DETERMINING ONLINE CONSUMER TYPOLOGIES AND THEIR SHOPPING BEHAVIORS IN B2C E-COMMERCE PLATFORMS

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ABSTRACT

DETERMINING ONLINE CONSUMER TYPOLOGIES AND THEIR SHOPPING BEHAVIORS IN B2C E-COMMERCE PLATFORMS

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Business-to-consumer (B2C) e-commerce is the service or product exchange from businesses to consumers over the Internet. B2C e-commerce enables customers to easily compare offered products and services, to find cheaper and better ones from many alternatives and to shop from any given store without physically visiting them. Despite those conveniences provided by B2C e-commerce, a large number of customers prefer to stay away from the idea of shopping over internet due to several factors. For better customer relationship management, it is important for online retailers to clearly understand those critical factors affecting online consumer shopping behavior and take necessary actions accordingly. Numerous studies in this field assessed consumer online shopping behavior from various aspects. However, literature review showed that conducted studies do not carry out segmentation analysis while accessing shopping behavior of online consumers. The general conclusions made by these studies about consumer attitude, behavior and decision making process might not reflect actual behavior of different consumer segments. Contrary to previous studies, this study initially identified different online consumer segments by conducting two different types of market segmentation analysis, psychographic and behavioral. Psychographic segmentation was based on self-report responses, while behavioral segmentation made use of real e-commerce transaction data. As a result of psychographic and behavioral segmentation analysis four and five different online consumer segments were identified respectively. Shopping behavior of each psychographic segment was further assessed by using the developed behavior evaluation framework. Online retailers can utilize findings of this study to develop more effective marketing strategies for each determined consumer segment.

Keywords: B2C e-commerce, Consumer Behavior, Online Consumer Typologies

ÖZ

B2C E-TİCARET PLATFORMLARINDA ONLINE TÜKETİCİLERİN TİPOLOJİLERİNİN VE ALIŞVERİŞ DAVRANIŞLARININ BELİRLENMESİ

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B2C e-ticaret, internet üzerinden işletmeden tüketiciye ürün veya hizmet alışverişidir. B2C e-ticaret, müşterilerin kolaylıkla, sunulan ürün ve hizmetleri karşılaştırmasını, daha ucuz ve iyi olan ürünleri birçok alternatif arasında bulmasını ve fiziksel olarak herhangi bir mağazaya gitmeksizin alışveriş yapmasını sağlar. E-ticaret tarafından sağlanan bu kolaylıklara rağmen birçok müşteri internet üzerinden alışveriş yapmaktan çeşitli faktörler nedeniyle uzak kalmayı tercih ediyor. Daha iyi müşteri ilişki yönetimi için satış yapan kurumlar için online müşteri davranışını etkileyen bu kritik faktörleri anlamak ve tedbir almak önemlidir. Bu alanda bir çok çalışma müşterilerin online alışveriş tutumunu farklı açılardan değerlendirmiştir. Ancak; literatür araştırması, yürütülen çalışmaların online müşterilerin alışveriş davranışlarını ölçerken müşterileri alışveriş türlerine göre ayırmadıklarını ortaya koymuştur. Bu çalışmalarda müşteri tutumuna ilişkin ulaşılan genel sonuç; davranış ve karar verme süreci, farklı müşteri türlerinin gerçek davranışını yansıtmayabilir. Önceki çalışmaların aksine, başlangıçta bu çalışma farklı online müşteri türlerini psikografik ve davranışsal olmak üzere iki farklı segmentasyon analizi yaparak belirlemiştir. Psikografik segmentasyon, katılımcıların kendi ifadelerine dayanırken davranışsal segmentasyon gerçek e-ticaret verilerine dayanmaktadır. Psikografik ve davranışsal segmentasyon analizi sonucunda sırasıyla dört ve beş farklı müşteri segmenti ortaya çıkmıştır. Belirlenen her bir psikografik segmentin online alışveriş davranışı geliştirilmiş davranış değerlendirme çerçevesinde ayrıca değerlendirilmiştir. Online satıcılar, belirlenen her bir segment için daha etkili pazarlama stratejisi geliştimek üzere bu çalışmanın bulgularını kullanabilir.

Anahtar Kelimeler: B2C e-ticaret, Tüketici Davranışları, Online Tüketici Tipolojileri

This thesis is dedicated to:

My beautiful wife Sema Yıldız Huseynov

&

My dear son Emir Huseynov

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LIST OF ABBREVIATIONS

ATT	Attitude
B2C	Business to Consumer
E-Commerce	Electronic Commerce
EDI	Electronic Data Interchange
EFT	Electronic Fund Transfers
E-Store	Electronic Store
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
ICT	Information and Communication Technology
IS	Information Systems
INT	Intention
METU	Middle East Technical University
PEOU	Perceived Ease of Use
PENJ	Perceived Enjoyment
PCP	Perceived Compatibility
PIS	Perceived Information Security
PSP	Perceived Social Pressure
PU	Perceived Usefulness
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TÜBİSAD	Türkiye Bilişim Sanayiciler Derneği
US	United States
USA	United States of America
WWW	World Wide Web

CHAPTER I

INTRODUCTION

1.1 Statement of the Problem

Business-to-consumer electronic commerce or simply B2C e-commerce allows consumers to directly buy goods and services from online retailers over the Internet. The widespread adoption of e-commerce plays an important role in the development of countries. The benefits of e-commerce technologies for countries range from social to economic. E-commerce technologies enable companies to expand their marketplace by enabling them rapidly, easily and cost-efficiently locate not only more customers but also the best suppliers and the most suitable business partners both nationally and internationally (Turban et al., 2005; Albăstroiu, 2007). On the other side, it increases buyers productivity by enabling them to carry out fast, convenient and price transparent e-commerce transactions with many national and international sellers. It also improves the standard of living in rural areas by enabling people to reach products and services which are not available in their present location (Turban et al., 2005). Reduction of market entry costs, reduction of transaction costs, improvement of access to market information, better resource allocation, improvement of international coordination, an open economy stimulating competitions, diffusion of key technologies, less road traffic and lower air pollution are some other positive impacts of e-commerce on economy and society (Ghibutiu, 2003; Vinaja, 2003; Turban et al., 2005). In developing countries, e-commerce has a potential to add a higher value to businesses and consumers compared to developed countries. However, most companies and consumers in developing countries have failed to get the benefits of e-commerce enhanced by modern information and communications technologies (ICTs) (Kshetri, 2007). According to market researches, while e-commerce is among top five popular activities conducted over the Internet in developed countries (Pew Research Center, 2011; EuroStat, 2013); in developing nations, most of the internet users use the internet to socialize and get information and less people use it for e-commerce transactions (Pew Research Center, 2014). The share of e-retailing constitutes only 6.5 percent of total retailing sales in developed nations and this figure is only 4.5 percent in developing nations (Deloitte, 2015). Financial, logistics and ICT infrastructures are vital parts of any e-commerce business operations. Despite the improvements in financial, logistics and ICT infrastructures in most of the countries, e-retailing is not getting enough attention especially in developing countries.

Studies in information systems literature have showed that any given ICT will not get proper attention by its potential users unless users' behavioral issues are taken into consideration while designing and operating such systems. In e-commerce domain, it has also been realized that very good technical infrastructures and solutions are not enough for e-retailing to be successful in today's highly competitive business environment. The problem in this domain is not purely technical but mainly behavioral in nature. For that reason, a great deal of researches was conducted in order to identify critical factors influencing shopping behavior of online consumers. Online consumer behavior was investigated from the perspectives of consumer demographics (Chau et al., 2002; Brown et al., 2003; Garbarino & Strahilevitz, 2004; Alam et al., 2008), psychological factors (Huang et al., 2006; Shankar et al., 2003; Lin, 2007; Bosnjak et al.,2007; Lian & Lin, 2008; Bashar & Wasiq, 2013), cognitive factors (Belanger et al., 2002; Kim et al., 2008; Javadi et al.,2012; Bashar & Wasiq, 2013), cultural factors (Park & Jun, 2003; Ko et al., 2004; Davis et al.,2008; Yoon, 2009) and online store related factors (i.e., design, functionality, content) (Ranganathan & Ganapathy, 2002; Shergill & Chen, 2005; Ghasemaghaei et al.,2009).

However, while accessing consumers shopping behavior in online platforms, a great deal of the existing studies did not take into consideration the existence of different consumer typologies (Huseynov and Yıldırım, 2016a). That is, a great majority of studies assumed that online consumer audience is composed of single type of consumers and this assumption might lead researchers to make conclusions about online consumers shopping behaviors which might not be valid for different types of consumer groups.

1.2 Purpose of the Study

This study aims to identify different consumer typologies in business-to-consumer (B2C) online shopping platforms and later determine the critical factors influencing shopping behaviors of each determined consumer segment. If these critical factors influencing consumers' shopping behavior can be identified and managed correctly they can provide several advantages to the companies over its competitors by allowing them to generate more revenues and increase its customer base by developing successful marketing strategies customized to the characteristics of each determined consumer segment. Segmentation is a process of dividing a broad target market into subsets of consumers who share common needs, expectations and interests. Segmentation process enables firms to design and implement successful marketing strategies to target different segments. Explorative segmentation analysis that will be carried in this study aims to identify hidden structures in consumers behavior and attitudes. More specifically, segmentation analysis in this study aims to identify groups of online consumers who share similar characteristics in terms of their perception of e-commerce.

This study aims to fulfill the existing gap in relevant literature by initially carrying out market segmentation analysis in order to determine different online customer segments and their main characteristics. The segmentation approach in this study will be based on psychographic and behavioral factors. Later, comprehensive online consumer behavior evaluation framework developed within the scope of this study will be tested on each determined consumer segment. A customer segmentation process enhanced with behavior evaluation framework will explain much more reliable information about the characteristics of different online consumer groups which will enable online

retailers to effectively allocate their marketing resources and design more successful marketing mix for each consumer segment. Determination of shopping behavior of each online customer segment will also provide insight to online retailers in customizing their products and services for them to appeal more specifically to each segment's needs, expectation and motivations.

1.3 Research Questions

In line with the purpose of this study, two research questions were identified.

R1: What segments exist in a broad online consumer audience and what are their main behavioral characteristics in terms of online shopping?

R2: Do factors influencing consumer attitudes and intentions toward online shopping exhibit changes according to different consumers segments?

1.4 Justification of the Study

The worldwide audience of online consumers is constantly growing. This growing trend requires online consumers to be segmented very carefully for marketing efforts to be successful. Segmentation enables to divide broad target market into subset of consumers who have common needs, expectations and interests. Successful segmentation process enables companies to develop more effective marketing strategies, reduce direct marketing costs, increase consumers satisfaction levels, reduce churn rates and determine the profitable customer groups (Laudon and Laudon, 2014, pp.386). It also enables companies to customize their products according to each segments' needs.

Systematic literature review (Huseynov and Yıldırım, 2016a) on the issue showed that most of the existing studies assume that online consumer audience is composed of a single type of customers who share similar characteristics in perception of e-commerce. That is, the major deficiency of these studies is their assumption about online consumer audience being composed of a single type of customers. However, numerous studies showed that online consumer audience is not a single market segment (Swinyard and Smith, 2003; Brengman et al., 2005; Jayavardhena et al., 2007; Ganesh et al., 2010; Ye et al., 2011). Therefore, the general conclusions made by these studies about consumers' behavior, attitudes and decision making processes might not be valid for broad online consumer audience and might not reflect actual behavior of different consumer segments. Carrying out segmenting process on online consumer audience and later assessing each segments behavior which are the main objectives of this research can reveal more reliable results.

Most of the existing segmentation studies classified online customers according to their demographic characteristics such as age, gender, culture, income, occupation, marital status, etc. (Huseynov and Yıldırım, 2016a). However, only few studies carried out segmentation analysis based on psychographic and behavioral characteristics. Psychographic and behavioral segmentation approach takes into consideration several factors about online consumer such as online activities, attitudes, perceptions, expectations, lifestyle, consumption and etc. Segmentation analysis based on psychographic and behavioral factors can be more robust than segmentation simply based on demographic factors as literature review showed that there exist a reasonable amount of contradictions among findings of studies based on demographic factors (Huseynov and Yıldırım, 2016a). Contradictory results of demographic studies show

that caution should be exercised while interpreting research findings to different cultural contexts. In contrast, segmentation based on psychographic and behavioral factors exhibits stability and consistency even in cross-cultural environments (Swinyard and Smith, 2003; Brengman et al., 2005). Therefore, in this study two robust form of segmentation approach (i.e., psychographic and behavioral) are utilized in dividing a consumer base into separate subsets and in evaluating their behavioral characteristics.

1.5 Thesis Outline

This thesis is divided into six chapters which are mentioned below. In Chapter 1, statement of the problem, purpose of the study, research questions and justification of the study are given. Chapter 2 mentions about B2C e-commerce concept and reviews previous studies conducted on this field. In Chapter 3, research model and proposed hypotheses are provided. In Chapter 4, the methodology of the study including research design, procedures, study sample, survey instruments and statistical techniques are presented. Chapter 5 is about the data analysis. In this section, the collected data is analyzed by using necessary statistical methods and tools. Results of the statistical tests are also explained in this chapter. Chapter 6 summarizes the research findings and presents derived practical business implications. This chapter also mentions about research limitations and suggests possible future research directions in this field.

CHAPTER II

LITERATURE REVIEW

2.1 Background of Electronic Commerce

Commerce is a branch of business which deals with exchange of goods and services. It includes all the activities which facilitate this exchange process either directly or indirectly. Before going into detail about the electronic commerce (e-commerce), it is worth to review the terms Internet and World Wide Web (WWW). Many people use the words Internet and WWW interchangeable; however, these two words refers completely different but related things. Internet refers to a networking infrastructure which connects millions of computers and electronic devices globally. However, the WWW is simply one of many applications of Internet. WWW, or simple web, is based on HTML, HTTP, web servers and browsers. WWW consists of pages which reside on servers and can be accessed by using a web browser. In its early years, the term e-commerce referred the electronic execution of commercial transactions with the help of technologies such as Electronic Data Interchange (EDI) and Electronic Fund Transfers (EFT). These transactions mostly executed by big companies and organizations. However, thousands of new businesses started to appear on web after the commercialization of Internet in 1991. Just before the commercialization of Internet, a new revolution was started in 1990 when Tim Berners-Lee built all the necessary tools including the first web browser (WWW) for a working web. Initially, WWW was adopted by scientific research centers and laboratories of universities. However, after the introduction of first graphical web browsers "Mosaic" in 1992, WWW started to gain popularity. Electronic commerce, also known as e-commerce, is a type of business model which allows buyers and sellers to conduct a business or transaction over the Internet or other computer networks.

Different types of e-commerce are given in Table 1. As it is given in Table 1, there are 9 main types of e-commerce. B2B model refers to commercial transaction between businesses. Transactions between manufacturer, wholesaler and retailer can be an example to B2B. In B2C model, business is conducted directly between the company and the consumer who are the end-user of the products or the services provided by the given company. C2C e-commerce is third party facilitated electronic transactions between end-users of the products or services. Online auction websites can be given an example to C2C. C2B which is reverse of B2C refers to business model in which end user creates and provides goods or services to the companies. B2G encompasses

marketing of products and services by private organizations to various government sectors. On the other hand, G2B involves the sale of government services and goods to the private business organizations.

Table 1 - Types of E-Commerce

	Business	Consumer	Government
Business	B2B	B2C	B2G
Consumer	C2B	C2C	C2G
Government	G2B	G2C	G2G

The most common type electronic commerce we encounter on the Internet is B2C online shopping. B2C online shopping is a form of electronic commerce which allows consumers to buy products or services from the seller over the Internet. Online shopping transforms traditional shopping in the physical stores to the digital market. After the commercialization of Internet more and more dotcoms started to appear on the web. Dotcoms refers to the companies that conduct most of their business over the Internet. Even though many dotcoms went out of business between 1999 and 2001, many others survived and continued to be successful till present.

Study conducted at Pew Research Center (2011) in U.S.A. tried to identify the most popular online activities performed by Internet users. Result of the study is given in Figure 1. According to the survey results, top 5 online user activities are sending or reading email, using a search engine, getting news online, buying a product online and using social network sites. From the Figure 1, it can be seen that by the end of 2011 71% of Internet users in U.S.A. purchased a product online. Online shopping was also found to be one of the most popular online activities in Europe (Eurostat 2012).

