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碩士論文
Master's Thesis

網路購物行為 —
行動原因理論暨科技接受模式之研究

A Study on Online Shopping Behavior –
Based on two Models: TRA and TAM

學生：羅玉婷　　Student: Justyna Roguska

指導教授：賴建都　　Advisor: Chien-Tu Lai

中華民國100 年7 月
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A STUDY ON ONLINE SHOPPING BEHAVIOR – BASED ON TWO MODELS: TRA AND TAM

A Master Thesis

National Chengchi University

In Partial Fulfillment
of the Requirements for the Degree
Master of Art

by
Justyna Roguska
July 2011

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Justyna Roguska

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ABSTRACT

Predicting customers' intention to purchase products online is an important issue. This thesis aims to understand how online shopping decision is determined by individual's intention to buy via Internet and his/her attitude toward e-purchase. This study by integrating the Theory of Reasoned Action (TRA) with the Technology Acceptance Model (TAM), attempts to understand how website usefulness and ease of use, as well as customers' attitude toward online shopping, influence purchase intention influence the online purchase. Those two models adopted in an online environment were used to analyze the outcome of the survey among Polish e-shoppers. By adopting the idea of regular and heavy Internet users, this study tries to differentiate the online shopping behavior in those two groups. The findings of the thesis have been found to be partially consistent with both models. However the difference between heavy and regular Internet users in frequency of buying online has not been confirmed.

***Keywords**: online shopping behavior, regular Internet users, heavy Internet users, Theory of Reasoned Action, Technology Acceptance Model.*

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CHAPTER ONE

INTRODUCTION

1.1. Research Background and Motivations

Recently, the Internet has become one of the most powerful medium of information, services and products trade. Rapid development of information and communication technologies caused a growth in the value of information and popularity of the Internet, the World Wide Web and finally e-commerce. The introduction of the Internet has rapidly transformed the society very in unprecedented ways. Nowadays, the Internet exerts a strong influence on people's everyday life, and is used for many different purposes. With access to the Internet, it is possible to do almost everything, while staying in one place. Many activities such as playing, learning, communicating, buying or selling as well as banking, can be done online. Using search engines it is easy to collect information about product or services and compare the prices. Online shopping became one of the most popular Internet activity. Many vendors and customers from all over the world are attracted by this new technological medium to invest, sell and purchase online. The advantages of online shopping as compared to traditional shopping are that clients can buy goods or services at home, regardless of the location of the shop and time.

E-commerce is fascinating for practitioners as well as for researchers. Steinfield and Whitten suggest in their study (1999), that it is better to run a combination of both online and physical presence on the market than just an e-

business. According to their study, such a combination can provide better pre-purchase and post sales services, which would reduce consumer transaction cost and build trust in online stores. Others (Hoffman, Novak et al. 1999; Jarvenpaa and Tractinsky 1999; Brynjolfsson and Smith 2000) argued about the negative influence of online purchases on trust, because the seller and the buyer do not have a direct personal contact. Brynjolfsson and Smith (Brynjolfsson and Smith 2000) also mention the importance of trust and branding, especially for Internet retailers.

1.2. Online Consumer Behavior as a Research Phenomenon

The reason, why many people have not shopped online yet is that there is a fundamental lack of faith between consumers and businesses (Hoffman, Novak et al. 1999). For Johnson there are three barriers to online shopping: purchase failures, security fears and service frustrations (Johnson 1999). Stigler (1961) considered, that buyers can look for the lowest price of the product in many different places, until they find the most favorable price. Also Strader and Shaw (1999) mentioned the importance of price. They pointed out, that prices in electronic markets are lower than traditional markets. Some other researchers considered that consumer's intent to perform Internet transactions is conditioned by their personal traits and characteristics (Sheth and A. 1995; Jarvenpaa and Traxtinsky 1999).

The Internet has many applications and is not only a new channel for marketing but it is used mostly as an information source (Curtis 2000). Most of the online users find it difficult to enjoy Web shopping (Jones 2000).

1.3. Purpose of the Study

The goal of this study is to investigate and analyze customer's online purchase behavior and make the typology of Internet use. The research adopts the existing conceptualizations and theoretical models, built on the basis of the Theory of Reasoned Action (TRA). Moreover, the research makes use of the concept of Internet "heavy user".

The research focuses on the World Wide Web, as the purchase environment. Many online shops want to improve the quantity and quality of their online customer base. A deeper analysis of online customers' behavior can be very helpful for marketing strategists and is essential for e-commerce.

In order to accomplish this aim, the study focuses on solving the following research problem:

What determines the consumer online purchase behavior?

The solution to the described research problem is generated through finding answers to the following, more focused research questions:

What determines the consumer online purchase intention?

What determines the consumer attitude towards buying online?

In the information age online purchase behavior is also very fascinating for researchers. Many researchers discussed consumers' behavior, some of them even very deeply. This will be discussed in the next chapter. This paper is going to be an introduction to the further studies elucidating online customer behavior and online purchase intention for Business to Consumer (B2C) websites.

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CHAPTER TWO

LITERATURE REVIEW

This study examines the factors that influence people's adoption and use of online shopping and tests the applicability of the Theory of Reasoned Action (TRA) introduced by Azjen and Fishbein (1980) and Technology Acceptance Model (TAM) introduced by Davis (1986) in the context of heavy Internet usage in Poland.

Many studies have shown that theories of behavioral intention have predicted technology usage and consumer behavior (Chau & Hu, 2001, 2002; Chung & Kim, 2002; Gentry & Calantone, 2002; Chung, Shearman & Lee, 2003; Chung, 2004 and other).

The following chapter constitutes the introduction of the conditions of Internet usage in Poland and summarizes the previous literature about the theory of reasoned action, technology acceptance model and heavy Internet users, and also explains main constructs of the research.

2.1 Conditions of Internet Usage in Poland

Rates of regular and frequent Internet use in Poland have been increasing steadily over the past few years, reflecting both the adoption of Internet shopping as well as the growing number of households with Internet access.

Internet Access in Poland

According to the data published online by Eurostat, the Statistical Office of the European Communities, during the first quarter of 2010, 63% of households in Poland with members aged between 16 and 74 had access to the Internet at home, compared to 59% during the first quarter of 2009, and 57% had a broadband Internet connection in 2010, compared to 51% in 2009 (Eurostat, 2010). These figures grew rapidly between 2004 and 2009 as shown in Figure 2.1.1.

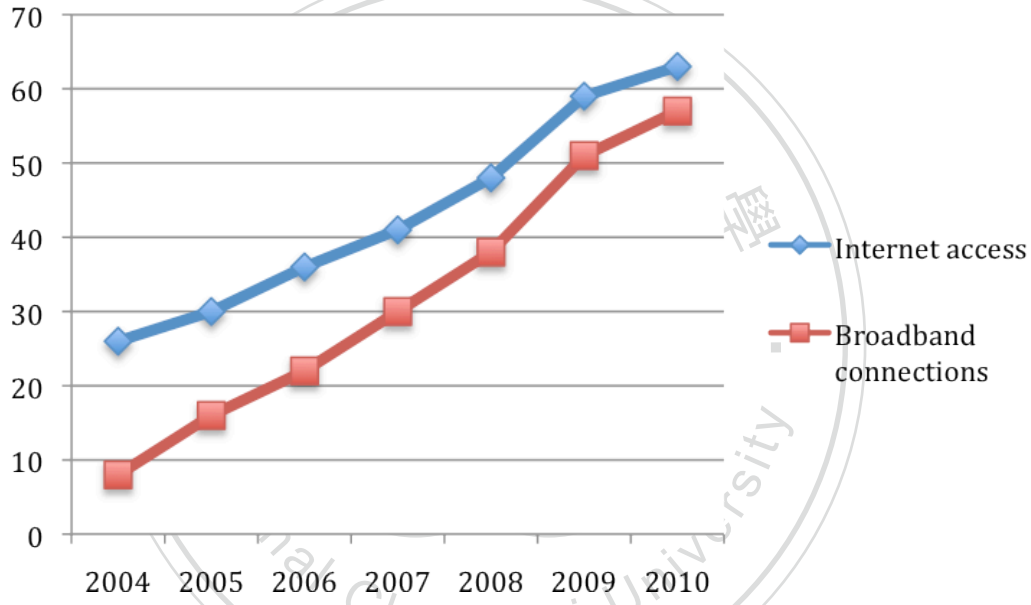

Figure 2.1.1 Internet access and broadband connections by households, 2006 – 2010 (% of individuals aged 16 to 74)

Source: Eurostat.

Frequency of Internet Use

According to "Internet usage in 2010 – Households and Individuals" published by Eurostat, in the first quarter of 2010, 42% of all individuals aged 16-74 used the Internet on average every day or almost every day, compared to 39% in the first quarter of 2009. The highest percentages were found in the age group of 16-24,

respectively 82% in 2010 and 77% in 2009 (Figure 2.1.2). The next age group of 25-34 was also high and above the average, namely 64% in 2010 and 62% in 2009 (Eurostat, 2009; 2010).

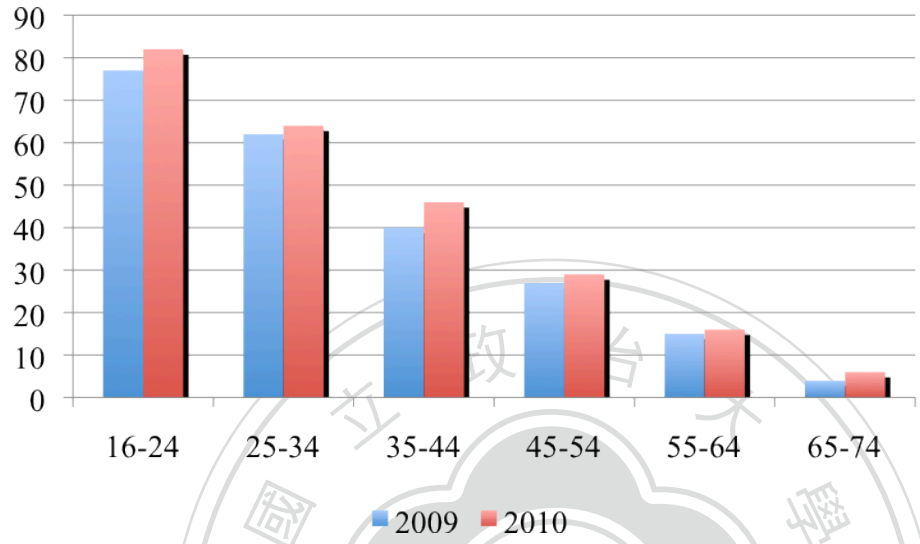

Figure 2.1.2 Individuals who use the Internet, on average, every day or almost every day during the last 3 months, by age group (% of individuals)

Source: Eurostat.

