THE IMPACT OF LIVING ENVIRONMENT ON ONLINE MOVIE CONSUMPTION

Supervisor: **Dr. Christian Handke**

Second reader: **Dr. Mariangela Lavanga**

Student name: **Xiao Han**

Student number: **316120**

E-mail address: **michelia@live.com**

Date: **July 2012**

ERASMUS UNIVERSITEIT ROTTERDAM

Erasmus School of History, Culture and Communication

Master of Cultural Economics and Entrepreneurship

Table of Contents

1. Introduction

"Customers set up a hierarchy of values, wants, and needs based on empirical data, opinions, word-of-mouth references, and previous experiences with products and services. They use that information to make purchasing decisions."

– Regis McKenna[1]

Cultural goods remain a central component of modern life. Movies, music, and books and so on, these are closely bound up with our daily life as well as social activities since we are consuming and using them almost everyday. As a result, the consumption of cultural goods becomes to a prevalent topic, which has drawn intense attention from scholars in various research areas. A number of economists have stressed on the importance of both economic factors, such as price and income, and socio-demographic factors, such as age and gender, on the consumption of cultural goods.

In addition, environmental factors, including cultural environment, reference group and arts related exposures seem to be significant determinants as well. The theories employed in the topic related to environmental influences on cultural-artistic consumption are broad, ranging from taste formation to reference group effects and cultural influences. However, the majority of relevant studies clarified the significance of environmental influences only in theory, but not through an exhaustive empirical research. Furthermore, it must be noticed that most of earlier research were failed to eliminate the interference of the supply of cultural goods when exploring the consumption of cultural goods. We are aware of that the quantity of supply could be considered as the most direct determinant of the amount of consumption. Therefore, in order to intently examine the influences of living environment on cultural-artistic consumption, we should maximally diminish the fluctuation of the supply side. For this reason, a particular cultural good – online movie is selected as the research object of this study.

Once touched upon the topic of online movies, the debate as to copyright are always

---

[1] Quote from www.quotegarden.com

involved. In contrast, this paper is offbeat. In this research, we will not deal with the issue of copyright but only concentrate on the examination of environmental influences. It should be noted that the discussion about copyright as well as other ethical considerations will be hereby excluded.

In short, the aim of this research is to statistically quantify the impact of living environment on consumers' consumption of online movies. The **central research question** is formulated accordingly: *Does the change in living environment have significant influence on online movie consumption?* The possible environmental elements we considered here are (1) the number of years living in a brand-new environment, (2) the consumption behavior of reference group, and (3) art and culture related exposures in the past. In addition, we are also interested in whether consumers' taste would be different if their living environment has been changed, and what their most primary motivations of consuming online movies are.

In order to accomplish these research aims, a quantitative survey is conducted. This survey employed a self-completion closed-ended questionnaire which was performed within a time frame of five weeks. The target population was Chinese students (bachelor and master students) and scholars (PhD candidates) who are currently living in the Netherlands. This group of population shares a common characteristic in which their living environment has been entirely changed from China to the Netherlands. It is interesting to know whether their consumption of online movies remains constant in a different country, and which environmental factor occupies the most important place. The participants were requested to answer in total 13 questions with regard to their consumption behaviors and attitudes towards online movies.

The structure of this study is as follows. In the Chapter 2, we tend to present a theoretical framework based on the existing literatures regarding cultural-artistic consumption and consumer behavior. This chapter provides readers the theories on taste formation, effect of information, reference group, culture, determinants of cultural-artistic consumption, as well as EBM consumer behavior model. Next, Chapter 3 introduces the methodology applied in this research. It discusses the research aims, the research design and the questionnaire design, the research model and the regression equation. The regression hypotheses, which are formulated

according to the research questions, can be found in this chapter as well. Then, the empirical results of this research are presented and discussed in Chapter 4. The research questions are illustrated in turn based on both the survey results and the regression results. Last but not the least, Chapter 5 summarizes the whole paper and provides the conclusion of main findings of the research. Moreover, the limitations of this study and some possible research directions in the future can be viewed in this chapter as well.

2. Theoretical framework

In this chapter, the existing theories and studies concerning the topic of cultural-artistic consumption and consumer behavior are reviewed in detail. This chapter consists of six sections and each section elaborates on one factor which has a certain influence on the consumption of cultural goods. The theoretical foundation of this study will be built up based on the theories reviewed in this chapter.

2.1 Taste formation

Taste influences consumption behavior. When a consumer has a taste of a movie, no matter likes or dislikes this movie, from the economic point of view the movie enables certain utility to the consumer. A positive utility would induce the consumer to consume more movies; and vise versa.

Towse (2010) indicates that **taste formation** is a dynamic process which needs a bunch of time to discover. Preference for cultural goods is inclined to be described as a cultivated taste, which implies that the preference considerably depends on consumers' past exposures. This characteristic makes most of cultural goods as **experience goods**. Experience goods could be interpreted to denote that (1) the pleasure and enjoyment increases with experiences; (2) consumers need to experience the good in order to get reliable information about it, and thereby judge its quality; (3) consumers purchase the good for the experience it brings (Towse, 2010) [2]. The first interpretation implies that people is disposed to increasingly consume on certain cultural goods along with his pleasant experience. Caves (2000) defines this increasing demand as the theory of **rational addiction**: the more you have, the more you want. For instance, ratio audiences are more likely to favor the music that they have heard a few times before. The second interpretation hints that taste formation is a dynamic learning process: repeated exposures tell us what we really favor. This process is described by the theory of **leaning by consuming** (Caves, 2000; Lévy-Gearboua & Montmarquette, 2003). Rational addiction and learning by consuming are two main lines of theory on taste formation of experience goods, which are explicated in the following sub-sections.

---

[2] This is often used in marketing, not in cultural economics.

2.1.1 Rational addiction

The idea about that consumption of cultural goods is an 'addictive' consumption was firstly proposed by Stigler and Becker (1977) in the article '*De gustibus non est disputandum*'[3]. In the paper, the theory so-called the '**household production function**', in which households maximize the utility of products which can be purchased or produced by themselves, is applied to analyze the consumption behavior of cultural goods. Stigler and Becker construct a model in which changes in demand for 'addictive' goods are explained from the perspective of extended neoclassical economics. Their result is that "tastes neither change capriciously nor differ importantly between people" (Stigler and Becker, 1977, p.76). This could be further interpreted from three aspects: (1) tastes are given; (2) tastes are stable and constant over time, and similar among people; (3) and choices about which goods to consume and a willingness to pay for them completely depend on relative prices, income and obtained utility. The conclusion is thereby that differences in taste cannot explain changes in demand for cultural goods.

This proposition is controversial and has been criticized on the grounds that it is dogmatic in essence and intends to testify that economics can answer everything. Stigler and Becker's research makes no room for non-rational consumption behavior because all outcomes will be illustrated by couple of economic variables. In this case an individual buy a cultural good not because he loves it, but because he is desirous to maximize the utility of his 'investment'. This absent of 'freedom' is essentially in contrast with the fundamental of the neoclassical economics, namely consumer sovereignty (McKenzie, 1979; Towse, 2010).

2.1.2 Learning by consuming

Another known theory in relation to taste formation is what economists called 'learning by consuming', proposed by Lévy-Garboua and Montmarquette in 1996. Their research accepts and verifies that taste is changeable over time, and differs among people. Different from the theoretical model mentioned above, this econometric model is examined with the survey data collected from the French Ministry of Culture, in total 8000 observations. Lévy-Garboua and Montmarquette

---

[3] '*De gustibus non est disputandum*' can be roughly translated as 'there is no accounting for tatses' (Towse, 2010).

point out that a consumer is not aware of his taste but he can 'learn' it through repeated exposures. Every new experience generated from artistic or cultural activities may have unexpected negative or positive influences on his taste. Taste is accumulated along with times of exposure and levels off after a certain degree. It means that the entire learning process of taste shows a diminishing return to scale, where the first exposure contributes the most on taste.

Therefore, past exposure plays an important role in explaining the consumption of cultural goods since it can lead us to make a better purchase decision in the future. However, price, income and other socio-demographic factors still have their usual places in this model. It is being testified that demand for cultural goods is price-elastic and income-inelastic, which implies that the higher the price, the lower the demand; and the higher the income, the higher the consumption of cultural goods. The discussion regarding the impact of economic and socio-demographic determinants will be presented in the section 2.5.

2.2 Information and consumer behavior

Different from the said definition provided by Towse (2010), there is another interpretation about experience goods. To better understand this alternative definition, the concept of **search goods** needs to be clarified firstly.

In brief, as opposed to experience goods are search goods. Search is using to describe the procedure available to consumers in obtaining information (Stigler, 1961). Consumers can search for any information they interested, such as price, quality, and producer and so on. Nelson (1970) further narrows down this concept by assuming that consumers are already aware of where they can get information, so their problem is to evaluate the utility of each information, and then make their purchase decision.

A product is an experience good or a search good depending on how consumers obtain information (Nelson, 1970).There will be goods for which the search is not the option with the best utility for consumers. The reasons why consumers would prefer information by the way of experience instead of by the way of search because: (1) experience cost is low enough; and (2) information is not available or reliable. When a good has greater marginal expected cost of search than its marginal expected return,

experience might be employed as an optimal information procedure.

In this case, cultural goods are still more likely to be experience goods due to their relatively **imperfect information** and **uncertain quality**. It is much more difficult to assess the quality of cultural goods prior to the consumption than other goods like commodities. The quality of a commodity can be roughly estimated based on its production figures, yet cultural good cannot. This brings along consumers the risk of buying wretched goods or something they personally dislike. Therefore, the quality of a cultural good can be precisely known only after consumers experience it.

The problems of quality uncertainty and information asymmetry can be commonly observed in most of markets for experience goods, such as movie, foodstuff, or used-car market. Information asymmetry describes the situation in which "those on one side of a bargain have more information than the other parties to it and they are likely to use that for their own advantage" (Towse, 2010, p. 24). Akerlof (1970) identifies these two issues by applying the case of automobiles market. In the market, there are new cars and used cars, good cars and bad cars (which are known as 'lemons' in U.S.). The issues would be raised between sellers and customers if sellers pursue profit maximization above honesty. For example, a salesman sells a second-hand car with bad condition (which is hardly observed from its external appearance) for the same price as a good car to a totally unaware customer.

These two problems are even more intensified in art market. On the one hand, Gérard-Varet (1995, p. 511) states: "informational asymmetries are essential features of the market and the auction houses, as the dealers in the secondary market, make profits by having information about the willingness to pay of collectors interested by specific art works". On the other hand, according to Mosetti (1993), people might have different quality requirements for a same artwork as a result of their different aesthetic appreciation. What is art for somebody can be non-art for someone else. Therefore, it would make no sense to endow a standard to measure the quality of artistic goods, and consequently the issue of quality uncertainty is difficult to prevent in art market.

The majority of consumers are risk-averse. Due to the existence of said problems,

they are prone to seek help from somewhere else. For instance, it is identified that consumers are more likely to choose the sellers or manufacturers with known brand and high reputation in order to minimize the risk of buying a 'lemon'. Many scholars (Nelson, 1970; Towse, 2010; Caves, 2000) indicate that (1) most of consumers subconsciously believe that goods with known brand have better quality assurance; (2) they assess the quality of a good based on its advertisement, which provides them with a positive image of the product. In addition to relying on brand and reputation, consumers can also be guided through other channels. In terms of cultural goods, Caves (2000) introduces two main information channels, respectively through intermediaries and through social discourse, which are introduced in turn in the following sub-sections.

2.2.1 Intermediaries

Intermediaries can be further divided into traditional intermediaries and new intermediaries. Magazines, newspapers, radio programmes and the like are traditional intermediaries for cultural goods, and the Internet is the new intermediary. These intermediaries present the contents, artists as well as the producers of movies, record music, books, and plays and so on, and endow with critical reviews written by critics to readers. Cameron (2003, p. 276) states: "the fundamental economic notion of criticism is as a source of information". He further claims that there would be no room for critics if the market is approaching a perfect competitive environment. The demand for critics partially reflects that to some extent there are information and quality problem in the market for cultural goods.

Critics and readers are demand interdependence. Readers rely on the information from critics because they are recognized as the guardians of aesthetic values. Their assessments have the presumed advantage of neutrality and objectivity. At the same time, critics also desire readers' (financial) support. The main functions of critics can be summarized as the following three points. Firstly, critics offer customers useful pre-purchase information through objectively describing the content of cultural goods. Secondly, they involve in the decision-making process of customers. Thirdly, they help customers formulating their taste; critics directly internalize possible taste of customers and attempt to prejudge the appeal of a cultural good (Caves, 2000).

2.2.2 Social intercourse

Caves (2000) points out that people enjoy talking about cultural goods in their social life. A critical discussion on a movie or a book is always a good 'buzz' that circulates among people. A 'buzz' cannot only fulfill a conversational need, but also represent a person's character and taste. People could obtain many tangible and intangible benefits through social activities; one of main benefits is information exchange. Social intercourse transmits an individual's impression and assessment with regard to a cultural good among others.

Social intercourse is recognized as an interdependent behavior, which denotes that individuals are likely to be influenced by others, but their behaviors are influencing others at the same time. In economics, the influences generated from social life are collectively called **social influences** or **environmental influences**. The concept and the importance of environmental influences on consumer behavior are further explicated in the coming section.

2.3 Reference group

With the exception of extremely few individuals who are classified as hermits, the majority of people are interacting with others on a daily basis, especially with their closed families and **reference group**. Within the context of consumption and consumer behavior, the concept of reference group is a vital and powerful idea. This section begins with an introduction of the basic concepts of reference group, and follows by a discussion about how reference group directly and indirectly affects consumer behavior.

2.3.1 The concept of reference group

A reference group can be "any person or group that serves as a point of comparison (or reference) for an individual in forming either general or specific values, attitudes, or a specific guide for behaviors" (Schiffman and Kanuk, 1994, p.264). Reference group that affects general or broadly defined values or behaviors is defined as **normative reference group**. Two typical examples of normative reference group are children's parents and students' teachers. They play a vital role in shaping young people general sense of value and behavior.

