White Heteroskedasticity-Consistent Standard Errors & Covariance

	Coefficient	Std. Error	t-Statistic	Prob.
Utilitarian Motivation	0.100820	0.036523	2.768013	0.0061
Hedonic Motivation	0.033535	0.028154	1.191113	0.2348
C	13.82611	1.015984	13.60859	0.0000
R²	0.094253		F-statistic	12.22717
Adjusted R²	0.086544		Prob. (F)	0.000009
Durbin-Watson Stat	1.997280			

Autocorrelation – Durbin-Watson Statistic

Because the number of samples is 238, the number of parameter is 2, according to the Durbin-Watson tables, the value of d statistic is: $d_L = 1.77525$, $d_U = 1.79270$. Then the regions of the Durbin-Watson statistic can be identified. Region I is 0 to 1.77525; region II is 1.77525 to 1.79270, or 2.20730 to 2.22475; region III is 1.79270 to 2.20730; region IV is 2.22475 to 4.

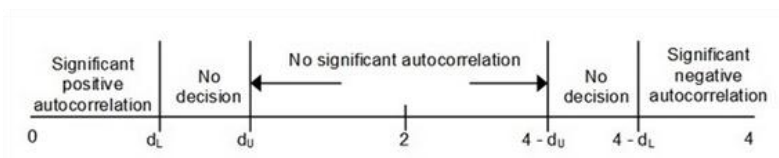


Figure 5 Durbin-Watson region

Source: Ferenc Moksony

In this case, the D-W statistic is 1.997 which is on region III. Thus we can conclude for the absence of errors' autocorrelation.

Model Interpretation

Because there is heteroskedasticity problem exist in this model, and it could not be solved by using WLS method, in order to deduce consistent estimators for the standard errors of the OLS estimators, White Standard Errors is used. The model interpretation will based on the result of White Heteroskedasticity-Consistent standard errors & covariance.

In this model, the value of R square is 0.094253, adjusted R square is 0.086544, the standard error of the estimate is 2.316385, which means two explanatory variables could explain or eliminate 9.4% of the variance of Search Intention. The remainder 90.6% represents the part of the Search Intention's variance that cannot be explained by the model.

The value of F-test is 12.227 and the significance is 0.000 which is lower than 0.05, it means there is at least one of the regression coefficients is not equal to 0, in other word, there is at least one of the explanatory variables is statistically significant in accordance to the 5% significant level.

According to the T-test, the regression coefficient of Utilitarian Motivation ($t=2.768013$, $p=0.0061$) is statistically significant, while the regression coefficient of Hedonic Motivation ($t=1.191113$, $p=0.2348$) is not statistically significant. The unstandardized coefficients of Utilitarian Motivation is 0.100820. Therefore, the unstandardized estimated equation is given by:

$$\hat{S}I = 13.826 + 0.101(UM) \quad (4.6)$$

In terms of the estimates meaning:

- a. 13.826: it is the expected value for the Search Intention if the Utilitarian Motivation is 0.
- b. 0.101: it is the expected variation on Search Intention per unit change on E Utilitarian Motivation if all the rest remains constant.

According to the result of SPSS, the standardized coefficients could be interpret as:

- a. 0.254: for the variation of one standard deviation in the Hedonic Motivation, and assuming everything else constant, it is expected a variation of 0.254 standard deviations on Search Intention.

4.4.5 Multiple Linear Regression Model 4

Model Equation

There are three explanatory variables and one dependent variable included in this model. The two explanatory variables are Search Intention (SI), Utilitarian Motivation (UM) and Hedonic Motivation (HM), while the dependent variable is Purchase Intention (PI).

$$PI = c + \beta_1 UM + \beta_2 HM + \beta_3 SI \quad (4.7)$$

Correlation

Based on the result, we conclude that all the three explanatory variables have statistically significant correlation to the dependent variable.

Table 19 Correlation of Model 4

	Utilitarian Motivation	Hedonic Motivation	Search Intention	Purchase Intention
Utilitarian Motivation	1			
Hedonic Motivation	0.532**	1		
Search Intention	0.299**	0.219**	1	
Purchase Intention	0.294**	0.271**	0.762**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Stability Test

Based on the outcome of RESET test, the F-statistic is 0.395506, the Prob. F (2,233) is 0.6738 and the Prob. Chi-Square (2) is 0.6669 which are both higher than significance level of 0.05, we can conclude that the Linear-Linear functional form is the correct one to establish the relationship between dependent variable and explanatory variables.

Table 20 Ramsey RESET Test of Model 4

F-statistic	0.395506	Prob. F (2,233)	0.6738
Log likelihood ratio	0.810090	Prob. Chi-Square (2)	0.6669

Normality Test – The Jarque - Bera (JB) Test

As the probability associated with the J-B test is 0.000000 which is lower than the significance level of 5%. Thus the residuals distribution of this sample is not normally distributed. In another word, the normality of the errors is violated. Although the OLS estimators are still Best Linear Unbiased Estimators, based on the Central Limit Theorem, the statistical inference is only valid asymptotically (Johnston and Dinardo,

2001). Moreover, based on the Central Limit Theorem, although the normality of the errors is violated, the F-test and T-test are still workable.