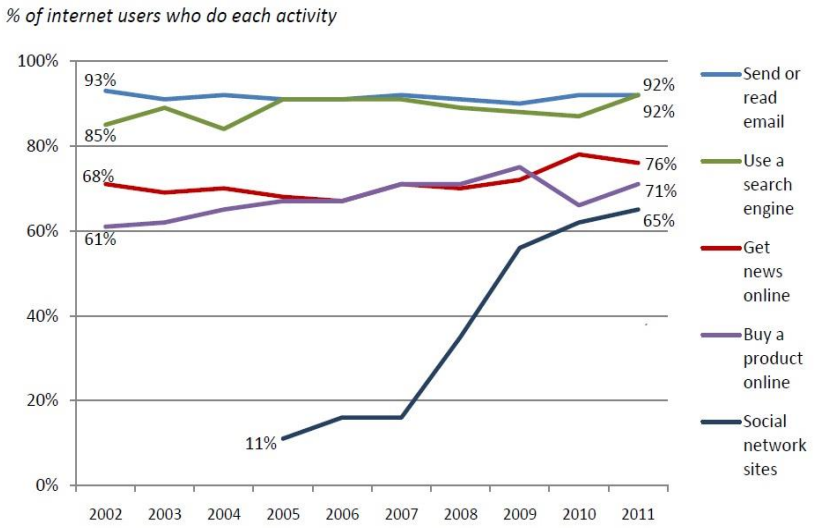

Figure 1 - Most Popular Online Activities in USA (2002-2011)

When compared with U.S.A. and Europe, the online shopping rate in Turkey is considerably less. A survey study conducted by Huseynov and Yıldırım (2016b) showed the most popular online activities in Turkey. Figure 2 shows the result of the survey. The most popular online activities in Turkey were found to be getting social through social networking platforms (61.5%), watching movie and listening to music

(48.2%) and reading news (45.6%). Only 18.5% of respondents stated that they actively use Internet for online shopping.

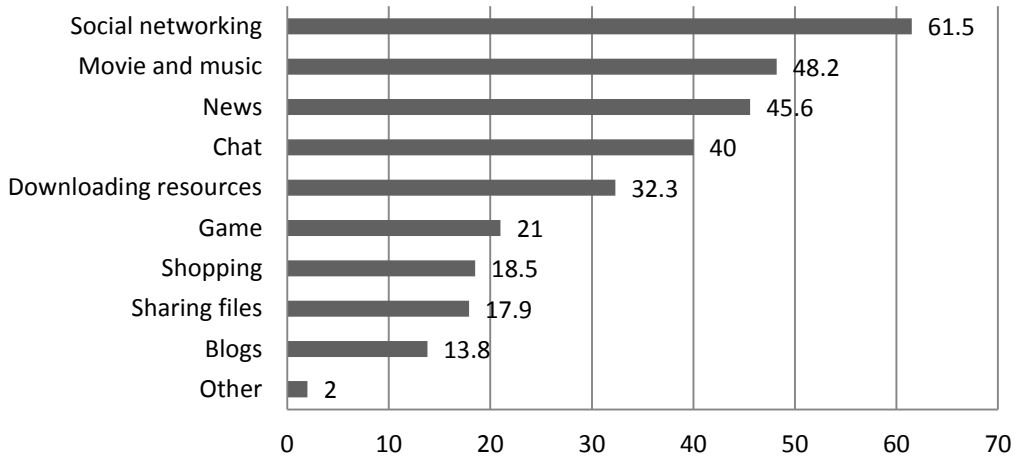

Figure 2 - The most popular online activities in Turkey

The research conducted by TÜBİSAD and Deloitte (2015) assessed the share e-retailing in total retailing in different nations of the world. The result of the research is given in Figure 3. In developing nations, on average 4.5 percent of total retail sales comes from online retailing. In developed nations, this ratio is 6.5 percent. In Turkey, online retail transaction constitutes only 1.6 percent of total retail sales which is well below the average of both developing and developed nations. Turkey comes just ahead of India (1.5 percent) in e-retailing penetration level.

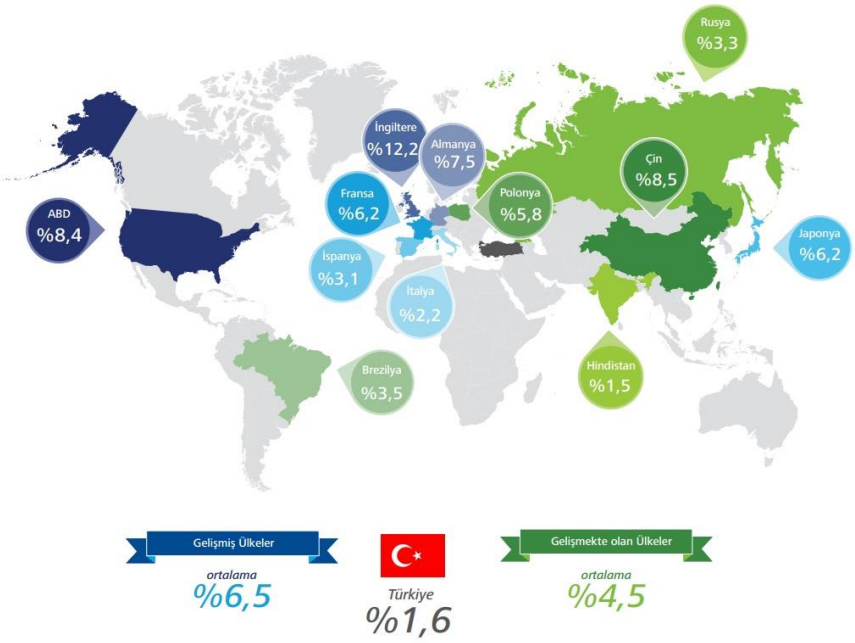

Figure 3 - The share of e-retailing in total retailing (Source: TÜBİSAD & Deloitte, 2014)

Even though market potential is good (18.9 billion TL) in Turkey and expanding every year with 35% (Figure 4) growth level, it does not get enough attention when compared with other nations (TÜBİSAD and Deloitte, 2015).

Figure 4 - E-commerce market size in Turkey (Source: TÜBİSAD & Deloitte, 2014)

The rate of e-commerce sales has kept growing every year since its first appearance on the Internet as a new way of conducting a business and it is estimated to continue growing year by year. Figure 5 shows the estimated global e-commerce sales between 2013 and 2018 in trillion US dollars. According to the statistics, while the online retail sales were 21.2 trillion dollars in 2013, it is estimated to reach approximately 28.3 trillion dollars in 2018. That is, the volume of online sales is estimated to increase approximately 25 percent in 6-year time period.

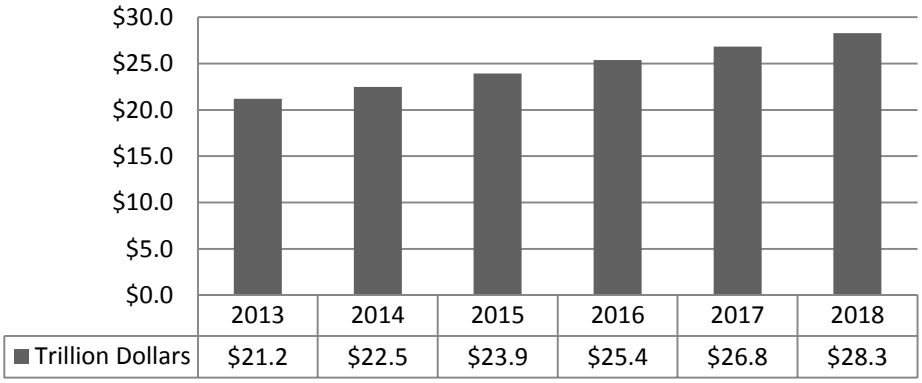

Figure 5 - Global e-Commerce Sales (Source: eMarketer.com, December 2014)

There are several reasons behind the growing trend of e-commerce worldwide. According to Internet World Statistics (2015), the number of global Internet users is increasing every year. By the end of 2015 the number of Internet users was approximately 3.37 billion (Internet World Stats, 2015). The growth rate in the number of Internet users between the years 2000 and 2015 is approximately 833 percent. As a result of the increase in Internet usage, the rate of e-commerce is on the increase particularly in the countries where marketing infrastructure are well developed (Salehi, 2012). Other possible reasons behind the growth level of e-commerce can be listed as follows. Firstly, sellers and buyers are not limited to geographical locations; that is, consumers do not need to travel long distances in order to purchase the items they need. Through e-store they can easily make transactions with sellers located in another

city or country by saving both time and traveling cost. Secondly, in order to attract consumers to physical store very good branding, customer relationships, marketing strategies are required. However, in e-commerce it is very easy to attract potential customers worldwide to e-store by utilizing certain search engines, social networking and online advertising strategies. Thirdly, a lowered cost is another factor which makes e-commerce so popular (Su & Huang, 2011). When compared with costs physical retailing, advertising and marketing costs in electronic commerce is much lower. Organic traffic from search engines, social media traffic, per-pay-click traffic and other online advertising strategies lowers the marketing expenses of online retailers. In addition, automation of the billings, checkouts and operational processes lowers the expenses by reducing the number of employees required. Moreover, since online retailers are selling their products over Internet, they do not need to rent, build or purchase a physical store which requires a large amount of investment. All of these reduced costs mentioned above are reflected to online consumers in the form of discounted prices. Finally, in physical store a lot of effort and time are required in order to physically find and compare the features of the items. However, in e-commerce there exist intelligent services which searches the products across well-known stores and after finding the relevant items it compare features and prices of those items and list them in a tabular form which makes decision making process for online customer very easy (Huseynov et al., 2016).

Table 2 - Benefits of e-commerce to customers, organizations and society

Advantages to Customers	Ability to shop 24 hours and 7 days a week. Ability to easily select the most suitable items among many alternatives. Ability to shop from any store without physically visiting them. Ability to review the comments on products before purchasing. Ability to purchase products at more competitive prices
Advantages to Organizations	Ability to build online store at considerably lower cost. Reduced paperwork Faster and easier order processing. Elimination of middleman; that is, ability to sell directly to end-users. Ability to reach worldwide markets and customers. Reduced inventory, employees and order processing costs
Advantages to Society	People at the rural areas can access products and services which are not available to them in their current location. Government can deliver various kinds of public services such as education, health care, social services in an improved way and at the same time with reduced cost. Less shopping travels on the roads and less air pollution

Benefits of e-commerce to customers, organizations and society are summarized in Table 2. Despite all these positive factors about e-commerce mentioned above, many consumers prefer to stay away from e-stores. There are several reasons behind why many customers do not want to purchase products online. From customers' point of view, several risks are involved in every step of online shopping task which is given in Figure 6. In registration stage privacy risk (Ranganathan & Ganapathy, 2002; Eri et al., 2011; Huseynov and Yıldırım, 2016b), in product selection stage competence,

benevolence and product quality risks (Komiak & Benbasat, 2006), in payment stage financial security risks (Belanger et al., 2002; Garbarino & Strahilevitz, 2004; Nazir et al., 2012; Huseynov and Yıldırım, 2016b), in delivery stage transportation risks (Moshref Javadi et al., 2012) and in after-sales stage maintenance or repair risks (Ghasemaghaei et al., 2009; Nazir et al., 2012) are involved.

Figure 6 - Steps followed in an online shopping task

Firstly, in order to purchase a product from online stores users are required to enter their personal information and get registered to the system. Customers sometimes are reluctant to enter their personal information due to privacy risks involved in this stage. Online customers are not sure about how the information they supply will be protected. That is, they are not sure whether their personal information will be shared or sold to unwanted people. A privacy issue in online shopping context is one of the important factors analyzed by researchers (Ranganathan & Ganapathy, 2002; Eri et al., 2011).

Secondly, in product selection phase, customers are required to enter their product preferences to the shopping system and then, system searches database and shows the most relevant products to the customers. Due to competence and benevolence risks involved in such systems customers are sometimes reluctant to shop over Internet. In this stage, online consumers sometimes are not sure whether shopping system performs effectively, cares about consumer and acts in the interest of them (Komiak & Benbasat, 2006).

Thirdly, in a payment phase of online shopping task, customers get nervous about security risks involved in this stage. In order to purchase any item or service over Internet, customers need to provide their credit card information. With the fear that their credit card information can be stolen by unwanted people, those customers prefer physical stores to online stores (Belanger et al., 2002; Garbarino & Strahilevitz, 2004, Nazir et al., 2012; Huseynov and Yıldırım, 2016b).

Fourthly, customers who do not prefer virtual stores are afraid of the fact that product they purchase from Internet might not be delivered or might be damaged during the transportation. Product delivery risks have a significant impact on consumer behavior toward online shopping (Moshref Javadi et al., 2012).

Finally, after-sales services factors which include refunds, replacements, technical assistance, repair and maintenance makes customers have doubts about online shopping (Ghasemaghaei et al., 2009; Nazir et al., 2012). Due to lack of face-to-face interaction, customers' fears about after-sales issues increase.

Trustworthiness is also another important factor which makes customers anxious about online store (Belanger et al., 2002). Everyone can launch an online store within a day and start selling fake products of services to online customers who are unaware that fact that they are deceived by Internet thieves. Doubt about the online store being genuine keeps many customers away from the idea of e-commerce. Besides these two important points mentioned above, there exist many other factors which makes

consumers hesitated about online shopping. Ever since its emergence, behavioral issues in B2C ecommerce have been researched extensively by both scholars and practitioners due to huge potential economic impact of ecommerce. Many researches were conducted to understand what factors influence consumers shopping intentions toward online stores. The following subsection discusses previous studies on B2C e-commerce in detail.

2.2 Previous studies on B2C E-Commerce

It is possible to come across B2C e-commerce articles in various journals in many disciplines such as marketing, management, business, psychology, information technology and etc. In order to retrieve all the relevant articles, extensive literature review was carried out on the following databases (Huseynov and Yıldırım, 2016a):

- Emerald,
- IEEE Xplore,
- Sage Journals Online,
- Science Direct,
- Springer Link
- Wiley Online Library

The literature searching process involved the combination of the following keywords:

- B2C ecommerce
- Online shopping
- Internet shopping
- Internet retailing
- Web shopping
- Online consumer
- Consumer behavior
- Consumer shopping behavior

Only peer-reviewed journals published between 2005 and 2014 were taken into consideration in this study. Full text of each retrieved article was reviewed in order to eliminate the ones that were not related to online consumer's behavioral issues on B2C e-commerce platforms. Articles that were not included (eliminated articles) for further research were mainly focused on the technical aspects of B2C e-commerce and its related technologies. The review process yielded in total 208 articles from 71 journals across 6 databases.

The distribution of the reviewed articles by year is given in Figure 7. As shown it is shown in the figure, the number of published articles related to B2C e-commerce exhibits a growing trend. The twofold increase in the number of published articles from 2005 to 2014 shows how much attention this issues is getting in the relevant literature.

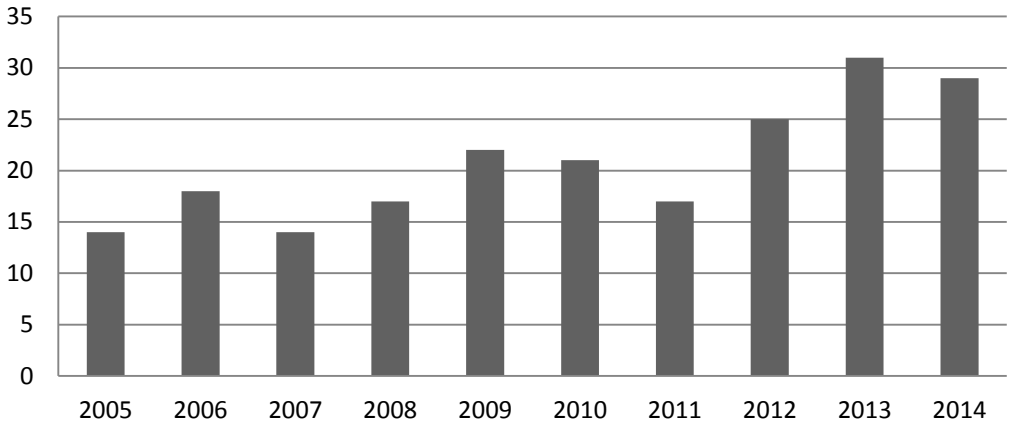

Figure 7 - Distribution of the reviewed articles by year

The list of journals that published more than three articles related to B2C e-commerce is given in Table 3. Full list of journals and number of articles published on the issue can be found in Appendix A. Journal of Business Research, Electronic Commerce Research and Applications, Computers in Human Behavior are the top three journals that published approximately one fifth of the retrieved articles.