Different from normative reference group, reference group that serves as a benchmark for "specific or narrowly defined attitudes and behaviors" are called **comparative reference group** (Schiffman and Kanuk, 1994, p.265). An example of comparative reference group can be a neighbor whose behavior might be worthy of imitation. The scope of comparative reference group can be further classified to three levels. The first level of comparative reference group can be as small as that a neighbor who shares the same kitchen with you; the second level is broader, a good example is your classmate who takes the same courses with you; and the third level is further broader, such as the membership in a large association where you share a same interest or serve for a common goal (Schiffman and Kanuk, 1994). In this paper, we define the first level of comparative reference group as **resident reference group**, and the second and last level as **non-resident reference group**.

Both normative and comparative reference groups are important for molding consumers' sense of value, attitude, and behavior. The former group significantly affects consumers' the most basic code of behavior; and the latter one influences on the expression of certain particular behavior. All reference groups are supposed to either positively or negatively affect the consumption behavior of consumers. These influences are depicted and discussed in the following sub-section.

2.3.2 The introduction of reference group influences

The theory of **Veblenian Model** states that "man as primarily a social animal conforming to the general forms and norms of his larger culture and to the more specific standards of the sub cultures and face to face group to which his life is bound" (Kotler, 1979, p.41). Veblenian Model is a social-psychological model of consumer behavior based on the findings of Thorstein Veblen, who is a known social researcher in the domain of social anthropology and environmental influences. Veblen demonstrates that individuals and their reference group are interdependent and interacted on each other. This interaction can be embodied from the following three aspects: (1) reference group could affect an individual's attitude towards a certain good, and consequently mold his consuming perception; (2) reference group might set a corresponding consuming pattern and content for an individual; and (3) an individual may subconsciously imitate the reference group's behavior or make a comparison with them (Kotler, 1979).

According to the earlier literatures (Kelman, 1961; Park and Lessig, 1977; Bearden and Etzel, 1982; Solomon, 2006), reference group influences can be categorized to three types, respectively **informational influence**, **utilitarian influence**, and **value-expressive influence**, which are clarified in turn below.

♣ Informational influence

As discussed in section 2.2.2, consumers receive plentiful information from the reference group through, for example, the discourse in their social life. The informational influence is based on the joint desire of consumers – to make an optimal purchase decision. Kelman (1961) points out that consumers are subject to informational influence if the information is perceived as improving their knowledge and ability to cope with the environment. In contrast to commercial information offered by the mass media, consumers are inclined to recognize their reference group as a more credible and valuable information source. Nelson (1970) confirms this by illustrating that the expected utility of a good suggested by a friend or family will be much greater than the expected utility of a random good. The possible explanations for this might be: (1) reference group is not representative of any products or commercial organizations, thereby their advices should be unbiased; and (2) the information received from reference group should has been pre-screened and assessed, accordingly it is expected to be more accurate (Solomon, 2006).

♣ Utilitarian influence

Utilitarian influence takes place while an individual conforms to perceived expectations of what others want in order to obtain praise or avoid punishments (Kelman, 1961). A good demonstration for the utilitarian influence is the Asch Experiment in which participants were revealed to willingly comply with the group responses, even altering their original correct answers. In like manner, an individual would purchase or consume a certain good or brand in order to acquire social acceptance and approval. Advertisement makers exactly take advantage of this influence to promote their products.

♣ Value-expressive influence

People could make use of the reference group to bolster their self-concepts. An individual may blend into a group or association on his own initiative to enhance his

self-concepts through affiliating or associating with group members who represent desirable values (Kelman, 1961). Under value-expressive influence, people are likely to completely accept and internalize the value of that reference group.

2.3.3 The social effects on cultural-artistic consumption

Caves (2000, p.175) claims that "Creative goods are consumed in a social context, not by isolated hermits". Bernstein (2002) agrees and indicates that consumers would consume on arts much more than others if their friends actively participant in arts activities. It implies that a consumer's cultural-artistic consumption is highly subject to various social effects that occur in the course of social interaction with their reference groups, ranging from 'word-of-mouth' effect to 'network effect'.

✤ Word-of-mouth effect

You would intend to watch the movie '*Harry Potter*' because your classmates recommend you this movie. You received the information – 'Harry Potter' is a great movie and deserved to watch – from the daily conversation with your classmates. It is a typical case of what cultural economists call '**word-of-mouth effect**'. As mentioned above, cultural goods are consumed in social context to some extent, and social context makes word-of-mouth more important for the ultimate success of cultural goods (Caves, 2000).

✤ Snowball effect & Snob effect

The term '**snowball effect**', often used interchangeably with '**bandwagon effect**', essentially denotes that consumers are more likely to follow the crowd and make consuming decisions which are affected by those of others. Towse claims that: "Consumers do not make individualistic decisions, as envisaged by neoclassical demand theory. Fads, crazes and fashions fit into this category and are easily observable in connection with the sudden popularity of pop stars, best-sellers and the like" (2010, p.155). As opposed to snowball effect, the **snob effect** is the extent to which the consumption of a cultural good is decreasing due to the fact that others are consuming the same product. Both snowball effect and snob effect belong to the category of herd behaviors.

♣ Network effect

Relevant to the idea of snowball effect or snob effect is the concept called '**network effect**'. This term is a very common concept in many fields, and thereby it might have a different interpretation in a different context. In terms of cultural-artistic consumption, what it refers to is that certain cultural goods or services are turning more perfect and valuable when there are more people using them. In short, the larger the network, the greater each consumer's utility. A typical case of network effect here is online movie websites (or any other peer-to-peer websites): the more consumers watch movies on this website, the better the service for each user. These are what economists call the environmental influences of consumer behaviour: "It is not that the individual seeks to improve the service for others, just that others benefit from his or her self-interested behaviour" (Towse, 2010, p.155).

2.4 Culture and consumer behavior

The study on culture is a challenging undertaking as it deals with the broadest division of social behavior – a whole society. This section discusses the general concept of culture, with particularly stresses on the role of culture in affecting consumer behavior.

Culture is a wide and pervasive concept. As said its study requires a comprehensive examination of the features of the entire society, including values and norms, communication and language, beliefs and religions, food customs, art, laws, technology, as well as work habits and practices. From the consumer behavior perspective, culture can be defined as the sum of known beliefs, values, symbols and customs which serve to guide the consumption of consumers in a particular society (Schiffman and Kanuk, 1994).

The influence of culture on consumer behavior is natural and automatic, which is usually taken for granted. For example, when consumers are questioned about why they do certain things or purchase something, they are prone to answer: "Because this is the right thing to do" or "Because it is what I should buy". It seems a very superficial answer, but in fact this reaction partially reflects the ingrained impact of culture on our thought and behavior. It is what cultural economics call 'the invisible hand of culture'.

We are more likely to realize this influence when we visit a different region or country. We would be aware of how culture has shaped us when we are exposed to people who has different cultural values, symbols and customs. Therefore, Schiffman and Kanuk (1994, p. 410) claim that "a true appreciation of the influence that culture has on our daily life requires some knowledge of at least one other society with different cultural characteristics. Consumers both view themselves in the context of their culture and react to their environment based upon the cultural framework that they bring to that experience. Each individual perceives the world through his own cultural lens".

Culture impacts consumer behavior, and meanwhile consumers are affecting the formation of culture (Peter and Olson, 1998). For instance, a personal consumption behavior might be approved or rejected by others. People with similar opinions are tend to group together. As a result, an individual behavior would evolve to a group's norm of behavior and be identified as a part of the culture among a given population.

Culture affects consumer behavior through its manifestations – values, customs, and symbols. Luna and Gupta (2001) indicate that the manifestation of culture can be seen as a kind of form in which culturally-determined notion and knowledge are persevered and expressed. Consequently, each cultural society is expected to possess various cultural manifestations. The concept and influences of three primary manifestations of culture are discussed in the following.

Values

The concept of values has evolved over time, but it is always the key component of culture. Rokeach (1968, p.161) defines "a value as a centrally held, enduring belief which guides actions and judgments across specific situations and beyond immediate goals to more ultimate end-states of existence". Values are beliefs, but values are not exactly same as beliefs because of the following differences: (1) values are generally less in number than beliefs; (2) values are enduring, or relatively very difficult to alter; (3) values are widely accepted and approved by the members in a society; last but not the least, (4) values are not bound with specific individuals or situations. Examples of values are 'freedom', 'pleasure', 'happiness', and 'harmony' (Schiffman and Kanuk, 1994).

In a wide sense, both values and beliefs are considered as mental images which influence on a broad range of consumers' attitudes and decision-making process. There is a considerable amount of studies contributing to how cultural values are materialized among members of a society. Hirschman's study (1981) reveals that Jewish consumers' behavior are different from non-Jewish in many aspects, such as information seeking approach and products information transfer. In addition, some other scholars focus on the specific consumer behaviors which are influenced by cultural values, such as consumers' response to purchasing sales products (Huff and Aalden, 1998), family consumption roles (Ford et al., 1995), as well as information exchange pattern (Dawar et al., 1996). In sum, values seemingly play a significant role in an individual's behavior, especially the consumption behavior.

✚ Customs

Different from beliefs and values, customs are "overt modes of behavior that constitute culturally approved or acceptable ways of behaving in specific situations" (Schiffman and Kanuk, 1994, p.410). In other words, customs can be seen as the routine behavior of individuals. For instance, American prefer adding sugar to tea, Chinese has to eat jujube during wedding ceremonies, etc. There are various customs in this world, which result to different behaviors of people. Customs are important for individuals as they get involved in the consumption of products and services. Therefore, if we consider beliefs and values are guidance for consumer behavior, then customs are usual and acceptable ways of behaving in a region or country.

✚ Symbols

Symbols are a wide category of processes and objects which carry a meaning that is unique to the members in a society, such as language, gestures, and pictures and so on. Many scholars have studied the effect of symbols on the observable behavior of consumers and their consumption. These studies examine the influences of symbols from two methodologies, respectively psycholinguistics traditional method, and anthropological traditional method. The former focuses on the impact of language on consumer behavior, and the latter deals with other symbols apart from language. Based on the existing literatures, we can tell that language is the most frequently researched symbol from the perspective of consumer behavior. For example, Dolinsky and Feinberg (1986) probe the impact of language on the decision-making process of

bilingual consumers. They find out that the second language processing is more likely to cause information overload and suboptimal purchasing decision of consumers than the first language.

2.5 Determinants of cultural-artistic consumption

Baumol and Bowen (1966) pioneer the revolutionary empirical research on the consumption of cultural goods. According to the existing studies, the disparity of cultural-artistic consumption can be mainly explained from three perspectives, namely (1) economic factors including price of good, price of substitutes, and consumer income; (2) socio-demographic factors including age, gender, education, occupation, resident region, and psychological motivations; and (3) the quality of the good itself. In the following, a brief literatures review regarding the determinants of cultural-artistic consumption is displayed.

✚ **Price**

Price, as one of the most important variables in the standard model of household consumption mentioned in the section 2.1.1, has been heavily debated in the past literatures (Colbert et al., 1998; Colbert, 2003; Lévy-Gearboua and Montmarquette, 2002; Seaman, 2005; Werck and Heyndels, 2006; Diniz and Machado, 2010). The price of a product reflects not only the value of the good itself, but also the potential opportunity cost of consuming. Here, the opportunity costs involve (1) the utility enjoyed from the consumption of substitute goods, and (2) the sunk costs have paid in order to access to the products, such as transportation costs and communication costs (Diniz and Machad, 2010). The price of a cultural good tends to be negatively correlated to the consumption. It means that the demand for cultural product is price-inelasticity.

✚ **Price of substitutes**

The substitutes of art and culture can be simply defined as other sources of leisure and entertainment, such as sports and other forms of group recreation not related to the arts (Diniz and Machad, 2010). In general, the price of a substitute, in contrast to the price of a good itself, is inclined to positively correlate to demand. Nevertheless, it is not the case always. Werck and Heyndels (2006) test the relation between the demand for

performing arts and the price of substitute (movie), and they discover that the price of substitute has no significant ampacton the demand.

↓ Income

Income is another important economic determinant of cultural-artistic consumption. Same as price, consumers' income can be seen as a restriction on consumption as well. In general, people are inclined to consider that demand is income elastic which means that higher income would lead to more consumption. However, the empirical evidence concerning the influence of income on demand is mixed. Most of scholars confirm the significantly positive relation between consumer income and demand, for example Greckel and Felton (1987), Felton (1992), and Werch and Heyndels (2007). One exception is argued by Becker (1965). He finds out that consumer income is negatively correlated to demand, because more income implies less leisure time and higher opportunity costs.

↓ Age & Gender

Consumers' demand on arts and culture would change with the increase of age, due to the human capital accumulation and the changes in the opportunity cost of consumption. But the impact of gender on cultural-artistic consumption still remains debatable. Some scholars claim that there is no correlation between demand and gender (De Graaf, 1991; Prieto-Rodriguez and Fernández-Blanco, 2003); and some scholars believe that gender does influence on demand significantly (Bihagen and Katz-Gerro, 2000; Wilska, 2002).

↓ Education

Some demand studies consider the degree of education as one of determinants of demand for cultural goods (Sobel, 1983; Fernández-Blanco et al., 2003; Diniz and Machad, 2010). The past empirical findings indicate that the degree of education is expected to have a positive impact on cultural-artistic consumption.

↓ Occupation

The influence of occupation on cultural-artistic consumption is mixed as well. There are scholars who clarify that occupation plays a significant role in explaining the

changes in demand (Sobel, 1983; Peterson and Simkus, 1992; Prieto-Rodriguez and Fern-andez-Blanco, 2000). One exception is proposed by De Graaf (1991); he argues that there is no direct effect on demand in statistic.

⊞ Resident region

Regional factors occupy an important place in explaining the variation of cultural-artistic consumption as well. The infrastructure in relation to arts and culture, usually represented by the cultural equipments of the locality, is testified to have positive impact on cultural-artistic consumption to some extent (Fernández-Blanco et al., 2003; Markusen and Gadwa, 2009; Masters et al., 2009). More cultural equipments denote larger capacity of supply, and thereby it would directly affect the local demand for art and culture. Diniz and Machad (2010) define cultural equipments as the places devoted to the involvement of the public with cultural artistic activities, such as theaters, music halls, libraries, museums, art galleries, cultural centers, etc. Better cultural infrastructure would bring consumers more diversified consuming options, and consequently it would attract more consumers and stimulate the desires of consumption.