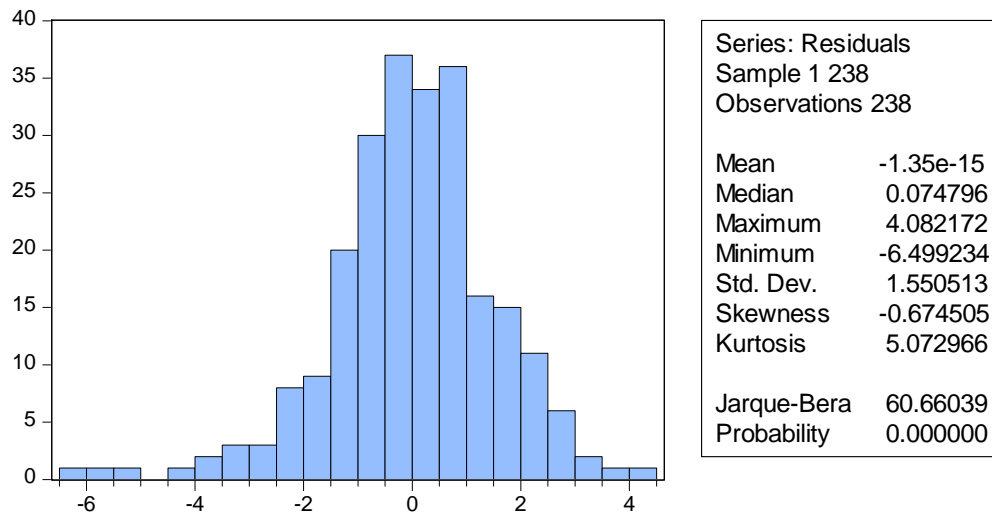


Figure 6 Result of JB Test of Model 4

Multicollinearity

The VIF associated with three variables are 1.466, 1.403 and 1.104, they are all lower than 10. The tolerance of variables are 0.682, 0.713 and 0.906 which are higher than 0.10. The values of condition index are lower than 30. The eigenvalues are higher than 0.01. All in all, we conclude there is no multicollinearity problem occurs in this model.

Heteroskedastity – The White Test

Result

As the significance associated with the White test (0.0036) is lower than 0.05 (significance level of 5%), we can conclude that the errors' homoscedasticity assumption is violated. In addition, the results of the White test under different functional forms all shows the existence of heteroskedastity, thus changing functional forms cannot solve the problem

Table 21 The White Test statistics

F-statistic	2.902893	Prob. F (9,228)	0.0029
Log likelihood ratio	24.46816	Prob. Chi-Square (9)	0.0036

Solution

Weighted Least Squares

In order to solve the problem of heteroskedasticity, the weighted least squares method is chosen. The most important thing is to decide the form of weight. In this study, there are several forms are used to be a weight: $1/\text{abs}(\text{resid})$, $1/\text{abs}(\text{resid}^2)$ and $1/\text{@sqrt}(\text{Yf})$. As the results show, the heteroskedasticity problem is not solved.

Table 22 Heteroskedasticity Test statistics

Weight	F-statistic	Prob. F	Obs*R-squared	Prob. Chi-Square
1/abs(resid)	16.87676	0.0000	95.15897	0.0000
1/abs(resid^2)	204.2901	0.0000	208.7501	0.0000
1/@sqrt(Yf)	3.449516	0.0005	28.52341	0.0008

White Standard Errors

Although the WLS could not solve the heteroskedasticity problem, it is still possible to deduce consistent estimators for the standard errors of the OLS estimators based on the procedure proposed by White (1980).

Table 23 White Heteroskedasticity-Consistent Standard Errors & Covariance

	Coefficient	Std. Error	t-Statistic	Prob.
Utilitarian Motivation	0.009392	0.029964	0.313446	0.7542
Hedonic Motivation	0.038906	0.025191	1.544413	0.1238
Search Intention	0.733900	0.046029	15.94434	0.0000
C	3.611537	0.753786	4.791200	0.0000
R²	0.591587		F-statistic	112.9830
Adjusted R²	0.586351		Prob. (F)	0.000
Durbin-Watson Stat	2.159207			

Autocorrelation – Durbin-Watson Statistic

Because the number of samples is 238, the number of parameter is 3, according to the Durbin-Watson tables, the value of d statistic is: $d_L = 1.76647$, $d_U = 1.80154$. Then the regions of the Durbin-Watson statistic can be identified. Region I is 0 to 1.76647; region II is 1.76647 to 1.80154, or 2.19846 to 2.23353; region III is 1.80154 to 2.19846; region IV is 2.23353 to 4.

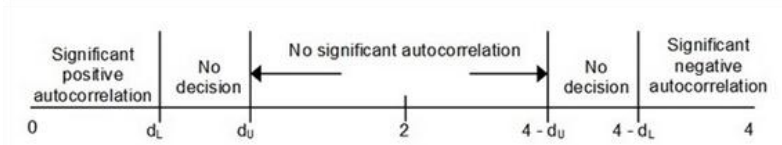


Figure 7 Durbin-Watson region

Source: Ferenc Moksony

In this case, the D-W statistic is 2.159 which is on region III. Thus we can conclude for the absence of errors' autocorrelation.

Model Interpretation

Because there is heteroskedasticity problem exist in this model, and it could not be solved by using WLS method, in order to deduce consistent estimators for the standard errors of the OLS estimators, White Standard Errors is used. The model interpretation will based on the result of White Heteroskedasticity-Consistent standard errors & covariance.

In this model, the value of R square is 0.591587, adjusted R square is 0.586351, the standard error of the estimate is 1.560420, which means two explanatory variables could explain or eliminate 59.2% of the variance of Search Intention. The remainder 40.8% represents the part of the Search Intention's variance that cannot be explained by the model.

The value of F-test is 112.9830 and the significance is 0.000 which is lower than 0.05, it means there is at least one of the regression coefficients is not equal to 0, in other word, there is at least one of the explanatory variables is statistically significant in accordance to the 5% significant level.

According to the T-test, the regression coefficient of Utilitarian Motivation ($t=0.313446$, $p=0.7542$) is not statistically significant, while the regression coefficient of Hedonic Motivation ($t=1.544413$, $p=0.1238$) is not statistically significant too. The regression coefficient of Search Intention ($t=15.94434$, $p=0.000$) is statistically significant. The unstandardized coefficient of Search Intention is 0.753786. Therefore, the unstandardized estimated equation is given by:

$$\hat{PI} = 3.612 + 0.754(SI) \quad (4.8)$$

In terms of the estimates meaning:

- a. 3.612: it is the expected value for the Purchase Intention if the Search Intention is 0.
- b. 0.754: it is the expected variation on Purchase Intention per unit change on Search Intention if all the rest remains constant.