Online Purchases

One of the most popular Internet activities is online shopping. According to the data published online by Eurostat, in 2010, 29% of individuals in Poland shopped online (Figure 2.1.3). As shown in Figure 2.1.4, the percentage of these individuals has been steadily increasing over time, from 5% in 2004 to 29% in 2010.

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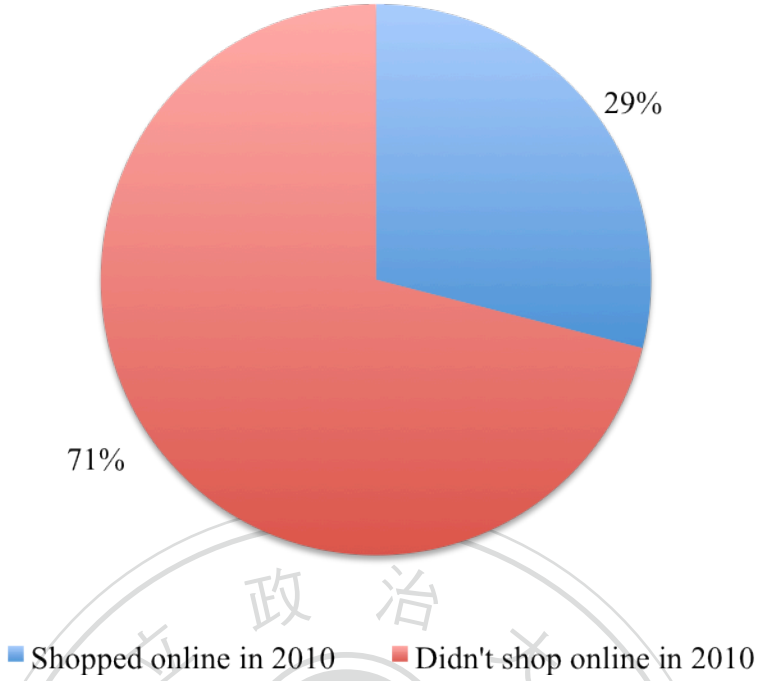

Figure 2.1.3. *Individuals who ordered goods or services over the Internet for private use during the 12 months (% of individuals aged 16 to 74)*

Source: Eurostat.

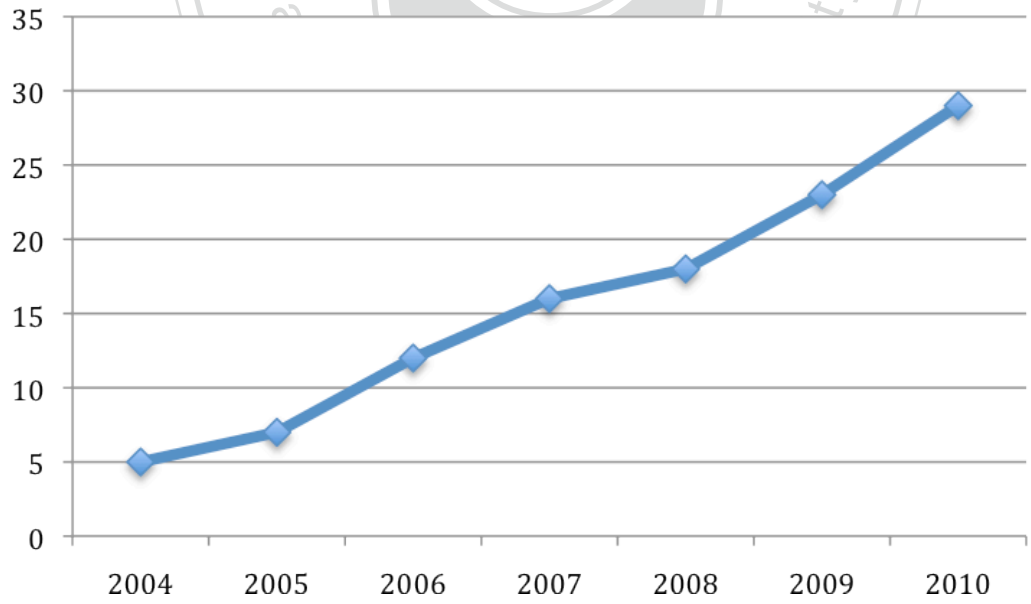

Figure 2.1.4. *Individuals who ordered goods or services over the Internet for private use from 2004 to 2010. (% of individuals aged 16 to 74).*

Source: Eurostat

In 2010, the percentage of male e-shoppers was slightly higher than that of female e-shoppers, namely in 2010, 32% of men ordered goods or services over the Internet during the last 12 months, compared to 26% of women (Figure 2.1.5).

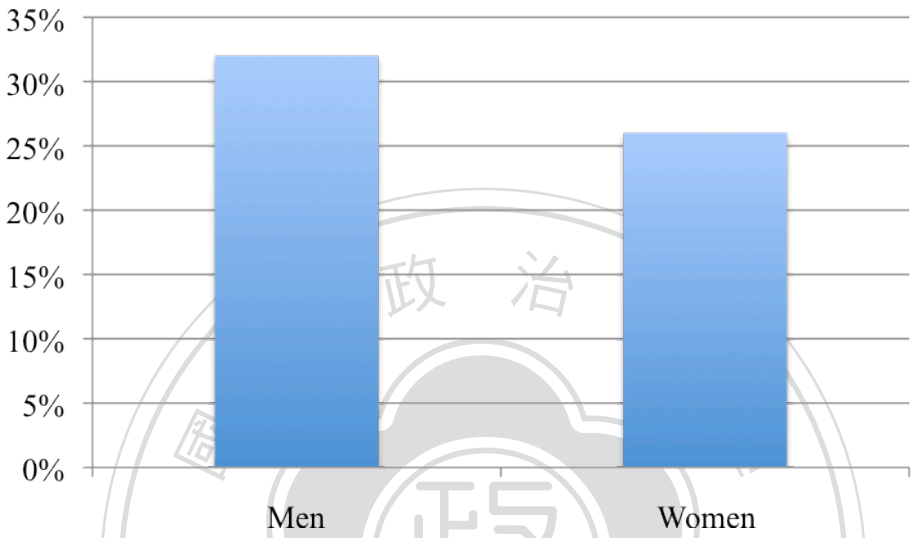

Figure 2.1.5 Individuals having bought or ordered goods or services for private use over the Internet during the last 12 months (% of individuals aged 16 to 74), 2010.

Source: Eurostat.

As shown in Figure 2.1.6, the number of online buyers varied correspondingly between age groups, ranging from 49% in the age group of 16-24, 50% in the age group of 25-34, 37% in the age group of 35-44, 18% in the age group of 45-54, 9% in the age group of 55-64 and 3% in the age group of 65-74 in 2010 (Eurostat, 2009; 2010).

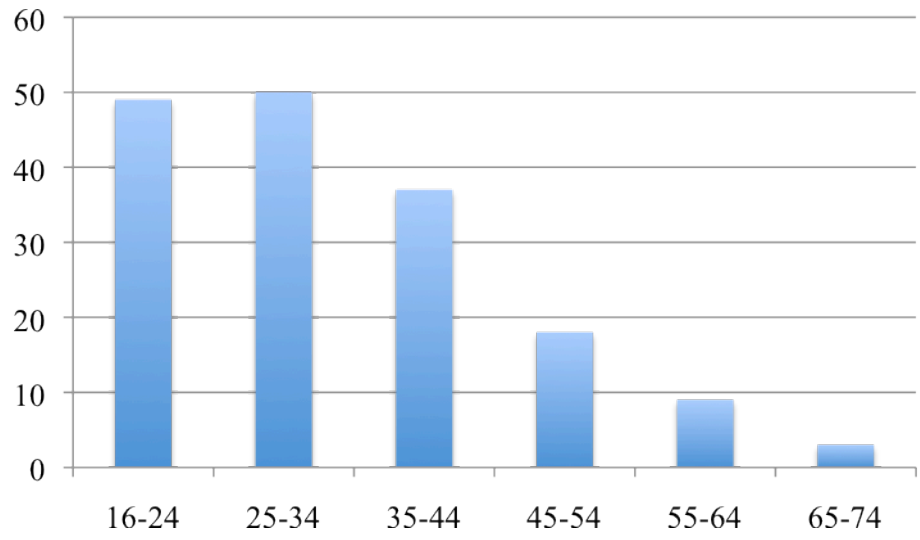

Figure 2.1.6 Individuals having bought or ordered goods or services for private use over the Internet during the last 12 months, by age group (% of individuals), 2010.

Source: Eurostat.

Taking only the group of Internet users into consideration, the report shows 46% of them shopped online within the past year (Figure 2.1.4).

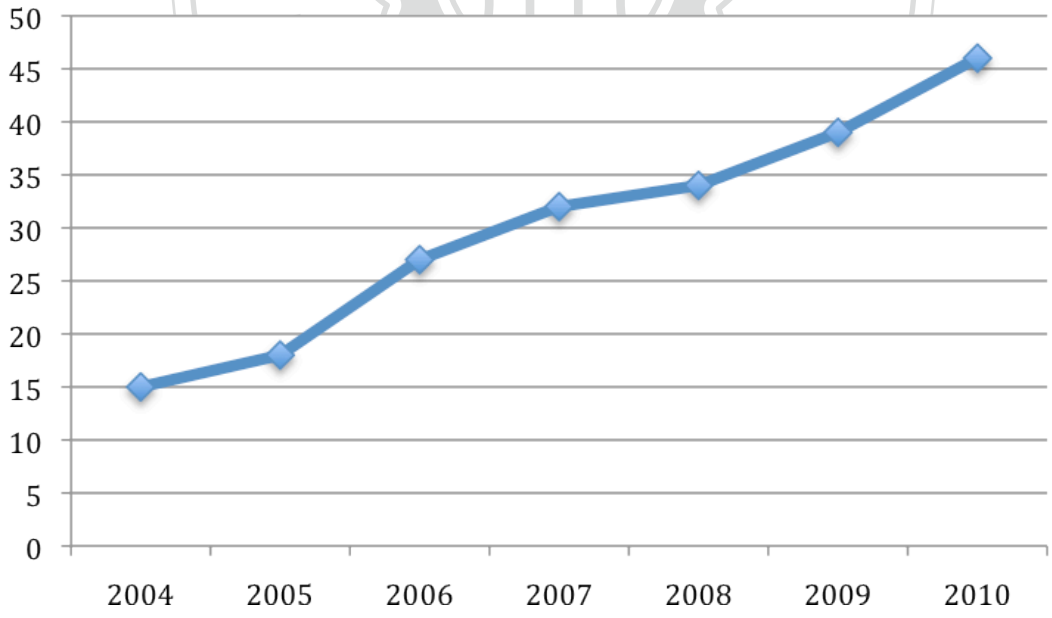

Figure 2.1.4. Internet users who bought or ordered goods or services for private use over the Internet during the last 12 months, 2010 (% of Internet users).

Source: Eurostat.