Table 3 - Journals with more than three articles on B2C e-commerce

Journal Name	# of Articles	Cum. Count	Cum. %
Journal of Business Research	18	18	8,5
Electronic Commerce Research and Applications	15	33	15,6
Computers in Human Behavior	11	44	20,9
International Journal of Retail & Distribution Management	11	55	26,1
Journal of Retailing and Consumer Services	10	65	30,8
Electronic Commerce Research	8	73	34,6
Information & Management	8	81	38,4
Electronic Markets	7	88	41,7
International Journal of Information Management	7	95	45,0
Information Systems and e-Business Management	5	100	47,4
Internet Research	5	105	49,8
Journal of Fashion Marketing and Management	5	110	52,1
Decision Support Systems	4	114	54,0
Direct Marketing: An International Journal	4	118	55,9
International Journal of Consumer Studies	4	122	57,8
Journal of Consumer Behavior	4	126	59,7
Journal of Research in Interactive Marketing	4	130	61,6
Journal of Retailing	4	134	63,5
Journal of Services Marketing	4	138	65,4
Psychology and Marketing	4	142	67,3
Technovation	4	146	69,2

The most commonly encountered limitations in the retrieved articles are given in Table 4. Top limitations are as follows. A large majority of the studies utilized convenience sampling method (96.15%) and cross-sectional study design (95.19%). That is, participants of these studies were selected based on their ease of access and these studies were carried out over a short period. A number of studies were conducted in a single country context (94.71%); therefore, caution is required while generalizing the results of these studies to other cultural contexts. A great deal of studies utilized self-report questionnaires (94.23%) to gather research data. Due to its nature, self-report measures might not reflect consumers' actual behaviors. A number of studies utilized university students as study participants (45.19%). Student samples have generalizability issues; that is, they have limited power to represent the population of interest. A lot of studies utilized online surveys for data collection (27.88%) which is limited in terms of sampling and respondent availability.

Table 4 - Common limitations of retrieved articles

Limitation	Frequency	Percentage
Convenience sampling method	200	96,15%
Cross-sectional study	198	95,19%
Self-reports	196	94,23%
Student participants	94	45,19%
Online survey	58	27,88%
Simulated shopping task on a fictitious website	38	18,27%
Participants with online shopping experience	30	14,42%
Focus on certain type of product(s)	19	9,13%
Hypothetical buying scenario on real website	9	4,33%
Small sample size	8	3,85%
Focus on certain type of website(s)	5	2,40%

Retrieved articles were classified according to their research focus, aim and perspective. Figure 8 shows the classification framework and the number of the articles in each research area. The purpose of this classification is to show the focus of existing studies, to highlight less researched areas and to give direction to the future studies. Even though this classification is subjective in nature, the content of the articles sufficiently reflects each research area. B2C e-commerce research can be broadly classified as online consumer related and e-vendor related studies. Consumer related studies focus on online consumers' behavioral issues and online consumer segmentation. In an attempt to understand consumers' decision-making processes in and attitudes and intentions toward online shopping, behavioral studies take various psychological, cognitive and demographic factors into consideration. E-vendor related studies concentrate on online store features, online shopping tools, online store credibility and reputation.

The numbers in each box represent the numbers of published articles related to the given research area. Most of the retrieved articles examined both consumer and e-vendor related issues; therefore, these papers appeared in more than one research area.

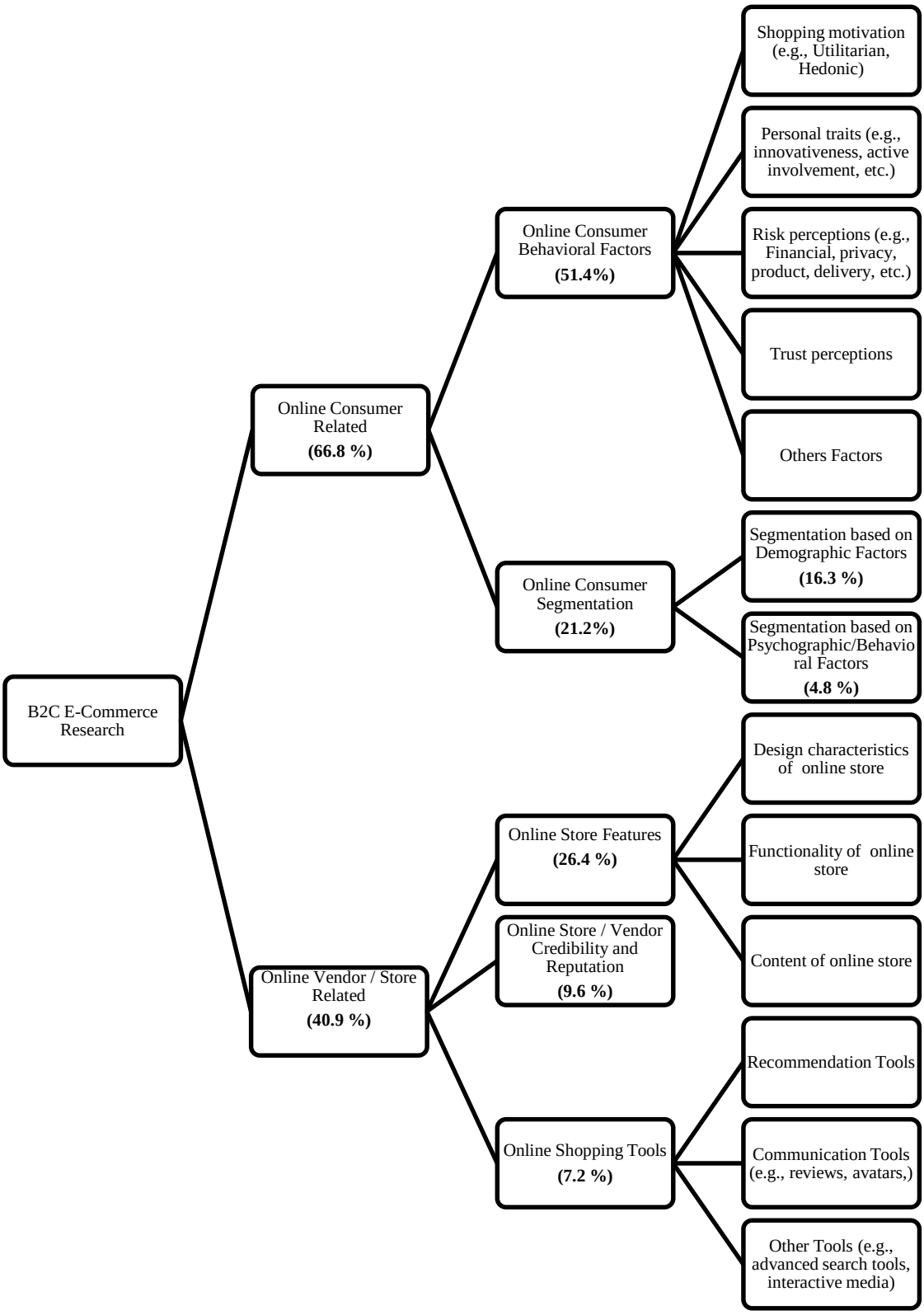

Figure 8 - Classification of articles based on their research focus, aim and perspective.

2.2.1 Studies Focusing on Online Consumer Behavioral Issues

Online consumer related studies focus on consumers' behavioral and consumer segmentation issues. By taking into consideration various psychological, cognitive and demographic factors, behavioral studies attempts to understand consumers' decision making process in B2C e-commerce platforms. On the other hand, segmentation studies attempt to classify online consumers based on their demographic, psychographic and behavioral characteristics in order to help online retailers to tailor their products and services according to each segments needs and requirements.

Factors analyzed in the scope of behavioral studies includes consumers' Internet usage and previous online shopping experiences, shopping motivation, personal traits, risk perceptions, benefit perceptions, trust perception, subjective norms, perceived behavioral control and etc. In the conducted studies, researchers analyzed how these factors influence consumers' decision making process in online shopping and attitudes and behavioral intentions toward online shopping.

Some findings from the selected articles are as follows. Two types of online consumer shopping motivation, utilitarian and hedonic, were examined quite extensively in the relevant literature (Overby and Lee 2006; Close and Kinney; 2010; Bridges and Florsheim, 2008; To et al., 2007; Scarpi et al., 2014; Shun and Yunjie, 2006; Lopez and Ruiz, 2011; Kim et al., 2012; Lee et al., 2006; Davis et al., 2014; Chiu et al., 2014). While, utilitarian motivation is defined as goal oriented hedonic motivation refers to consumers' shopping behaviors that focus on enjoyment, satisfaction, happiness and sensuality. These two motivational factors were found to be positively associated with behavioral intention to shop online (Kim et al., 2012; Davis et al., 2014; Chiu et al., 2014) and spread positive word-of-mouth information on the web about online retailers (Scarpi et al., 2014).

The relationship between online shopping behavior and personal traits such as innovativeness, active involvement, agreeableness, conservation, self-enhancement, self-confidence, openness to experience, individualism, collectivism and risk aversion was assessed by several studies (Blake et al., 2005; Riquelme and Roman, 2014; Bosnjak et al., 2007; Xia, 2010; Bigné-Alcaniz et al., 2008; Yoon, 2009; Crespo and Bosque, 2008; Lu et al., 2013; Zhou et al., 2014; Hsu et al., 2012; Wu et al., 2011). Active involvement, agreeableness and openness to experience were found to have a significant influence on consumers' willingness to shop online (Bosnjak et al., 2007). Innovativeness in new technology was also found to affect attitude and intention toward online shopping positively (Blake et al., 2005; Bigné-Alcaniz et al., 2008; Crespo and Bosque, 2008).

The relationship between consumer risk perceptions and shopping behavior were examined by several studies in the literature. Privacy risk, security risk, financial risk, product delivery risk, product performance risk, psychological risk, social risk and refund risk are among the risk factors that found to negatively influence shopping behavior of online consumers (Huseynov and Yıldırım, 2016b; Chiu et al., 2014; Broekhuizen and Huizingh, 2009; Wang et al., 2006; Hong and Cha, 2013; Lian and Lin, 2008; Lian and Yen, 2013; Crespo and Bosque, 2010; Liao and Keng, 2013; Soopramanien and Robertson, 2007; Teo and Yu, 2005; Liu et al., 2013; Zhang and Liu, 2011; Korgaonkar and Karson, 2007; Keating et al., 2009; Buttner and Goritz, 2008; Forsythe et al., 2006; Soopramanien, 2011; Punj, 2012; Huang et al., 2006; Stern et al., 2008; Wu et al., 2010; Lee et al., 2010; Yu et al., 2012).

When it comes to the segmentation studies grouping and assessing the behavior of online consumers according to their demographic characteristics is one the most commonly followed strategies in the literature. Age, gender, marital status, income and occupation are some of the characteristics upon which segmentation process is carried out (Chen et al., 2014; Yoon, 2009; Liebermann and Stashevsky, 2009; Crespo and Bosque, 2010; Gong et al., 2013; Kim et al., 2012; Davis et al., 2014; Roman, 2010; Clemes et al., 2014). Bhatnagar (2007) and Gong et al. (2013) found that income level of the consumer plays a significant role in the frequency of online shopping. While Clemes et al. (2014) showed that occupation has a positive impact on online shopping adoption, Crespo and Bosque (2010) did not find any significant relationship between them. While the study conducted in China by Clemes et al. (2014) indicated that single consumers are more likely to shop online, the study conducted in Israel by Liebermann and Stashevsky (2009) found no significant relationship between marital status and online shopping rate.

Segmentation according to psychographic and behavioral characteristics considers factors such as online consumers' lifestyle, attitudes, expectations, shopping activities, shopping motivation and shopping orientation while assigning consumers to groups consisting of members who have common needs, expectations and interests. Conducted studies showed the existence of different types of online consumer segments based on consumer characteristics (Lu et al., 2013), shopping motivation (Hill et al., 2013), shopping orientation (Gehrt et al., 2012), consumers' underlying cognitive style and involvement (Wang et al., 2006), Internet usage pattern (Aljukhadar and Senecal, 2011), computer expertise (Chen et al., 2010) and decision making style (Rezaei, 2015).

2.2.2 Studies Focusing on Online Store/Vendor Related Factors

E-vendor related studies mainly concentrate on the relationship between consumer behavioral issues and online store features (i.e., design, functionality, and content), online shopping tools, online store credibility and reputation.

Studies that focus on online store design factors evaluate online stores' general design and visual aspects (Chung and Shin, 2010; Liao et al., 2006; Bartikowski and Singh, 2014; Shin et al., 2013; Ethier et al., 2006; Koo, 2006), ambience and atmosphere (Mummalaneni, 2005; Ding and Lin, 2012; Wu et al., 2014) and customer interface features (Chang and Chen, 2008; Fasolo et al., 2006; Mazursky and Vinitzky, 2005). In several studies, it was found that the better consumers perceive online store design to be, the more they get enjoyment and satisfaction from their online transactions (Chung and Shin, 2010; Floh and Madlberger, 2013; Liu et al. 2008). Liao et al. (2006) showed that the appearance of an online store positively affects the consumers' perceptions about online stores' usefulness.

Studies that focus on online store functionality evaluate online stores from the perspective of convenience (Chang an Chen, 2008; Chung and Shin, 2010; Clemes et al., 2014; Shin et al., 2013), customization (Tsai and Huang, 2007; Pechpeyrou, 2009; Chellappa and Sin, 2005), technical adequacy (Liao et al., 2006; Shin et al., 2013; Ou and Sia, 2010), usability (Chen and Macredie, 2005; Baie et al., 2008; Zviran et al., 2006), interactivity (Lee et al., 2006; Chang and Chen, 2008; Wu et al., 2010), fulfillment (Liao et al., 2010; Lee et al., 2009), efficiency (Lee et al., 2009), complexity (Wang et al., 2014), navigation (Floh and Madlberger, 2013) and transaction speed (Liu et al., 2008; Rajamma et al., 2009). It was found that when consumers find the

online transaction completion process as inconvenient, they are more likely to abandon the online shopping cart (Rajamma et al., 2009). Online stores that exhibit a high degree of convenience in terms of transaction and search processing positively influence consumers' online shopping intention and loyalty (Chang and Chen, 2008; Jiang et al., 2013). Customization was found to positively influence online consumers' satisfaction, loyalty and behavioral intentions toward online shopping (Chang and Chen, 2008; Tsai and Huang, 2007).

Studies that focus on online store content assess online stores in terms of general content quality (Chen and Cheng, 2013; Chen et al., 2014; Liao et al., 2006; Baritkowski and Singh, 2014; Gregg and Walczak, 2010), content quantity (Gao et al., 2012; Chen et al., 2009; Parra and Ruiz, 2009), content presentation (Zo and Ramamurthy, 2009; Yoo and Kim, 2012; Huang and Kuo, 2011), informativeness (Chung and Shin, 2010; Shin et al., 2013) and product variety (Clemes et al., 2014; Liu et al., 2008). All of these factors were found to influence consumers' satisfaction, loyalty and behavioral intentions toward online shopping.

The influence of online store credibility and reputation on online consumer attitudes and behavioral intentions toward online shopping were assessed by several studies (Riquelme and Roman, 2014; Pan and Zinkhan, 2006; Smith and Shao, 2007; Xie et al., 2006; Kinney and Close, 2010). It was found that if consumers do not perceive online stores credibly due to privacy and security issues, they are more likely to switch to physical stores (Kinney and Close, 2010). Credibility of the online stores was assessed from various aspects such as existence of sound privacy policies (Riquelme and Roman, 2014; Pan and Zinkhan, 2006; Smith and Shao, 2007; Xie et al., 2006; Kinney and Close, 2010; Cheung and Lee, 2006; Wirtz et al., 2007), effective security measures (Sahney et al., 2013; Riquelme and Roman, 2014; Jiang et al, 2008; Kinney and Close, 2010; Cheung and Lee, 2006; Sha, 2009; Noort et al., 2008), reasonable delivery services (Lantz and Hjort, 2013) and fair return policies (Sahney et al., 2013; Noort et al., 2008; Lantz and Hjort, 2013; Pei et al., 2014). Findings of the studies showed that privacy and security measures within online stores positively influence perceived trustworthiness of online stores (Riquelme and Roman, 2014; Pan and Zinkhan, 2006). If consumers do not perceive online stores credibly due to privacy and security issues, they are more likely to buy online cart contents from physical stores (Kinney and Close, 2010). It was also found that free delivery and return policies increase the number of order made over online stores (Lantz and Hjort, 2013). Kim and Lennon (2013) showed that when online sellers' reputation is high, consumers' hold more positive emotions and less perceived risk toward online sellers.

In several studies the influence of various online shopping tools on consumer decision making process were assessed. These tools include recommender agents (Yoon et al., 2013; Hostler et al., 2012; Lee and Kwon, 2008; Hostler et al., 2011; Huseynov et al., 2016), avatars (Keeling et al., 2010), image interactive technologies (Lee et al., 2010, Kim et al., 2007; Shim and Lee, 2011), social presence tools (Ogonowski et al., 2014; Chattaraman et al., 2012), search tools (Chen et al., 2009; Parra and Ruiz, 2009) and communication tools such as online consumer reviews and ratings (Bae and Lee, 2011).