And according to the result of SPSS, the standardized coefficients could be interpreted as:

- 0.733: for the variation of one standard deviation in the Search Intention, and assuming everything else constant, it is expected a variation of 0.733 standard deviations on Purchase Intention.

4.4.6 Model Summary

Due to the reason that the regression results of Model 3 and 4 are under White Heteroskedasticity-Consistent standard errors & covariance, there is no standardized coefficients for Model 3 and 4. Thus, the standardized coefficient beta of Model 3 and 4 are adapted from the multiple linear regression analysis produced by SPSS.

The result of this study shows that values influencing utilitarian motivation are led by Ease to Access, followed by Cost Saving. The value Authority & Enjoyment has significant influence on Hedonic Motivation. Only Hedonic Motivation has significant influence on Search Intention. And only Search Intention has significant impact on Purchase Intention.

The combined effect of Ease to Access and Cost Saving achieved 13.8% of variance on Utilitarian Motivation ($R^2=0.138$); the effect of Authority & Enjoyment achieved 52% of variance ($R^2=0.520$); the effect of Hedonic Motivation achieved 0.94% of variance ($R^2=0.094$) and the effect of Search Intention achieved 59.2% of variance ($R^2=0.592$) on Purchase Intention. The measures of the R^2 shows the model has sufficient explanatory power although it is relatively low on Search Intention. The model could predict utilitarian & hedonic value and motivation and search & purchase intention adequately.

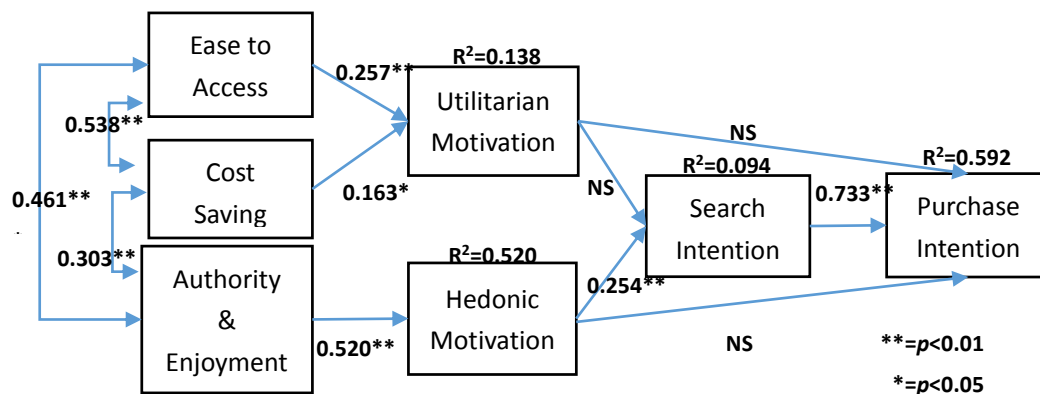


Figure 8 Relationships supported by empirical study

5 Conclusion

5.1 Discussion and Conclusion

There are many researches study shopping motivation on the base of utilitarian and hedonic motivation proposed by Hirschman and Holbrook (1982). In the online shopping context, utilitarian and hedonic motivation were applied and analyzed to search intention and purchase intention To *et al.* (2007) in Taiwan. Moreover, Suki *et al.* (2001) applied motivation and concern factors for online shopping about Malaysian consumers. Ceren (2012) also studied online shopping with utilitarian and hedonic motivation, along with other concern factors based on Turkey consumers which was similar to Suki *et al.* (2001)'s study.

This study referenced the research hypothesis and questionnaire proposed by To *et al.* (2007) in order to explore utilitarian and hedonic motivation factors for online book-shopping search intention and purchase intention. Unfortunately, many items of Utilitarian & Hedonic Scale were dropped during exploratory factor analysis for the reasons of poor or mixed loadings, and new factors named based on the items remained. Mainly the remained items were related to several factors originally in To *et al.* (2007)'s research, they were Cost Saving, Convenience, Selection, Information Availability, Adventure/explore and Authority and Status. There were four factors identified through exploratory factor analysis, they are Ease of Access, Cost Saving, Authority & Enjoyment and Idea. Idea was removed when applying multiple linear regression analysis due to multicollinearity, therefore only three new factors left in study model. Because three new factors were composed by items from different factors identified by To *et al.* (2007), they might have primary attribute along with other secondary attributes. Ease of Access's main attribute is Convenience, along with Selection and Information Availability. Cost Saving is mainly consisted by items from Cost Saving, but also by one item of Convenience. For Authority & Enjoyment, it is consisted half by Authority & Status and another half by Adventure/explore. Therefore, the sub-hypothesis of Hypothesis 1 and 2 have to be changed. The new sub-hypothesis are stated below.

H1a. Cost saving has a significant positive impact on utilitarian motivation of online book shopping.

H1b. Ease to Access has a significant positive impact on utilitarian motivation of online book shopping.

H2a. Authority & Enjoyment has a significant positive impact on hedonic motivation of online book shopping.

There are two reasons to explain the different outcome of factor analysis comparing to To *et al.* (2007)'s research. First is the feature of exploratory factor analysis. Exploratory factor analysis is a methodology to explore common factors from a questionnaire based on samples' data, thus it may extract common factors which are different from original research because the data is collect from different group of people, with different background. Therefore, it is possible to extract different common factors under different samples. The second reason is the questionnaire was used to study online book shopping motivation which is much specific object to evoke subjects' targeted experience they obtained before.