2.2. Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) predicts and understands motivational influences on the behavior that is not under the individual's volitional control. According to TRA, human beings are rational and make systematic use of information available to them. Moreover, people consider the implications of their actions before they decide to engage or not engage in certain behaviors.

The Theory of Reasoned Action "proposes that behavioral intention is a function of both attitudes toward a behavior and subjective norms toward that behavior" (Miller 2005). And a person's behavioral intention is a predictor of actual behavior. The theory suggests that a person's behavior is determined by his/her intention to perform the behavior and that this intention is, in turn, a function of his/her attitude toward the behavior and his/her subjective norm (Azjen and Fishbein 1980).

According to Ajzen and Fishbein, in order to gain deeper understanding of the factors influencing behavior, it is required to look for the determinants of the attitudinal and normative components. As they explained, those determinants are beliefs individuals hold about themselves and their environment, in other words, the information individuals have about themselves and the world in which they live.

Therefore, beliefs are viewed as underlying person's attitudes toward the specific behavior and subjective norms, and they ultimately determine intentions and behavior (Azjen and Fishbein 1980). In addition to measuring attitudes toward the behavior, there is also a need to measure people's subjective norms – their beliefs about how people they care about will view the behavior in question. To predict

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someone's intentions, knowing these beliefs can be as important as knowing the person's attitudes.

Finally, perceived behavioral control influences intentions. Perceived behavioral control refers to people's perceptions of their ability to perform a given behavior. These predictors lead to intention. As a general rule, the more favorable the attitude and the subjective norm, and the greater the perceived control, the stronger the person's intention to perform the behavior in question.

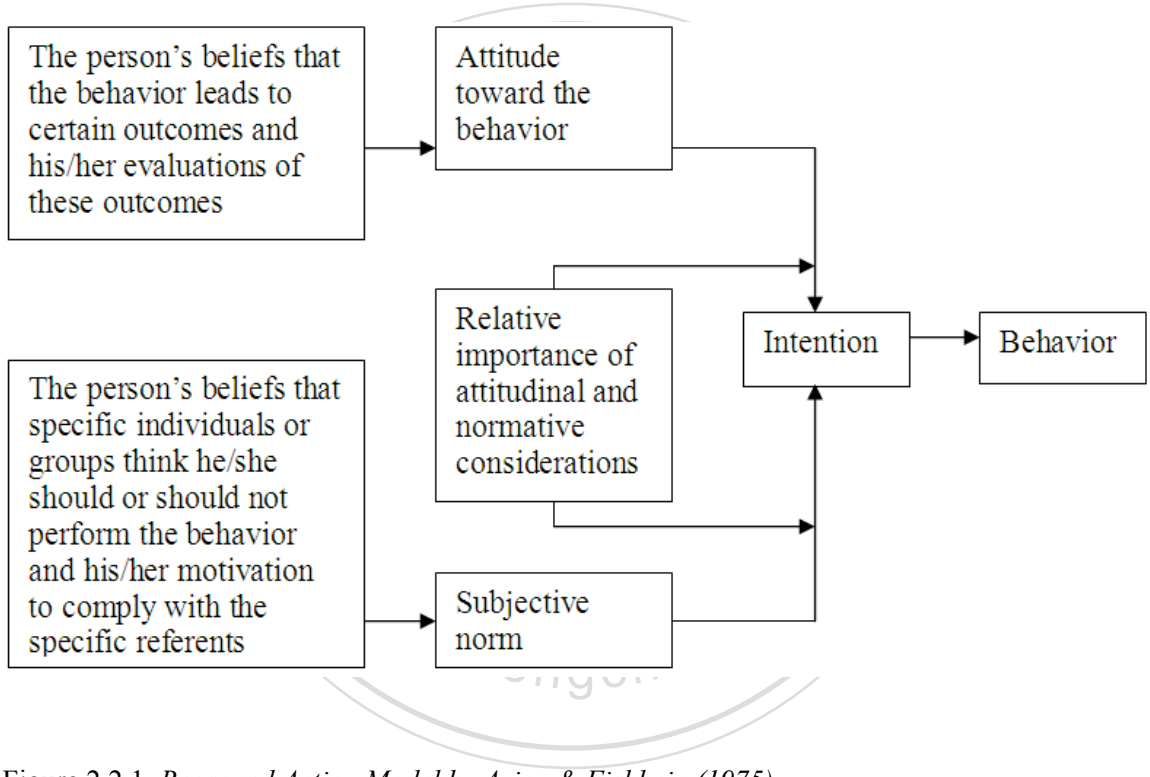

Figure 2.2.1. *Reasoned Action Model by Azjen & Fishbein (1975).*

Generally speaking, the Theory of Reasoned Action says that a person's behavior is determined by their attitude towards the outcome of that behavior and by the opinions of the person's social environment. Ajzen and Fishbein (1980) proposed that a person's behavior is determined by his/her intention to perform the behavior and that this intention is, in turn, a function of his/her attitude towards the behavior and

his/her subjective norm. A person's volitional behavior is predicted by his/her attitude towards that behavior and how he/she thinks other people would view them if they performed the behavior. A person's attitude, combined with subjective norms, forms his/her behavioral intention. According to Ajzen attitudes and norms are not weighted equally in predicting behavior. "Indeed, depending on the individual and the situation, these factors might be very differently affecting the behavioral intention; thus a weight is associated with each of these factors in the predictive formula of the theory. For example, you might be the kind of person who cares little for what others think. If this is the case, the subjective norms would carry little weight in predicting your behavior" (Miller 2005).

2.2.1. Three Components of the Theory

Attitude

Attitude is the first determinant of behavioral intention. It is the degree to which the person has a favorable or unfavorable evaluation of the behavior in question. Attitudes are person's beliefs of the person. Some beliefs are formed from direct experience, some are from outside information and others are inferred or self generated. However, only a few of these beliefs actually work to influence attitude. These beliefs are called salient beliefs and they are said to be the "immediate determinants of a person's attitude" (Azjen and Fishbein 1980). An attitude, in that case, is a person's salient belief about whether the outcome of his/her action will be positive or negative. If the person has positive salient beliefs about the outcome of his/her behavior then he/she is said to have a positive attitude about the behavior and vice-versa. If the person has negative salient beliefs about the outcome of his/her

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behavior he/she is said to have a negative attitude. The beliefs are rated for the probability that engaging in the behavior will produce the believed outcome.

Subjective Norm

Subjective norm is regarded as the second predictor of behavioral intention. This is the influence of social pressure that is perceived by the individual (normative beliefs) to perform or not perform a certain behavior. Subjective Norms are beliefs about what others will think about our behavior. They are perceptions about how family and friends will perceive the outcome of our behavior and the degree to which this influences whether the behavior is carried out (motivation to comply). These two factors are multiplied to give the subjective norm. It is important to note that subjective norms are formed only in relation to the opinions of people considered to be significant or important.

Behavioral Intention

Behavioral intention is an indication of how hard people are willing to try and how much of an effort they are planning to exert, in order to perform the behavior. It is influenced by three components: person's attitude towards performing the behavior, the perceived social pressure, called *subjective norm* and *perceived behavioral control.* Fishbein (1967) proposed that variables not included in the model could affect intention and consequently behavior. Also, behavior is the transmission of intention into action.

2.2.2. The Application of TRA in Various Studies

The TRA was adapted to various types of research dealing with adoption of technology use. For instance, TRA has been applied to explain unethical behavior

(Randall, 1989), user participation and system use (Mykytyn & Harrison, 1993; Hartwick & Barki, 1994; Liker & Sindi, 1997), condom use (Sneed & Morisky, 1998), pre-adoption and post-adoption beliefs and attitudes (Karahanna, Straub & Chervany, 1999), problem solving agents in dynamic worlds (Au & Parameswaran, 2003), Internet information management (Celuch, Taylor & Goodwin, 2004) and behavior on the Internet in general (Bobbitt & Dabholkar, 2001; Leonard, Cronan & Kreie, 2004).

The TRA was also adapted to predict job application decisions (Hooft, Born, Taris & Van der Flier, 2006), customer intention to adopt online banking (Grabner-Kräuter & Faullant, 2008; Shih & Fang, 2004), user adaption of instant messenger use (Chung & Nam, 2007).

It was also applied in many studies on consumer buying behavior. There is a lot of research about traditional customers, for example, explaining milk purchasing habits and consumption behavior (Brewer, Blake, Rankin & Douglass, 1999), or attitude toward intention, habit and food choice (Petrovici, Ritson & Ness, 2004) and young consumer purchase intention (Belleau, Summers, Xu & Pinel, 2007). Recently, research of online customer behavior has beeb systematically increasing. Studies on consumer adoption of the Internet for shopping (Yoh, Sapp & Laczniak, 2003) or attitude toward online shopping and online shopping intention (Hansen, Jensen & Solgaard, 2004; Delafrooz, Paim & Khatibi, 2009) are just a few examples.

2.2.3. Summary

In summary, according to the Theory of Reasoned Action, an individual's behavioral intention is the most immediate factor influencing people’s behavior. This intention is a function of the individual's attitude and subjective norm. The individual's attitude and subjective norm are both considered a function of the weighted sum of the appropriate beliefs (Azjen and Fishbein 1980; Severin and Tankard 2001).

The Theory of Reasoned Action has "received considerable and, for the most part, justifiable attention within the field of consumer behavior (…) not only does the model appear to predict consumer intentions and behavior quite well, it also provides a relatively simple basis for identifying where and how to target consumers' behavioral change attempts" (Sheppard, Hartwick et al. 1988).

2.3. Technology Acceptance Model

The Technology Acceptance Model (TAM) is the information systems theory that was founded by Davis (1986) as the adaptation of the Theory of Reasoned Action (TRA).

The concept of the model is that, when the user has an intention to act, he/she will be free to act without limits. In practice, constraints such as limited ability, time, environmental or organizational limits and unconscious habits will limit the freedom to act (Bagozzi, Davis et al. 1992)

According to Bagozzi, Davis and Warshaw: "Because new technologies such as personal computers are complex and an element of uncertainty exists in the minds of decision makers with respect to the successful adoption of them, people form attitudes and intentions toward trying to learn to use the new technology prior to initiating efforts directed at using. Attitudes towards usage and intentions to use may be ill-formed or lacking in conviction or else may occur only after preliminary strivings to learn to use the technology evolve. Thus, actual usage may not be a direct or immediate consequence of such attitudes and intentions." (Bagozzi, Davis et al. 1992)

TAM suggests that perceived usefulness and perceived ease of use determine an individual's intention to use a system with intention to use serving as a mediator of

actual system use. Perceived usefulness is also seen as being directly affected by perceived ease of use (Venkatesh, Morris et al. 2003). Davis et al. (1989) found that subjective norm did not significantly affect intentions and therefore omitted it from the original TAM.