CHAPTER III

RESEARCH MODEL DEVELOPMENT AND HYPOTHESES FORMULATION

3.1 Conceptual Models

Research models of the study are given in Figure 9 and 10. Figure 9 visually depicts potential online consumers segments which are going to be extracted in this study. Figure 10 presents online consumer behavior evaluation framework which aims to predict consumer behavior in an online environment by utilizing Technology Acceptance Model (TAM) (Davis, 1989) as a robust theoretical base and incorporating previous empirical findings from the relevant literature. This behavior evaluation framework will be tested for each determined consumer segment separately. Testing the developed behavior evaluation framework on each determined consumer segment will further help to understand the differences between various consumer segments. There are eight constructs in the model. While perceived usefulness of online shopping, attitude toward online shopping and behavioral intention to shop online are dependent variables, perceived enjoyment, perceived ease of use, perceived compatibility, perceived information security and perceived social pressure are independent variables. This model will be tested separately for each potential segment that will be determined as a result of psychographic segmentation analysis. Testing the developed model separately on each segment will further help to understand the differences between various segments in terms of their perceptions about online shopping. All independent variables but perceived information security is hypothesized to directly and positively influence consumers behavioral intention to shop over online stores. All independent variables are also hypothesized to indirectly (i.e., through attitude toward online shopping) and positively influence consumers' behavioral intentions.

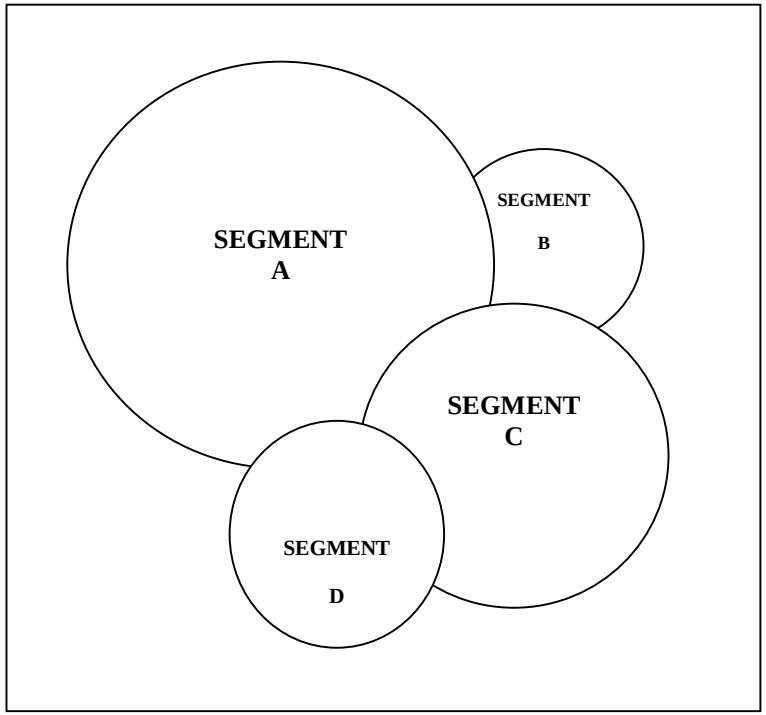

Figure 9 - Potential online consumer segments

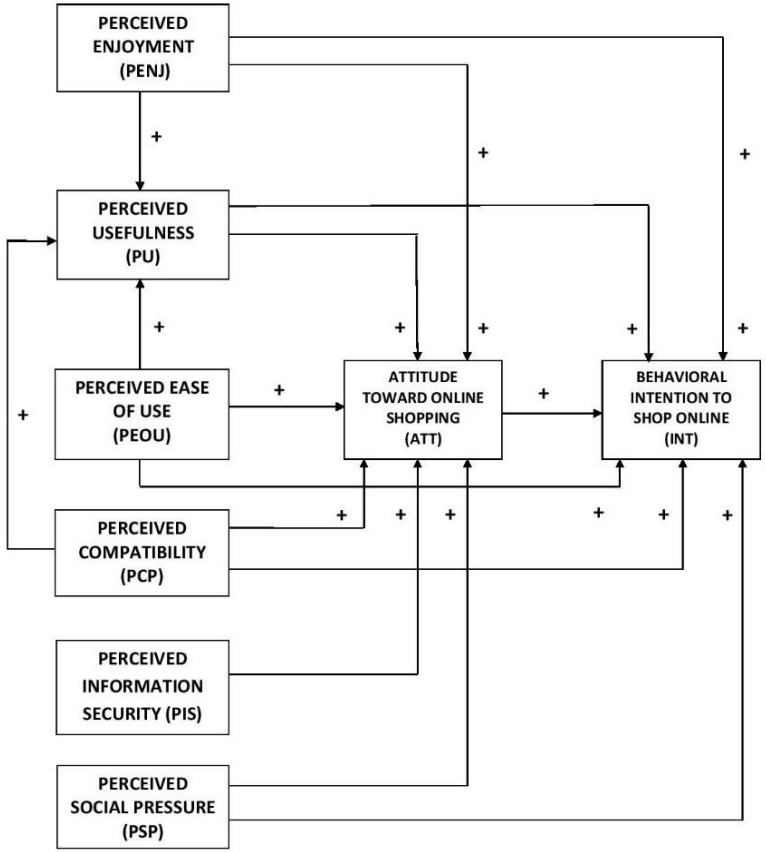

Figure 10 - Online consumer behavior evaluation framework

3.2 Online Consumer Typologies

There exists a steady growth in the number of Internet users globally (Internet World Stats, 2015). As the number of Internet users increase worldwide, the size of online consumer audience also increases. This growing trend requires online consumers to be segmented very carefully for marketing efforts to be successful. If customer segments can be clearly identified, then products, services and marketing efforts can be customized so that they appeal more specifically to each segment's needs, expectations and motivations. There are several ways to segment the online consumers. Segmentation according to demographic, behavioral and psychographic characteristics is the most common type of segmentation strategies. Demographic segmentation aims to group individuals based on their characteristics like age, gender, marital status and etc. Behavioral segmentation groups individuals based on the behavioral patterns during online shopping. Behaviors such as decision making, usage, consumption and spending can be considered while carrying out segmentation according to the behavioral characteristics. Psychographic segmentation groups individuals according to their lifestyles. This kind of grouping strategy takes into account activities, attitudes, expectations and perceptions of individuals during segmentation process.

In the relevant literature, researchers carried out various types of market segmentation analysis based on various factors. The prominent ones among these factors are psychographic factors, cognitive factors, demographic factors, shopping motivation, shopping orientation, decision-making style, computer expertise, Internet usage patterns, shopping activities and etc. There also exists a study that carried out market segmentation analysis based on real online shopping activities of consumers that were extracted from their online store transaction logs (Liu et al. 2015). Results of these studies showed that a broad online consumer audience is not a single market segment (Swinyard and Smith, 2003; Wang et al., 2006, Brengman et al., 2005; Jayawardhena et al., 2007; Ganesh et al., 2010; Liu et al. 2015). Rather, it is a collection of different consumer segments whose members have different behavioral characteristics in terms of online shopping and respond differently to the marketing efforts.

In their study, Ganesh et al. (2010) found six and seven different online consumer segment by utilizing e-store attribute and shopping motivation measures respectively. Study of Jayawardhena et al. (2007) showed that online consumers can be segmented into five distinct groups based on their online purchase orientation. In another study, by using 38 "Internet Shoppers Lifestyle" scale Swinyard and Smith (2003) showed that there exist four shopper and four non-shopper segments among U.S.A. online consumers. Study of Brengman et al. (2005) cross-culturally validated the "Internet Shoppers Lifestyle" scale of Swinyard and Smith (2003) by conducting survey in both U.S.A. and Belgium. They derived four online shopper segment and four online non-shopper segments in both countries.

Based on the discussion mentioned above, following hypothesis is put forward:

> **Hypothesis 1:** A broad online consumer audience is not a single market segment. It is comprised of different consumer segments whose members have different perceptions about online shopping.

3.3 Behavior Evaluation Framework and Stated Hypotheses

3.3.1.1 Perceived Ease of Use (PEOU) and Perceived Usefulness (PU)

According to the Technology Acceptance Model (TAM) (Davis, 1989) which is one of the most commonly used theory in information systems literature, there exist several factors that influence users' decision about whether to use a new technology or not. The most prominent among these factors are the perceived ease of use (PEOU) and perceived usefulness (PU). While perceived usefulness (PU) refers to the extent to which users perceive that using a particular technology would improve their job performance, perceived ease of use (PEOU) refers to the extent to which users believe that using a particular technology would be effortless (Davis, 1989). TAM states that perceived usefulness and perceived ease of use are the fundamental determinants of attitude toward using a new information technology. That is, TAM proposes that when users perceive a new information technology as useful and easy to use then they develop positive attitude toward using this technology. Furthermore, TAM proposes the existence of direct influence of perceived ease of use (PEOU) on perceived usefulness (PU). That is, it states that when users perceive an information technology as easy to use, they find it to be useful as well. These proposals of TAM got a reasonable support in the relevant literature. A number of studies conducted in different cultural contexts found that perceived ease of use (PEOU) (Bigné-Alcaniz et al., 2008) and perceived usefulness (PU) (Bigné-Alcaniz et al., 2008; Ha and Stoel, 2009; Kim, 2012; Chen and Teng, 2013) of online shopping systems positively and statistically significantly affects users' attitudes toward such systems. Numerous studies also showed that perceived ease of use (PEOU) of online shopping systems positively and statistically significantly affects perceived usefulness (PU) of such systems (Shang et al., 2005; Bigné-Alcaniz et al., 2008; Ha and Stoel, 2009; Yoon, 2009; Smith et al,, 2013).

Another claim of TAM is that there exist a direct relationship between perceived usefulness (PU) of particular technology and users' behavioral intention (INT) toward using that technology. More specifically, it states that when users perceive a certain technology as useful then they develop a positive intention toward using such technology. This claim of TAM was also verified by a great number of studies conducted in different cultural contexts (Liao et al., 2006; Bigné-Alcaniz et al., 2008; Ha and Stoel, 2009; Yoon, 2009; Chen and Teng, 2013; Gong et al., 2013; Smith et al., 2013).

Studies conducted in U.S. and China also showed direct and positive relationship between PEOU and behavioral intention (INT) toward using online shopping systems (Yoon, 2009; Smith et al., 2013). That is, users perceptions about online shopping system's ease of use led them to develop a positive intention toward using it.

Following the Technology Acceptance Model (Davis, 1989) and empirical investigations from the existing literature, the following hypotheses are put forward:

> **Hypothesis 2:** Perceived ease of use is positively related to perceived usefulness of online shopping (H2a), attitude toward online shopping (H2b) and behavioral intention to shop online (H2c).
>
> **Hypothesis 3:** Perceived usefulness is positively related to attitude toward online shopping (H3a) and behavioral intention to shop online (H3b).

3.3.1.2 Perceived Enjoyment (PENJ)

In an online shopping context, there exist various motivational factors that influence consumers attitudes and behavioral intentions toward shopping at online stores. Prominent among these motivational factors are consumers hedonic and utilitarian online shopping motivations. Hedonic shopping motivations refers to enjoyment, satisfaction, happiness and similar types of emotions that consumer pursue during online shopping activities (To et al., 2007). That is, consumers with hedonic motivation enjoy and derive pleasure from their online shopping acts. On the other hand, utilitarian shopping motivation is defined as mission critical, need-based and goal oriented. More specifically, from online consumer point of view, the utilitarian benefits of shopping over online stores can be stated as follows: convenience (i.e. saved time and effort), monetary savings, breadth and depth of offered products and the quality of information obtained about products (Chiu et al., 2014). Both hedonic and utilitarian motivational factors were found to play an important role in influencing consumers' online shopping intentions (Kim et al., 2012; Davis et al., 2014; Chiu et al., 2014). In their study, Chiu et al. (2014) has found that hedonic and utilitarian motivational factors positively and statistically significantly influence consumer intention to repeat their online shopping activities. Cha (2011) also found positive and significant relationship between perceived enjoyment and consumers' intention to shop online.

Perceived enjoyment not only influences consumers' intention to shop online, but also their perception about its usefulness. Ha and Stoel (2009) has found that when consumers enjoy shopping at online stores they develop positive perceptions about its usefulness. Ha and Stoel (2009) also found significant relationship between perceived enjoyment and consumers attitude in online shopping contexts. More specifically, they found that when consumers get enjoyment from online shopping activities then they develop positive attitude toward using this technology

Based on the discussion mentioned above, following hypotheses are put forward:

> **Hypothesis 4:** Perceived enjoyment is positively related to perceived usefulness of online shopping (H4a), attitude toward online shopping (H4b) and behavioral intention to shop online (H4c).

3.3.1.3 Perceived Compatibility (PCP)

In e-commerce context compatibility is the extent to which the new technology (e.g., online shopping platforms) is perceived as consistent with the potential adopters' lifestyle, existing values, previous experiences, expectations and needs (Rogers, 1995). Perceived compatibility concept can be better discussed within the scope of Innovation Diffusion Theory (IDT) which is one of the most extensively used theory in information systems contexts. According to IDT proposed by Rogers (1995), compatibility is one of the main factors that affect the rate of adoption of an innovation (i.e., new technology) by potential users. Other factors that influence the adoption of innovation are relative advantage, complexity, trialability and observability. When potential users perceive the new technology as more compatible in terms of the factors mentioned above, they are more likely to adopt this particular technology in their daily life. That is, the greater the perceived compatibility of the particular technology is, the faster the adoption of this technology will be.

Study conducted by Vijayasarathy (2004) found positive and statistically significant relationship between consumers' attitudes toward online shopping and their

perceptions about its compatibility with their existing values and lifestyle. This study showed that consumers whose shopping habits and preferences are better met by other alternatives to physical stores are more inclined to adopt online shopping methods. Other studies conducted in online shopping context (Eri et al., 2011) and online banking service (Al-Ajam and Nor, 2013) also found perceived compatibility as a significant predictor of attitude toward a technology in question.
In various information systems contexts, there was found positive association between perceived compatibility of new technology and users' perceptions about its usefulness (Gumussoy et al., 2007; Wu et al., 2007). In their study Wu et al. (2007) has also found that users' behavioral intention toward using a new technology is positively related with their perceptions about the given technology's being compatible with their previous experiences, existing values and needs.

Following the Innovation Diffusion Theory (Rogers, 1995) and empirical investigations from the relevant literature, the following hypotheses are put forward:

> **Hypothesis 5:** Perceived compatibility is positively related to perceived usefulness of online shopping (H5a), attitude toward online shopping (H5b) and behavioral intention to shop online (H5c).

3.3.1.4 Perceived Information Security (PIS)

Even though privacy and security variables are distinct concepts, from consumer, legislative and companies point of view, these two concepts are assumed to be a dimensions of a single construct which is known as "Perceived Security in the Handling of Private Data" (Flavian and Guinaliu, 2006). Privacy concern is one of the main reasons that keep many consumers away from the idea of Internet shopping (George, 2004). During online shopping process, customers are required to provide their private information in order to complete their purchasing transactions which deter many customers from online purchasing due to privacy concerns (Lian & Lin, 2008). Those privacy concerns can be categorized as improper access, unauthorized secondary use, errors and data collection (Smith et al., 1996). Privacy concerns of consumers can show variation based on individual context, demographics, social context and culture (Hsu, 2006). Study conducted by Lian and Lin (2008) showed that customer who are more concerned about personal privacy issues are less likely to engage in online shopping. In his study, George (2002) showed that consumers forms negative attitudes toward Internet shopping when they believe that they should control and protect their own personal information. However, another study of George (2004) did not provide any support for the claim that consumers' concern about the fact that unauthorized use of sharing personal information leads to negative attitudes toward online purchasing. Study of Eri et al. (2011) also did not find any relationship between consumers' attitude toward shopping over the Internet and their beliefs on privacy provided by engaging in Internet shopping. Literature showed that the relationship between privacy concerns of consumers and consumers' attitude toward Internet shopping is blurry and needs further investigation.
A considerable attention has been devoted to the transaction security issues over the Internet both in the form of safe and accurate transfer of credit card details and in the form of transaction costs and risks (Liao & Cheung, 2001). When compared with traditional trading, in virtual trading environment there exist higher anonymity and there also exist lack of face-to-face interaction between buyers and sellers which creates security issues (Lian & Lin, 2008). Study conducted by Huseynov and Yıldırım (2016b) in Turkey showed that 33.3 percent of survey participants had concerns that

their credit card details and 52.3 percent worried that their personal information can be abused on online platforms. Studies conducted in USA and Singapore also showed that privacy and security issues are among major concerns of online consumers (Teo, 2002; Udo, 2011). In their study, Liao and Cheung (2001) showed that transaction security significantly affect the willingness of consumers to shop over the Internet. Several studies also showed that consumers form positive attitude toward online shopping when they believe that web is secure for conducting transactions (Lian & Lin, 2008; Eri et al., 2011).

Based on the discussions mentioned above, the following hypothesis is put forward:

> **Hypothesis 6:** Perceived information security is positively related to attitude toward online shopping.