The Hypothesis 1, Hypothesis 2, Hypothesis 1a, 1b and Hypothesis 2a are not rejected based on the results of this study. Regarding Cost Saving, it has significant positive influence on utilitarian motivation of online book shopping. This result supports the conclusion achieved by To *et al.* (2007) which is that Cost saving have significant positive impact on utilitarian motivation in the context of online shopping. The secondary attribute of Cost Saving identified in this study is time saving based on the expression of the specific item, which relates to Convenience in To *et al.* (2007)'s research. In their study, Convenience was a utilitarian value has significant influence on utilitarian motivation too. However, according to Rohm and Swaminathan (2004), time savings was not a reason why people shop online because scale items to measure this construct was removed from the exploratory factor analysis. They though the reason why time saving dropped was that the notion of time savings was covered by overall shopping convenience construct. In this study, the attribute of time saving was subsumed in Cost Saving probably because customers considered time is a cost of their resources spent for buying books online.

For the construct of Ease of Access, the main attribute is convenience and the result supports To *et al.* (2007)'s research. Moreover, Rohm and Swaminathan (2004) also identified convenience as an important factor regarding online shopping. Convenience also identified as a main dimension in Liudmila and Jurgita (2009)'s research. For lesser attributes, Information availability and Selection have influence on utilitarian motivation as a part of Ease of Access. In To *et al.* (2007)'s research, they identified Information availability as an influencing value to utilitarian motivation as well as Selection. Liudmila and Jurgita (2009) identified product variety and information depth as effective motivational dimensions to online shopping. In addition, variety seeking was found to be significant motivational factor to online shopping from Rohm and Swaminathan (2004)'s research.

Regarding values affecting hedonic motivation, values Social and Sense dropped during exploratory factor analysis because of low or mixed loadings. Items of Social could not be extracted as a common factor, the reason might be that people does not concern too much about if their books are damaged because online book stores are improving to deal with this problem, or some of the people does not care about this problem, so they may not need to know about this kind of information through interacting with other buyers online. In addition, it spends time to read a book in order to achieve overall impression of the content. There are many websites provide communities which is attractive for readers to share their opinion and book review. People may prefer to share on a community website instead of online book stores. One item of Sense contribute to the new factor named Idea. Idea was not a significant value to hedonic motivation based on the result of multiple linear regression analysis which was similar to To *et al.* (2007)'s conclusion. However, due to multicollinearity problem, new factor Idea was removed.

Authority & Enjoyment is the only impact value to hedonic motivation of online book shopping. There are two main attributes of this construct, authority and adventure. In To *et al.* (2007)'s research, Authority & Status and Adventure/explore were two values had significant influence on hedonic motivation. Several researches also indicated that control/authority was an influencing factor to online shopping

(Vijayasathy, 2004; Shang *et al.*, 2005). However, in Rohm and Swaminathan (2004)'s research, the factor of recreation and enjoyment dropped during factor analysis, in their opinion, the reason might be that people use Internet to shop for more functional reasons. The reason why Adventure could be an influencing factor to hedonic motivation might be that the recommendation mechanism provided by online book stores increases novelty gained by browsing on book stores' websites. The options recommended by the recommendation mechanism are selected based on the statistics of consumers' searching and purchasing record, therefore those options are the books that consumers interested in, which increases the possibility for consumers to discover their favorite books, consequently increases positive sense of adventure. Meanwhile, the design of websites are easy to use and online book stores try their best to improve use experience of their websites. So consumers will easily control their behavior on the website without constraint.

In terms of the impact of motivation to search intention, the outcome of this study is in accordance with Ceren (2012)'s research, but not accordance with that of Jamiszewski (1998) and To *et al.* (2007). Both studies of Jamiszewski (1998) and To *et al.* (2007) conclude that customers search through Internet drive by both utilitarian motivation and hedonic motivation. Ceren (2012)'s research shows that customers only search for hedonic reasons. This study also shows that hedonic value drives consumers' search intention while utilitarian value does not, therefore, Hypothesis 3 is rejected based on the result of this study, while Hypothesis 4 is not rejected that hedonic motivation has significant positive impact on search intention of online book shopping. Chinese consumers enjoy the exploration activity and value much on the searching process about books instead of what is acquired, specifically they value authority & enjoyment when searching books online. Moreover, the result of relationship between shopping motivation and search intention in this study also differs from many previous researches about online shopping. Several researches reveal that utilitarian motivation and hedonic motivation both drive search intention and it is driven mostly by utilitarian motivation (To *et al.*, 2007; Morganosky and Cude, 2000; Verhoef and Langerak, 2001; Blake *et al.*, 2005).

Meanwhile, the result of this research shows that both utilitarian and hedonic motivation have no significant influence on purchase intention. Therefore, Hypothesis 5 and Hypothesis 6 are rejected. Although many researches show that utilitarian motivation has more influence on purchase intention than hedonic motivation (Morganosky and Cude, 2000; Verhoef and Langerak, 2001; Blake *et al.*, 2005; Ceren, 2012), but the result of this study does not in accordance with previous researches. The reason probably relates to reading habit of Chinese citizen. According to The Tenth National Reading Survey held by Press and Publication Academy of China (2013), comparing to the situation of 2011, Chinese citizen's (aged from 18 to 70) reading quantity of paper book was slightly increased, the number of paper book reading per capita was 4.39 copies while it was 4.35 in 2011. The number of e-book reading increased from 0.93 per capita in 2011 to 1.42 per capita in 2012, the percentage increased 65.5% which was extraordinarily impressive. Because in China it is very easy to achieve e-book through internet, readers may try to avoid buying books by the way of searching e-books through Internet, especially utilitarian-oriented readers. As a result, utilitarian or hedonic motivation may not influence purchase intention directly. In addition, the rapid development of smart phone and tablet lead to the change of reading habit. According to Haiyan Hu and Ruiqing Jian (2011), there are several new reading patterns appear currently, such as fragmentation reading, shallow reading and digital reading. Smart phone and tablet are efficient and popular tool for digital reading in anytime and anywhere, so as fragmentation reading which may consequently reduce the purchase intention of buying paper books online. One more thing is that the major group of respondents is bachelor and master students, they can access to a large number of books through library of their university or their city. Borrowing books from library is accord with utilitarian's feature, and the exhibition of books in library may also fulfill hedonist's demand. For these many reasons, utilitarian and hedonic motivation do not have influence on purchase intention of online book shopping.