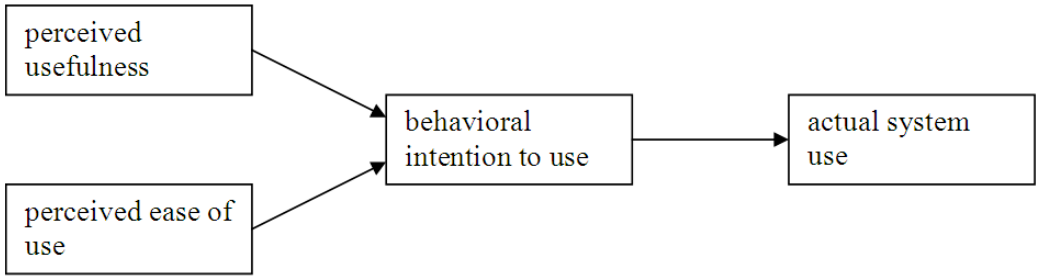

Figure 2.3.1. Technology Acceptance Model by Davis et al. (1989)

Many studies have applied the TAM to investigate the adoption and acceptance of information technology and systems (Davis, 1989, 1993; Davis et al., 1989; Mathieson, 1991; Taylor & Todd, 1995; Chau, 1996; Venkatesh & Davis, 1996, 2000;Jackson, Chow, & Leitch, 1997;Doll, Hendrickson, & Deng, 1998; Hu, 1999; Karahanna, Straub, & Chervany, 1999; Venkatesh, 1999; Jiang, Hsu, & Klein, 2000; Moore, 2002; Venkatesh & Morris, 2000; Horton, Buck, Waterson & Clegg, 2001 Chau & Hu, 2002). This amount of research suggests that TAM is a very important and influential model in this field of study.

Moreover, with increasing popularity of the Internet a lot of research on user-oriented interactive computer systems also applied the TAM. In this field, the TAM has been used in studies on e.g. wireless Internet via mobile devices (Lu, Yu, Liu & Yao, 2003), online banking (Suh & Han, 2002; Wang, Wang, Lin, & Tang, 2003; Pikkarainen, Pikkarainen, Karjaluoto & Pahnila, 2004), online games usage (Hsu & Lu, 2004), consumers' use and purchase of avatar-related products (Chung, 2005a,

2005b), the use of online feedback channels (Loh, Hua, Tan & Detenber, 2006), consumers' adoption and use of a digital library system (Hong, Thong, Wong, & Tam, 2002; Thong, Hong, & Tam, 2002; Park, Lee, Chung & Roman, 2007), consumers' adoption of e-service system (Lin, Shih & Sher, 2007), the use of social network sites (Shin & Kim, 2008), the use of instant messaging in social network community (Theng, Chong & See, 2008), instructors' adoption and use of an Internet-based course management systems (Martins & Kellermanns, 2004; Park, Lee & Cheong, 2008), consumers' adoption and use of computer-based VoIP phone service (Park, 2008), consumers' behavior in online auctions (Stern, Royne, Stafford & Bienstock, 2008) and other (Gefen & Straub, 1997; Page-Thomas, 2006; Kulviwat, Bruner II, Kumar, Nasco & Clark, 2007). A lot of research has also been conducted into customer online shopping behavior (Gefen, 2003; Gefen, Karahanna,& Straub, 2003; Pavlou, 2003; Zhou, Dai & Zhang, 2007).

There have also been studies which tested and confirmed the relationship between perceived usefulness, perceived ease of use and actual use (Adams, Nelson, & Todd, 1992; Hendrickson, Massey & Cronan, 1993; Subramanian, 1994; Szajna, 1994; Chin &Todd, 1995; Teo, Lim & Laia, 1999; Agarwal & Karahanna, 2000; Moon & Kim, 2001; Heijden, 2003; Yi & Hwang, 2003; Hsu & Lu, 2004; Lee, Cheung, & Chen, 2005; Saade, & Bahli, 2005; Saade, Nebebe & Tan, 2007).

Nevertheless, findings of the studies that investigate these two cognitive beliefs are considered relatively insufficient and inconsistent (Karahanna & Straub, 1999; Legris, Ingham & Collorette, 2003). That is why many studies have extended the theoretical framework of TAM, adding several external variables to the key determinants of user behavior intention, which are perceived usefulness and perceived ease of use. There is a number of studies that modify the traditional technology acceptance model and combine it with the theory of reasoned action (Lewis, Malhotra

& Galletta, 1999; Bhattacherjee, 2001; Agarwal & Sambamurthy, 2003; Chung, 2005a; Chung, 2005b; Cavusgil, 2007; Elliott & Fu, 2008).

2.3.1. Technology Acceptance Model Applied for Website

Based on Davis' Technology Acceptance Model (TAM), Chau et al. (2000) constructed a model applied for the e-commerce context. Adapting TAM to the Website environment implies that the more useful a website is, the more positive the attitude about purchasing at the website (Chau et al., 2000).

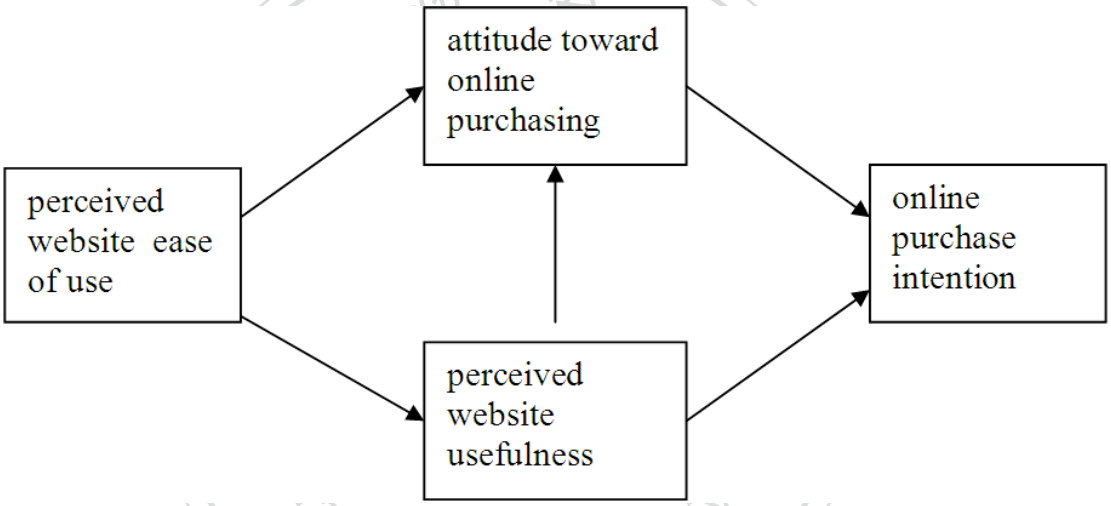

Figure 2.3.1.1. Technology Acceptance Model applied for Website by Chau et al. (2000).

2.4. Internet Experience and Internet Heavy Users

This research is going to utilize Technology Acceptance Model applied for Website (Chau et al., 2000) with some elements of Theory of Reasoned Action (Azjen and Fishbein 1980) and examine the online shopping behavior of Internet heavy users.

According to Assael (2005), heavy Internet users are those surfing the web for 20 hours a week or more. Heavy Internet users go online for many purposes and on that basis researchers as well as marketers make a classification of heavy users. For example, Assael distinguishes six types of heavy Internet users: Web Generalists

(those who frequently use emails, seek information and purchase online), Downloaders (those who download software and music), Self-Improvers those who search for jobs, collect information and read news), Entertainment Seekers (those who play online games), Traders (those who make stock transactions) and Socializers (those who participate in chat forums).

Other studies make different typology of Internet heavy users. According to PEW Internet and American Life Project (2005), there are four types of online users: Newcomers (those who are online for less than a year and usually play games and sent instant messages), Experimentals (those who are online for one or two years and usually getting product information and news), Utilitarians (those who are online for three or more years and tend to use the web as a tool for work-related research) and Netizines (those who are the earliest Internet adopters who go online daily for work and play).

According to the Burson-Marsteller, there is a very influential group of Internet users called E-fluentials. They tend to be very socially active online. They usually give recommendations, make friends online, send emails, make business contacts online, express negative opinions, participate in chat rooms, seek information from many sources and post information online (Burson-Marsteller).

Usually researchers describe profiles of Internet users by age, gender, lifestyle and Internet usage. Some studies also report the association between web user characteristics and online shopping. For example, studies by Bhatnagar et al. (2000) and also Alreck and Settle (2002) investigate the effects of gender on online buying behavior.

The key component of this study is the Internet experience. While browsing the Web, users gain experience in Internet use. Moreover, their opportunities to shop online are expected to increase (Shiu & Dawson, 2002). According to Citrin, Sprott,

Silverman, and Stem (2000), consumers who are frequently using the Internet for means other than shopping (such as for communication, education, or entertainment), are more likely to adopt the Internet for shopping. In their study, they used the number of weekly hours of Internet use as a predictor of online buying behavior.

The more hours that a consumer spends browsing the Internet lead to a higher probability of being exposed to online advertisements. Also, more exposure means more online buying. Advertisement studies already documented the effect of exposure (Cacioppo & Petty, 1979), so it should function similarly in the online environment (Merrilees, 2001).

While web browsing frequency is a relevant factor of consumer's online shopping behavior, the overall Internet usage in terms of years is also important. Kuhlmeier and Knight (2005) found that Internet surfing hours per week as well as years of usage are positively related to the likelihood of purchasing online. Finally, Swinyard and Smith (2003) reported that online shoppers compared with non-shoppers spend more time on their computer and spend more time on the Internet. In this research the two groups of heavy Internet users and regular Internet users have been analyzed and compared.

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CHAPTER THREE

METHODOLOGY

Based on the theoretical components of the TRA and TAM for Websites with regard to users Internet experience, this study develops a research model as shown in Figure 3.1.1. In this paper TRA and TAM models are utilized to explain the behavior of Internet users in online marketplace. The TRA model basically consists of four dimensions, namely, attitude, subjective norm, intention and purchase behavior. However, in this study the author decided to discard the subjective norm, considering this variable as insignificant (Yeaman, 1988; Davis et al. 1989). Moreover, in the research framework the author decided to use website ease of use and website usefulness as factors that might be significant for attitude toward online purchase (Van der Heijden, Verhagen et al. 2000).