3.3.1.5 Perceived Social Pressure (PSP)

According to Theory of Planned Behavior (TPB) (Azjen, 1985, 1991), perceived social pressure (i.e., subjective norms) is one of the main factors that have an influence on individual's intention to engage in any given act. Perceived social pressure indicates in what way the significant referents (e.g., relatives, friends, media) influence the individual`s particular behavior. Determinants of perceived social pressure can be categorized as interpersonal influence and external influence (Bhattacherjee, 2000). Interpersonal influence emerges from word-of-mouth influence by friends, colleagues, superiors and other prior adopters, while external influence emerges from mass media reports, expert reviews and opinions, and other non-personal information considered by individuals while engaging in a behavior. Interpersonal and external factors were found to be significant predictors of subjective norms in B2C e-commerce environment (Bhattacherjee, 2000; Lin, 2007).

In several studies, perceived social pressure was found to play a significant role in the formation of intention to carry out transaction in online stores (Bhattacherjee, 2000; Lin, 2007; Al-Jabari et al., 2012; Hansen, 2008; Laohapensang, 2009; Lim et al., 2011). In their study, Crespo and Bosque (2008) also found that perceived social pressure exerts a positive impact on consumer behavioral intention to shop online. Study of Kim et al. (2009) showed that perceived social pressure not only significantly and positively influences behavioral intention to use online stores but also attitude toward carrying out transactions on such platforms.

Following the Theory of Planned Behavior (Ajzen, 1985, 1991) and empirical investigations from the existing literature, the following hypotheses are put forward:

> **Hypothesis 7:** Perceived social pressure to engage in online shopping is positively related to attitude toward online shopping (H7a) and behavioral intention to shop online (H7b).

3.3.1.6 Attitude toward Online Shopping (ATT)

According to the TAM (Davis, 1989) and TPB (Ajzen, 1985, 1991), behavioral intention is about individuals' readiness to engage in a given behavior. Behavioral intention plays an important role in influencing individuals' actual behavior. The stronger intention individuals have, the more likely behavior in question will be performed by them.

TAM states that intention of individuals is a major determinant of their actual behavior and intention itself is a function of individuals' attitude toward a given behavior. TPB also proposes that existence of a direct relationship between attitude toward behavior and intention to engage in a particular behavior. In the literature, a lot of studies applied

TAM and TPB in various information systems contexts and confirmed what these two models suggests about the relationship between attitude toward particular behavior and behavioral intention to engage in that behavior. Although study of Al-Jabari et al. (2012) found no direct significant influence of attitude on shopping intention, many other studies (Bhattacherjee, 2000; Lee et al., 2006; Lin, 2007; Hansen, 2008; Bigné-Alcaniz et al., 2008; Ha and Stoel, 2009; Eri et al., 2011; Kim, 2012; Lim et al., 2011) found that individuals' favorable attitudes toward online shopping positively and statistically significantly influence their behavioral intention toward online shopping.

Following the propositions of Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB) and empirical investigations from the relevant literature the following hypothesis is put forward:

> **H8:** Attitude toward online shopping is positively related to behavioral intention to shop online.

CHAPTER IV

RESEARCH METHODOLOGY

4.1 Research Design

Main objectives of this study are to determine different segments that might exist in online consumer audience and later, to investigate the relationship between variables that might influence consumer attitudes and intentions toward using business-to-consumer (B2C) online shopping platforms for each determined consumer segment. In order to achieve these objectives, this study employed quantitative research methods, where data were collected through paper-based and online self-administered questionnaires. In addition to self-administered questionnaires, this study also made use of real e-commerce transaction data supplied by one of the famous B2C online shopping platforms in Turkey, Markafoni.com.

Correlational research design is considered to be an appropriate method of investigation for this research. Correlation research which is also called association research aims to investigate the potential relationships among study variables (Fraenkel et al., 2012, p.331). Correlation research will enable to understand various online consumer behavior patterns by identifying relationships among dependent and independent study variables. Correlation research not only helps to explain important human behaviors but also help to predict likely outcomes. That is, it identifies relationships among independent and dependent variables and it also has a power to make prediction if sufficient magnitude exists between those variables (Fraenkel et al., 2012, p.332). In this study, there are several independent and dependent variables between which possible relationships were investigated. Independent variables of this study can be classified as perceived ease of use, perceived enjoyment, perceived information security, perceived social pressure and perceived compatibility. Dependent variables of the study are perceived usefulness, attitude toward online shopping and behavioral intention to shop online.

Research phases of the study are given in Figure 11. This study started with a research idea. Based on this research idea, the relevant literature was reviewed extensively. Research questions were generated after reviewing the relevant literature and conceptual model of the study were developed based on the research questions. In order to test conceptual model, necessary research was designed and required data were collected. Later, collected data were analyzed in order to find answers to research questions. Finally, results of the study were interpreted and conclusions were derived.

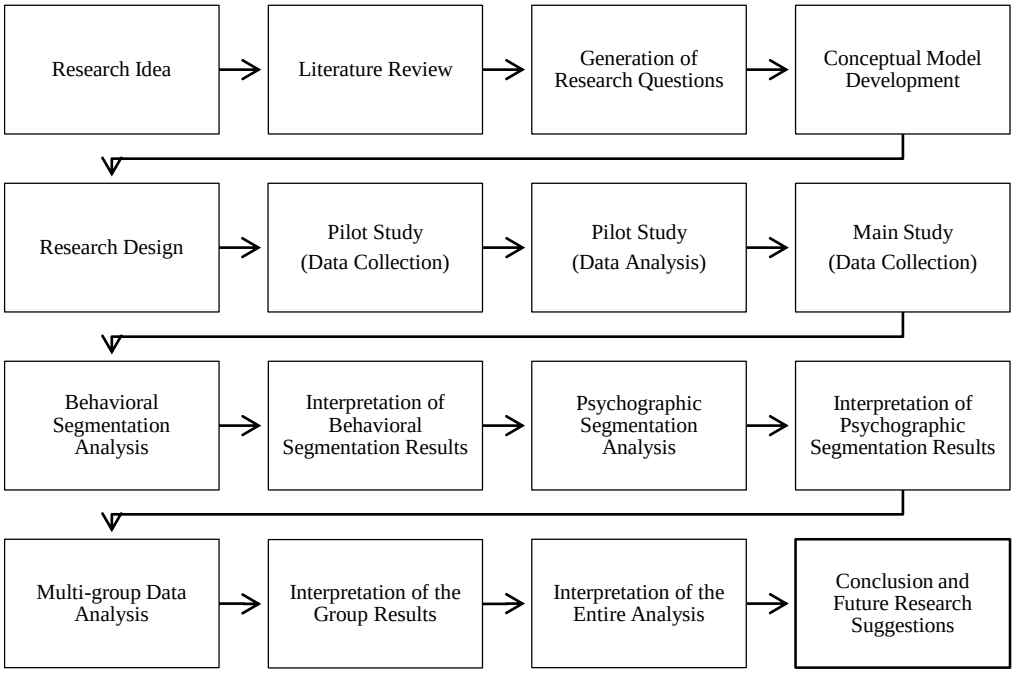

Figure 11 - Research Phases

4.2 Procedures

In this study, three different types of data set were utilized. The first and the second data sets were based on self-administered questionnaires in the form of Likert scale. Participants of the study were required to fill two different types of questionnaires. Psychographic segmentation analysis and related hypotheses testing were carried by using these two types of data sets. Before collecting the first and the second data sets, necessary documents (e.g. informed consent forms, survey instruments, description of study and etc.) were submitted to METU ethics center in order to obtain required permissions to conduct study. After obtaining the necessary permissions from ethics center (Appendix B), surveys were distributed within several universities in Ankara. Surveys were distributed in two formats: printed hard copy and electronic. Printed hard copies were distributed within faculties. Electronic surveys were prepared by using METU online survey service and sent to student mail groups after obtaining necessary permissions from related authorities. Before filling the survey, the participants of the research were informed about the purpose of the study, what to be done within the scope of the study, potential benefits and risks involved and confidentiality of provided responses.

The third type of data set used in this study was based on real e-commerce transaction data. Behavioral segmentation analysis was carried out by using this real e-commerce transaction data set. This data set includes various types of information carried out by customers on Markafoni.com which is one of the most extensively used online shopping platform in Turkey. This data set was supplied by Markafoni.com after signing the non-disclosure agreement with the company. According to this agreement, all the data provided by Markafoni.com shall be used only in the thesis study in question, shall be kept confidential and shall not be shared with any other third parties. In addition, in accordance with this agreement, all the data provided by Markafoni.com shall be deleted after the study in question is finalized.

4.3 Study Sample

In the psychographic segmentation process, non-probability convenience sampling technique was utilized in order to select respondents of the study. All potential respondents of the study were chosen based on their ease of access. Participants of the psychographic segmentation process were limited to university students. Data collection was carried out at three universities located in Ankara, Middle East Technical University (METU), Bilkent University and Çankaya University.

On the other hand, data which was used in behavioral segmentation process was based on real online shopping transactions conducted on Markafoni.com. This data set was composed of various types of online shopping transaction information for randomly selected customers.

4.4 Survey Instruments

This study makes use of quantitative research techniques; therefore, Likert type surveys were administered in order to collect the necessary data for the research. Participants of the study were required to fill two kinds of surveys. One of the surveys was used in psychographic segmentation process. Measurement scale of segmentation survey items changed between 1 (Strongly Disagree) and 5 (Strongly Agree). Survey items for psychographic segmentation analysis were based on "Internet Shopper Lifestyle Scale" which was proposed by Swinyard and Smith (2003). This is a powerful scale which was validated cross-culturally (i.e., United States, Europe, and China) (Brengman et al., 2005, Ye et al., 2011). In addition to "Internet Shopper Lifestyle Scale", online activities of respondents were used as an input in the segmentation process. That is, respondents were asked how often they carry out activities related to e-commerce (i.e., shopping, online banking), entertainment, information gathering and etc. The second survey was used for testing the developed theoretical model on different consumer segments. Measurement scale of this survey changed between 1 (Strongly Disagree) to 7 (Strongly Agree).

Surveys items were prepared by considering the previously validated items from the relevant literature. English and Turkish version of the questionnaire items were prepared by paying careful attention in order not to cause any semantic losses which can change the actual meaning of the measurement item. Appendix C, D and E provide both English and Turkish version of all questionnaire items and their sources.

Instruments of the study were tested and validated by conducting a pilot study. Pilot study enabled to get necessary feedback from participants related questionnaire items; that is, it was conducted to check that the survey instructions are comprehensible, wording of the survey is correct and statistical processes are effective. Necessary modifications were made to survey questions and research procedure based on the feedbacks that had been received from the pilot group.

This study also made use of real online shopping transaction data in behavioral segmentation process. This data set was comprised of categorical, interval and ratio type variables. Necessary information related to each variable that exists in this data set can be found in Appendix F.

4.5 Statistical Techniques

The main statistical tools and techniques used in this study are Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), SPSS Two-Step Cluster Analysis and Multi-group Structural equation modeling (SEM).

EFA was used to determine the numbers of factors required to represent the sample data. CFA was used to test whether measures of a construct are consistent with the nature of that given construct. EFA and CFA were utilized prior to the psychographic segmentation process. These two statistical tools enabled to derive the necessary factors to be used in the segmentation analysis.

Both in psychographic and behavioral segmentation process, SPSS Two-Step Cluster Analysis technique was utilized. The strength of this techniques is that it can handle large datasets with both categorical and continuous variables (SPSS Inc., 2001). This technique is also capable of automatically determining optimal number of clusters given the input variables.

Finally, Multi-group Structural Equation Modeling (SEM) technique was utilized to test developed theoretical model for each determined consumer segment. Multi-group SEM analysis allowed to test whether the different consumer segments have significant differences in the causal relationships put forward by the developed behavior evaluation model. SEM analysis was carried out by using IBM SPSS AMOS version 22.

CHAPTER V

DATA ANAYLSIS

5.1 Exploratory Factor Analysis (EFA)

The main objective of factor analysis is to explain a set of variables with a smaller number of dimensions which are called factors. That is, factor analysis attempts to explain the maximum amount of common variance in a correlation matrix by using the smallest number of explanatory constructs which are also known as factors or latent variables. EFA was conducted in IBM SPSS Statistics version 21 with Principal axis factoring method.

5.1.1 EFA on Internet Activities Scale

The correlation matrix for "Internet activities scale" is given in the Appendix G. This matrix is used to assess the possible multicollinearity in the data as well as to identify variables that do not correlate with any other variables. Absence of correlation coefficients greater than .9 in the matrix is an indication of lack of multicollinearity in the data. Determinant of the correlation matrix is .081. Since this value is greater than threshold of 0.00001, it can be concluded that observed variables correlate reasonably well with other variables (i.e., none of the correlation coefficients are significantly large). Table 5 shows KMO and Barlett's test of sphericity statistics. KMO statistic value for the sample data is .792 and this value is well above the minimum criterion of .5. In addition, all of the KMO values for individual items were greater than .70 (Appendix H), which is well above the acceptable limit of .5 (Field, 2013).

Bartlett's test of sphericity was also found to be significant (i.e., the value of Sig. is less than .05). By considering KMO and Barlett's test results, it can be concluded that the sample size is adequate for conducting factor analysis.

Table 5 - KMO and Barlett's test of sphericity (Internet activities scale)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.792
Bartlett's Test of Sphericity	Approx. Chi-Square	2556.495
	df	45
	Sig.	.000

A principal axis factor analysis was conducted on the 10 items with Orthogonal rotation (varimax). An initial analysis was run to obtain eigenvalues for each factor in the data. Three factors had eigenvalues over Kaiser's criterion of 1 and in combination explained 60.99% of the variance (Appendix I). The scree plot results also showed inflexion that would justify retaining 3 factors (Appendix I). As a result 3 factors were retained by taking into consideration Kaiser's criterion and scree plot results. Table 6 shows the factor loadings after rotation. Stevens (2002) recommends that for a sample size 300, a factor loadings should be greater than 0.298. However, for a sample size of 1000 factor loading should be greater than 0.162. That is, in a very large sample small factor loadings can be evaluated as statistically meaningful. In EFA, we want variables that are theorized to belong to one construct (i.e., factor) to load strongly on that particular construct and to load weakly on other remaining constructs. For an "Internet activities scale", the items that cluster on the same factor suggest that factor 1 represents entertainment activities, factor 2 represents information gathering activities and factor 3 represents e-commerce transaction rate.

Table 6 - Rotated factor matrix (Internet activities scale)

Rotated Factor Matrix[a]

	Factor		
	1 (Entertainment activities)	2 (Information gathering)	3 (e-Commerce transaction rate)
Fun4	.715		
Fun3	.677		
Fun2	.663		
Fun1	.418		
Info2		.748	
Info3		.683	
Info1		.424	
Shop2			.741
Shop3			.634
Shop1			.446

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

In the Table 7, reliability test results for each extracted factor is given. Reliability test ensures that a measure (i.e., questionnaire) consistently reflects the construct that it is measuring (Field, 2013). For reliability analysis, Cronbach's α was utilized. While a Cronbach's alpha greater than .60 is generally considered to be acceptable, loadings between .70 and .90 are considered to be good (Gliem & Gliem, 2003). According to Cronbach's α test, reliability scores of entertainment, information gathering and e-commerce activities constructs were above the minimum requirement of .60.

Table 7 - Reliability test results (Internet activities scale)

Construct	Cronbach's α	Item code	Cronbach's α if item deleted
Entertainment activities	0.671	Fun1	0.750
		Fun2	0.574
		Fun3	0.567
		Fun4	0.546
Information gathering	0.693	Info1	0.719
		Info2	0.511
		Info3	0.571
eCommerce transaction rate	0.661	Shop1	0.665
		Shop2	0.511
		Shop3	0.483

5.1.2 EFA on Internet Psychographics Scale

For "Internet psychographics scale", the correlation matrix (i.e., Pearson correlation coefficient between all pairs of items) was examined to assess the possible multicollinearity in the data. Lack of multicollinearity was guaranteed by detecting the absence of correlation coefficients greater than .8 in the matrix.

KMO and Barlett's test of sphericity statistics is given in Table 8. KMO statistic value for the sample data is .848 and this value satisfies the minimum criterion of .5. Furthermore, all KMO values for individual items were found to be greater than .75 which also satisfies the minimum acceptable level of 0.5. Bartlett's test of sphericity was found to be significant (i.e., Sig. is less than .05). KMO and Barlett's test results indicated that the sample size was adequate for conducting factor analysis.

Table 8 - KMO and Bartlett's test of sphericity (Internet psychographics scale)

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.848
Bartlett's Test of Sphericity	Approx. Chi-Square	8889.866
	df	253
	Sig.	.000

A principal axis factor analysis with orthogonal rotation (varimax) was conducted on the 23 items. An initial analysis was run to obtain eigenvalues for each factor in the data. Seven factors had eigenvalues over Kaiser's criterion of 1 and in combination explained 67.47% of the variance (Appendix J). Furthermore, the scree plot exhibited an inflexion point that justified retaining 7 factors (Appendix J). By taking into consideration Kaiser's criterion and scree plot results, 7 factors were retained. Table 9 shows the factor loadings after rotation. The items that cluster on the same factor suggest that factor 1 represents "Privacy and Security Fear" (PSF), factor 2 represents "eCommerce Convenience" (EC), factor 3 represents "Shopping at Physical Stores" (SPS), factor 4 represents "eCommerce Self-inefficacy" (EI), factor 5 represents "eCommerce logistics issues" (ELI), factor 6 represents "Internet Window Shopping" (IWS) and factor 7 represents "eCommerce offers" (EO).