The results show that search intention triggers purchase intention which is in accordance with the researches of Shim *et al.* (2001), To *et al.* (2007) and Ceren

(2012). Hypothesis 7 is not rejected. Combine with the relationship among hedonic value, hedonic motivation and search intention, we can conclude that enjoyment gained from shopping could generate search intention and indirectly generate purchase intention. This phenomenon is impulsive shopping which is an unplanned and hasty shopping behavior. Interesting website design, interactive design and individualized design which considered and integrated different hedonic values may cause impulsive online shopping behavior.

To summarize, the results reveal that utilitarian value has significant positive impact on utilitarian motivation of online book shopping and hedonic value has significant positive impact on hedonic motivation of online book shopping. More specifically, Ease to Access and Cost Saving both have significant positive impact on utilitarian motivation while Authority & Enjoyment has positive influence on hedonic motivation significantly. Only hedonic motivation influences search intention significantly which utilitarian motivation does not. Both utilitarian motivation and hedonic motivation have no impact on purchase intention. Search intention is a trigger to purchase intention, so that consequently hedonic motivation may indirectly cause an impulsive purchase intention through influencing search intention.

5.2 Limitation

This study focuses on utilitarian and hedonic motivation of online book shopping. Many researches usually focus on online shopping, this study chooses a more specific field to study because physical bookstores are facing an ordeal cause by rapid development of e-commerce and online bookstores, in order to understand better what drives consumers to buy books through Internet instead of physical bookstores. Convenience sampling is used to collect research data instead of random sampling, therefore the representativeness of the sample is not good, and contingency is strong. The respondents are mainly students of China and heavy Internet users which might cause a bias in the sample. In addition, e-book purchasing is not considered in this study, but this reading mode will become increasingly important in the nearly future which is worth to study. There are many other concern factors could influence online book shopping behavior but they were not included in this study.

5.3 Further Research

This study explores relationship between motivation factors and online book shopping intention based on utilitarian and hedonic perspectives. Academics could include more motivation factors or other concern factors to study online book shopping behavior. To study motivation under different backgrounds such as gender, education and age is valuable. Analyzing shopping motivation under different book categories is worth to study. Future researchers could also study e-book market, to explore key factors which might influence development of e-books.

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Annexes

7.1 Demographics

Table 24 Frequency distributions of respondents' demographics

Demographic information					
Item	Frequency	%	Item	Frequency	%
Gender			Oversea education (OE)		
Male	85	35.7%	No OE background	194	81.5%
Female	153	64.3%	With OE background	44	18.5%
	238	100%		238	100%
Age			Education background		
22 and Lower than 22	38	16.0%	Ph.D.	2	0.8%
23 to 24	87	36.6%	Master	61	25.6%
25 to 26	85	35.7%	Bachelor	169	71.0%
27 and Over 27	28	11.8%	3-year College	6	2.5%
	238	100%		236	100%
Online shopping experience			Internet use history		
1 to 3 years	85	35.7%	1 to 3 years	3	1.3%
4 to 6 years	118	49.6%	4 to 6 years	48	20.2%
7 to 9 years	30	12.6%	7 to 9 years	61	25.6%
Over 9 years	5	2.1%	Over 9 years	126	52.9%
	238	100%		238	100%
Residence			Frequent book-shopping website		
South China	150	63.0%	Amazon.cn	81	34.0%
Other	88	37.0%	Dangdang.com	94	39.5%
	238	100%	JD.com	22	9.2%
			Taobao	38	16.0%
			Other	3	1.3%
				238	100%

7.2 Multiple Linear Regression Analysis

Model 1

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.371 ^a	.138	.130	5.69300	2.041

a. Predictors: (Constant), CS, EA

b. Dependent Variable: UM

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1216.580	2	608.290	18.768	.000 ^b
Residual	7616.416	235	32.410		
Total	8832.996	237			

a. Dependent Variable: UM

b. Predictors: (Constant), CS, EA

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	6.616	3.367	1.965	.051		
	EA	.466	.130	.257	3.583	.000	.711 1.407
	CS	.288	.128	.163	2.262	.025	.711 1.407

a. Dependent Variable: UM

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	EA	CS
1	1	2.983	1.000	.00	.00	.00
	2	.011	16.384	.40	.02	.84
	3	.006	22.324	.60	.97	.16

a. Dependent Variable: UM

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	20.2623	31.0019	26.9958	2.26567	238

Residual	-26.00189	10.38865	.00000	5.66893	238
Std. Predicted Value	-2.972	1.768	.000	1.000	238
Std. Residual	-4.567	1.825	.000	.996	238

a. Dependent Variable: UM

Model 2

Results based on equation: $HM = c + \beta_1 AE + \beta_2 IDA$

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.529 ^a	.280	.274	5.17349	1.880

a. Predictors: (Constant), LNEA, LNIDA

b. Dependent Variable: HM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2445.702	2	1222.851	45.689	.000 ^b
	Residual	6289.765	235	26.765		
	Total	8735.466	237			

a. Dependent Variable: HM

b. Predictors: (Constant), LNAE, LNIDA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-15.901	6.871		-2.314	.022		
	LNIDA	-.409	1.940	-.012	-.211	.833	.999	1.001
	LNAE	13.518	1.417	.529	9.543	.000	.999	1.001

a. Dependent Variable: HM

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	LNIDA	LNAE
1	1	2.993	1.000	.00	.00	.00
	2	.006	22.996	.01	.25	.71
	3	.002	44.093	.99	.75	.28

a. Dependent Variable: HM

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	7.1376	28.0951	21.8782	3.21238	238
Residual	-22.51845	13.82681	.00000	5.15161	238
Std. Predicted Value	-4.589	1.935	.000	1.000	238
Std. Residual	-4.353	2.673	.000	.996	238