3.1. Research Design and Variables

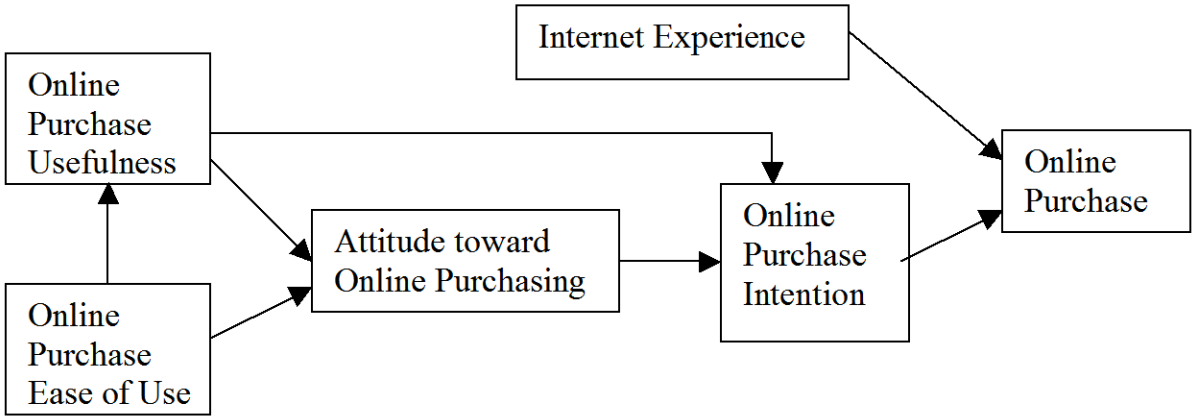

Figure 3.1.1. Research framework.

3.1.1. Online Purchase Ease of Use

Developed by Davis (1989) and extended by Venkatesh and Davis (2000) Technology Acceptance Model suggests a relation of two factors: usefulness of an information system and ease of use of the system. More useful systems and those that are easier to use are associated with higher acceptance of the information system. According to the Technology Acceptance Model for Websites (Chau et al., 2000), there is a positive relationship between perceived ease of use and perceived usefulness as well as between ease of use and attitude toward online purchasing. Adapting TAM to an e-commerce context implies that the more easy the process of online purchasing is, the more it is useful and the more positive the attitude about purchasing online. Therefore, it leads to the first set of hypotheses:

H1a: *Online purchase ease of use is positively related to online purchase usefulness.*

H1b: *Online purchase ease of use is positively related to attitude toward online purchasing.*

3.1.2. Online Purchase Usefulness

In general, websites that offer greater purchasing speed and convenience are more useful than those that are not (Van der Heijden, Verhagen et al. 2001). Also according to TAM, there is a positive relationship between perceived usefulness and attitude toward using IT. Therefore, the more online shopping is useful, the more positive the online purchase intention and the attitude toward online purchasing. Thus, it leads to the next set of hypotheses:

H2a: *Online purchase usefulness is positively related to online purchase intention.*

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H2b: *Online purchase usefulness is positively related to attitude towards online purchasing.*

3.1.3. Attitude towards Online Purchasing

In this research framework, the relation between attitude towards online purchasing and online purchase intention come from the idea of TRA model. This conforms the general relation between attitudes and intentions that the Theory of Reasoned Action predicts, and is consistent with prior online purchase models (Jarvenpaa, Tractinsky et al. 2000). Therefore, Hypothesis 3 is raised:

H3*: Attitude towards online purchasing is positively related to online purchase intention.*

3.1.4. Subjective Norm

According to the Theory of Reasoned Action, consumers will intend to perform a behavior when they evaluate it positively and when they believe that others think they should perform it (Ajzen & Fishbein, 1980). However, studies (Davis et al. 1989; Yeaman, 1988) reported that in the IT environment there is a lack of significance of subjective norms. Therefore, considering those studies, the author omitted the subjective norm from the research framework.

3.1.5. Online Purchase Intention

Similarly to attitude towards online purchasing, online purchase intention comes down from TRA theory applied in e-commerce. This theory predicts the general relation between online purchase intention and online customer behavior, which is the actual purchase online. As a result, Hypothesis 4 is thus developed:

H4: *Online purchase intention is positively related to online purchase.*

3.1.6. Internet Experience and Heavy Internet Users

In general, the more people use the Internet, the more experienced they are. Correspondingly, the more experienced and knowledgeable consumers are, the more they tend to buy online (Kuhlmeier & Knight, 2005). Therefore, it is conjectured that Internet experience in hours per week should be positively associated with the likelihood of an Internet purchase. Thus, hypothesis 5 is proposed:

H5: *Internet user experience is positively related to online purchase.*

And as a result, hypothesis 6 is developed:

H6: *Heavy Internet users buy online more often than regular Internet users.*

3.2. Research Framework and Hypotheses

Summarizing, based on the literature review, this study proposes following hypotheses:

H1a: *Online purchase ease of use is positively related to online purchase usefulness.*

H1b: *Online purchase ease of use is positively related to attitude toward online purchasing.*

H2a: *Online purchase usefulness is positively related to online purchase intention.*

H2b: *Online purchase usefulness is positively related to attitude towards online purchasing.*

H3*: Attitude towards online purchasing is positively related to online purchase intention.*

H4: *Online purchase intention is positively related to online purchase.*

H5: *Internet user experience is positively related to online purchase.*

H6: *Heavy Internet users buy online more often than regular Internet users.*

Overall, Figure 3.2.1 shows the relationship among variables and the stated hypothesis.

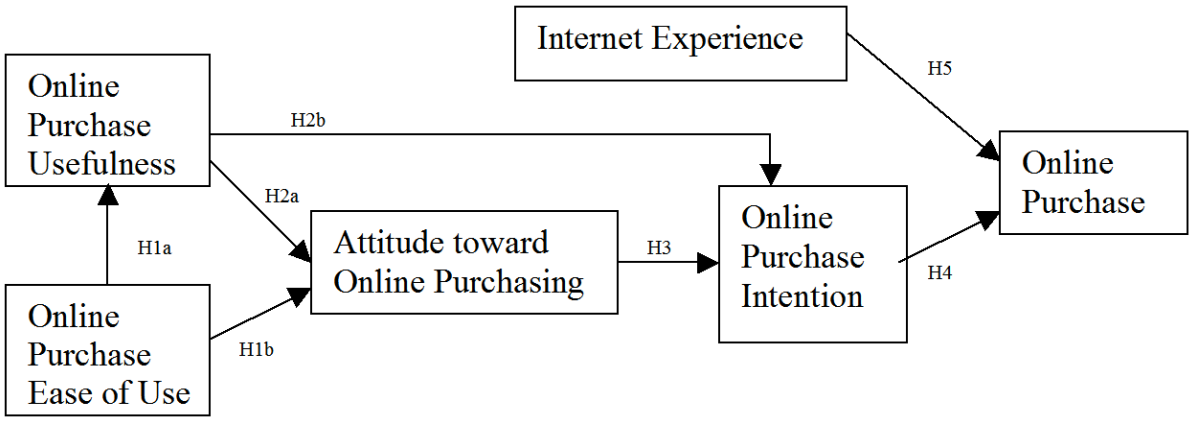

Figure 3.1.2. Research Framework with Hypotheses.

3.3. Development of the Measurement

To examine the model it is needed to check the relationships between each related factors and to confirm or deny hypotheses. All the hypotheses contained in this paper are supported by theories or references. To measure the relationship between variables the various data about the consumer online behavior was collected. An online survey questionnaire was developed to obtain the responses from online users about their opinion on Internet-based purchasing. The questionnaire was anonymous.

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3.3.1. Operationalization of Variables

Most of the questions in the questionnaire were adopted and adapted from previous studies. Table 3.3.1 below shows the references of measures used for each variable.

Table 3.3.1. *Operationalization of variables and their sources*

Construct	Item	Source
Internet experience	1. How long have you been going online? Less than 6 months 6 months to less than 1 year 1 year to less than 2 years 2 years to less than 3 years 3 years to less than 4 years 4 years to less than 5 years 5 years or more 2. How many hours each week do you spend online? Less than 5 hours 5-10 hours 10-15 hours 15-20 hours 20-25 hours 25-30 hours More than 30 hours	Goldfarb & Prince (2008)
Online purchase frequency	1. Have you ever shopped online? 2. On average, how often do you buy online? Never/almost never Less than once a month About once a month, A few times a month, A few times a week, About once a day, Several times a day.	Teo, Lim, Lai (1997)

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Construct	Item	Source
Online Purchase Ease of use	E1. Using the Internet to purchase would be easy to learn for me. E2. Using the Internet to purchase would be easy to do for me. E3. Using the Internet to purchase would require a lot of mental effort. E4. Using the Internet to purchase would be easy following the instructions provided in virtual shops.	Davis (1989); Crespo et al. (2009);
Online Purchase Usefulness	Using the Internet to purchase… U1. Using the Internet to purchase would make shopping easier U2. Using the Internet to purchase would enable me to shop more quickly U3. Using the Internet to purchase would be useful to get better purchases U4. Using the Internet to purchase would enhance my shopping effectiveness	Davis (1989); Crespo et al. (2009);
Attitude towards Online Purchasing	A1. Using the Internet to buy a product or service would be a good idea. A2 . The idea of using the Internet to buy a product of service is appealing. A3 . I like the idea of buying a product or service on the Internet.	Heijden et al. (2001; 2003); Limayem, et al. (2002);
Online Purchase Intention	I1. I would use online shop rather than traditional shop to purchase goods. I2. In the next 3 months I plan to use the Internet to buy things. I3. In the next 3 months I will not use the Internet to purchase.	Heijden et al. (2003); Mathieson (1991); Crespo et al. (2009); Taylor and Todd (1995); Limayem, et al. (2002);

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3.3.2. Dependent Variables and Independent Variables

The research involves four dependent variables: usefulness, attitude toward online purchasing, online purchase intention and online customer behavior, which is the actual purchase on the Internet. There are two independent variables in the research model: ease of use and Internet experience. The research also reports the influence of consumer's demographics and consumer's Internet experience on online behavior (independent variables).

3.3.3. Questionnaire

The content of the questionnaire, including the ranging or the scale, is shown in Appendix1. All questions in the survey were required in order to avoid missing variables. If the respondent did not answer one of the questions, he/she was not able to finish the survey. During the survey, only those respondents who checked a positive answer regarding the question "Have you ever shopped online?" could proceed to the next questions about online purchase experience. Those respondents who have never purchased any goods or services online were moved to the next section of the questionnaire, namely personal data. Only those respondents who have bought products or services on the Internet were studied.

The questionnaire consisted of six constructs (composed in total of 16 items):

1. Internet experience – composed of two questions about Internet usage experience in years and the user's frequency of Internet use in hours per week;
2. Online purchase frequency – composed of two questions about the previous buying experience and frequency;

3. Online Purchase Ease of use – composed of four questions about the easiness of Internet shopping. Items were validated by Davis (1989) and Crespo et al. (2009);
4. Online Purchase Usefulness – composed of four questions about the usefulness of Internet shopping. Items were validated by Davis (1989) and Crespo et al. (2009);
5. Attitude towards Online Purchasing– composed of three questions about the idea of buying online. Items were validated by Heijden et al. (2001; 2003) and Limayem et al. (2002). Seven point Likert scale ranging from "strongly agree" to "strongly disagree" is used to measure the items.
6. Online Purchase Intention – composed of three questions about the Internet-based purchase intention in the next 3 months. Items were validated by Mathieson (1991), Taylor and Todd (1995), Limayem, et al. (2002), Heijden et al. (2003) and Crespo et al. (2009). Seven point Likert scale ranging from "strongly agree" to "strongly disagree" is used to measure the items.