Table 9 - Rotated factor matrix (Internet psychographics scale)

Rotated Factor Matrix[a]

	Factors						
	1 (PSF)	2 (EC)	3 (SPS)	4 (EI)	5 (ELI)	6 (IWS)	7 (EO)
DisTr2	.872						
DisTr1	.803						
DisTr3	.717						
DisTr4	.617						
Conv2		.788					
Conv1		.712					
Conv4		.652					
Conv3		.455					
Phys2			.863				
Phys1			.754				
Phys4			.374				
Ineff3				.728			
Ineff2				.728			
Ineff1				.505			
Log3					.666		
Log2					.605		
Log4					.527		
Win1						.758	
Win2						.689	
Win3						.476	
IntOffer2							.924
IntOffer1							.488
IntOffer3							.402

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Table 10 shows reliability test results for factors that are extracted from "Internet Psychographics Scale". According to Cronbach's α test results Internet distrust, Internet convenience, Energy of physical stores, e-Commerce inefficacy and Online window shopping constructs had high reliability (i.e., above 0.70). Reliability scores of Internet logistics issues and Internet offers were also above the minimum requirement of 0.60.

Table 10 - Reliability test results (Internet psychographics scale)

Construct	Cronbach's α	Item code	Cronbach's α if item deleted
Privacy and Security Fear	0.888	DisTr1	0.854
		DisTr2	0.834
		DisTr3	0.850
		DisTr4	0.880
eCommerce Convenience	0.787	Conv1	0.713
		Conv2	0.685
		Conv3	0.801
		Conv4	0.734
Shopping at Physical Stores	0.715	Phys1	0.561
		Phys2	0.450
		Phys4	0.800
eCommerce Self-inefficacy	0.761	Ineff1	0.750
		Ineff2	0.653
		Ineff3	0.638
eCommerce logistics issues	0.696	Log2	0.591
		Log3	0.591
		Log4	0.629
Internet Window Shopping	0.721	Win1	0.564
		Win2	0.602
		Win3	0.741
eCommerce offers	0.677	IntOffer1	0.630
		IntOffer2	0.361
		IntOffer3	0.699

5.2 Psychographic Segmentation Analysis

Psychographic segmentation is a process in which individuals are grouped based on psychographic and cognitive factors such as lifestyle, attitudes, perceptions, expectations and etc. Volunteer student participants were involved in the psychographic segmentation process. Demographic profile of respondents involved in psychographic segmentation process are given in Table 11.

Participants were undergraduate and graduate students from various faculties of three different universities in Ankara. In total 1027 usable responses were obtained from students. Gender distribution in Table 11 shows that the majority of respondents were female (57.64 percent) . In regards to age group, most of the respondents aged from 18 to 20 (50.15 percent) followed by respondents whose age ranged from 21 to 23 (26.58 percent). As for educational level, most of the respondents were undergraduate students (82.86 percent) and the others were master's (11.49 percent) and doctorate students (4.38 percent). The majority of respondents were mainly from faculty of engineering (31.35 percent) followed by faculty of law (18.79 percent) and faculty of art and sciences (17.33 percent).

Table 11 - Demographic profile of respondents

Demographic Profile	Frequencies	Percentage (%)
Gender		
Male	428	41.67
Female	592	57.64
Age		
18-20	515	50.15
21-23	273	26.58
24-26	125	12.17
27-29	48	4.67
30 and above	102	9.93
Education		
Bachelors	851	82.86
Masters	118	11.49
Doctorate	45	4.38
Faculties		
Faculty of Engineering	322	31.35
Faculty of Law	193	18.79
Art and Sciences	178	17.33
Business, Economics & Administrative Sciences	137	13.34
Faculty of Education	119	11.59
Technology	26	2.53
Health	19	1.85
Architecture and Design	19	1.85
Online Shopping Experience		
Yes	913	88.90
No	106	10.32

Note: Percentages may not sum up to 100% due to missing data

In this study, SPSS Two-Step Clustering approach was utilized in order to carry out segmentation analysis. The algorithm of SPSS Two-Step Clustering has two main steps which are pre-clustering and clustering steps. Pre-clustering step is based on a sequential clustering method. In pre-clustering step, scores of respondents are grouped into several small sub-clusters. That is, in pre-clustering stage, scores of respondents are scanned one by one and decision is made whether the current score should be merged with the previously formed clusters or new cluster should be created based on the distance criterion. The second step of SPSS Two-Step Clustering approach is based on agglomerative hierarchical clustering. Hierarchical clustering is a process in which clusters are recursively merged until only one cluster remains that contains all scores. In the second step of clustering algorithm, the small clusters generated in pre-clustering step are used as an input in generating groups of larger clusters. In contrast to different types of segmentation approaches (e.g., K-means clustering), SPSS Two Step Clustering algorithm is capable of automatically determining optimal number of clusters given the input variables. Two SPSS Step cluster analysis are also capable of handling large datasets with both categorical and continuous variables (SPSS Inc., 2001). IBM SPSS Statistics version 21 was utilized in conducting the Two-Step Clustering analysis.

Table 12 - Description of psychographic segmentation factors

Factor	Description
Information gathering	Activity of searching information on search engines, reading news and journals and reading/sending email.
Entertainment activities	Activities such as playing online games, watching videos, listening to online music, surfing on the web and spending time on social networks
eCommerce transaction rate	Activities such as purchasing online products or services, carrying out financial transactions and purchasing online tickets.
Privacy and security fear	It refers to extent to which consumers are worried about privacy of their personal information and security of their financial details on the Internet.
eCommerce convenience	It refers to extent to which consumers perceive online stores to be convenient (i.e., time and effort saving) in terms of shopping.
Shopping at physical stores	It refers to extent to which consumers like and enjoy shopping at physical stores.
eCommerce self-inefficacy	It refers to extent to which consumers perceive online shopping to be difficult to understand and use.
eCommerce logistics issues	It refers to extent to which consumers perceive online shopping to be problematic in terms of product delivery and product refund processes.
Internet window shopping	It refers to browsing of online products or services by consumers without a purchase intention. It can be considered as a recreational activity or plan for future purchases.
eCommerce offers	It refers to extent to which consumers believe that online stores provide better alternatives and better prices than physical stores.

The results of the segmentation analysis was discussed and presented in detail in the following paragraphs. Exploratory Factor Analysis (EFA) which was carried out on Internet activities scale and Internet Psychographics scale yielded three and seven factors respectively. Description of each determined factor is provided in Table 12. Ten factors given in Table 12 were used as input in SPSS Two-Step Clustering analysis with Log-likelihood distance measure and BIC (Schwarz's Bayesian) clustering criterion. The results of the auto clustering process is given in Table 13.

Table 13 - Two Step auto-clustering result (Psychographic segmentation)

Auto-Clustering

Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change[a]	Ratio of BIC Changes[b]	Ratio of Distance Measures[c]
1	7252.308			
2	6935.175	-317.133	1.000	1.423
3	6753.629	-181.547	.572	1.161
4	6616.528	-137.101	.432	1.764
5	6598.908	-17.620	.056	1.100
6	6595.435	-3.474	.011	1.072
7	6601.510	6.076	-.019	1.186
8	6628.387	26.877	-.085	1.035
9	6658.995	30.608	-.097	1.124
10	6701.502	42.507	-.134	1.173
11	6758.194	56.692	-.179	1.018
12	6816.324	58.130	-.183	1.009
13	6875.189	58.865	-.186	1.228
14	6948.900	73.710	-.232	1.031
15	7024.536	75.636	-.238	1.043

a. The changes are from the previous number of clusters in the table.

b. The ratios of changes are relative to the change for the two cluster solution.

c. The ratios of distance measures are based on the current number of clusters against the previous number of clusters.

While deciding on the number of clusters to be extracted from the data, the algorithm takes into consideration the following criteria: low BIC value coefficient, high value of BIC change and high value of Ratio of distance measures. Two-Step Clustering algorithm suggested four clusters to be extracted from the data (BIC=6616.528, BIC change=-137.101, Ratio of distance measures=1.764). The results of cluster analysis provided enough evidence to accept the Hypothesis 1 which proposes that a broad online consumer audience is a collection of different consumer segments.

The size of each segment is given in Table 14. Shopping Lovers (22.3 percent) and Direct Purchasers (25.1 percent) have 229 and 258 observations respectively. Suspicious Browsers (27.2 percent) and Incompetent Consumers (25.4 percent) have

279 and 261 observations respectively, and Suspicious Browsers segment is the one that have the largest number of observations. The ratio of the largest segment size to the smallest one is 1.22 which was below the recommended maximum value of 2. The Centroids table presenting the mean and standard deviation of the observations in each segment is given in Appendix K.

For each derived segment, a radar chart is created to visually depict each segments' average score on each factor (Figure 12). A radar chart (a.k.a., spider chart or star chart) enables to plots the values of each factor along a separate axis which origins from the center of the chart and ends on the endmost ring. The Anderson-Rubin coding method was utilized to produce each respondent's factors scores on each derived factor. The Anderson-Rubin method produces factor scores which are standardized (i.e., Mean=0 and Standard deviation=1) and uncorrelated (Field, 2013). The radar chart's vertical axis provides information on particular segment's average score on each factor. The value 0.0 in the chart represents entire sample mean and the numbers higher or lower than 0.0 shows the number of standard deviations from the entire sample mean. Each segment was given an appropriate name by taking into consideration their scores on various psychographic factors.

For comparison purpose, the average factor score of four derived consumer segments are visually depicted in a single radar chart given in Figure 12. The following subsections discuss the distinguished characteristics of each determined consumer segment by taking into consideration segments' scores on various psychographic factors (Table 14) and results of variable importance charts which were created for each segment. The variable importance chart shows how important the different psychographic factors are to the formation of a given consumer segment. The vertical axis in the figure shows each psychographic factor and the horizontal axis indicates the Student's t statistics. Dashed lines shows critical level (i.e., $p<0.05$). While a negative Student's t statistic indicates that the particular factor predominantly takes smaller than average values within this segment, a positive Student's t statistic indicates the opposite. A particular factor is considered to statistically significantly contribute to the formation of a segment if it's bar line crosses the critical levels (i.e., $p<0.05$), either in positive or negative direction.

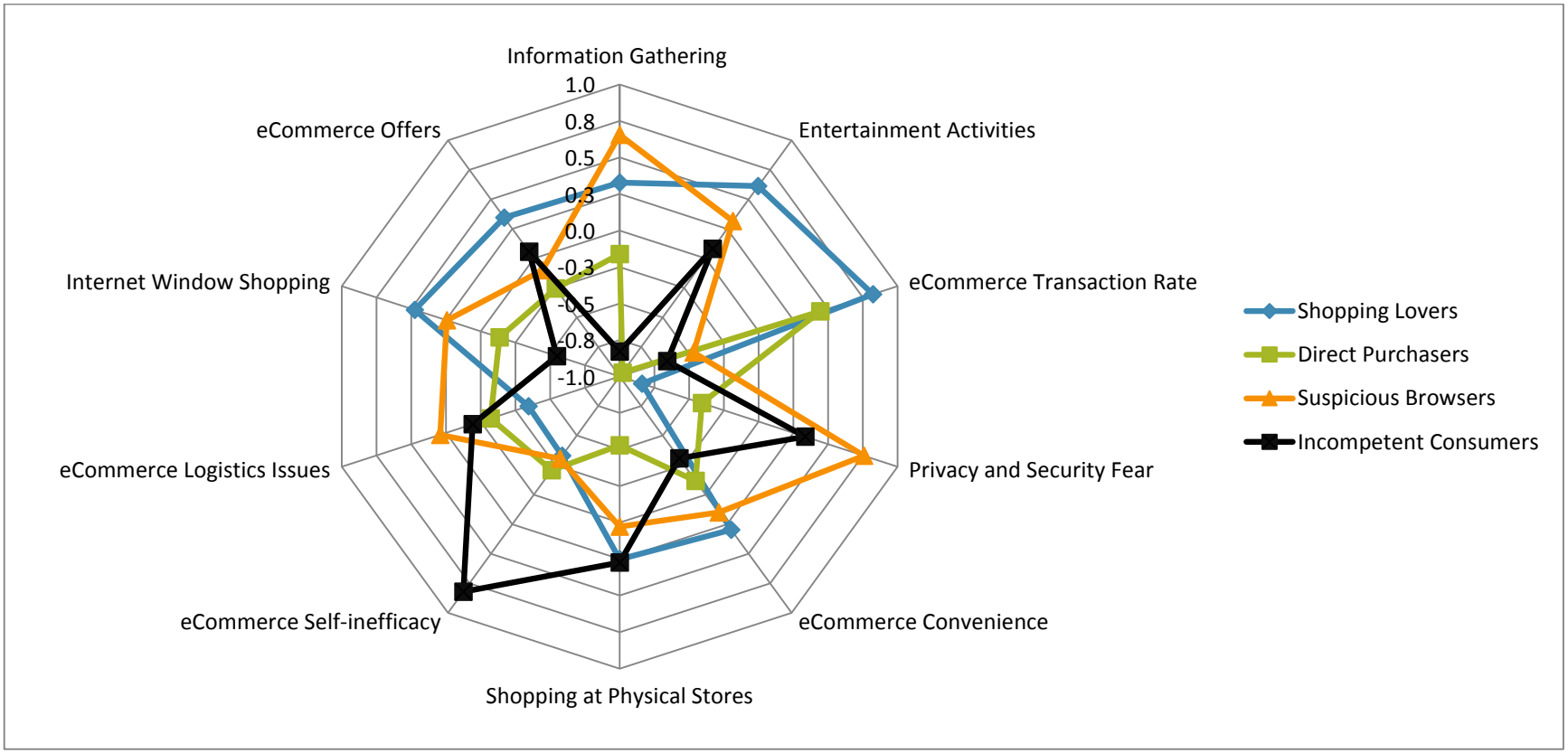

Figure 12 - Psychographic segmentation radar chart

Table 14 - Psychographic segmentation results

			Shopping Lovers	Direct Purchasers	Suspicious Browsers	Incompetent Consumers
Demographic factors	Segment size (%)		22.3%	25.1%	27.2%	25.4%
	Segment size (#)		229	258	279	261
	Gender					
		Male	41.9%	53.9%	27.2%	44.8%
		Female	57.2%	45.3%	72.4%	54.4%
	e-Commerce experience					
		Yes	98.7%	97.7%	91.8%	68.6%
		No	1.3%	2.3%	6.8%	30.7%
Segmentation factors (centroid values)	Entertainment activities (EA)*		0.61	-0.97	0.32	0.08
	Information gathering (IG)*		0.33	-0.16	0.66	-0.83
	eCommerce transaction rate (ETR)*		0.82	0.44	-0.47	-0.66
	Privacy and Security Fear (PSF)*		-0.84	-0.41	0.76	0.33
	eCommerce convenience (EC)*		0.30	-0.12	0.15	-0.31
	Shopping at physical stores (SPS)*		0.25	-0.53	0.03	0.27
	eCommerce self-inefficacy (EI)*		-0.33	-0.21	-0.31	0.82
	eCommerce logistics issues (ELI)*		-0.34	-0.07	0.29	0.06
	Internet window shopping (IWS)*		0.47	-0.13	0.25	-0.55
	eCommerce offers (EO)*		0.35	-0.25	-0.10	0.06

Notes: *Shows standardized values (i.e., 0.00 represents the entire sample average and +/- represents number of standard deviations above or below the entire sample average

5.2.1 Shopping Lovers

Shopping Lovers segment is comprised of 41.9 percent of male and 57.2 percent of female participants. While 98.7 percent of respondents reported to have an online shopping experience, 1.3 percent of respondents have not purchased any products or services online before. The radar chart showing the average factors scores for this segment is given in Figure 13. Based on this radar chart, the distinguished characteristics of this segment can be listed as follows. Watching videos, listening to music, spending time on social networks and playing games are among the activities that carried out most commonly by the consumers of this segment.