a. Dependent Variable: HM

Simple Linear Regression Model

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.520 ^a	.270	.267	5.19727

a. Predictors: (Constant), AE

b. Dependent Variable: HM

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2360.732	1	2360.732	87.397	.000 ^b
	Residual	6374.734	236	27.012		
	Total	8735.466	237			

a. Dependent Variable: HM

b. Predictors: (Constant), AE

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	7.580	1.566		4.840	.000
AE	.783	.084	.520	9.349	.000

a. Dependent Variable: HM

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	12.2771	29.4991	21.8782	3.15609	238
Residual	-23.71632	14.11189	.00000	5.18629	238
Std. Predicted Value	-3.042	2.415	.000	1.000	238
Std. Residual	-4.563	2.715	.000	.998	238

a. Dependent Variable: HM

Model 3

Multiple Linear Regression Analysis by SPSS

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.307 ^a	.094	.087	2.31639	1.997

a. Predictors: (Constant), HM, UM

b. Dependent Variable: SI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.213	2	65.607	12.227	.000 ^b
	Residual	1260.925	235	5.366		
	Total	1392.139	237			

a. Dependent Variable: SI

b. Predictors: (Constant), HM, UM

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	13.826	.717		19.273	.000		
HM	.101	.029	.254	3.464	.001	.717	1.395
UM	.034	.029	.084	1.146	.253	.717	1.395

a. Dependent Variable: SI

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	UM	HM
1	1	2.940	1.000	.00	.00	.00
	2	.037	8.952	.46	.02	.82
	3	.023	11.323	.53	.98	.17

a. Dependent Variable: SI

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14.4979	18.5285	17.2815	.74407	238
Residual	-6.52854	6.50211	.00000	2.30659	238
Std. Predicted Value	-3.741	1.676	.000	1.000	238
Std. Residual	-2.818	2.807	.000	.996	238

a. Dependent Variable: SI

Weighted Least Squares

Weight 1: 1/abs(resid)

Heteroskedasticity Test: White

F-statistic	14.37593	Prob. F(6,231)	0.0000
Obs*R-squared	64.70755	Prob. Chi-Square(6)	0.0000

Weight 2: 1/abs(resid^2)

Heteroskedasticity Test: White

F-statistic	44.88509	Prob. F(6,231)	0.0000
Obs*R-squared	128.1122	Prob. Chi-Square(6)	0.0000

Weight 3: 1/@sqrt(Yf)

Heteroskedasticity Test: White

F-statistic	7.867462	Prob. F(5,232)	0.0000
Obs*R-squared	34.50421	Prob. Chi-Square(5)	0.0000

White Heteroskedasticity-Consistent Standard Errors & Covariance

Dependent Variable: SI

Method: Least Squares

Date: 08/27/14 Time: 22:32

Sample: 1 238

Included observations: 238

White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UM	0.100820	0.036423	2.768013	0.0061
HM	0.033535	0.028154	1.191113	0.2348
C	13.82611	1.015984	13.60859	0.0000

R-squared	0.094253	Mean dependent var	17.28151
Adjusted R-squared	0.086544	S.D. dependent var	2.423634
S.E. of regression	2.316385	Akaike info criterion	4.530418
Sum squared resid	1260.925	Schwarz criterion	4.574186
Log likelihood	-536.1197	Hannan-Quinn criter.	4.548057
F-statistic	12.22717	Durbin-Watson stat	1.997280
Prob(F-statistic)	0.000009		

Model 4

Multiple Linear Regression Analysis by SPSS

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.769 ^a	.592	.586	1.56042	2.159

a. Predictors: (Constant), SI, HM, UM

b. Dependent Variable: PI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	825.311	3	275.104	112.983	.000 ^b
	Residual	569.769	234	2.435		
	Total	1395.080	237			

a. Dependent Variable: PI

b. Predictors: (Constant), SI, HM, UM

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
1	(Constant)	3.612	.776		4.652	.000		
	HM	.009	.020	.024	.467	.641	.682	1.466
	UM	.039	.020	.097	1.968	.050	.713	1.403
	SI	.734	.044	.733	16.701	.000	.906	1.104

a. Dependent Variable: PI

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	UM	HM	SI
1	1	3.919	1.000	.00	.00	.00	.00
	2	.047	9.179	.07	.02	.82	.08
	3	.025	12.648	.04	.98	.17	.03
	4	.010	20.167	.89	.00	.00	.89

a. Dependent Variable: PI

Residuals Statistics^a

Minimum	Maximum	Mean	Std. Deviation	N
---------	---------	------	----------------	---

Predicted Value	12.4572	20.7138	17.3992	1.86610	238
Residual	-6.49923	4.08217	.00000	1.55051	238
Std. Predicted Value	-2.648	1.776	.000	1.000	238
Std. Residual	-4.165	2.616	.000	.994	238

a. Dependent Variable: PI

Weighted Least Squares

Weight 1: 1/abs(resid)

Heteroskedasticity Test: White

F-statistic	16.87676	Prob. F(9,228)	0.0000
Obs*R-squared	95.15897	Prob. Chi-Square(9)	0.0000

Weight 2: 1/abs(resid^2)

Heteroskedasticity Test: White

F-statistic	204.2901	Prob. F(8,229)	0.0000
Obs*R-squared	208.7501	Prob. Chi-Square(8)	0.0000

Weight 3: 1/@sqrt(Yf)

Heteroskedasticity Test: White

F-statistic	3.449516	Prob. F(9,228)	0.0005
Obs*R-squared	28.52341	Prob. Chi-Square(9)	0.0008

White Heteroskedasticity-Consistent Standard Errors & Covariance

Dependent Variable: PI

Method: Least Squares

Date: 08/27/14 Time: 23:31

Sample: 1 238

Included observations: 238

White Heteroskedasticity-Consistent Standard Errors & Covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
UM	0.009392	0.029964	0.313446	0.7542
HM	0.038906	0.025191	1.544413	0.1238
SI	0.733900	0.046029	15.94434	0.0000
C	3.611537	0.753786	4.791200	0.0000
R-squared	0.591587	Mean dependent var	17.39916	
Adjusted R-squared	0.586351	S.D. dependent var	2.426193	