The author found it relevant to also include personal data to the questionnaire in order to make sure that our sample contained respondents from different groups. Demographical variables, such as: age, gender, education, occupation and household income, were collected to evaluate average online user and to check if they influenced purchasing behavior on the Internet.

A single item that asked the respondent his/her age range measured age: "less than 18", "18 – 24", "25 – 34", "35 – 44", "45 – 54", "55 – 64" and "65 or more". Respondents reported their gender on a single-item dichotomous variable that asked them whether they were male or female. Education was measured by a single item that asked about education level of respondent: "elementary", "secondary" and "higher

education". A single item measured occupation: "student", "unemployed", "IT related" and "non IT related". Household income was measured by a single item that asked the respondent his monthly income in PLN. The scale ranged from "no income", "below 1500 PLN (500 USD)", "1500 PLN - 3000 PLN (500 USD - 1000 USD)", „3000 PLN - 5000 PLN (1000 USD - 1750 USD)", "5000 PLN - 10 000 PLN (1750 UDS - 3500 USD)" and "above 10 000 PLN (3500 USD)". For the purpose of the study the author decided to utilize average exchange rate to present the data in USD.

3.3.4. Validity and Reliability

Validity means the correctness of the instrument. It maybe considered as the degree that the scale can really testify the variable quality, which is, the efficiency of the questionnaire. Content validity requires the researcher to use the correct measures for the concepts being studied. In the present study, the variables and the scales are derived from related theories and existing literature so the level of validity can be assumed. Thus, content validity of the research can be ensured.

Reliability represents the extent to which other researchers would have the same findings if they were to analyze the same data and methods (Yin, 2003). All questionnaire items were tested using Cronbach's alpha coefficient, which is the most frequently used estimate of internal consistency. Thus, items demonstrate internal consistency reliability Cronbach's alpha, and also internal and external validity, according the previous researches.

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3.4. Data Collection and Sampling Population

Participants of this study were Internet users in Poland. Primary data were obtained through online survey, which was posted on an online shop website for two weeks from 4th until 15th of July 2011. The respondents were customers or just browsers of the online shop, and they could participate in the survey by clicking the link redirecting to the web-based survey platform. The present study employed convenience (non-probability) sample.

3.5. Data Analysis Techniques

In order to achieve the goals of this research and test the hypotheses, the statistical software SPSS 15.0 has been employed to analyze the collected data. Several statistical tests were applied to analyze the data. Descriptive statistic analyses, particularly frequency and percentage have been used to illustrate the means, and standard deviation of each research variable in order to understand their characteristic. To assess the degree of internal consistency among questionnaire items, Cronbach's alpha coefficient is reported. Confirmatory factor analysis was performed to identify instrument validity and refinement. The Spearman's rank correlation coefficient has been applied to analyze the relationship between the variables were also applied.

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CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

This chapter describes the analysis of data followed by a discussion of the research findings. The findings relate to the research questions that guided the study. Data were analyzed to identify, describe and explore the relationship between Internet experience, online shopping ease of use and usefulness, attitude towards Internet shopping and online purchase intention. Furthermore, some additional tests to cover other parts of the theoretical framework were performed o find other factors that may be of influence to the results and to check consistency in the answers.

4.1. Sample Structure

A total of 236 responses were received, however, 226 responses are usable for this study and meet the requirements. Remaining 10 responses are invalid, because respondents have never bought goods or services online. Below is the analysis according to gender, age, educational background, occupation, monthly income, and average weekly Internet usage of the 226 e-shoppers. Next, there is a summarizing table with the characteristics of the respondents (Table 4.1)

Gender

Out of 226 respondents, 127 are women (56,2%) and 99 are men (43,8%).

Age

The 226 participants are clustered into seven age groups, namely: “less than 18”, “18 to 24”, “25 to 34”, “35 to 44”, “45 to 54”, “55 to 64” and “65 or more”. There is only one respondent under 18 years, which accounts for 0,4%. In the age group “18 to 24” there are 46 respondents, which accounts for 20,4%. The majority of respondents falls into the age group of 25 to 34 years. In this group there are 119 respondents, which is more then half of the sample size and accounts for 52,7%. In the group age of 35 to 44 there are 33 respondents, which accounts for 14,6%. There are 15 respondents in the group age of 45 to 54, which accounts for 6,6%. In the last two groups, “55 to 64” and “65 or more”, there are 9 and 3 respondents respectively, which accounts for 5,3% in total.

Education

The level of education was divided into three groups: “elementary”, “secondary” and “higher education”. Among 226 respondents, only one falls into the “elementary education” group (0.4%). There are 47 respondents in the group of “secondary education”, which accounts for 20,8%. The majority, which is 178 of respondents, are found in the “higher education” group – 78,8% of the sample.

Occupation

Occupation is identified by 4 items: “student”, “unemployed”, “IT related” and “non IT related”. Among the respondents, there were 45 students, which accounts for 19,9%. 6 of the respondent reported to be unemployed (2,7%). There are 15 respondents working in the IT field (6,6%). And the majority of respondents indicated to have non-IT related work. This group consists 160 respondents, which accounts for 70,8% of the sample.

Monthly Income

Monthly income was divided into six groups: “no income”, “below 500 USD”, “500 - 1000 USD”, “1000 - 1750 USD”, “1750 - 3500 USD” and “above 3500 USD”. There are 38 of respondents who reported to have no income, which accounts for 16,8%. The majority of respondents fall into the range between 500 and 1000 USD. In this group there are 75 respondents, which accounts for 33,2%. The next group consists of 57 respondents, whose monthly income ranges between 1000 and 1750 USD (25,2%). Among the respondents, there are 28 reporting 1750 to 3500 USD of monthly income, which accounts for 12,4%. There are only 7 respondents earning monthly above 3500 USD – 3,1% of the sample.

Average Weekly Internet Usage

Participants reporting hours spent on the Internet per week, where clustered into seven groups: “less than 5 hours”, “5 to 10 hours”, “10 to 15 hours”, “15 to 20 hours”, “20 to 25 hours”, “25 to 30 hours” and “more than 30 hours per week”. Only 19 respondents use the Internet less than 5 hours per week (8,4%). There are 35 respondents who indicated the weekly internet usage in range between 5 and 10 hours, which accounts for 15,5%. Into the next group “10 to 15 hours” fall 23 participants (10,2%). The next group “15 to 20 hours” consists of 29 respondents (12,8%). Following are the groups of heavy internet user. There are 26 respondents, who use the Internet for 20 to 25 hours per week, and 27 respondents who use the Internet for 25 up to 30 hours per week, which accounts for 23,4% in total. The last group, but not the least, is the group of 67 participants, who weekly spend more than 30 hours surfing the web (29,6% of the sample).

Online Buying Frequency

Online buying frequency were ranged from “Never/almost never”, “Less than once a month”, “About once a month”, “A few times a month”, “A few times a week”, “About once a day” to “Several times a day”. 10 respondents reported that they never or almost never buy online (4,4%). There are 75 respondents, who buy on the Internet less than once a month, which accounts for 33,2%. 60 respondents shop online about once a month, which is 26,5%. 65 respondents purchase products or services via Internet a few times a month, which is 28,8%. There are 12 respondents who shop online a few times a week (5,3%). There are 2 e-shoppers who buy online about once a day and 2 e-shoppers who buy online several times a day, which accounts for 1,8% in total.

Table 4.1 *Characteristics of respondents (total = 226)*

	Number of respondents	Percentage (%)
Gender		
Female	99	43.8
Male	127	56.2
Age		
Less than 18	1	0.4
18 - 24	46	20.4
25 - 34	119	52.7
35 - 44	33	14.6
45 - 54	15	6.6
55 - 64	9	4.0
65 or more	3	1.3

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	Number of respondents	Percentage (%)
Education		
Elementary	1	0.4
Secondary	47	20.8
Higher education	178	78.8
Occupation		
Student	45	19.9
Unemployed	6	2.7
IT related	15	6.6
Non IT related	160	70.8
Income		
No income	38	16.8
Below 500 USD	21	9.3
500 USD - 1000 USD	75	33.2
1000 USD - 1750 USD	57	25.2
1750 UDS - 3500 USD	28	12.4
Above 3500 USD	7	3.1
Hours online per week		
Less than 5 hours	19	8.4
5 - 10 hours	35	15.5
10 - 15 hours	23	10.2
15 - 20 hours	29	12.8
20 - 25 hours	26	11.5
25 - 30 hours	27	11.9
More than 30 hours	67	29.6
Online buying frequency		
Never/almost never	10	4.4
Less than once a month	75	33.2
About once a month	60	26.5
A few times a month	65	28.8
A few times a week	12	5,3
About once a day	2	0.9
Several times a day	2	0.9

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Heavy Internet users and Regular Internet users

As a result of the analysis of the online buying frequency, there are two key groups within the sample: 106 (46,9%) of regular Internet users, those who use the Internet less than 20 hours per week and heavy Internet users 120 (53,1%), those who use the Internet more than 20 hours per week (Table 4.2).

Table 4.2 *Heavy and Regular Internet users (total = 226)*

	Number of respondents	Percentage (%)
Heavy Internet users	120	53.1%
Regular Internet users	106	46.9%

4.2. Measurement Model

Measures of all constructs were developed following standard research procedures. Multi-item scales were developed based on previous measure and a review of existing literature. After an initial data screening, one item was dropped. The answer for the question about the Internet usage experience in years was the same. All respondents has been using the Internet for more than 5 years, so this item was dropped by the author.

In the questionnaire respondents replied to the items using a 7-point Likert scale rating from 1 – "Strongly Agree" to 7 – Strongly Disagree". Most of the items in the questionnaire's constructs were generated, so that strong agreement means favorable disposition to the construct. However, three of the items were phrased in the reverse. In order to make the items ("On average, how often do you buy online?", "In the next 3 months I will not use the Internet to purchase." and "Using the Internet

to purchase would require a lot of mental effort.") comparable to the other items, the author had to perform the reverse-scoring.

All items measuring the five constructs of online shopping behavior were submitted to factor analysis, in order to assess the internal consistency of the scales. The results of the analysis are provided in Table 4.2. Factor loadings estimate the validity of observed variables and they show whether the measure items represent their underlying constructs. The results showed that 12 items out of 14 items for the five constructs conformed to the accepted minimum factor loading of 0.60 (Nummally, 1978). All 12 factor loadings were significant and ranged from 0.638 to 0.897. Two items (both in the Online Purchase Usefulness scale) scored 0.549 and 0.584, which is above Nunnally and Bernstein's (1994) suggested cutoff of 0.4. Moreover, item I1 (I would use online shop rather than traditional shop to purchase goods) was weakly correlated with other items in the Online Purchase Intention factor and was removed from subsequent analyses.