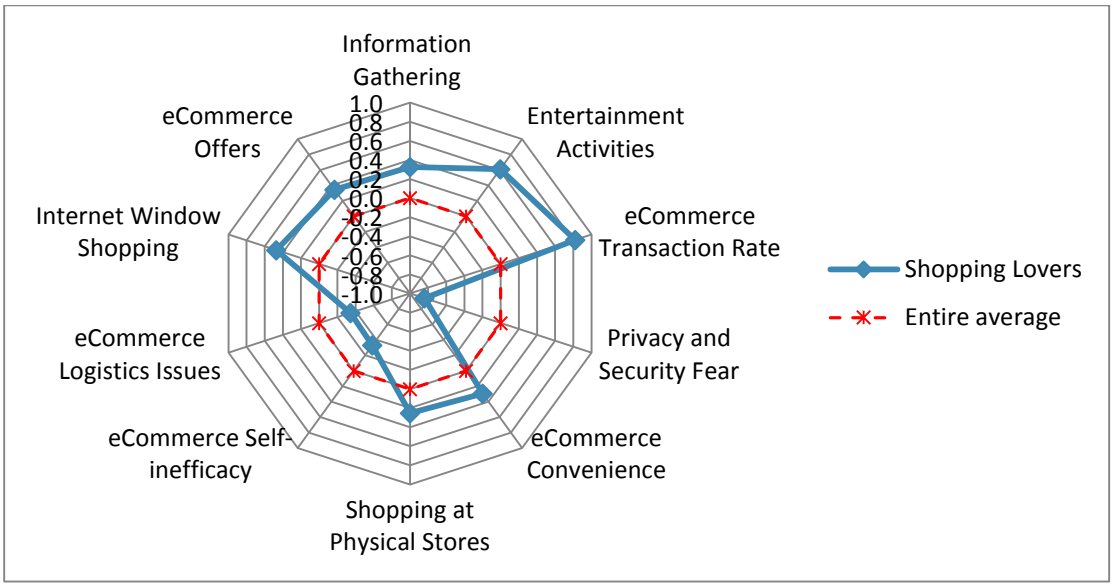

Figure 13 - Shopping Lovers (Average factor scores)

This segment of consumers has the lowest level of Internet distrust (PSF=-0.84). That is, Shopping Lovers do not worry as much as other consumers about security of their private and financial information during online e-commerce transactions. This segment also scored very low on "e-Commerce Inefficacy" factor (EI=-0.33) which means that they know very well how to use online stores and place online orders. Perceived convenience of e-commerce is another factor which is reported to be very high for this segment (EC=0.30). That is, this type of consumers stated that they do not have to leave home during online shopping and no transportation means (e.g., car, bus and subway) are required to visit such stores. Furthermore, this segment thinks that that online shopping platforms offer better prices and better product options than physical stores (EO=0.35).

Internet logistics problems are one of the main factors that prevent consumers to place orders online (Naiyi, 2004; Huseynov and Yıldırım, 2016b). However, for this type of consumers, perceived Internet logistics problems are not reported to be a major problem (ELI=-0.34). That is, they do not have many worries about the delivery problems, online shipping charges and the complexities of returning online products. As a consequence of the above mentioned characteristics of consumers in this segment, it is not surprising that their e-commerce transaction rate is the highest one among four determined consumer segments (ETR=0.82). Consumers in this segment actively use the Internet to purchase products and services. They also tend to visit online stores to examine products without any purchasing intention (IWS=0.48). Furthermore, for this

segment shopping at physical stores (SPS=0.25) was also found to be above the average which implies that consumers in this segment enjoy shopping whether it is online or in physical stores.

The variable importance chart confirms what the radar chart indicated about this segment by showing that all of the psychographic factors significantly contribute to the formation of this segment (Figure 14). According to variable importance chart, "Entertainment Activities", "eCommerce Transaction Rate", "Internet Window Shopping" and "Information Gathering" are among the factors that contribute more to the segment formation and within this segment, these factors generally take scores larger than entire sample average. On the other side, "Privacy and Security Fear" and "eCommerce Self-inefficacy" are also among factors that contribute more to the segment formation and within this segment, these factors predominantly take scores smaller than entire sample average.

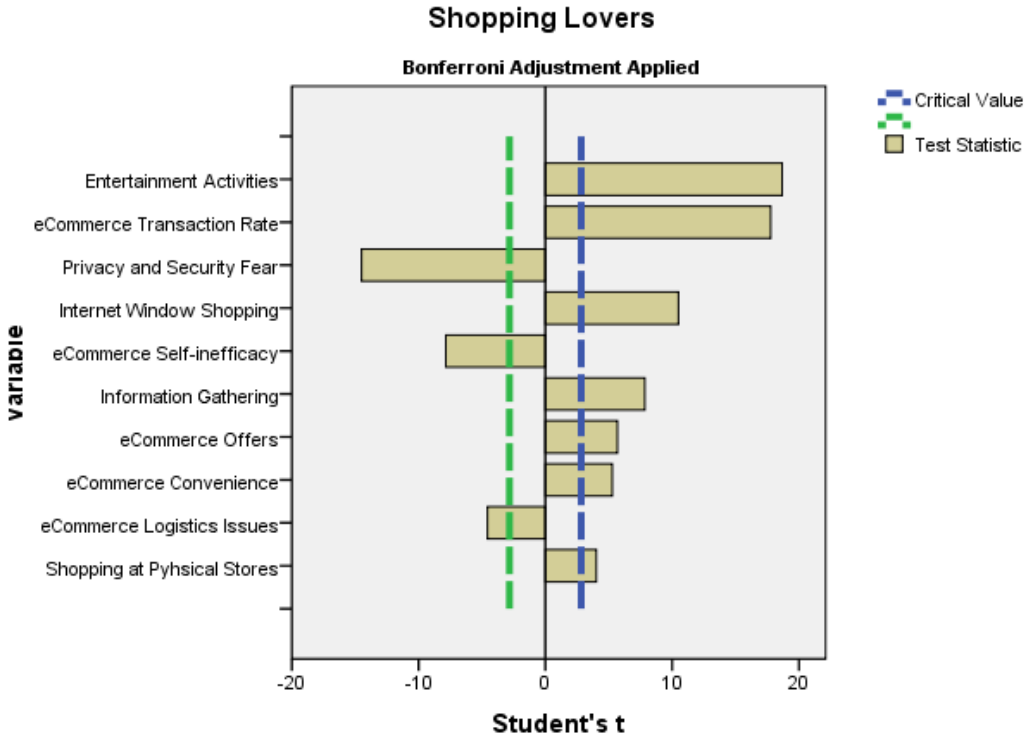

Figure 14 - Shopping Lovers (Variable importance plot)

5.2.2 Direct Purchasers

Direct Purchasers segment is comprised of 53.9 percent of male and 45.3 percent of female participants. While 97.7 percent of respondents reported to have an online shopping experience, 2.3 percent of respondents do not have such an experience.

The radar chart showing the average factors scores for this segment is given in Figure 15. Based on the average scores on various factors, the distinctive characteristics of this segment can be stated as follows. Among other segments, this segment scored the least on entertainment activities (EA=-0.97). Consumers in this segment reported that

they mostly do not spend time on watching videos, listening to music, surfing on social networks and playing games on the Internet.

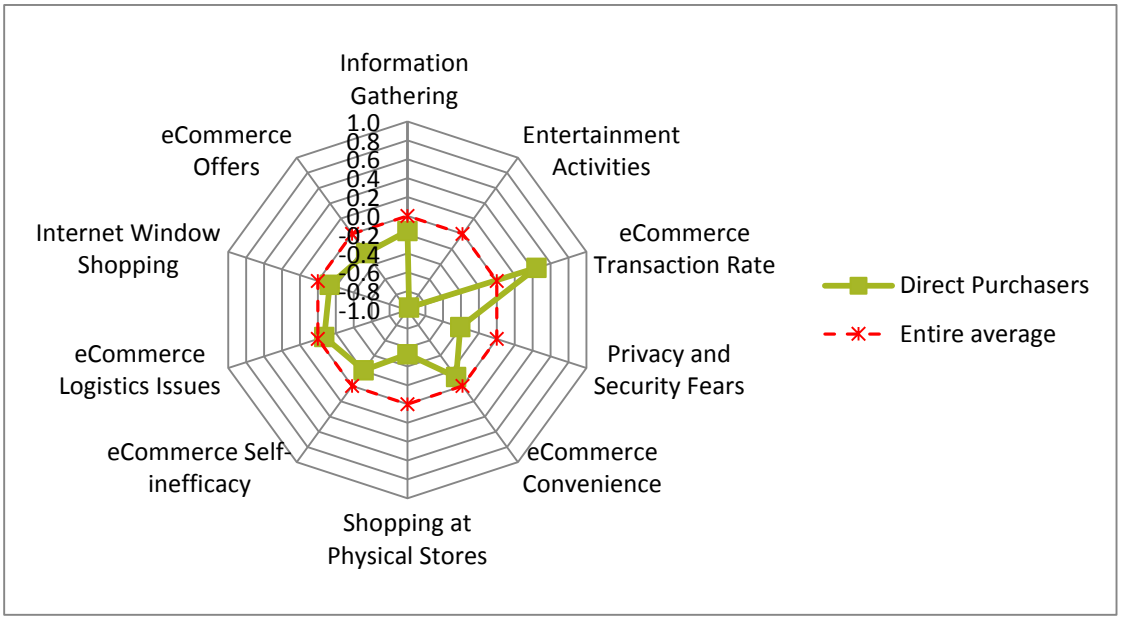

Figure 15 - Direct Purchasers (Average factor scores)

Consumers in this segment mostly do not enjoy shopping at physical stores as their scores on "Shopping at Physical Stores" factor was found to be well below the average (SPS=-0.53). However, they prefer to meet their shopping needs over online stores as their online shopping rate was found to be above the average (ETR=0.44). "Internet Window Shopping" factor score (IWS=-0.13) was found to be below the average for this segment which implies that this type of consumers do not like spending time on looking through online products without any purchase. Furthermore, this type of consumers do not think that online shopping platforms offer better prices and better product options than physical stores (EO=-0.25).

The Internet distrust level of this segment was found to be well below the average (PSF=-0.41). That is, consumers in this segment do not have many concerns about the security of their private and financial information during online shopping activities. This segment's score on "e-Commerce Inefficacy" factor was found to be very low (EI=-0.21) which implies that consumers in this segment know very well how to use online shopping websites and how to place online orders. This segment also do not perceive Internet logistics issues as a major problem (ELI=-0.07). That is, they do not have many worries about the delivery of online products, online shipping charges and the complexities of returning online products.

The above stated findings coincide well with what radar chart (Figure 15) puts forward about the characteristics of this segment. According to variable importance plot (Figure 16), all factors, except "eCommerce Transaction Rate", predominantly take scores smaller than average within this segment. On the other side, "eCommerce Transaction Rate" factor generally takes scores larger than average and this factor is one of the top factors that contribute more to the segment formation. "eCommerce

convenience" and "eCommerce Logistics Issues" factors were not found to contribute to the segment formation as their test statistics did not cross the critical values.

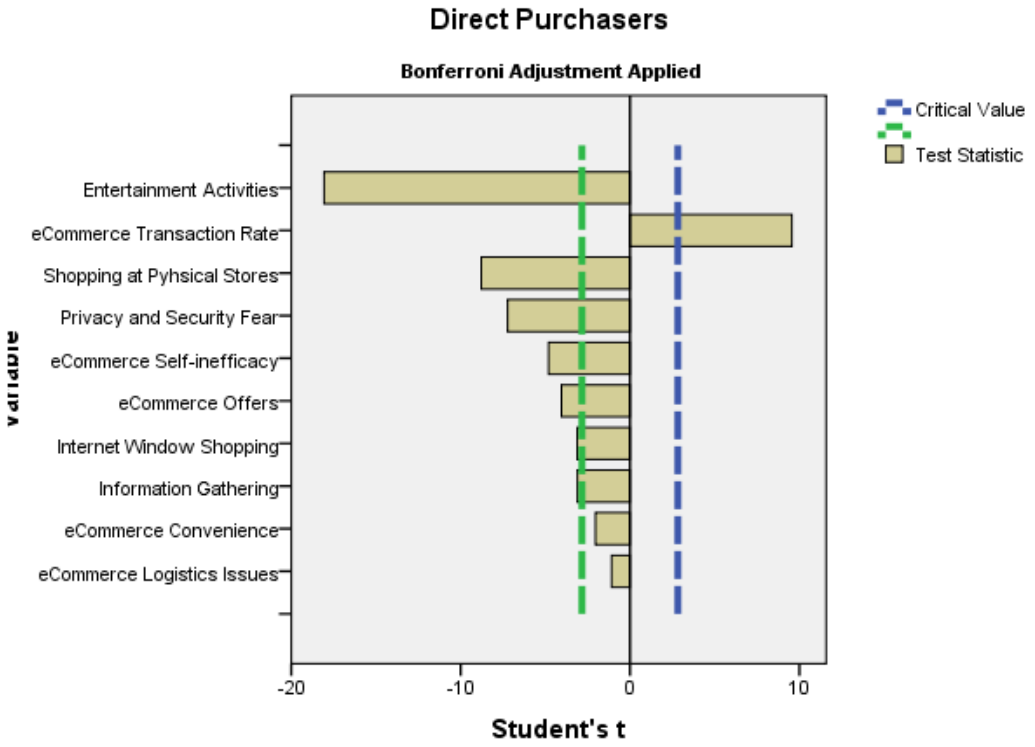

Figure 16 - Direct Purchasers (Variable importance plot)

5.2.3 Suspicious Browsers

Suspicious Browsers segment is comprised of 27.2 percent of male and 72.4 percent of female participants. While 91.8 percent of respondents reported to have an online shopping experience, 6.8 percent of respondents do not have such experience.

By taking into consideration the scores of this segment on various psychographic factors which are given in Figure 17, the distinguished characteristics of this segment can be stated as follows. This segment's score on "Information Gathering" activities was found to be well above the average (IG=0.66). That is, consumers in this segment most of the time use Internet to search information on search engines, read news and journals and send/read emails. In addition, consumers in this segment commonly use the Internet for watching videos, listening to music, spending time on social networks and playing games (EA=0.32).

However, when it comes to "eCommerce Transaction Rate", this segment's score was found to be very low (ETR=-0.47). Even though consumers in this segment agree with the idea that shopping on the Internet provides convenience and time-saving benefits (EC=0.15), they usually do not prefer to purchase products and services over online shopping platforms. Their unwillingness to adopt online shopping is not due to the perceived complexities of e-commerce as score on "eCommerce Self-inefficacy" factor was found to be very low (EI=-0.31). However, low level of e-commerce

transactions rates in this segment can be related to this segment's high level of distrust toward Internet. This inference was made by checking this segment's score on "Privacy and Security Fears" factor which was found to be very large (PSF=0.76) when compared to the average. That is, this segment is concerned about the privacy of their personal information and the security of their financial details during online transactions. Furthermore, this segment's score on "eCommerce Logistics Issues" is found to be high (ELI=0.29) which implies that this type of consumers are also concerned about the delivery of products bought online and they perceive returning process of online products as complex. Even though this segment agrees that shopping on the Internet provides convenience and time saving benefits, their distrust toward Internet and their worries related to delivery and return process of online products prevent them from shopping on online stores.

In this segment, high level of information gathering and Internet window shopping (IWS=0.25) activities are the indications of the fact that this type of consumers most of the time use online shopping websites to learn about various types of products and services and discover the latest trends. This segment tends to exploit several advantages of online shopping platforms such as ability to easily, quickly and cheaply get large amount of information about any type of products and services at any time. However, when it comes to real shopping, this segment mostly prefers physical stores to shop as it is shown in Figure 15 that their score on "Shopping at Physical Stores" is slightly higher than the average (SPS=0.03) while "eCommerce Transaction Rate" is well below the average (ETR=-0.47).

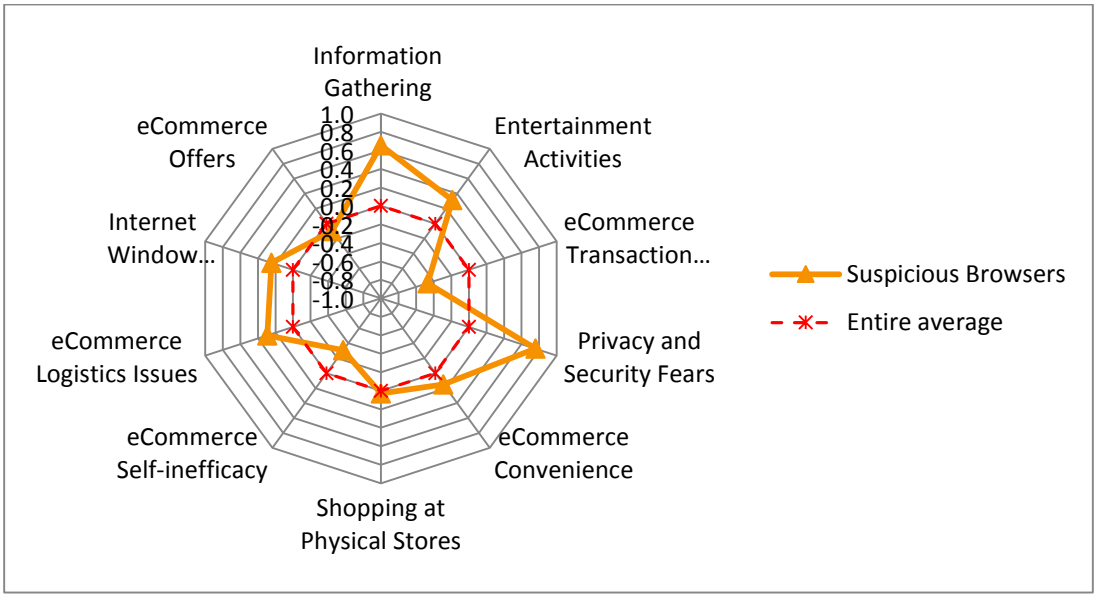

Figure 17 - Suspicious Browsers (Average factor scores)

The variable importance plot given in Figure 18 shows that "eCommerce Transaction Rate" and "e-Commerce Self-inefficacy" are among the factors that contribute more to the formation of this segment. These two factors predominantly take scores smaller than average within this segment as their bar line crosses the critical value in the negative direction. On the other side, the variable importance plot shows that "Privacy and Security Fears", "Information Gathering", "Entertainment Activities", "Perceived Logistics Issues" and "Internet Window Shopping" are the factors that generally take scores larger than average within this segment and these factors were also found to

significantly contribute to the segment formation. The findings of variable importance plot about this segment were found to be consistent with what radar chart (Figure 17) states about the characteristics of this segment.