In addition, cultural economists believe that arts and culture are the typical case of externalities of agglomeration. These activities would be concentrated in a relatively larger city due to the larger potential market and higher possibility of transmission of tacit knowledge from the interaction between individuals and their reference groups (Markusen and Schrock 2006; Kelly and O'Hagan 2007; Bille and Schulze 2008; Santagata 2008).

With the theories above, Fernández-Blanco, García-Diez and Prieto-Rodríguez (2003) investigate the influence of the size of resident city on the probabilities of consuming on cultural-artistic activities in 27 OECD and 4 non-OECD countries. They successfully validate that consumers who live in larger cities have a higher probability of attending theatres or cinemas.

⊞ Psychological motivations

Art for the art's sake by Swanson et al. (2008) is the most known econometric research dedicated to this subject from a perspective of individual psychological motives. The

authors notice that the majority of existing research has concentrated on economic factors and socio-demographic factors, but neglected the individual internal forces that stimulate and compel consumer to a behavioral reaction[4]. Therefore, Swanson et al. examine what psychological forces motivate people to consume on art and how specific motivations in connection with demographic factors. The research reveals that some of motivations have significant impacts on the demand for arts (for instance, aesthetic, educational, recreational and self-esteem motivations).

2.6 EBM consumer behavior model

In the book '*Consumer Behavior*', Schiffman and Kanuk (1994) classify the main research models with regard to consumer behavior in existing literatures into four categories, respectively:

- focusing on the decision-making process of consumers, e.g., EBM model, Nicosia model, and Howard-Sheth model;
- focusing on the decision making process of families , e.g., Sheth family decision-making model;
- focusing on the information process of consumers, e.g., Bettman information processing model;
- focusing on consumers' sense of worth, e.g., Sheth-Newman-Gross model.

Thereamong, the EBM model could be considered as the most exhaustive study on the decision-making process of consumers with taking environmental influences into account, which was employed by a large number of consumer behavior studies (Engel et al., 1995). Considering this paper is attempt to probe how living environment affects cultural-artistic consumption of consumers, in this section, a brief review in relation to the rationale of the EBM model is offered. Here, we particularly emphasize on the importance of **environmental influences** and **individual differences**.

The full name of the EBM model is Engel-Blackwell-Miniard model. This model originally created by Engel, Kollat and Blackwell in 1968, was firstly named 'EKB model'. According to the EBM model, the decision-making process of consumers is a

---

[4] The idea originally came from Holbrook and Hirschman (1982). They suggest that consumer theory needed to be developed to include not only economics factors, socio-demographic factors and quality itself, but also consumer experiences of making choices itself.

psychological process. This process is comprised of the following components: need recognition, search for information, information processing, pre-purchase alternative evaluation, purchase consumption and post-purchase alternative evaluation, and divestment (Engel et al., 1995). The details can be viewed in the flow chart below.

According to the EBM model, the consumer decision-making process is affected and molded by various factors and determinants, categorized in two main categories, respectively environmental influences and individual differences of consumers. The two categories are explicated in the following, grounded on the research paper written by Engel et al in 1995.

Graph 3.1 EBM model overview
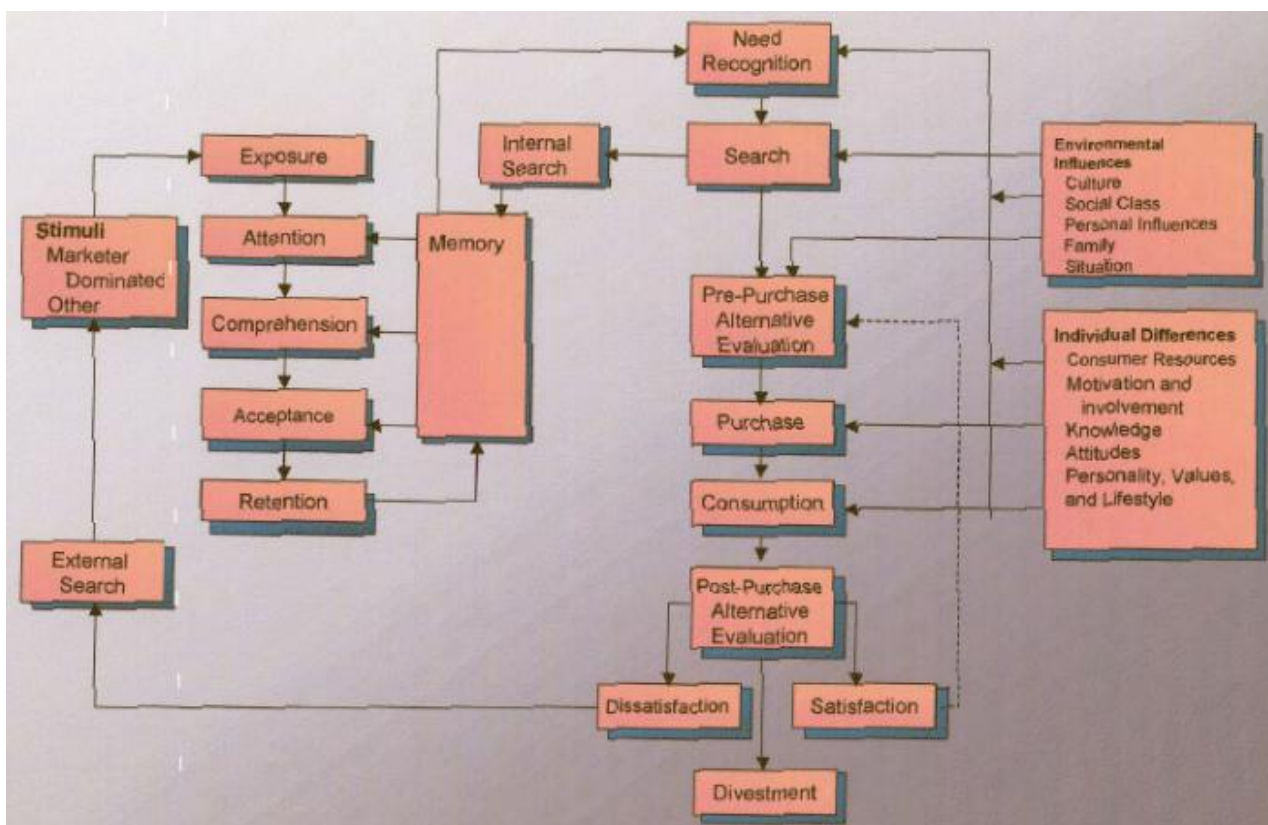
Source: Engel et al, 1995, p.194

On the one hand, environmental factors occupy an important place in influencing on consumer behavior and decision in the EBM model. These environmental influences consist of culture, social class, personal influences, family, and situation (Engel et al., 1995, p. 149). As we discussed in the section 2.4, culture is important for the attitudes and behaviors of consumers. According to the EBM model, culture furnishes

consumers with a sense of identity and understanding of socially approved behavior. Another important environmental influence highlighted in the EBM model is social class, which is defined as "divisions within society where individuals share similar values, interested and behaviors" (Engel et al., 1995, p. 151). It can be noted that there are some similarities and overlap between the concept of social class and reference group. The influence of social class on consumer behavior can often be observed when "viewing consumer time spent, products purchased, where, and how they purchase products…." (Engel et al., 1995, p. 151). Besides culture and social class, personal influences, family influences and personal situation also play an important role in decision-making process and consumption of individuals.

On the other hand, Engel et al., (1995) claim that consumer behavior is impacted by not only environmental factors but also individual differences. These individual differences come from consumer resources, knowledge, attitudes, motivation, personality, and lifestyle. There are three types of consumer resources involved in the EBM model – time resource, economics resource, and information resource. The differences of consumer recourses can directly result to the variation of consumption of consumers. Another component which may need to be clarified is 'knowledge'. Based on the explanation provided by Engel et al., knowledge can be defined as the information stored in memory, comprising the features and assessments of goods and services. Knowledge can guide consumers to make optimal purchase decision. From the perspective of cultural consumption, taste can be recognized as a set of knowledge about arts or culture. Consumers are easier to find their favorite cultural goods if they can realize their tastes very well.

2.7 Summary of Chapter 2

In Chapter 2, we have attempted to present a general theoretical framework concerning the research of cultural-artistic consumption. This chapter provided readers an extensive overview of the theories on cultural good, including taste formation, effect of information, reference group, culture, cultural consumption, as well as the EBM consumer behavior model.

Chapter 2 started with the introduction of the concept of taste formation. In order to

fully understand this term, we firstly clarified what cultural goods and experience goods are. Moreover, two theories, rational addiction and learning by consuming were explicated as they are two main lines of theory on taste formation theory. A number of scholars (e.g., Caves, 2000; Lévy-Gearboua & Montmarquette, 2003; Towse, 2010) confirmed the importance of taste on consumer behavior and cultural-artistic consumption.

In the section 2.2, we discussed the importance of information on the consumption of cultural goods. Due to the majority of cultural goods are experience goods, information seems extraordinarily important for consumers as the quality of cultural goods cannot be estimated accurately based on basic production features. Moreover, two primary problems – quality uncertainty and information asymmetry were discussed. These two problems can be commonly observed in arts and culture related market. Due to this fact, consumers tend to receive relevant information as much as possible before purchasing. Last, we introduced two main information sources of cultural goods, respectively intermediaries and social intercourses.

Next, the concepts of reference group as well as its significant influence on cultural-artistic consumption were presented. Based on the earlier literatures, both resident and non-resident reference group occupy an important place in shaping consumers' sense of value, attitude, and behavior. Reference group influences can be categorized to three types, respectively informational influence, utilitarian influence, and value-expressive influence, which were clarified in turn in that section. In addition, many cultural economists pointed out that (e.g., Caves, 2000; Bernstein, 2002) cultural-artistic consumption is highly subject to various social effects, such as word-of-mouth effect, snowball effect, snob effect, and network effect.

In the section 2.4, the impact of culture on consumer behavior was analyzed. Based on the existing studies on culture from the consumer behavior perspective, we can tell that culture is a central factor to determine the variation of consumers' behavior and consumption. Here, the impacts of culture were analyzed according to three categories, namely values, customs, and symbols.

Besides the said theories, a large number of researchers investigate the cultural-artistic

consumption from both an economic and socio-demographic perspective. Therefore, in the section 2.5, we reviewed the past literatures that contribute to the economic and socio-demographic determinants of cultural-artistic consumption. Based on the literatures review, it can be concluded that price, price of substitute, income, age, gender, education, occupation, resident city, psychological motivations do occupy a significant place in explaining the differences of consumption of cultural goods.

Last but not the least, we presented the EBM consumer behavior model in the end of Chapter 2. This model is considered as one of the most applied research model about the study on decision-making process of individuals. The EBM model particularly emphasizes on the influences of environmental factors as well as personal factors. This model laid the foundation for our own research design.

3. Methodology

This chapter outlines the methodology of research employed in this empirical study. The first two sections present the aim of this study and how the research is designed. Next, the research model is constructed and explicated, based on the idea derived from the EBM model. In the section 3.4, according to the designed research model, the description of the key variables in this research is introduced. Then, the regression model and regression approach used in this paper are discussed in the section 3.5. Last but not the least, the questionnaire design as well as the measurement of main concepts are discussed in the end of this chapter.

3.1 Research aims

As the last section reviewed, a large number of cultural economists have contributed to the study on cultural-artistic consumption in recent decades, e.g., literatures of performing art demand study: Baumo & Bowen, 1966; Moore, 1968; Abbé –Decarroux, 1994; Levy-Garbous & Montmarquette, 1996; Seaman, 2005; Werck & Heyndels, 2007; literatures of movie consumption study: Cameron, 1990; Blanco & Banos Pino, 1997; Dewenter & Westermann, 2005. The majority of the existing papers examine cultural-artistic consumption through the perspective of the elasticity of price of cultural goods and income of consumers.

Apart from the economic-inclined research papers, numerous literatures also confirm the remarkable impacts from non-economic factors, such as past exposure, reference group and social-cultural environment, whereas the most are confirmed in theory instead of empirical test. The aim of this research paper is attempt to empirically examine the impact of the said factors on cultural-artistic consumption. Here, we collectively call them **environmental factors**. Does the change in living environment have certain influence on cultural-artistic consumption? And does the variation of the consumption depend on the length of time living in a country? Are reference group and arts related exposures responsible for the variation as well? Are these influences significant enough in statistics? All these questions are expected to be figured out through this study.

It should be noted that, however, cultural-artistic consumption is a quite broad concept

for a specific research. It would be ambiguous if we take cultural goods into account as a whole during the survey. Therefore, a given cultural good should be decided. In addition, it must be kept in mind that the **supply** of a certain good has the most strong and direct impact on its consumption. As discussed in the last section, different living region may have different cultural infrastructure, and correspondingly the supply would also be various. Therefore, to make this research more valid and precise, the interference from the supply side of a cultural good should be maximally ruled out. For this reason, a specific cultural good, online movie is picked as the research object. Different from other cultural goods, online movies have an almost constant and stable supply anywhere. As long as the Internet is available and online-movie websites are accessible, the supply of online movies could be guaranteed to some extent. This advantage might efficiently assist the research to eliminate the interference from the supply side, and hereby intently concentrate on the investigation on environmental influences.

Besides the questions mentioned above, another two issues are discussed in this paper as well. The first one is how the taste alters along with the changes in the living environment, e.g., will an individual's favorite type of movie change after they moved to another country? The second issue is what the psychological motivations of consuming online movies are. To sum up, the research questions of this paper can be generalized as follows:

- **Central research question**: Does the change in living environment have influence on online movie consumption?
- **Research question 1**: Does online movie consumption alter depending on the length of residence in a country?
- **Research question 2**: Does reference group's behavior have significant influence on consumers' online movie consumption?
  - **Research question 2.1:** How do resident reference group affect consumers' online movie consumption?
  - **Research question 2.2:** How do non-resident reference group affect consumers' online movie consumption?
- **Research question 3**: Does past exposure have significant influence on consumers' online movie consumption?

- **Research question 4**: Does living environment change consumers' taste on movie?

- **Research question 5**: What are consumers' motivations of consuming online movie?