S.E. of regression	1.560420	Akaike info criterion	3.744451
Sum squared resid	569.7693	Schwarz criterion	3.802809
Log likelihood	-441.5897	Hannan-Quinn criter.	3.767970
F-statistic	112.9830	Durbin-Watson stat	2.159207
Prob(F-statistic)	0.000000		

7.3 Questionnaire

7.3.1 Questionnaire in English

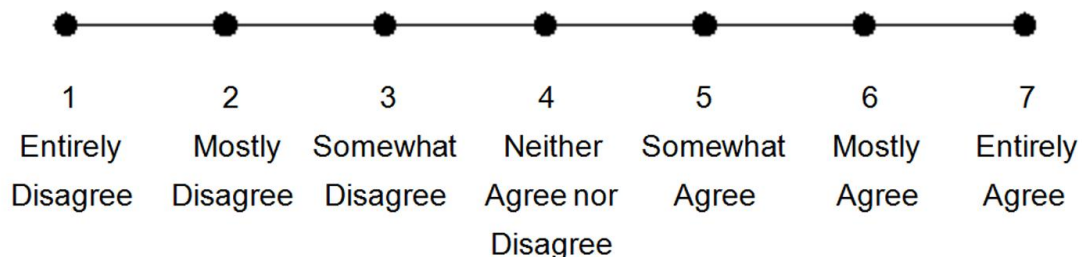
Online Book-shopping Motivation Factors Research

Basic Information

1. Gender: 2. Age: 3. Graduate School: 4. Residence:
5. Education background:
 - a. Ph. D. b. Master c. Bachelor d. 3-year College
6. Online shopping experience:
 - a. Less than 1 year b. 1 to 3 years c. 4 to 6 years d. 7 to 9 years
 - e. More than 9 years
7. Internet use history
 - a. Less than 1 year b. 1 to 3 years c. 4 to 6 years d. 7 to 9 years
 - e. More than 9 years
8. Frequent book-shopping website:
 - a. Amazon.cn b. Dangdang.com c. JD.com d. Taobao.com
 - e. Others_____

Formal Questionnaire

Please based on your frequent book-shopping website and your impression on “online book-shopping”, answer the questionnaire by following the scale shown below.



Part One

Item							
1. Buying books online can save my money.	1	2	3	4	5	6	7
2. I spend less when I go online shopping.	1	2	3	4	5	6	7
3. Buying books online offers me the competitive price.	1	2	3	4	5	6	7
4. I can buy books online whenever I want.	1	2	3	4	5	6	7
5. I can buy books online without going out.	1	2	3	4	5	6	7
6. Buying books online fits with my schedule.	1	2	3	4	5	6	7
7. Buying books online is convenient to me.	1	2	3	4	5	6	7
8. I can access many merchandises when buying books online.	1	2	3	4	5	6	7
9. I can access many publishers when buying books online.	1	2	3	4	5	6	7
10. I can access wide selection when buying books online.	1	2	3	4	5	6	7
11. It is easy to have quick access to large volumes of information.	1	2	3	4	5	6	7
12. Information obtained from the website is useful.	1	2	3	4	5	6	7
13. Internet makes acquiring information easily.	1	2	3	4	5	6	7
14. Buying books online makes me feel like I am in my own universe.	1	2	3	4	5	6	7
15. I find buying books online stimulating.	1	2	3	4	5	6	7
16. To me, buying books online is an adventure.	1	2	3	4	5	6	7
17. I can exchange information with friends when I buy books online.	1	2	3	4	5	6	7
18. I can share experiences with others.	1	2	3	4	5	6	7
19. I can develop friendships with other Internet shoppers.	1	2	3	4	5	6	7
20. I can extend personal relationship.	1	2	3	4	5	6	7
21. I can keep up with the trends.	1	2	3	4	5	6	7
22. I can keep up with the new books.	1	2	3	4	5	6	7
23. I can see what new books are available.	1	2	3	4	5	6	7
24. It is difficult to decide based only on description or view of books (cannot see and inspect the real product).	1	2	3	4	5	6	7
25. The trial-reading service provided by online book stores is helpful to know more about the books.	1	2	3	4	5	6	7
26. The book assessment provided in online book stores is helpful to know more about the books.	1	2	3	4	5	6	7
27. When shopping online I feel in control.	1	2	3	4	5	6	7

28. During buying books online, I have control over my online shopping process. **1 2 3 4 5 6 7**

29. he Web allows me to control my online shopping trip. **1 2 3 4 5 6 7**

Part Two

Ineffective	1	2	3	4	5	6	7	Effective
Unhelpful	1	2	3	4	5	6	7	Helpful
Not functional	1	2	3	4	5	6	7	Functional
Unnecessary	1	2	3	4	5	6	7	Necessary
Impractical	1	2	3	4	5	6	7	Practical

Not fun	1	2	3	4	5	6	7	Fun
Dull	1	2	3	4	5	6	7	Exciting
Not delightful	1	2	3	4	5	6	7	Delightful
Not thrilling	1	2	3	4	5	6	7	Thrilling
Not enjoyable	1	2	3	4	5	6	7	Enjoyable