In addition to construct validity, the internal consistency and dependency of the measurement model was performed by computing Cronbach's alpha – *the reliability coefficient.* Internal consistency reliability is the degree to which multiple measures of the same thing agree with one another. It determines how consistently the selected items measure the construct. In the present study, Cronbach's alpha value scored between 0.752 and 0.890, which is above 0.700 – an acceptable value for a research instrument (Sekaran, 2000; Leech, Barrett, Morgan; 2005).

Table 4.3 *Factor loadings and reliabilities of measurement scale*

Measurement Items	Item	Crobach's Alpha	Factor Loadings
Online Purchase Ease of Use	E1	0.725	0.771
	E2		0.781
	E3		0.638
	E4		0.697
Online Purchase Usefulness	U1	0.817	0.584
	U2		0.549
	U3		0.793
	U4		0.811
Attitude towards Online Purchasing	A1	0.890	0.833
	A2		0.813
	A3		0.745
Online Purchase Intention	I2	0.710	0.733
	I3		0.897

4.3. Hypotheses Testing

To begin with relationship between the variables connected to the main hypotheses (H1-H5) the Spearman's rank correlation coefficient was tested, because the variables were not normally distributed. The demographic data was explored with descriptive analysis, as were the mean values of online purchase ease of use, usefulness, attitude and intention. Significance in differences of Internet heavy users and regular users (H6) was tested using the Mann Whitney U test.

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Hypotheses 1a

Online purchase ease of use and online purchase usefulness were measured using a four-item constructs, with all items measured on a 7 point Likert scale. The Spearman's rank correlation coefficient was run to determine the relationship between those two variables. There was a strong, positive correlation between ease of use and usefulness, which was statistically significant (ρ = .438, n = 226, **P** < .000). That means the more individuals think the online purchase is easy to use, the more they think it is useful. Thus, the Hypotheses 1a is supported. The Table 4.3.1 shows the results of the correlation.

Table 4.3.1 *Online purchase ease of use and online purchase usefulness: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Online Purchase Ease of Use	–	
2. Online Purchase Usefulness	0.438**	–
Mean	1.87	2.42
SD	0.90	1.09

** Correlation is significant at the 0.01 level (1-tailed).

Hypotheses 1b

Attitude toward online purchasing was tested using a three-item construct, with all items within the measure using a 7 point Likert scale. To test the correlation between online purchase ease of use and attitude towards online purchasing the Spearman's rank correlation coefficient was performed. The results show that there is a moderate, positive correlation (ρ = .386, n = 226, **P** < .000) between the online purchasing ease of use and the individual's attitude toward online purchasing. That

means, E-shoppers who think online shopping is easy, have positive attitude towards online purchase. Therefore, Hypotheses 2a and 2b are accepted. The table 4.3.2 shows the results of the correlation.

Table 4.3.2 *Online purchase ease of use and attitude toward online purchasing: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Online Purchase Ease of Use	–	
2. Attitude toward online purchasing	0.532**	–
Mean	1.87	1.77
SD	0.90	0.95

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 2a and 2b

The correlation between online purchase usefulness and attitude toward online purchase, as well as, online purchase usefulness and online purchase intention (two-item construct) were tested with the Spearman's rank correlation. There was strong, positive correlation between usefulness and attitude (ρ = .645, n = 226, **P** < .000), as well as, between usefulness and online purchase intention (ρ = .574, n = 226, **P** < .000). That infers the more individuals perceive online purchase useful, the more they intend to buy and they have positive attitude toward online purchasing. Thus, Hypotheses 2a and 2b are supported. Table 4.3.3 and Table 4.3.4 show the results of the correlation.

Table 4.3.3 *Online purchase usefulness and attitude toward online purchasing: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Online Purchase Usefulness	–	
2. Attitude toward online purchasing	0.645**	–
Mean	2.42	1.77
SD	1.09	0.95

** Correlation is significant at the 0.01 level (1-tailed).

Table 4.3.4 *Online purchase usefulness and online purchase intention: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Online Purchase Usefulness	–	
2. Online purchase intention	0.574**	–
Mean	2.42	2.69
SD	1.09	1.37

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 3

Hypothesis 3 proposed that attitude towards online purchasing is positively related to online purchase intention. According to the Spearman's rank correlation, there was strong, positive correlation (ρ = .532, n = 226, **P** < .000). This implies that the more positive attitude toward online purchasing have the individuals, the more they intend to purchase online. Therefore, the Hypothesis 3 is sustained. The table 4.3.5 shows the results of the correlation.

Table 4.3.5 *Attitude toward online purchasing and online purchase intention: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Attitude toward online purchasing	–	
2. Online Purchase Intention	0. 532**	–
Mean	1.77	2.69
SD	0.95	1.37

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 4

Hypothesis 4 tests the relationship between online purchase intention and the actual online purchase. Online purchase was measured on a 7 point Likert scale, starting with “Never/almost never”, “Less than once a month”, “About once a month”, “A few times a month”, “A few times a week”, “About once a day” to “Several times a day”. The Spearman's rank correlation coefficient was performed to determine the relationship. There was strong, negative correlation (ρ = -.592, n = 226, **P** < .000) between online purchase intention and the online purchase. The negative correlation resulted from the design of the construct, which was not reverse scored. After the transformation of the variable’s score the correlation became positive. The results show that individuals, who intend to buy online, buy frequently. Thus, the Hypothesis 4 is accepted. The table 4.3.6 shows the results of the correlation.

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Table 4.3.6 *Online purchase intention and online purchase: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Online Purchase Intention	–	
2. Online Purchase	0.592**	–
Mean	2.69	4.96
SD	1.37	1.11

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 5

Internet user experience was measured in number of hours on the Internet per week. The Hypothesis 5 suggests there is a positive relationship between the internet user experience and online purchase behavior. According to the Spearman's rank correlation (ρ = -.211, n = 226, **P** < .000), there is weak correlation. Therefore, the Hypothesis 5 is not supported. The table 4.3.7 shows the results of the correlation.

Table 4.3.7 *Internet user experience and online purchase: Correlation and Descriptive Statistics (N = 226)*

Variables	1	2
1. Internet user experience	–	
2. Online Purchase	- 0.211**	–
Mean	4,58	4.96
SD	2,10	1.11

** Correlation is significant at the 0.01 level (1-tailed).

Hypothesis 6

The Hypothesis 5 suggests that heavy internet users buy online more often than regular internet users. To determine if the mean of two groups are different from each other the Mann Whitney U test was used, because unlike the parametric t-test, this non-parametric makes no assumptions about the distribution of the data. The results suggest that there is a difference between the heavy internet users and regular internet users and heavy internet users (**U** = 4829, z = -3.253, p = .001). However, in order to know which group buys more online, the means of two groups are compared. As the result, regular users buy online more frequently than heavy internet users. Thus, the Hypothesis 6 is not supported.

Table 4.3.8 *Frequency of online buying: Descriptive Statistics*

	Mean	N	SD
Regular internet users	5.25	106	0.954
Heavy internet users	4.72	120	1.182
Total	4.96	226	1.111

4.4 Summary

In this chapter, data analysis methods and the results have been presented. Findings from this study have been found to be partially consistent with the findings of several related studies on online customer behavior. Table 5.1 lists the research hypotheses of this study with the results of the hypothesis testing.

Table 4.4 *Overall Results of Hypothesis Testing*

Research Hypothesis	Outcome
H1a: *Online purchase ease of use is positively related to online purchase usefulness.*	Supported
H1b: *Online purchase ease of use is positively related to attitude toward online purchasing.*	Supported
H2a: *Online purchase usefulness is positively related to online purchase intention.*	Supported
H2b: *Online purchase usefulness is positively related to attitude towards online purchasing.*	Supported
H3*: Attitude towards online purchasing is positively related to online purchase intention.*	Supported
H4: *Online purchase intention is positively related to online purchase.*	Supported
H5: *Internet user experience is positively related to online purchase.*	Not Supported
H6: *Heavy internet users buy online more often than regular internet users.*	Not Supported

4.5 Discussion

The results of the current study support the main assumptions of TAM. Ease of use and usefulness (Davis et al., 1989) are frequently applied in studies on technology acceptance. Previous research adopted TAM to e-commerce environment (Gefen, 2003; Gefen, Karahanna,& Straub, 2003; Pavlou, 2003; Zhou, Dai & Zhang, 2007) and proved that the model is correct. The present study also supports this. Therefore, hypotheses H1a, H1b, H2a and H2b are all statistically supported. The results of the data analyzes indicates that there is a positive correlation between online purchase ease of use and usefulness. That means the more individuals think the online purchase is easy to use, the more they think it is useful and effective. There is also a positive correlation between the online purchasing ease of use and the individual's attitude

toward online purchasing. That means, individuals who think online shopping is easy, have positive attitude towards online purchase, they usually think it is a good idea and they like to buy via Internet. According to the research findings, the relations between online purchase usefulness and attitude toward online purchase as well as online purchase usefulness and online purchase intention are statistically tested to be positive. Individuals who think online shopping is useful and effective, like to shop online, and plan to purchase products online in the nearest 3 months.

Generally speaking, the TRA predicts motivational influences on the behavior. The theory was adapted in many behavioral studies (Hansen, Jensen & Solgaard, 2004; Delafrooz, Paim & Khatibi, 2009). This research utilizes the TRA to understand the factors influencing online shopping behavior among Polish Internet users. Two hypotheses (H3 and H4) tested the assumptions of the TRA. The findings show that both hypotheses are supported. The attitude toward online shopping influences the intention to shop. And the intention to shop has a significant impact on the decision to buy via the Internet. Usually, when people think that buying a product or service on the Internet is appealing, they are willing to do that, and finally buy it. The attitude toward web-based purchase affects the online buying frequency.

The frequency of Internet use is very influential in many aspects of our life. As previously stated in the literature review, some studies found that the amount of time spent on the Internet influences the online buying frequency (Kuhlmeier and Knight, 2005; Swinyard and Smith, 2003). However, according to these research findings, the impact of Internet user experience on the e-purchase is not significant. Thus, the hypothesis H5 is not supported. Moreover, interestingly, the results show that not the group of the heavy Internet users is the one who buy slightly more often, as the research assumed, but the group of regular Internet users. Therefore, the hypothesis H6 is rejected. The author supposes that the reason why those two hypotheses were

not proven is the way the Internet experience was measured. First, the question about the time in years of Internet use was not broad enough – the range of years should be wider, because five years of Internet usage is common among all Internet users. Second, the questionnaire should ask the respondent about other dimensions of the Internet use. The frequency of use in hours per week is not a good determinant of heavy Internet usage. The amount of time the user spends on the Internet each visit may have effect on his/her Internet experience. Finally, there are some other factors that could influence the outcome of the study.