3.2 Research design

Today, there are two different types of research methodology that are mainly employed by researchers to study consumer behavior – **qualitative research** and **quantitative research**. Qualitative research approach is comprised of depth interviews, focus groups, projective techniques, collage research and metaphor analysis (Schiffman and Kanuk, 1994). As sample size of qualitative research is necessarily limited, significant findings might not be generalized to a larger population. This approach is fundamentally employed to obtain new ideas for promotional campaigns. In contrast, quantitative research is "descriptive in nature and is used by researchers to understand the effects of various promotional inputs on the consumer" (Schiffman and Kanuk, 1994, p.15). Correspondingly, the findings are descriptive, empirical, and possible to be generalized to a lager population if the data are collected randomly.

The design of a research should be based on the aim of the study. If the aim is to obtain new ideas, then a qualitative research is likely to be undertaken; likewise, if descriptive and empirical information is required, then a quantitative research might be in order. Considering the research purposes mentioned in the last section, the quantitative research approach is applied to this paper.

The design of a quantitative research consists of three stages – the methodology for data collection, the design of research sample, and the construction of the data collection instrument (Schiffman and Kanuk, 1994). There are in total three primary approaches for collecting data, respectively observational research, experimentations, and surveys. In this study, data collection method is **survey**, in the form of a self-completion closed-ended **questionnaire** (the participant merely checks the appropriate answer from a list of options) for a cross-sectional study in a certain period.

The target population of the survey concentrates on the Chinese students (bachelor students and master students) and scholars (PhD candidates) who are currently living in the Netherlands. They moved to the Netherlands for the purpose of pursuing the further study and research. Based on the statistical data derived from the official website of NesoChina (2012), altogether there are approximately 9,000 Chinese students and scholars studying in the Netherlands at the moment. This group of population shares a common characteristic in which their living environment has been completely changed from China to the Netherlands. Taking into account the overall population is relatively small, thereby the sample size of the survey is set to around 200 respondents in total.

All questionnaires are distributed on the Internet, through attached emails, Facebook (www.facebook.com), and the largest Chinese forum in the Netherlands – GogoDutch (bbs.gogodutch.com). To keep the questionnaire data as valid as possible, the survey is performed within a time frame of five weeks. Before publishing the questionnaire, a pre-test for all the questions in the questionnaire was piloted within a small group of people – 16 Chinese students in the 3-years bachelor programme of Economics in Unversiteit Utrecht. The draft questionnaire was given to the pilot sample one week before the actual survey took place. The pilot sample was required to answer the draft questionnaire and report their positive or negative feedback to us. In this way, it is possible to dig out if there is any ambiguous or improper question involved in the questionnaire.

3.3 Research model

Through combining the idea adopted from the EBM model and five main research questions of this study, a simple research model purely concentrating on the impact of environmental factors on consumer behavior is designed and constructed. As to the decision-making process of consumers, the core components are remained the same in our model. It starts from the need recognition of consumers; then goes through the procedures of search, pre-search evaluation, and purchase; and finally ends with the consumption behavior (see the left part of the graph 3.2). In our model, this psychological decision process is also influenced and shaped by two categories, namely environmental influences and individual differences.

Based on the theories reviewed in the last chapter, environmental influences can be categorized in three categories, namely reference group, culture, and past arts related exposures in family. They are expected to have influence on online movie consumption of Chinese students and scholars in the Netherlands to some extent. As to individual differences, it is categorized in three categories as well. The first category is about the socio-demographic differences of the target population, including age, gender, education degree, and resident city; the second one relates to the taste on movies of the target population, which is label as 'knowledge' in original EBM model; and the last one concerns about the consumers' motivation of consuming online movies, such as cheaper price, better quality, higher convenience and so on. The detailed research model is available below.

Graph 3.2 Designed research model
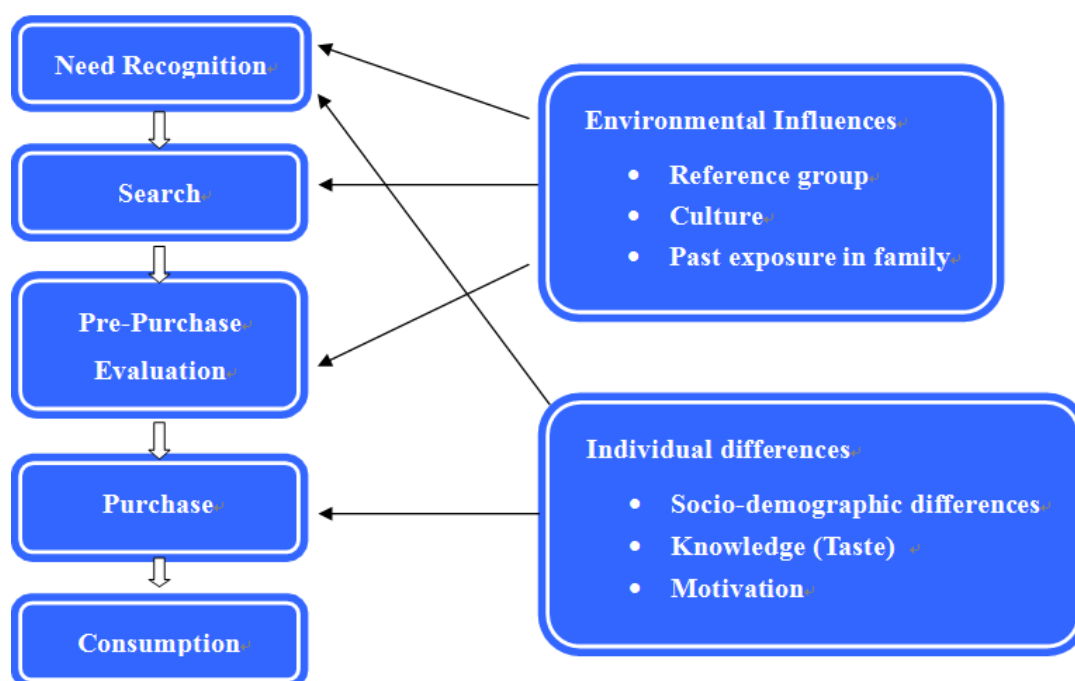
3.4 Variable description

Based on the aims of this study and the designed research model, we finalize the list of variables which should be included in the empirical test. There are eight variables involved, consisting of one independent variable, four explanatory variables and four control variables. The details about all research variables can be viewed in the table below.

Table 3.1 Variable overview

Variable full name	Variable Type	Description	Role in the model	Variable code in the equation
The participant online movie consumption	Ordinal	The frequency of watching online movie of the participant	Dependent variable (Y)	*consumption*
Number of years	Continuous	Total number of years of residence in the Netherlands of the survey participant	Independent variable (X_1)	*years*
Resident reference group online movie consumption	Ordinal	The frequency of watching online movie of the participant's resident reference group	Independent variable (X_2)	*resgr*
Non-resident reference group online movie consumption	Ordinal	The frequency of watching online movie of the participant's non-resident reference group	Independent variable (X_3)	*nonresgr*
Past exposure	Ordinal	Art or culture related exposure of the participant in the past	Independent variable (X_4)	*pastex*
Age	Dichotomous	The participant's age Elder participant(age$\geqslant$24)=1; Otherwise=0	Control variable (X_5)	*elder*
Gender	Dichotomous	The participant's gender Female participant=1; Otherwise(male)=0	Control variable (X_6)	*female*
Education degree	Dichotomous	The education degree of the participant Bachelor degree=1; Otherwise(Master or higher degree)=0	Control variable (X_7)	*bachelor*
Resident city	Dichotomous	The residence city of the participant Participant in large city (inhabitant>300,000)=1; Otherwise=0	Control variable (X_8)	*larcity*

From the table 3.1, it can be noticed that we have three different types of variables: ordinal variable, ratio variable and dichotomous variable, which are introduced in turn in the following (Bryman, 2001).

- **Ordinal variables** are variables which categories can be rank ordered, but the distances between the categories are not constant across the range of categories. According to the design of the research, Y, X_2, X_3, and X_4 should belong to

ordinal variables.

- **Continuous variables** (also known as interval / ratio variables) are variables which the distances between the categories are constant across the range of categories. Accordingly, X_2 should be a continuous variable as the distance between the categories is always one year.

- **Dichotomous variables** are variables comprise of data which have only two categories. Bryman (2001, p.222) states "their position in relation to the other types is slightly ambiguous, as they have only one interval. They therefore can be considered as having attributes of the other types of variable". In the case of this study we have four dichotomous variables, namely age, gender, education degree and resident city. These variables are considered as the control variables in this research because the impacts of all of them have been economically verified in a large number of studies in the past (see the section 2.5). It means that they only function as an implement to improve the completion of the research model, and thereby they will not be analyzed in the chapter of empirical results.

3.5 Regression model and hypothesis

To empirically investigate how online movie consumption is influenced by its explanatory variables, and whether these influences are statistically significant enough, a statistical regression model is required to construct. As displayed in the table 3.1, there are four ordinal variables in this research, including one ordinal dependent variable. In this case, strictly speaking a particular regression model called as **ordinal logistic regression** (also called as ordered logit regression, or proportional odds model) should be applied. This is a statistical regression model especially for ordinal dependent variables. It can be considered as an extension of the logistic regression model for dichotomous dependent variables, allowing for two or more than two ordinal response categories (Studenmund, 2006).

However, in order to keep the model as simple and understandable as possible, after the consideration, another regression model called **multiple linear regression** is employed in this research. Linear regression model is a common approach to model the relation between one continuous dependent variable (Y) and one or more than one independent variables (X). The case of more than one independent variable is the

multiple linear regression. Linear regression model was the first type of statistical analysis to be strictly researched, and to be extensively employed in many practical applications. It is mainly because the models which are linearly related to their unknown coefficients are easier to fit than the models which non-linearly depend on their coefficients (Studenmund, 2006). The standard form of multiple linear regression is as follows:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \dots\dots + \beta_p X_{ip} + \varepsilon_i$$

Therefore, in this research all ordinal variables listed in the table 3.1 are treated as '**rough approximations of continuous measures**', namely continuous variables; and we assume that the correlation between online movie consumption and its explanatory variables is linear. It must be noted that this is a considerably strong assumption that might influence on the validity of the research results.

By tailoring all research variables into the standard form of multiple linear regression, now the regression equation of this study is ready to present:

$$Consumption_i = \beta_0 + \beta_1 years_i + \beta_2 resgr_i + \beta_3 nonresgr_i + \beta_4 pastex_i + \beta_5 elder_i$$
$$+ \beta_6 female_i + \beta_7 bachelor_i + \beta_8 larcity_i + \varepsilon_i$$

This equation illustrates that the disparity of online movie consumption is linearly related to the eight independent variables on the right side. The required data for each variable are available in the pooled dataset, which builds up based on the collected information from the survey. In order to determine the estimated value of each parameter and assess whether they are significant in statistics, **ordinary least squares** is employed in this research. **Ordinary least squares** (OLS), which is often referred to linear least squares (LLS), can be seen as the most applied approach for estimating unknown parameters in simple or multiple linear regression model. The rationale of OLS is to minimize the sum of squared vertical distances between the observed responses in the database and the responses forecasted by the linear approximation (Studenmund, 2006).

According to the regression equation, hereby we list four hypotheses in below, which are also in line with our research questions.

➕ **Hypothesis no.1**: The length of residence in the Netherlands has significant

influence on the consumption of online movies.

$H_0 : \beta_1 = 0$ (β_1 is not significantly different from zero)

$H_1 : \beta_1 \neq 0$ (β_1 is significantly different from zero)

➕ **Hypothesis no.2**: Resident reference group has significant influence on the consumption of online movies ($H_2 : \beta_2 \neq 0$).

➕ **Hypothesis no.3**: Non-resident reference group has significant influence on the consumption of online movies ($H_3 : \beta_3 \neq 0$).

➕ **Hypothesis no.4**: Arts or culture related exposure in the past has significant influence on the consumption of online movies ($H_4 : \beta_4 \neq 0$).

3.6 Questionnaire design

The questionnaire is designed based on the five-point **Likert-scale**. It is the most popular applied approach to scale responses in survey research, and this term is often used interchangeably with **Summated scale**. Likert-scale questions are simple for researchers to prepare and to interpret, and easy for participants to answer. Participants are expected to choose the option corresponding to their degree of 'agreement' or 'disagreement' with each of a series of statements that describes their behavior or attitude (Bryman, 2001). Through the five-point Likert-scale, Chinese students and scholars' consumption behavior of online movies can be well captured. The details of the questionnaire design are introduced in this section, along with the interpretation of the measurement of main variables.

The questionnaire consists of four pages and thirteen questions in total. The questions can be classified to four parts: (1) the general information concerning the respondent's online movie consumption; (2) the information relevant to the respondent's past exposures, reference group and cultural environment; (3) the motivation of consuming online movies; and (4) the respondent's socio-demographic information. The detailed questionnaire with all questions can be viewed in Appendix A.

The following issues are concerned in the first part: (1) the total number of years of residence in the Netherlands of the respondent (X_1); (2) how Chinese students obtain information about movies; (3) the frequency of online movie consumption of the respondent; and (4) the preference of movies of the respondent. As the key dependent

variable (Y) in the regression model, the consumption frequency of the respondent is measured by the five-point Likert-scale: 'Never', 'Rarely', 'Sometimes', 'Often', and 'Very often'. These options can precisely reflect how often the participant watches online movies on average in the Netherlands.

In the second part of the questionnaire, respondents are required to specify their attitude towards seven statements. For instance, to check whether the respondents had repeated arts related exposures in their family in the past, they need to clarify their level of agreement on the statement: 'My family consciously cultivates my arts or culture related skills in the past', based on the five-point symmetric scale from 'Strongly disagree' to 'Strongly agree'. For those who choose 'Strongly disagree' or 'disagree', it can be assumed somehow that they did not have much art related exposures in their family before. Likewise, this symmetric scale also applies to the statement about how often the respondent's reference groups consume online movies in the Netherlands. Here, we further distinguish reference groups into resident reference group (e.g., housemates, families) and non-resident reference group (e.g., classmates, co-workers). Through asking the questions in the second part, three independent variables – the frequency of online movie consumption of the resident reference group as well as the non-resident reference group, and the participants' past exposures (X_2, X_3, and X_4) can be well measured.

In the third part, a series of statements with regard to the participant's motivation of consuming online movies are presented. We attempt to figure out the reason why Chinese students and scholars prefer watching online movie rather than cinema movie in the Netherlands. The reasons we considered are that online movies (1) are cheaper; (2) has plentiful choices; (3) are easier to reach and more convenient to consume; (4) are the common behavior of surrounding people. Same as the second part, the five-point symmetric scale from 'Strongly disagree' to 'Strongly agree' is applied to ascertain the level of agreement of participants towards these motivations.