Part Three

Item

1. It is a wonderful way to search products or service online. **1 2 3 4 5 6 7**

2. I would like to search products or services online. **1 2 3 4 5 6 7**

3. I will continue searching products or service online in the future. **1 2 3 4 5 6 7**

4. It is a wonderful way to shop online. **1 2 3 4 5 6 7**

5. I would like to purchase products or service online. **1 2 3 4 5 6 7**

6. I will continue shopping online in the future. **1 2 3 4 5 6 7**

7.3.2 Questionnaire in Chinese

网上购书之动机因素调查

基础资料

1. 性别: 2. 年龄: 3. 毕业院校: 4. 居住地:
5. 教育背景
 - a. 博士毕业 b. 硕士毕业 c. 本科毕业 d. 专科毕业
6. 网购经历:
 - a. 少于1年 b. 1~3年 c. 4~6年 d. 7~9年 e. 多于9年
7. 上网经历:
 - a. 少于1年 b. 1~3年 c. 4~6年 d. 7~9年 e. 多于9年
8. 常用购书网站 (单选):
 - a. 亚马逊 Amazon.cn; b. 当当网 Dangdang.com; c. 京东商城 Jd.com;
 - d. 淘宝网 Taobao.com; e. 其他 (请注明具体商城) _____

正式问卷

请您以您选择的常用购书网站作为参考,并根据对“网上购书”的印象,在以下各题的陈述上作出评价,数字1表示“非常不同意”,数字2表示“很不同意”,数字3表示“比较不同意”,数字4表示“无所谓”,数字5表示“比较同意”,数字6表示“很同意”,数字7表示“非常同意”。例如:如果您非常同意该陈述,请圈选靠近7的数字;相反地,如果您非常不同意该陈述,请圈选靠近1的数字,以此类推。

第一部分

问题	1	2	3	4	5	6	7
1. 在网上买书可以节省金钱。	1	2	3	4	5	6	7
2. 网上购书可以节约成本。	1	2	3	4	5	6	7
3. 网上书店的价格是很有竞争力的。	1	2	3	4	5	6	7
4. 网上购书不受时间限制。	1	2	3	4	5	6	7
5. 网上书店使我不必出门就可以买到书。	1	2	3	4	5	6	7
6. 网上购书这种方式可以配合我的时间安排。	1	2	3	4	5	6	7
7. 网上购书这种方式对我来说十分方便。	1	2	3	4	5	6	7
8. 在网上购书时,我能接触到丰富的书籍。	1	2	3	4	5	6	7
9. 在网上购书时,我能接触到不同出版商的书籍。	1	2	3	4	5	6	7
10. 在网上购书时,我能够获得非常广泛的选择。	1	2	3	4	5	6	7

11. 网上购书能让我很轻松地、很快速地获得大量的信息。	1	2	3	4	5	6	7
12. 在网上书店网页中获取的信息对我来说很有用。	1	2	3	4	5	6	7
13. 互联网的存在使得获取信息变得很容易。	1	2	3	4	5	6	7
14. 在网上购买书籍使我感觉如沉浸在自己的世界中那样自由和愉悦。	1	2	3	4	5	6	7
15. 我觉得在网上购书的过程是令人兴奋的。	1	2	3	4	5	6	7
16. 对我来说，网上购书的过程犹如一次探索的经历。	1	2	3	4	5	6	7
17. 当我在网上购书时，我能与我的朋友交换信息。	1	2	3	4	5	6	7
18. 当我在网上购书时，我能与其他人分享我的经验。	1	2	3	4	5	6	7
19. 当我在网上购书时，我能与其他购书人建立友谊。	1	2	3	4	5	6	7
20. 当我在网上购书时，我能扩展我的人际关系。	1	2	3	4	5	6	7
21. 在网上购书能让我紧随潮流趋势。	1	2	3	4	5	6	7
22. 在网上购书能让我即时了解新书的资讯。	1	2	3	4	5	6	7
23. 在网上购书能让我知道什么新书有售。	1	2	3	4	5	6	7
24. 只基于对书籍的描述或试读（不能看见并检阅真实的物品）会令我难以做出购买决定。	1	2	3	4	5	6	7
25. 由网上书店提供的试读服务对我来说是有帮助的，能让我对书籍有更多了解。	1	2	3	4	5	6	7
26. 网上书店提供的书籍评论对我来说是有帮助的，能让我对书籍有更多了解。	1	2	3	4	5	6	7
27. 当我在网上购书时，我感觉一切尽在掌控中（有控制感）	1	2	3	4	5	6	7
28. 在网上购买书籍的过程中，我能掌控我的购书过程。	1	2	3	4	5	6	7
29. 网上书店的网页设计没有限制我在购物时的自由度。	1	2	3	4	5	6	7

第二部分

无效的(Ineffective)	1	2	3	4	5	6	7	有效的 (Effective)
无帮助的(Unhelpful)	1	2	3	4	5	6	7	有帮助的 (Helpful)
无功能性的(Not functional)	1	2	3	4	5	6	7	功能性的 (Functional)
不必要的(Unnecessary)	1	2	3	4	5	6	7	必要的 (Necessary)
不实用的(Impractical)	1	2	3	4	5	6	7	实用的 (Practical)
令人感到无趣的(Not fun)	1	2	3	4	5	6	7	令人感到好玩有趣的 (Fun)

令人感到沉闷的(Dull)	1	2	3	4	5	6	7	令人感到兴奋的 (Exciting)
令人感到不愉快的(Not delightful)	1	2	3	4	5	6	7	令人感到愉快的 (Delightful)
令人感到无聊的(Not thrilling)	1	2	3	4	5	6	7	令人感到刺激的 (Thrilling)
令人感到不享受的(Not enjoyable)	1	2	3	4	5	6	7	令人感到陶醉享受的 (Enjoyable)

第三部分

问题

1. 通过互联网来搜索产品或者服务对我来说是一种极好的方式。	1	2	3	4	5	6	7
2. 我愿意通过互联网来搜索产品或者服务。	1	2	3	4	5	6	7
3. 在未来,我将会继续通过互联网来搜索产品或者服务。	1	2	3	4	5	6	7
4. 通过互联网来购物对我来说是一种极好的方式。	1	2	3	4	5	6	7
5. 我愿意通过互联网来购买产品或者服务。	1	2	3	4	5	6	7
6. 在未来,我将会继续通过互联网来购买产品或者服务。	1	2	3	4	5	6	7