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CHAPTER FIVE

CONCLUSION AND RECOMENDATIONS

5.1 Conclusion

In this chapter an interpretation of the findings has been presented. Moreover, the author discusses limitations and makes recommendations for future research.

This thesis aims to understand how online shopping decision is determined by individual's intention to buy via Internet and his/her attitude toward e-purchase. Individual's Internet using experience is also tested regarding the influence on online shopping. The present research also differentiates two groups of users, regular and heavy Internet users, and tries to find the difference in their online buying pattern.

Online consumer behavior is very broad field for investigation. Buying no the Internet is becoming more and more popular among the Polish population. Not only it is possible to buy products or services for a lower price but also it is possible to find products not available in traditional shops. The Polish market is slowly implementing the possibilities of e-commerce. Business to Consumer websites are still developing and this channel of gaining customers is still underestimated. That is why it is very important also from academic point of view to understand what factors determines the consumer online purchase decision.

This research focuses on factors that are strongly based in e-commerce field. From this research, marketers can find out some of the factors that might influence customers‘ decision toward online purchasing. Practitioners are still looking for new ways to attract more and more online shoppers. By knowing who is buying trough this

channel might help to figure out the way to attract those, who are not convinced yet or those who did not even considered this media as an option or alternative for regular shops. From the other hand, knowing online customers‘ behavior and expectations can help in keeping those, who are already the online buyers. This study aims at Polish online users, which is quite innovative and can be as a reference point for future practitioners investigating Polish online market or for those who are considering Polish e-market as an alternative. A lot is changing in e-commerce annually. Customers are becoming more sophisticated in the way they use technology and the way they shop. The better the experience they get from browsing the Internet the more they learn and the more conclusions they get. That is why it is important to study and develop e-commerce environment.

5.1 Limitations

The present study has some limitations that should be addresses in future research. There were uncontrollable factors that affected the research. For instance, the sample could be larger. The study employed convenience, non-probability sampling. The survey was conducted online and the questionnaire was posted on an online shop website. The sample was collected from that shop only. This limits the sample only to those customers of that particular shop. Moreover, the time of survey was only one week, during the vacation period, so not many responses were collected.

5.2 Recommendations for Future Research

The author has some suggestions for future research. First, the sample should be larger and randomly selected. Online survey is appropriate, however, to increase

the response rate it is advised to send questionnaires via email and offer a small reward (e.g. discount coupons) to attract more respondents.

Second, further study should address additional factors. As said before, not only frequency of Internet use in hours per week, but also other dimensions of Internet experience, may possibly appraise the customer's online buying behavior. For example, the purpose of going online is worth studying. Weather someone usually writes emails, uses chat rooms or messengers, seeks information, plays games or writes a blog may have influence on online shopping behavior. Not only the types of Internet use, but also the places (e.g. home, office or campus/school) where someone goes online might be influential. What do consumers usually buy via Internet, where do they buy (online shop or an auction) and how do they perceive the online buying experience is also important for the overall attitude to e-purchase and repurchase. The level of preference for traditional shopping should be also investigated.

Third, the attitude to online advertising may have an influence on online buying behavior. Consumers who have negative attitude to online advertisements (spam emails, pop-up windows, etc.) may have also negative attitude to online shopping. The author recommends examining this topic profoundly.

Finally, it would be also very interesting to look at the cross-cultural perspective of the online shopping behavior.

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APPENDICES

Appendix 1 Questionnaire – original Polish version

Drodzy Respondenci,

Zwracam się z uprzejmą prośbą o wypełnienie kwestionariusza ankiety na temat kupowania przez Internet. Ankieta jest anonimowa. Prowadzona jest w celach naukowych, na potrzeby pracy magisterskiej dotyczącej zachowania użytkowników Internetu. Celem niniejszej ankiety jest zbadanie aktywności polskich użytkowników Internetu.

Dziękuję,

Justyna Roguska

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I Kupuwanie online

Od kiedy korzystasz z Internetu?

- ☐ Poniżej 6 miesięcy
- ☐ 6 miesięcy – rok
- ☐ rok – 2 lata
- ☐ 2 – 3 lata
- ☐ 3 – 4 lata
- ☐ 4 – 5 lat
- ☐ Ponad 5 lat

Czy kiedykolwiek robiłaś/eś zakupy przez Internet?

☐ Tak ☐ Nie

Ile godzin tygodniowo spędzasz średnio w Internecie?

☐ Mniej niż 5 godzin

☐ 5 do 10 godzin

☐ 10-14 godzin

☐ 15-19 godzin

☐ 20-24 godzin

☐ 25-29 godzin

☐ ponad 30 godzin

Jak często kupujesz przez Internet?

☐ Wcale / prawie wcale

☐ Rzadziej niż raz w miesiącu

☐ Około raz w miesiącu

☐ Kilka razy dziennie

☐ Kilka razy w miesiącu

☐ Kilka razy w tygodniu

☐ Raz dziennie

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Proszę wyraź sw oją opinię na temat robienia zakupów przez Internet:

	Zdecydowanie tak – Zdecydowanie nie						
Łatwo jest nauczyć się kupowania przez Internet.	1	2	3	4	5	6	7
Łatwo jest kupować przez Internet.	1	2	3	4	5	6	7
Kupowanie przez Internet wymaga ode mnie dużo wysiłku umysłowego.	1	2	3	4	5	6	7
Kupowanie przez Internet jest łatwe jeśli się podąża za wskazówkami podanymi przez sklep internetowy.	1	2	3	4	5	6	7
Internet ułatwia proces robienia zakupów.	1	2	3	4	5	6	7
Proces kupowania przez Internet jest szybki.	1	2	3	4	5	6	7
Internet pozwala mi na robienie lepszych zakupów.	1	2	3	4	5	6	7
Internet zwiększa efektywność moich zakupów.	1	2	3	4	5	6	7

Proszę wyraź swoje podejście do robienia zakupów przez Internet:

	Zdecydowanie tak – Zdecydowanie nie						
Użycie Internetu do kupowania produktów lub usług jest dobrym pomysłem.	1	2	3	4	5	6	7
Pomysł użycia Internetu do kupowania produktów lub usług jest atrakcyjny.	1	2	3	4	5	6	7
Pomysł użycia Internetu do robienia zakupów podoba mi się.	1	2	3	4	5	6	7

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Proszę napisz czy się zgadzasz z poniższymi stwierdzeniami.

	Zdecydowanie tak – Zdecydowanie nie						
Chętniej robię zakupy w sklepach internetowych niż w tradycyjnych.	1	2	3	4	5	6	7
Planuję kupić przez Internet produkt lub usługę w najbliższych 3 miesiącach.	1	2	3	4	5	6	7
W najbliższych 3 miesiącach nie będę kupować przez Internet.	1	2	3	4	5	6	7

II Dane personalne

Płeć: ☐ Mężczyzna ☐ Kobieta

Wiek: ☐ Poniżej 18 lat
☐ 18 – 24
☐ 25 – 34
☐ Powyżej 65 lat
☐ 35 – 44
☐ 45 – 54
☐ 55 – 64

Wykształcenie: ☐ Podstawowe
☐ Średnie
☐ Wyższe

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Zawód:

- ☐ Student
- ☐ Bezrobotny
- ☐ Branża komputerowa
- ☐ Inny

Zarobki miesięczne:

- ☐ Nie zarabiam
- ☐ Zarabiam poniżej 1500 PLN
- ☐ 1500 do 3000 PLN
- ☐ 3000 do 5000 PLN
- ☐ 5000 do 10 000 PLN
- ☐ Powyżej 10 000 PLN

Dziękuję, !!!

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Appendix 2 Questionnaire – English translation

Dear Respondent,

I am conducting a survey to investigate online consumers attitude toward online shopping. I sincerely invite you to spend a few minutes to complete the questionnaire. The data collected will be used for my thesis. No personal information will be made public. Please be assured that your answers will be kept in strict confidence. Take the time to fill out this questionnaire as accurately as possible. Your help is crucial to this research. I greatly appreciate your time and effort.

Thank you,

Justyna Roguska

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Part I Online shopping

How long have you been going online?

- ☐ Less than 6 months
- ☐ 6 months to less than 1 year
- ☐ 1 year to less than 2 years
- ☐ 2 years to less than 3 years
- ☐ 3 years to less than 4 years
- ☐ 4 years to less than 5 years
- ☐ 5 years or more

How many hours each week do you spend online?

- ☐ Less than 5 hours
- ☐ 5 - 10 hours
- ☐ 10 - 15 hours
- ☐ 15 - 20 hours
- ☐ 20 - 25 hours
- ☐ 25 - 30 hours
- ☐ More than 30 hours

Have you ever shopped online?

☐ Yes ☐ No

On average, how often do you buy online?

- ☐ Never/almost never
- ☐ Less than once a month
- ☐ About once a month
- ☐ A few times a month
- ☐ A few times a week
- ☐ About once a day
- ☐ Several times a day

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Please indicate your opinion about buying online:

Using the Internet to purchase in the next 3 months …	Strongly agree						Strongly disagree
…would be easy to learn for me.	1	2	3	4	5	6	7
…would be easy to do for me.	1	2	3	4	5	6	7
…would require a lot of mental effort.	1	2	3	4	5	6	7
…would be easy following the instructions provided in virtual shops.	1	2	3	4	5	6	7
…would make shopping easier.	1	2	3	4	5	6	7
…would enable me to shop more quickly.	1	2	3	4	5	6	7
…would be useful to get better purchases.	1	2	3	4	5	6	7
…would enhance my shopping effectiveness.	1	2	3	4	5	6	7

Please indicate your attitude toward Internet shopping

	Strongly agree						Strongly disagree
The idea of using the Internet to buy a product of service is appealing.	1	2	3	4	5	6	7
I like the idea of buying a product or service on the Internet.	1	2	3	4	5	6	7
Using the Internet to buy a product or service would be a good idea.	1	2	3	4	5	6	7

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Please indicate the likeliness of below statements.

	Strongly agree – Strongly disagree						
I would use online shop rather than traditional shop to purchase goods.	1	2	3	4	5	6	7
I intend to buy online within the next 3 months.	1	2	3	4	5	6	7
I will not use the Internet to purchase in the next 3 months.	1	2	3	4	5	6	7

Part II Personal information

Gender: ☐ Male ☐ Female

Age:
☐ Less than 18
☐ 18 – 24
☐ 25 – 34
☐ 35 – 44
☐ 45 – 54
☐ 55 – 64
☐ 65 or more

Education:
☐ Elementary
☐ Secondary
☐ Higher

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Occupation:

- ☐ Student
- ☐ Unemployed
- ☐ IT related
- ☐ Non IT related

Monthly income:

- ☐ No income
- ☐ Below 500 USD
- ☐ 500 USD - 1000 USD
- ☐ 1000 USD - 1750 USD
- ☐ 1750 UDS - 3500 USD
- ☐ Above 3500 USD

Thank you!!!

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