The socio-demographic information of the participants is questioned in the last part of the questionnaire. This type of question should be asked in the end of the whole questionnaire according to the theory (Snowball, 2008). All participants are requested to fill in their gender, age, living city, and education degree (occupation was not

required due to the target population are only students and scholars), but it should be noted that these socio-demographic factors are not the focus of today since these variables are only considered as the control variables in this research.

3.7 Summary of Chapter 3

A comprehensive introduction of the methodology applied in this study was displayed in Chapter 3. In short, the central purpose of this research is attempt to testify how living environment influences on the online movie consumption of Chinese students and scholars. In the beginning of this chapter, it was clarified why we selected online movie as the research object other than other cultural goods.

In sum, this is a quantitative research paper. A Likert-type questionnaire survey was designed in order to capture the attitudes and behaviors of Chinese students and scholars towards their online movie consumption in the Netherlands. All questionnaires were distributed via the Internet, and the total sample was set to around 200. Based on the research idea and research model, we finalized eight regression variables, including one dependent variable (online movie consumption), four explanatory variables (the length of residence in the Netherlands, the frequency of consuming online movies of both resident and non-resident reference group, and arts related exposures), as well as four control variables (age, gender, education degree, and resident city). In the section 3.5, we clarified four regression hypotheses, which were in keeping with the research questions mentioned in the section 3.1. All hypotheses will be tested in the statistical software called STATA, through multiple linear regression model.

4. Empirical results

The empirical results of this research are presented and explicated in this chapter. Five research questions are discussed in turn based on both the survey results and the regression results. This chapter starts with a general description of the findings, including the description of (1) the socio-demographic information of the sample; and (2) the most applied information channels of the sample. Next, the statistic result of the survey as to the dependent variable – the frequency of online movie consumption of Chinese students and scholars is presented. In the section 4.3, the key of the whole paper, the environmental influences on online movie consumption of Chinese students and scholars is introduced and demonstrated. This section consists of four sub-sections: the first three sub-sections focus on the research question 1, 2, and 3; the last sub-section generalizes all the regression findings and presents the completed regression equation. Last but not the least, the section 4.4 and 4.5 respectively focuses on the discussion about the research question 4 and 5, namely the investigation on Chinese students and scholars' tastes and consuming motivations of online movies.

4.1 General description

The total number of participants of the survey is 212, of which 210 questionnaires are completed and valid. They make up 99% of the total responses. These 210 respondents come from 21 different cities in the Netherlands, of which almost half of respondents are from the top four largest cities, namely Rotterdam, Amsterdam, Utrecht and The Hague; female respondents and male respondents approximately account for half and half; the respondents' age is ranging from 18 to 31 years old, mostly between 22 and 26 years old; and in the survey there is no high school or lower educated respondents, while more than half of respondents have master or higher education. Below, the table 4.1 generally summarizes the socio-demographic information of the sample.

Table 4.1 Socio-demographic information of the sample

Socio-demographic variables		Percent of Respondents	Number of Respondents
Gender	Female	52.38%	110
	Male	47.62%	100
	Total	*100.00%*	*210*
Age	≥ 24 years old	45.24%	95
	< 24 years old	54.76%	115
	Total	100.00%	210
Education degree	Bachelor	48.57%	102
	Master	40.48%	85
	PhD	10.95%	23
	Total	*100.00%*	*210*
Resident city	Large city	44.29%	93
	Small city	55.71%	117
	Total	*100.00%*	*210*

Besides the socio-demographic information, it is also interesting to know where Chinese students and scholars obtain the information concerning movies in the Netherlands. Therefore, the questionnaire requests all the participants to clarify what their information channels of movies are as well as how often they use these information channels. As discussed in the second chapter, the most common approaches to receive cultural-artistic information are through traditional / new intermediates, and through social intercourse. Hereby, the channels we considered are (1) newspaper / magazine, (2) people around, (3) the Internet, (4) TV / radio, and (5) outdoor advertising. The table below summarizes the feedback of the respondents.

Table 4.2 Information channels used by Chinese students in the Netherlands

Information channels	Very often	Often	Sometimes	Rarely	Never
Newspaper/Magazine	3% (7)	7% (16)	24% (51)	50% (105)	14% (31)
People around	10% (22)	44% (93)	34% (72)	10% (21)	0% (2)
Internet	51% (109)	36% (77)	9% (20)	0% (2)	0% (2)
TV/Radio	4% (10)	14% (31)	27% (57)	35% (74)	18% (38)
Outdoor advertising	5% (11)	14% (30)	40% (85)	35% (74)	4% (10)
Other	2% (5)	2% (6)	26% (56)	46% (98)	21% (45)
Total	*100% (210)*	*100% (210)*	*100% (210)*	*100% (210)*	*100% (210)*

From the table 4.2, we can clearly observe that the most used information channel by the sample is 'the Internet'. 109 respondents receive the information through the Internet very often, which account for more than half of the total responses. The second most used information channel is 'people around'. More than half of the respondents commit that they receive the information from their reference group often or very often. In contrast, the least used channels are respectively 'newspaper / magazine' and 'TV / radio'. More than 30 participants claim that they have never received the information about movies from newspaper / magazine or TV / radio.

Based on the result above, we could tell that among the surveyed Chinese, the most popular information sources of movies are through the Internet and reference group. The possible explanations for this result might be that these two information channels are the most convenient but the least expensive. The Internet as a rising intermediary for cultural goods is imperceptibly replacing traditional intermediaries, such as newspapers and magazines, because of its cheapness and convenience. In addition, the majority of Chinese students and scholars in the Netherlands are English speakers, however, a mass of local TV programmes or newspapers / magazines are in Dutch. Hereby, this language barrier would be a tough trouble for non-Dutch readers. Last but not least, it should be noted that there is a considerable part of Chinese students in the Netherlands who have relatively limited income, so they are more likely to concern about the costs of information. As a result, they would prefer the Internet and

reference group since they nearly cost nothing.

4.2 The frequency of online movie consumption

Before moving to the analysis of environmental influences on online movie consumption, it is necessary to provide a general idea about whether Chinese students and scholars consume online movie in the Netherlands and how much they consume it. As the only regressand in the model, the online movie consumption is the core of the whole research. As introduced in the section 3.6, the quantity of online movie consumption is measured by the frequency of watching online movie. In the survey, we classified five levels of frequency, respectively 'Very often', 'Often', 'Sometimes', 'Rarely', and 'Never'. The definition of each level is introduced in the following. The survey participants are required to choose an option which describes the fact the most closed. The graph 4.1 displays the answers derived from the questionnaires.

- **Very often:** on average, the respondent consumes online movies once or more than once a week;
- **Often:** on average, the respondent consumes online movies once or more than once a month;
- **Sometimes:** on average, the respondent consumes online movies on a basis of a quarter;
- **Rarely:** on average, the respondent consumes online movies on a basis of half a year / a year;
- **Never:** the respondent has not consumed any online movies yet in the Netherlands.

Graph 4.1 The frequency of online movie consumption
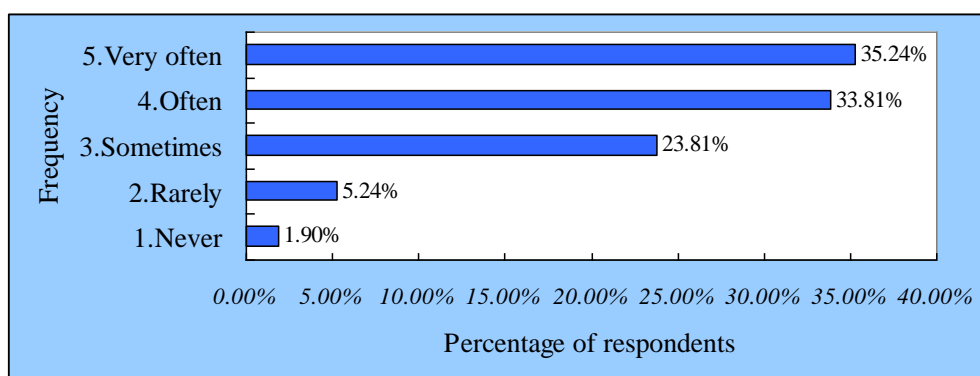

Overall, 206 respondents have the experience of watching online movies in the

Netherlands, which make up approximately 98% of the total respondents. Thereamong, 35.24% of the respondents consume online movies 'very often', which makes this option occur the most frequently. While the mean value is 3.95, which signifies that on average the respondents choose the option of 'Often'. The result clearly indicates that watching online movies can be thought of a considerably common behavior among Chinese students and scholars in the Netherlands due to more than three quarters of them consume online movies often or very often.

4.3. The impact of living environment on online movie consumption

The central research question of this study is whether the online movie consumption would be different if the living environment has been changed. To answer this question, a general statement about 'the frequency of watching online movie has increased in the Netherlands' is questioned in the questionnaire. The graph 4.2 reflects the responses of 210 participants.

Graph 4.2 Statement: "The frequency of watching online movie has increase in the Netherlands."
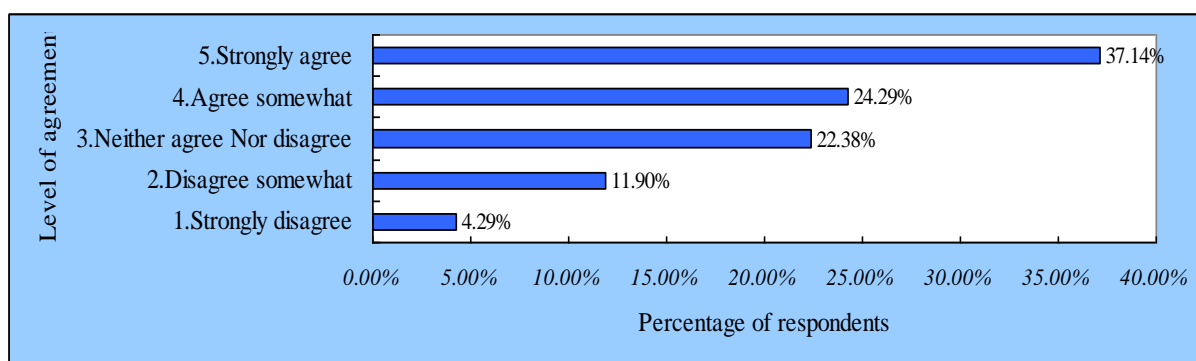
From the table above, it can be observed that 61% of the respondents agree somewhat or strongly agree with the statement. It is a considerably remarkable finding because it reveals a fact that Chinese students and scholars consume more online movies in the Netherlands than in China. Moreover, it should be noticed that 22% of the respondents more or less remain a constant level of consumption; and 15% of the respondents disagree with the said statement. The mode value and the mean value are respectively 5 and 3.78, which imply that 'Strongly agree' is the option occurred the most frequently, and on average the respondents vote for the option of 'Agree somewhat'. Based on the findings, the first conclusion is arrived: online movie consumption of Chinese students and scholars does change along with the differences

of living countries, even though the supply of online movies can be recognized as a constant amount in these two countries. This result is in keeping with the theory reviewed in Chapter 2.

With this interesting finding, a further question comes out: which environmental factor can explain the increase of online movie consumption in statistics? Is length of time ultimately the most important factor? Or reference group? Or relevant exposures in the past? To solve this doubt, a comprehensive analysis for each environmental variable, in light of the survey data as well as the regression results, is presented one by one in the following sub-sections.

4.3.1 The impact of length of residence

In the survey, all respondents are requested to provide the information about how many years and months they have been living in the Netherlands. The table below provides an overview of the participants' responses. From the table it can be noticed that, on average the respondents have been living in the Netherlands for about 3.52 years (three years and 6 months), while the mode value is 3.75 (three years and nine months). Among the investigated Chinese students and scholars, the shortest resident lives in the Netherlands for only 3 months, while the longest resident is living in this country for more than ten years.

Table 4.3 The length of residence time in the Netherlands

The length of residence (years)	
Mean	3.524243
Mode	3.75
Std. Dev.	2.248347
Min.	0.25
Max.	10.417

The first research question mentioned in the section 3.1 is to probe the statistical relationship between the length of residence in the Netherlands and the online movie consumption of Chinese students and scholars. Correspondingly, we formulated the Hypothesis no.1. The first hypothesis assumes that the parameter of '*years*' is significantly different from zero, which denotes that '*consumption*' (Y) is statistically

influenced by '*years*'(X_1). To testify this hypothesis, the multiple linear regression is ran in STATA. The table 4.4 reviews the regression result between X_1 and Y.

Table 4.4 Multiple linear regression result of the length of residence

Variable	*years* (X_1)
Coef.	0.1186227
t	3.55
P-value	0.000***
Std.Err	0.0333937

From the table above, we can tell that the parameter is a positive value, which implies that the increase of number of years living in the Netherlands would lead to an upswing of the online movie consumption of Chinese students and scholars. Furthermore, it should be noted that the p-value is 0.000, which is a very significant value. It means that the possibility that the parameter of '*years*' equals to zero is 0%. The null-hypothesis of the Hypothesis no.1 can be consequently rejected at the significance level 1%.

Based on the regression result, a conclusion can be drawn up that the length of residence does have a statistically significant influence on the online movie consumption. Moreover, these two variables are positively correlated with each other. This positive trend can be intuitively observed from the scatter graph in below.

Graph 4.3 Scatter of number of years and online movie consumption

4.3.2 The impact of reference group

As reviewed in Chapter 2, reference group plays an important role in cultural-artistic consumption in theory (e.g., Kelman, 1961; Kotler, 1979; Bernstein, 2002). Consumers feel disposed to adopt their reference group's advices, and imitate their reference group's consumption behavior. The second aim of this study is to examine whether reference group is also vital in the case of online movie consumption in practice. In the survey, all respondents are requested to classify their attitudes towards the statement: "My consumption decision on online movie is influence by others". Here, we firstly recognize the influence from reference group as a whole. The pooled responses can be viewed in the following graph.

Graph 4.4 Statement: "My consumption decision on online movie is influenced by others."
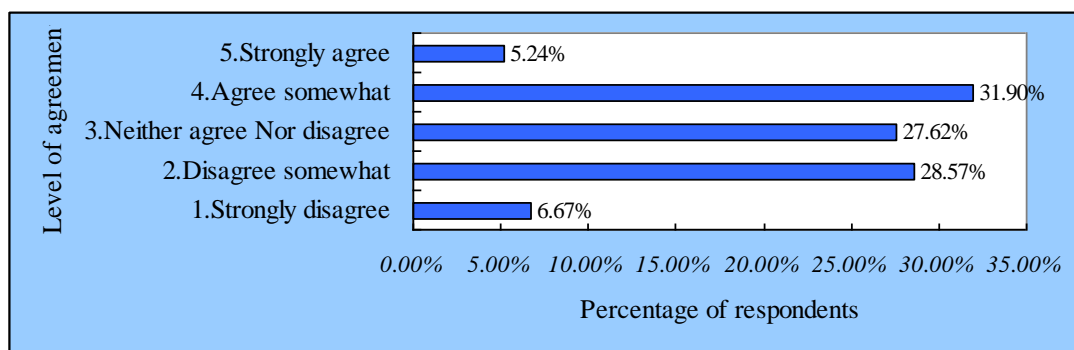
There are in total 78 respondents who 'Strongly agree' or 'Agree somewhat' with the said statement, which account for 37.14% of total responses. Meanwhile, 27.62% of the respondents neither agree nor disagree with the statement, and the rest 35.24% select 'Strongly disagree' or 'Disagree somewhat'. The mean value and the mode value are respectively 3.005 and 4, which means that on average the respondents choose the third option, but the fourth option occurs mostly often. Based on this result, the question about whether or not reference group has impact online movie consumption is still remaining unclear, as both the agreement holders and the disagreements holders exceed one third of the total respondents.

Besides the investigation above, there is another interesting finding which deserves to be mentioned here. After making a comparison between the attitude of females and males towards the said statement, we discover that the female respondents are much more likely to be influenced by their reference group than male respondents. The

detailed comparison can be found in the table 4.5.

Table 4.5 Gender and reference group influence

Statement: "My consumption decision on movie is influenced by others."						
Gender	Strongly disagree	Disagree somewhat	Neither agree Nor disagree	Agree somewhat	Strongly agree	*Total*
Male	8.00%	**31.00%**	30.00%	28.00%	3.00%	*100.00%*
Female	5.45%	26.36%	25.45%	**35.45%**	7.27%	*100.00%*
Total	*6.67%*	*28.57%*	*27.62%*	*31.90%*	*5.24%*	*100.00%*

The table distinctly reveals that 31% of the total male participants select the option of 'Disagree somewhat', which makes this option occurred mostly often. Meanwhile, there are 35.45% of the total female participants who vote for the option of 'Agree somewhat', which becomes the most popular option among the female group. Facing an exactly same statement, the male participants and the female participants show an entirely different response though. According to this finding, we may conclude that reference group would have a stronger impact on online movie consumption of females than males.

As discussed in Chapter 2, reference group can be further categorized to resident reference group, such as housemates and families, and non-resident reference group, such as classmates and co-workers. In order to figure out the definite impact of each group, we investigate the frequency of watching online movies of both groups, and then run the multiple linear regression. The results are explicated as follows.

♣ The impact of resident reference group

Same as the frequency of online movie consumption of the respondents, the resident reference group's online movie consumption is also measured by the five-point Likert-scale, respectively 'Very often', 'Often', 'Sometimes', 'Rarely', and 'Never'. All participants need to make their choices based on the fact. The graph 4.5 generalizes the data collected from the survey.

Graph 4.5 The frequency of online movie consumption of the resident reference group
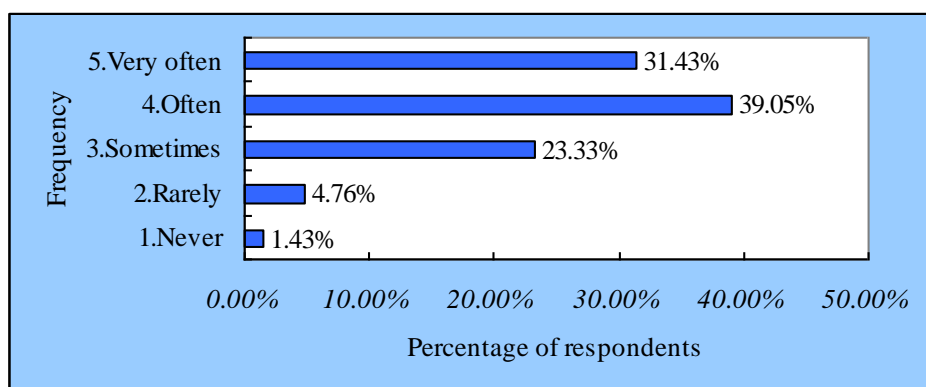
According to the graph above, it can be found that 98.57% of the respondents' resident reference group has the experience of watching online movies in the Netherlands, in total 207 respondents. Thereamong, 39.05% of the respondents' resident group consume online movies 'Often', which makes this option occur the most frequently. While the mean value is 3.94, which signifies that on average the respondents vote for the option of 'Often' as well. These findings indicate that, from the respondents' point of view, watching online movie is a popular activity among their resident reference group in the Netherlands.

With the information above, now the question about whether the resident reference group has statically significant influence on the online movie consumption, namely the Hypothesis no.2, can be tested with the help of STATA. The table 4.6 provides an overview of the multiple regression result between X_2 and Y.

Table 4.6 Multiple linear regression result of the resident reference group

Variable	*resgr* (X_2)
Coef.	-0.0030946
t	-0.04
P-value	0.969
Std.Err	0.0797066

From the table above we can tell that the coefficient is a negative value, which implies that the upswing of the frequency of the resident reference group's online movie consumption may result to a decrease of the online movie consumption of the

respondents. Nevertheless, it must be noticed that the p-value of X_2 is 0.969, which signifies that the possibility that β_2 equals to zero is 96.9%. This is a very high p-value, which implies that the influence of resident reference group is not statistically significant in this research model. Consequently, the null-hypothesis of the Hypothesis no.2 cannot be rejected.

In Chapter 2, it is mentioned that resident reference group is supposed to have a certain impact on consumer behavior according to the existing theoretical studies (e.g., Schiffman and Kanuk, 1994). Why is it so insignificant in our research? The reasons might be complicated. It is possible that (1) indeed the surveyed 210 Chinese students and scholars in the Netherlands are not influenced by their resident reference group in terms of online movie consumption; or (2) probably they are influenced more or less in practice, but the influence is slight so that it is not significant enough in statistics. It is also possible that (3) the data itself has bias, or (4) the model itself is flawed. In order to attempt to rule out the possibility of the last point, we run the simple linear regression instead of the multiple linear regression, namely the regression only between X_2 and Y. In this way, we might be able to observe a pure effect of the resident reference group on the dependent variable, since the interactions among independent variables are maximally eliminated. The table below presents the simple linear regression result between X_2 and Y.

Table 4.7 Simple linear regression result of the resident reference group

Variable	*resgr* (X_2)
Coef.	0.1347305
t	1.85
P-value	0.066*
Std.Err	0.0728651

The table 4.7 exhibits a totally different picture. Under the simple linear regression, X_2 is positively correlated with Y, which means that the increase of the watching frequency of the resident reference group would cause an upswing of the watching frequency of the respondents. Furthermore, the p-value turns to 0.066, thus the possibility that β_2 equals to zero is only 6.6%. Then the conclusion should be completely changed because now X_2 is statistically significant at the significance level

of 10%. Therefore, the Hypothesis no.2 can be rejected in the case of the simple linear regression model.

The disparity between the result of multiple linear regression and simple linear regression could be explained as other independent variables play down the 'performance' of X_2 in the multiple linear regression model. This means that X_2 may receive too much interference from one or more independent variables, and thereby its own influence on the dependent variable is diminished.

Table 4.8 Simple linear regression result between X_2 and X_3

Regression between X_2 and X_3	
Coef.	0.4553778
t	7.01
P-value	0.000*
Std.Err	0.4553778

By taking this possibility into account, all independent variables are being regressed in pair in order to figure out which variable is responsible for the 'low performance' of X_2. Then we find out that there is a considerably strong auto-correlation between X_2 and X_3, namely the watching frequency of the resident reference group and non-resident reference group. As the table 4.8 showed, the t value of the regression between these two variables is 7.01, which is a very high value. It reflects that X_3 has an almost 100% impact on X_2; in other words, X_3 can 100% explain the difference of X_2 in statistics. This finding might explain why the watching frequency of the resident reference group is so insignificant in the multiple linear regression model, but significant in the simple linear regression model. However, it must be noted that the 'low performance' of X_2 could also be a jointly result owing to different factors which are being neglected, or cannot be monitored in this research.

✦ The impact of non-resident reference group

Apart from the investigation on the impact of resident reference group, we also analyze the impact of non-resident reference group. Likewise, the same measurement is adopted here. The graph 4.6 displays the frequency of online movie consumption of the respondents' non-resident reference group. Overall, 209 respondents claim that

their non-resident reference group have the experience of watching online movie in the Netherlands, which account for 99.52% of the total respondents. Thereamong, more than half of respondents believe that their non-resident reference group watches online movies very often or often. The mean value and the mode value are respectively 3.586 and 4, which signify that on average the respondents select the third option, but the fourth option occurs mostly often.

Graph 4.6 The frequency of online movie consumption of the non-resident reference group
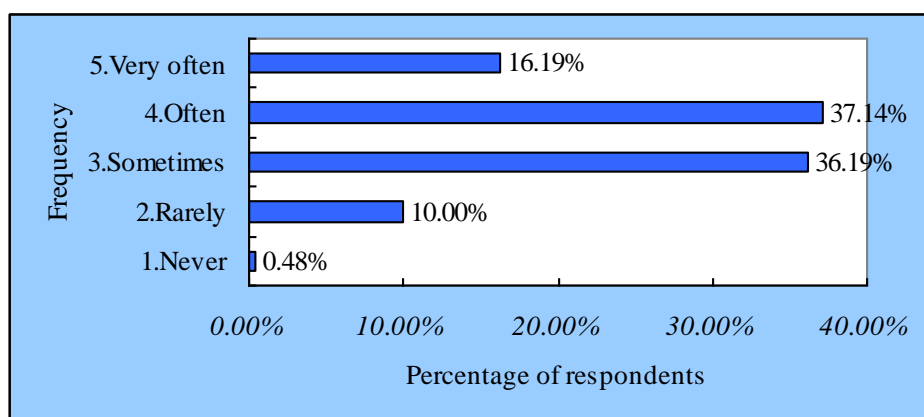
Then, does the non-resident reference group's behavior have a certain influence on the respondents? And does the influence is significant enough in statistics? The multiple regression result below provides the answers for us. According to the table 4.9, it can be noticed that the coefficient is a positive value, which denotes that the increase of the watching frequency of the respondents' non-resident reference group could lead to the raise of the watching frequency of the respondents. In addition, the p-value of X_3 is 0.079, thereby the possibility that β_3 equals to zero is 7.9%. Compared to the p-value of X_1, this is not a very significant result. Nevertheless, the null-hypothesis of the Hypothesis no.3 can still be rejected at the significance level 10%. Hereby, we could draw up the conclusion that the non-resident reference group has a positive influence on the online movie consumption of Chinese students and scholars in statistics.

**Table 4.9 Multiple linear regression result of the non-resident reference group**

Variable	*nonresgr* (X_3)
Coef.	0.144448
t	1.77
P-value	0.079*
Std.Err	0.0817916

4.3.3 The impact of past exposure

In the previous two sections, the impact of both length of residence and reference group are examined. As reviewed in Chapter 2, the past cultural-artistic exposures of consumers play an important role in forming their taste and consumption behavior as well. Consumers with more arts related exposures in the past are expected to have more consumption of arts in the future.

In the survey, the participants are asked to provide the information concerning their relevant past exposures through clarifying their attitudes towards the following statement: "My families consciously cultivate my arts or culture related skills". We assume that individuals would have more opportunities to be in touch with arts or arts related stuff if their families consciously develop their cultural-artistic abilities or skills, such as drawing, dancing or playing musical instruments. The level of agreement is ranked from 'Strongly agree' to 'Strongly disagree'. The pooled data collected from the survey can be viewed in the graph 4.7.

Graph 4.7 Past exposures of the respondents
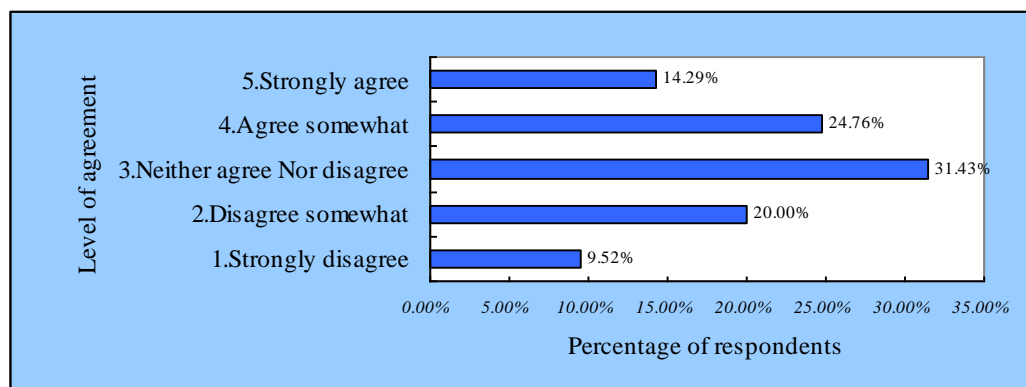
Among 210 respondents, there are in total 82 respondents who 'Strongly agree' or

'Agree somewhat' with the said statement, which make up 39.05% of total responses. Meanwhile, 31.43% of the respondents neither agree nor disagree with the statement, and the rest 29.52% select 'Strongly disagree' or 'Disagree somewhat'. The mean value and the mode value are respectively 3.14 and 3, thus on average the respondents vote for 'Neither agree nor disagree', and this option also occurs mostly frequently among all responses. According to the graph 4.7, we can tell that cultivating cultural-artistic skills can not be thought of a common behavior in Chinese families.

When we involve gender into the investigation, however, an appealing result shows up. Similar to the finding about reference group influence in the section 4.3.2, again there is an obvious different response between the males and females in terms of the statement about past exposures. The detailed comparison is available below.

Table 4.10 Gender and past exposure

	Statement: "My family cultivate my art or culture related skills."					
Gender	**Strongly disagree**	**Disagree somewhat**	**Neither agree Nor disagree**	**Agree somewhat**	**Strongly agree**	*Total*
Male	12.00%	**32.00%**	30.00%	15.00%	11.00%	*100.00%*
Female	7.27%	9.09%	32.73%	**33.64%**	17.27%	*100.00%*
Total	*9.52%*	*20.00%*	*31.43%*	*24.76%*	*14.29%*	*100.00%*

The table shows that 32% of the total male respondents disagree somewhat with this statement, which make this option occurred mostly frequently. In contrast, the mode value in the females group is 4 – 33.64% of the total female respondents who choose the fourth option 'Agree somewhat'. This interesting finding illustrates that, in China, the females are more likely to have arts related trainings or skills than the males; in other words, Chinese families pay attention to enhance the artistic cultivation of girls instead of boys.

As stated in the section 3.1, the research question 3 is to figure out whether past cultural-artistic exposures have a statistically significant influence on the online movie consumption, namely whether or not the parameter of X_4 is significantly different from zero in this model (Hypothesis no.4). The answer can be exacted from the table below.

Table 4.11 Multiple linear regression result of the past exposure

Variable	*pastex* (X_4)
Coef.	0.0739805
t	1.23
P-value	0.219
Std.Err	0.0599746

From the table 4.11, it can be observed that the coefficient is a positive value, which is in accordance with the theory. Nevertheless, the p-value of X_4 is 0.219, which denotes that the influence of arts related exposure is not statistically significant in our model. As a result, the null-hypothesis of the Hypothesis no.4 cannot be rejected under the multiple linear regression model.

Table 4.12 Simple linear regression result of the past exposure

Variable	*pastex*
Coef.	0.1153846
t	2.00
P-value	0.046*
Std.Err	0.057562

Besides, we also test the significance of X_4 under the simple linear regression. From the table above, it can be noticed that the p-value changes to 0.046, which reflects that X_4 has a significant influence on Y at the significance level of 10%. Therefore, the null-hypothesis of the Hypothesis no.4 can be successfully rejected under the simple linear regression model. The explanations for the different results between the multiple and simple linear regression are uncertain. After the further test the possibility of autocorrelation between the independent variables can be excluded. However, it is also possible that some independent variables have a joint interference on X_4, and this interference might be strong enough to weaken or even eliminate the significance of X_4 in the model.

4.3.4 Conclusion

In the section 4.3, the influence of living environment on the online movie

consumption of Chinese students and scholars in the Netherlands is tested in statistics. The impact of the length of residence, resident reference group and non-resident reference group, as well as past exposures are separately illustrated in detail. The table 4.12 concludes the main results of the multiple linear regression result.

Table 4.12 Regression results overview

Variable	Coefficient	t-value	p-value
years (X_1)	0.1186227	3.55	0.000***
resgr (X_2)	-0.0030946	-0.04	0.969
nonresgr (X_3)	0.144448	1.77	0.079*
pastex (X_4)	0.0739805	1.23	0.219
Control variables (dummies)			
elder (X_5)	-0.2545415	-1.42	0.158
larcity (X_8)	-0.0681472	-0.51	0.608
bachelor (X_7)	-0.3548929	-2.1	0.037**
female (X_6)	-0.1190934	-0.87	0.385

* significant at level 10%

** significant at level 5%

*** significant at level 1%

With the data above, the completed regression equation is ready to present now:

$$Consumption_i = 3.2082 + 0.1186\,years_i - 0.0031resgr_i - 0.1444nonresgr_i + 0.0740\,pastex_i$$
$$- 0.2545elder_i - 0.1191female_i - 0.3549bachelor_i - 0.0681larcity_i + \varepsilon_i$$

To sum up, there are two out of four explanatory variables which have a **significantly positive** influence on the online movie consumption of Chinese students and scholars in the Netherlands, respectively *years* (X_1) and *nonresgr* (X_4). The rest of two explanatory variables do not show a significant result in the multiple linear regression model, but reveal a significant result in the simple linear regression model.

4.4 Change of taste

Apart from the empirical research on the impact of changing living environment on consumers' consumption of online movies, this paper contributes to the examination of this impact on the taste formation of consumers as well. It is interesting to know

whether the preference of movie types of Chinese students and scholars is different between in China and in the Netherlands. For this reason, the survey participants are questioned about the most favorite type of movie both in China and in the Netherlands. There are in total nine options available in the questionnaire, respectively Action, Comedy, Science fiction, Romance, Drama, Horror / Thriller, Animation, Documentary, and Other (e.g., the respondents are free to write down a specific movie type which is not available in the questionnaire). The overview of the responses for both China and the Netherlands can be observed in the graph 4.8 and 4.9.

Graph 4.8 Preference of movie type in China
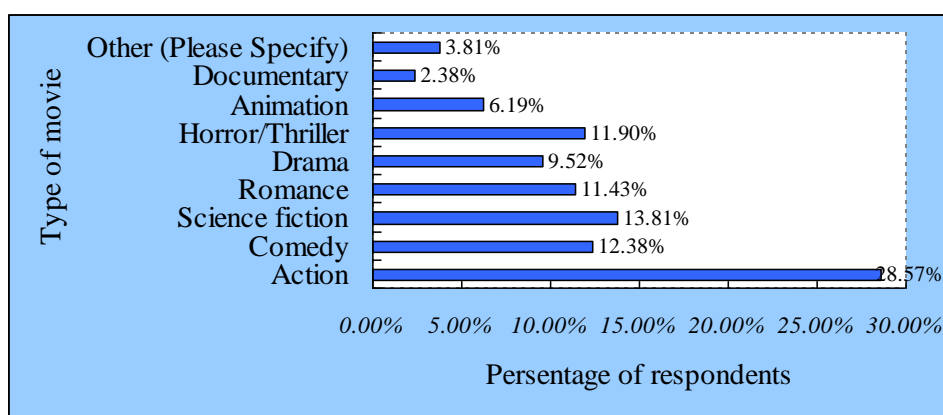
Graph 4.9 Preference of movie type in the Netherlands
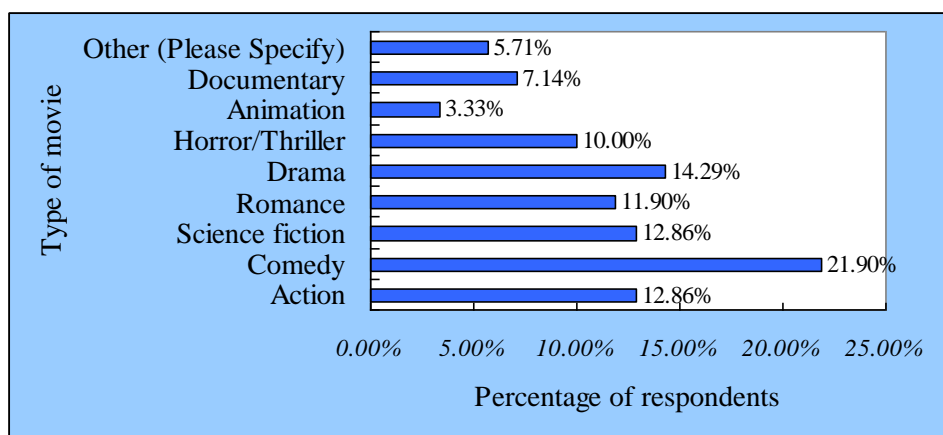
Among 210 respondents, 128 respondents commit that their preference of movie types has been changed after moved from China to the Netherlands. It is a remarkable finding as it reveals that more than 60% of the respondents have a diffident taste on movie in the Netherlands. According to the graph above, it can be noticed that the top

three favorite types of movie before the respondents moved to the Netherlands are respectively 'Action' (28.57%), 'Science fiction' (13.81%), and 'Comedy' (12.38%). After the resident country changed the top three favorite types still stay the same, but the order alters. The first place is replaced from action movie to comedy. The reasons why Chinese students and scholars are extremely fond of comedy in aboard could be generalized as (1) they want to be released from the heavy study loads, or living stress (e.g., they may finance themselves); and (2) they might be feeling isolated as their living environment completely changed, so they seek for fun from comedies.

Apart from the said findings, we further dig out that 95 out of 128 respondents agree somewhat that the disparity of culture is responsible for the changes in their taste on movies; while 20 out of 128 respondents strongly agree with this statement. Altogether, the agreement holders account for more than half of the total respondents. This means that the changes in taste can be partially owing to the variation of culture, which is in accordance with the theory reviewed in Chapter 2. The details can be observed in the graph 4.10.

Graph 4.10 Statement: "Culture influences on my preference of type of movies."
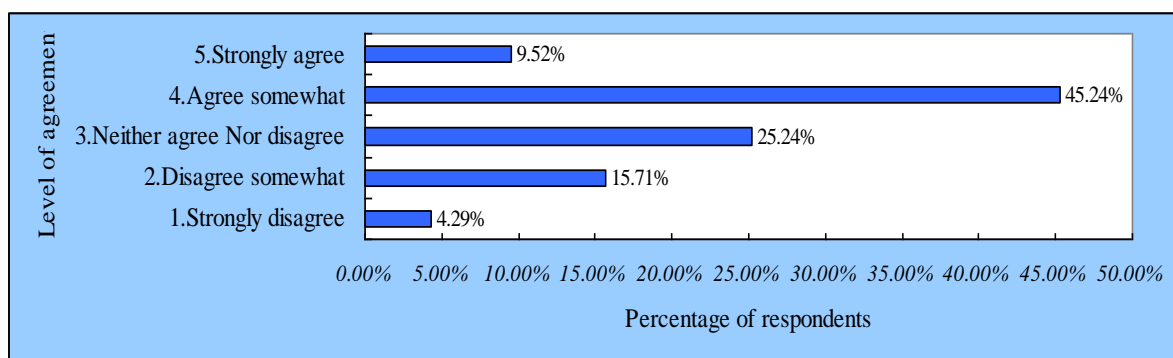
4.5 Consuming motivations

In Chapter 2, one of important determinants of cultural-artistic consumption called psychological motivations of consumers is discussed. Swanson et al. (2008) demonstrate that intrapersonal motivations of consumers play an important role in theater demand. In this section, the consuming motivations of Chinese students and scholars in the Netherlands in terms of online movies are investigated. It is interesting to find out why the target population is fond of online movies.

The biggest substitute of online movies can be seen as cinema movies. Therefore, a comparison between online movies and cinema movies is made in order to draw up the possible reasons that why consumers prefer watching online movies rather than cinema movies. In the survey, we classified the possible consuming motivations into the following categories.

- **Cheaper price:** Seeking for a cheaper substitute seems to be the primary consuming motivation of consumers. Compared to cinema movies, online movies have an obvious price advantage, and this might be the main reason why Chinese students and scholars prefer consuming online movies instead of cinema movies.

- **Plentiful choices:** Online movies relatively have more movie resources than cinema movies. Consumers are able to consume any type of movie from any country and any actor as long as it is accessible online. Choices of movies are much limited in cinema; on average there are only approximately ten movies are available in the mean time.

- **Easier to reach / convenient to consume:** Another significant advantage of online movies compared to cinema movies is that the former is very easy and convenient to consume. The location and distance would not be a matter anymore, and the transaction costs would be maximally diminished in the case of online movies.

- **Common behavior of people around:** Consumers preferring online movies could be a result of the common behavior of people around. As discussed before that consumers are subject to the attitudes and behaviors of their reference group, and consequently consumers would prefer online movies if their reference group is fond of online movies.

- **Other:** Any other consuming motivations which are not included in the survey.

Each category includes five degrees of agreement: 'Strongly disagree', 'Disagree somewhat', 'Neither agree, nor disagree', 'Agree somewhat', and 'Strongly agree'. The survey participants are requested to specify the optimal degree based on the fact. The overview of the collected responses can be found in the table 4.12

Table 4.12 Motivation overview

Motivations	Strongly disagree	Disagree somewhat	Neither agree Nor disagree	Agree somewhat	Strongly agree
Cheaper price	5% (12)	2% (6)	8% (17)	43% (92)	39% (83)
Plentiful choices	3% (7)	1% (4)	16% (34)	43% (92)	34% (73)
Easier to reach and convenient to consume	2% (6)	1% (4)	8% (17)	40% (86)	46% (97)
Common behavior of people around.	5% (11)	21% (46)	37% (79)	26% (56)	8% (18)
Other	14% (30)	16% (35)	60% (126)	6% (13)	2% (6)
Total	*100% (210)*	*100% (210)*	*100% (210)*	*100% (210)*	*100% (210)*

In light of this table several conclusions can be made:

- **Cheaper price:** 175 out of 210 respondents choose 'Strongly agree' or 'Agree somewhat'; while only 18 respondents choose 'Strongly disagree' and 'Disagree somewhat'. It indicates that the cheaper price of online movies is a very significant consuming motivation as more than three fourth of the respondents vote for this.

- **Plentiful choices:** Slightly less than the first motivation, there are in all 165 respondents who strongly agree or agree somewhat with the motivation of plentiful choices; while the number of disagreement holders is relatively decreased. We can tell that plentiful choices of online movie are one of key consuming motivations of consumers as well.

- **Easier to reach / convenient to consume:** This motivation seems to be the most favorite one among other listed motives. The mean value and the mode value are respectively 4.26 and 5, which demotes that on average the respondents agree somewhat with this motivation, while the option of 'Strongly agree' is being chosen mostly often. This finding fully reflects that consumers value the convenience of consuming a good very much.

- **Common behavior of people around:** Concerning this motivation, the result reveals a different pattern. There is not a huge disparity between the number of agreement holders and disagreement holders compared to the previous motivations. Therefore, it might be concluded that, in general, the respondents do

not really think that they consume on online movies because the others are doing so.

- **Other:** Due to only less than 8% of the respondents strongly agree or agree somewhat with this option, we may say that the survey does not leave out some very important consuming motivations of online movie.

In short, the key findings of this motivation investigation is that (1) 'easy to reach / convenient to consume' can be seen as the most attractive characteristic of online movies compared to cinema movies, and (2) 'common behavior of people around' is recognized as the least significant motivation in the survey.

4.6 Summary of Chapter 4

In Chapter 4, we have attempted to demonstrate how living environment affects online movie consumption of Chinese students and scholars. In total, there are 212 Chinese participating in the survey, of which 210 responses are completed and valid.

In the beginning of this chapter, a general description outlined the socio-demographic information of the respondents, as well as their information sources in the Netherlands concerning movies. In the section 4.2, based on the pooled data derived from the survey, the frequency of online movie consumption of Chinese students and scholars was displayed. From this result we can tell that, watching online movies is a very common behavior among Chinese students and scholars in the Netherlands.

Then, the core of the whole paper, the environmental influences on online movie consumption of Chinese students and scholars was investigated. According to the results, it can be concluded that both the length of residence in the Netherlands (X_1) and the frequency of watching online movies of the non-resident reference group (X_3) are statistically correlated with the online movie consumption of the respondents (Y). The rest two explanatory variables, namely the frequency of watching online movies of the resident reference group (X_2) and past arts related exposures (X_4) did not reveal their significance in our model.

Apart from the examination of environmental influences on the consumption of online

movies, we also analyzed how consumers' tastes on movies altered and what their consuming motivations are. According to the analytical results in the section 4.4 and 4.5, we claim that Chinese students and scholars' tastes do change after they moved from China to the Netherlands. In addition, as to their consuming motivations, we found out that the cheapness and convenience of watching online movies play the most important role in the decision-making process of Chinese students and scholars in the Netherlands.

5. Conclusion and discussion

In this study, the influence of living environment on online movie consumption has been researched. A number of applicable studies on the cultural-artistic consumption and consumer behavior, involving the theories of taste formation, pre-purchase information, reference group, culture, and consumer behavior model were reviewed in the beginning in order to build up the theoretical framework for this research. Many economists have confirmed that, in theory, an individual's living environment occupies an important place in explaining his or her consumption of cultural goods to some extent. The question hereby arises: whether these environmental influences are still important for cultural goods with stable and constant supply, and how they affect the consumption and behavior in statistic. For this reason, a particular cultural good and target population were selected, namely online movies and Chinese students and scholars in the Netherlands.

In order to answer these questions, a quantitative survey was conducted. This survey employed a self-completion closed-ended questionnaire that was distributed among Chinese students and scholars in the Netherlands through the Internet. We received 210 completed and valid responses in total. By using the data that collected from the survey, four hypotheses which were formulated in light of the research questions, can be verified and analyzed through the multiple linear regression model.

5.1 Main findings

When looking at the results of the research, firstly we can tell that watching online movie is a considerable common behavior among Chinese students and scholars in the Netherlands. Their consumption behavior can be influenced from the following factors: the length of residence in the Netherlands, the consumption behavior of both resident reference group and non-resident reference group, as well as past exposures in relation to arts and culture.

The relationship between the length of residence and the online movie consumption of Chinese students and scholars is positive and significant in statistic. Similarly, the consumption behavior of the non-resident reference group also revealed a positive and significant influence on the dependent variable. Therefore, we could conclude that

Chinese students and scholars' online movie consumption is increasing with the number of years living in the Netherlands and the consuming frequency of their non-resident reference group. These significant results successfully proved the mentioned theories in practice. However, it should be noted that the rest two environmental factors, namely the watching frequency of the resident reference group and past exposures did not show an expected significant result in our model. It denotes that these two variables cannot significantly explain the changes in online movie consumption of Chinese students and scholars in the Netherlands.

In addition, besides the findings about environmental influences on online movie consumption, we also realized that Chinese students and scholars' tastes changed after they moved from China to the Netherlands. Their favorite type of movies in China was action movie, but it became to comedy after the living environment changed. It is a remarkable finding as it testified the significance of living environment on the taste formation.

Last but not the least, the motivation of consuming online movies was investigated. We listed four primary motives which may stimulate Chinese students and scholars to watch online movies instead of cinema movies, respectively cheaper price, plentiful choices, convenient to consume, and the common behavior of surrounding people. In the end, we found out that the cheapness and convenience of watching online movie occupied the most important place in the decision-making process of Chinese students and scholars in the Netherlands.

5.2 Limitations

There are some limitations in this study. First of all, the survey was only held among Chinese students and scholars in the Netherlands. Chinese with other occupations, such as those highly-skilled migrants (Kennis Migrants), were excluded from the research. It is also why we did not include 'occupation' as one of control variables in the model. This would limit the significance of the results of the research because the variability was low.

Secondly, we only considered socio-demographic factors (age, gender, education

degree, and resident city) as the control variables in our model, but left out economic determinants, such as price, price of substitute, and income. As reviewed in Chapter 2, numerous scholars have claimed the magnitude of economic factors on consumption behavior and attitudes. Thus, leaving out economic factors can influence the completion and validity of the research model.

Thirdly, as mentioned in the section 3.5, strictly speaking the ordinal logistic regression model should be applied when the dependent variable is an ordinal variable. However, in order to keep the model as simple and understandable as possible, we finally employed the multiple linear regression model. It must be noted that this is a strong assumption that might lead to an unpredicted bias to the empirical results.

5.3 Further research

Further research regarding the topic of environmental influences on cultural-artistic consumption can be improved by working on these drawbacks mentioned above. Some other possible research directions in the future can be: (1) taking into account the issue of copyright during the research on online cultural goods, such as online movies, online music, e-books, and computer games; (2) concentrating on the internal influences other than environmental influences on the cultural-artistic consumption; and (3) paying attention to the post-purchase behavior of consumers, e.g., how consumers dispose of cultural goods after purchasing or consuming them.

6. Reference

Akerlof, G. A. (1970). The Market for 'Lemons': Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics* 84 (3): 488–500.

Baumol, W. J. and Bowen W. G. (1966). *Performing Arts: The Economic Dilemma*, New York: Twentieth Century Fund.

Becker, G. S. and Murphy, K. M. (1988). A theory of rational addiction. *Journal of Political Economy,* 96 (4): 675–700.

Caves, R. (2000). *Creative industries: Contracts between art and commerce*, Cambridge: Harvard University Press.

Dawar, N., Parker, P. and Price, L. J. (1996). A cross-cultural study of interpersonal information exchange. *Journal of International Business Studies*, 27 (3): 497-516.

Dolinsky, C. and Feinberg, R. A. (1986). Linguistic barriers to consumer information processing: information overload in the hispanic population, *Psychology and Marketing,* 3 (4): 261-271.

Engel, J. F., Blackwell, R. D. and Miniard, P. W. (1995). *Consumer behavior*. Florida: Dryden.

Fernández-Blanco, V., García-Diez, M. and Prieto-Rodríguez, J. (2003). *Educational performance and cultural consumption: some evidence from OECD teenagers.* Retrieved from: www.pagina-aede.org/Sansebastian/17.pdf

Ford, J. B., LaTour, M. S. and Henthorne, T. L. (1995). Perception of marital roles in purchase decision processes: a cross-cultural study. *Journal of the Academy of Marketing Science*, 23 (2): 120-131.

Gérard-Varet, L. A. (1995). On Pricing the Priceless: Comments on the Economics of the Visual Art Market. *European Economic Review,* 39 (3/4): 509-518.

Gray, C. M. (2003). Participation. In R. Towse (Ed.). *A handbook of cultural economic* (pp. 235-239). Cleltenham: Edward Elgar.

Greene, W. H. (2002). *Econometric analysis*(5th ed.). New Jersey: Prentice Hall.

Hirschman, E. C. (1981). American Jewish ethnicity: its relationship to some selected aspects of consumer behavior. *Journal of Marketing*, 45 (Summer): 102-110.

Huff, L. C. and Alden, D. L. (1998). An investigation of consumer response to sales promotions in developing markets: a three-country analysis. *Journal of Advertising Research*, 38 (5/6): 47-56.

Hutter, M. and Throsby, D. (2008). Time and preferences in cultural consumption. *Value and Valuation in Art and Culture* (Chapter 14, pp. 236-260). Cambridge: Cambridge University Press.

Katz-Gerro, T. (2004). Cultural Consumption Research: Review of Methodology, Theory, and Consequence. *International Review of Sociology*, 4:11-29.

Lévy-Garboua, L. and Montmarquette, C. (1996). A Microeconomic Study of Theatre Demand. *Journal of Cultural Economics*, 20: 25-50.

Lévy-Garboua, L. and Montmarquette, C. (2003). 'Demand', in: Towse, R. (ed.) *A Handbook of cultural economic*, Cheltenham: Edward Elgar Publishing.

Luna, D. and Gupta, S. (2001). An integrative framework for cross-cultural consumer behavior. *International Marketing Review*, 18 (1): 45-69.

Masters, T., Russell, R. and Brooks, R. (2009). The demand for creative arts in regional Victoria. *Applied Economics,* 41:1466–1483.

McKenzie, R. M. (1979). The Non-Rational Domain and the Limits of Economic Analysis. *Southern Economic Journal*, 46: 145-157.

Michael, R. T. and Becker, G. S. (1973). On the new theory of consumer behavior. *Swedish Journal of Economics*, 75 (4): 378–396.

Mosetti, G. (1993). *Aesthetics and Economics*. Dordrecht: Kluwer Academic Publishers.

Nelson, P. (1970). Information and Consumer Behaviour. *Journal of Political Economy,* 78 (2): 311-329.

Peter, J. P. and Olson, J. C. (1998). *Consumer Behavior and Marketing Strategy*. Boston: McGraw-Hill.

Schiffman, L. G. and Kanuk, L. L. (1994). *Consumer Behavior*. Englewood Cliffs: Prentice Hall.

Seaman, B. A. (2006). Empirical studies of demand for the performing arts in Victor A. Ginsburgh and David Throsby (eds.), *Handbook of the Economics of Art and Culture*. North-Holland.

Snowball, J. D. (2008). *Measuring the value of culture: methods and examples in cultural economics*. Berlin [etc.]: Springer.

Stigler, G. J.(1961). The Economics of Information. *The Journal of Political Economy*, 69 (3): 213-225.

Stigler, G. J. and Becker, G. G. (1977). De Gustibus Non Est Disputandum. In Towse, R. (ed.). *Cultural Economics: The Arts, the Heritage and the Media Industries* (1). Cheltenham: Edward Elgar Publishing.

Swanson, S. R., Davis J. C. and Zao Y. (2008). Art for art's sake? An examination of motives for arts performance attendance. *Non Profit and Voluntary Sector Quarterly,* 37 (2): 300-323.

Throsby, D. (1990). Perception of quality in demand for theatre, *Journal of Cultural*

Economics 14 (1): 65-82.

Throsby, D. (1994). The Production and Consumption of the Arts: A View of Cultural Economics. *Journal of Economic Literatures* 32 (1): 1-29.

Towse, R. (Ed.) (1997). *Cultural Economics: The Arts, the Heritage and the Media Industries* (1). Cheltenham: Edward Elgar Publishing.

Towse, R. (Ed.) (2003). *A Handbook of Cultural Economics*. Cheltenham: Edward Elgar Publishing.

Towse, R. (2010). *A Textbook of Cultural Economic*. New York: Cambridge University Press.

Werck, K. and B. Heyndels (2007). Programmatic choices and the demand for Flemish theatre. *Journal of Cultural Economics,* 31 (1): 25-41.

Zieba, M. (2009). Full-income and price elasticities of demand for German public theatre. *Journal of Cultural Economics*, 33 (2): 85-108.

7. Appendix

Appendix A: the full version of questionnaire

Student Study Survey: Consumer Behavior on Online Movie Consumption

1. **Altogether, how long have you lived in the Netherlands?**

*

Number of year(s): [   ]

and month(s): [   ]

2. **How often do you watch online movie in the Netherlands?**

*

○ Very often

○ Often

○ Sometimes

○ Rarely

○ Never

3. **How often do you receive the information about movies from the following channels?**

*

	Very often	Often	Sometimes	Rarely	Never
Newspaper/Magazine	○	○	○	○	○
People around me	○	○	○	○	○
Internet	○	○	○	○	○
TV/Radio	○	○	○	○	○
Outdoor advertising	○	○	○	○	○
Other	○	○	○		

4. **In China, which type of movie do you watch the most often?**

○ Action

○ Comedy

○ Science fiction

○ Romance

○ Drama

○ Horror/Thriller

○ Animation

○ Documentary

○ Other (Please Specify)

5. After you came to the Netherlands, which type of movie do you watch the most often?

○ Action

○ Comedy

○ Science fiction

○ Romance

○ Drama

○ Horror/Thriller

○ Animation

○ Documentary

○ Other (Please Specify)

6. Who do you most often watch movies with in the Netherlands?

*

○ Myself

○ Romantic interest

○ Resident reference group (e.g, roommates, family members)

○ Non-resident reference group (e.g, classmates, colleagues)

○ Other (Please Specify)

7. To what extent do you agree with the following statements: *

	Strongly disagree	Disagree somewhat	Neither agree Nor disagree	Agree somewhat	Strongly agree
My families consciously cultivate my art and culture related skills.	○	○	○	○	○
The frequency of my resident reference group (e.g, roommates, families) watch online movie.	○	○	○	○	○
The frequency of my non-resident reference group (e.g, classmates, colleagues) watch online movie.	○	○	○	○	○

	Strongly disagree	Disagree somewhat	Neither agree Nor disagree	Agree somewhat	Strongly agree
I prefer watching online movie with others instead of alone.	○	○	○	○	○
My decision about watching a movie is influenced by others.	○	○	○	○	○
Culture environment influence on my preference of type of movies.	○	○	○	○	○
The frequency of watching online movie has increased in the Netherlands.	○	○	○	○	○

8. **To what extent do you agree with the following statement:**

I prefer watching online or downloaded movie rather than being cinema because: *

	Strongly disagree	Disagree somewhat	Neither agree Nor disagree	Agree somewhat	Strongly agree
Cheaper price	○	○	○	○	○
Plentiful choices	○	○	○	○	○
Easier to reach, and more convenient to watch	○	○	○	○	○
Common behavior of surrounding people	○	○	○	○	○
Other	○	○	○	○	○

9. **What is your gender?** *

○ Female

○ Male

10. **What is your age?**
*

11. **Which city do you live in the Netherlands?**
*

12. **Which kind of degree do you study?**
*

○ High school

○ Bachelor

○ Master

○ PhD

○ Other (Please Specify)

14. **Feel free to share your comment:**