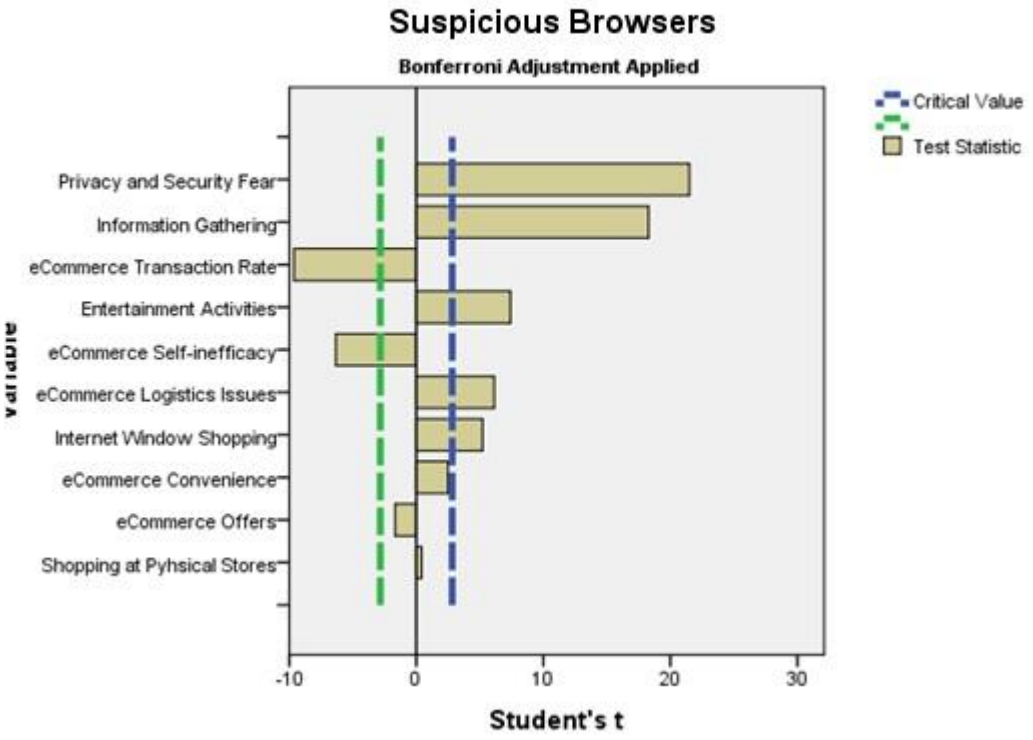

Figure 18 - Suspicious Browsers (Variable importance plot)

5.2.4 Incompetent Consumers

Incompetent Consumers segment is comprised of 44.8 percent of male and 54.4 percent of female participants. While 68.6 percent of respondents reported to have an online shopping experience, 30.7 percent of respondents do not have such experience.

Scores of this segment on various psychographic factors is given in a radar chart in Figure 19. Based on this chart, the distinguished characteristics of this segment of consumers are as follows. This segment of consumers stated that looking for information on search engines, reading news and sending/reading email are not among the activities they carry out most of time on the Internet (IG=-0.83). This segment of consumers do not agree with the idea that Internet provides convenience in terms of shopping (EC=-0.31). Internet distrust level of this segment was also found to be above the average (PSF=0.33). That is, consumers in this segment have fears related to online shopping due to perceived privacy and security issues on the Internet. Another notable feature of consumers in this segment are their high level of e-commerce self-inefficacy (EI=0.82). That's, this segment of consumers reported that they are not good at using online stores to purchase products or services. They perceive it as difficult to learn placing online orders. By taking into consideration the above mentioned point, it seems sensible why consumers in this segment do not carry much online transactions. E-commerce transaction rate of this segment was found to be well below the average

(ETR=-0.66). Perceived inconvenience of online stores, privacy and security fears and very high level of self-inefficacy can be considered as major reasons behind this segment's low e-commerce transaction rate.

Consumers in this segment scored very low in "Internet Window Shopping" factor (IWS=-0.55) which means that these consumers also do not have the habit of using the online stores for just looking at the available products without any purchase intent. In this segment, self-inefficacy in regards to e-commerce platform usage can be considered as one of the main reasons behind the low level of Internet window shopping activities. In addition, a slightly higher score than average on "Shopping at Physical Stores" factor implies that these type of consumers are more inclined to shopping at physical stores.

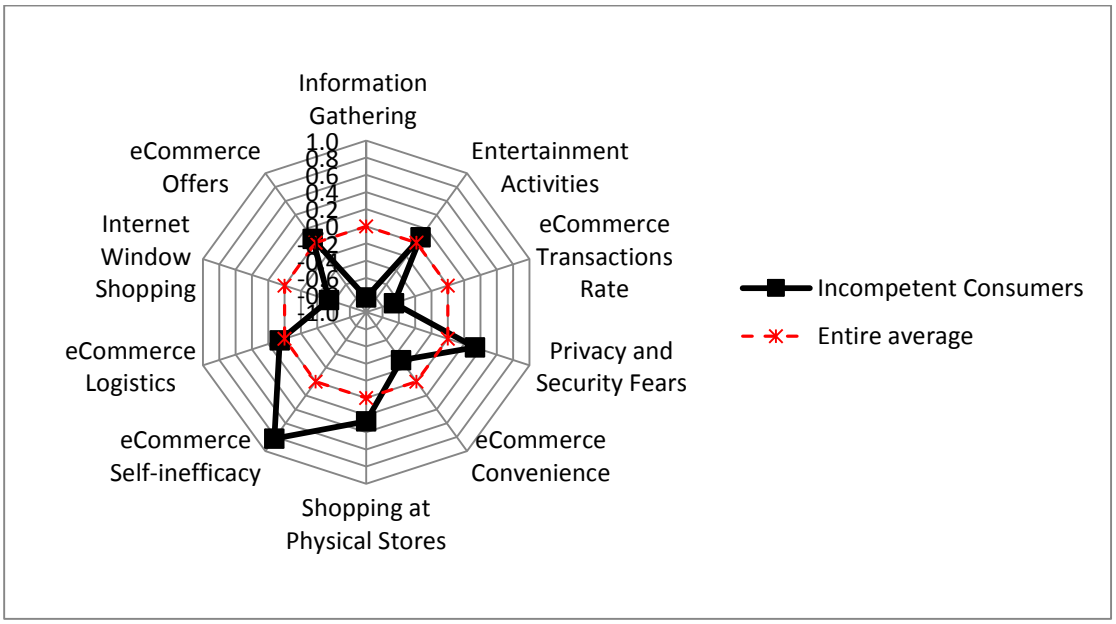

Figure 19 - Incompetent Consumers (Average factor scores)

The variable importance plot given in Figure 20 shows that "Information Gathering", "eCommerce Transactions Rate", "Internet Window Shopping" and "eCommerce Convenience" are the factors that predominantly take scores smaller than average within this segment. In addition, all of these factors significantly contribute to the segment formation as their bar lines crosses the critical value.

The radar chart (Figure 19) of this segment showed that the rate of e-commerce transaction for this segment is very low and this fact is supported by variable importance chart (Figure 20) which shows that e-commerce transaction rate is among top factors that have the greatest influence in segment formation. This segment of consumers stated that they are not good at using online stores and they have high level of Internet distrust. The variable importance chart in Figure 20 confirms this fact by showing that in this segment "eCommerce Self-inefficacy" and "Privacy and Security Fear" factors predominantly take scores larger than average and these factors also significantly contribute to the segment formation.

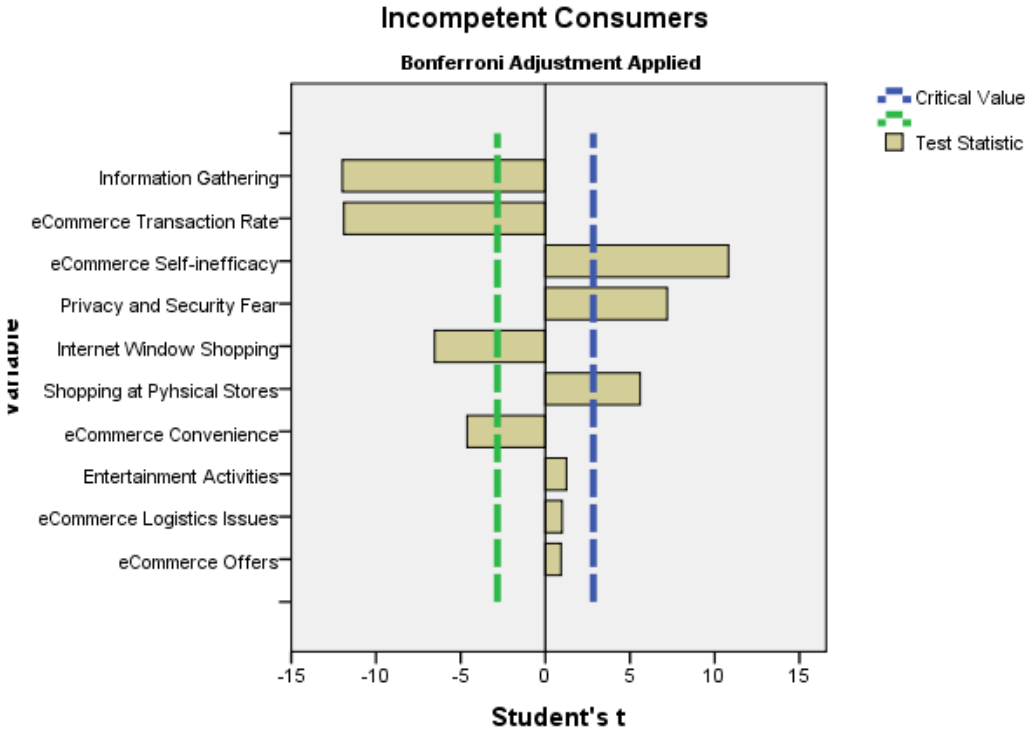

Figure 20 - Incompetent Consumers (Variable importance plot)

5.3 Behavioral Segmentation Analysis

In contrast to psychographic segmentation approach in which individuals are grouped based on their lifestyles, attitudes, perceptions and expectations, behavioral segmentation approach takes into consideration individuals' actual behaviors. For example, in the online shopping context consumers' spending, consumption and usage patterns are some of the many possible factors upon which behavioral segmentation analysis can be carried out.

In this study, the data that were used in behavioral segmentation analysis are based on real B2C e-commerce transactions which were carried out at Markafoni.com. Markafoni.com is one of the most popular online shopping websites in Turkey with 7.2 million members. Markafoni.com offers its members many selected brands from different categories such as clothing, accessories, cosmetics, decoration and lifestyle. After signing the non-disclosure agreement with Markafoni.com, the data required for behavioral segmentation analysis were provided by the company. The dataset which was provided by Markafoni.com was comprised of 350.000 product purchases from 157.000 orders carried out by 10.000 unique customers. Random sampling method was utilized while retrieving customers and related online transactions data from the database.

Demographic profile of this customer set is given in Table 15. Gender distribution in Table 15 shows that the majority of the consumers were female (73.84 percent). In regards to age, most of the consumers aged from 30 to 34 (28.39 percent) followed by

consumers whose age ranged from 25 to 29 (24.28 percent). As for geographic location, the majority of consumers are from Marmara region (45.05 percent) followed by Central Anatolia region (16.91 percent) and Aegean region (13.79 percent).

Table 15 - Demographic profile of customers

Demographic Profile	Frequencies	Percentage (%)
Gender		
Male	2616	26.16
Female	7384	73.84
Age		
Less than 25	817	8.17
25-29	2428	24.28
30-34	2839	28.39
35-39	1931	19.31
40-44	1024	10.24
45 and above	961	9.61
Geographical Region		
Aegean Region	1379	13.79
Black Sea Region	758	7.58
Central Anatolia Region	1691	16.91
Eastern Anatolia Region	420	4.20
Marmara Region	4505	45.05
Mediterranean Region	808	8.08
Southeastern Anatolia Region	439	4.39

As in psychographic segmentation process, SPSS Two-Step Clustering method was used in behavioral segmentation process. SPSS Two-Step Cluster analysis is a robust clustering tool in which clusters are derived from the dataset in two main steps, namely pre-clustering and hierarchical clustering steps. This clustering tool can handle very large datasets with various data types (i.e., scale, ordinal) (SPSS Inc., 2001). Furthermore, it can also determine the optimal number of clusters which is a challenging task left to researcher in other clustering methods (e.g., hierarchical, k-means).

IBM SPSS Statistics version 21 was utilized in conducting the Two-Step Clustering analysis. Five behavioral factors upon which segmentation analysis were carried out are listed and explained in Table 16. These factors are; 1) online shopping rate 2) average price paid 3) coupon redemption rate 4) product diversity rate 5) refund rate. There are also some behavioral factors (Table 16) which were not used in segmentation process but utilized in understanding the specific characteristics of each determined consumer segment. Some of these factors were not included in the main segmentation process because they cause quality reduction in derived segments. Some others were not included mainly because they are dichotomous variables with two levels which lead to formation of just two segments.

Table 16 - Description of behavioral segmentation and evaluation factors

Type	Factor	Description
Segmentation factors	Online shopping rate	Refers to total number of online products purchased by a consumer.
	Average price paid	This shows average price of online products purchased by a consumer. This factor is calculated by dividing "Total online spending" with the "Total number of items purchased online".
	Coupon redemption rate	This factor shows how often a consumer uses discount coupons in online shopping transactions. It is calculated by dividing "Total number of discount coupons used" by "Total number of items purchased online".
	Product diversity rate	It refers to extent to which a consumer purchases diverse product types. It is calculated by "Total number of distinct online product types purchased" by "Total number of items purchased online".
	Refund rate	This factor shows how often a consumer returns products purchased online. It is calculated by dividing "Total number of refunds made" by "Total number of items purchased online".
Evaluation factors	Age*	Provides information on consumers' age in a given segment.
	Gender*	Shows the gender percentages of consumers in a given segment.
	Region*	Shows the geographical region percentages of consumers in a given segment.
	Membership duration	Measures consumer's membership duration in number of days.
	Recent visits	Provides information on consumers' recent online store visit.
	SMS/e-Mail subscriptions*	Shows whether consumer subscribed to receive SMS or e-Mail from the company related to campaigns.
	Free shipping usage	Shows how often consumer used free shipping option in online shopping transactions.
	Credit card storage	Indicates whether customers saved their credit card details to the online shopping system for one-click payment option.

Note: * No data standardization was applied

Each of these behavioral factors related to online shopping had a different dimension which is required to be standardized before conducting the segmentation analysis. Data standardization which is an important step in a segmentation analysis is carried out in order to remove the possible influences of different dimensions of various data items (Liu et al., 2015).

The data used in behavioral segmentation process is standardized in two main steps. In the first step, for each behavioral factor listed in Table 16 the quintile points were determined. Quintiles are four cut-off points that divides a dataset into five equal-size parts. In the literature, it is quite common to use quintiles to create cut-off points for a given population. For each behavioral factor the original raw data is sorted in the increasing order and quintile points were determined. While the first quintile represented the lowest end of the data (1-20%), the final quintile represented the highest end of the data (81% - 100%). By taking into consideration the determined quintile position, for each behavioral factor each data point is labeled between 1 (i.e., low) and 5 (i.e., high). In the second step of the data standardization process, each behavioral factor which was rescaled between 1 and 5 is further rescaled to have a mean of zero and standard deviation of one (i.e., converted to z-scores). This approach is the one which was also used to standardize the factor scores in the psychographic segmentation process. This second step of data standardization will enable to clearly see which segment's various factor scores are close to entire sample average (i.e., segment's mean z-score close to 0), lower than average (i.e., segment's mean z-score lower than 0) or higher than the average (i.e., segment's mean z-score higher than 0).

After the data standardization process, 5 behavioral factors listed in Table 16 were used as input in SPSS Two-Step Cluster analysis with Log-likelihood distance measure and BIC (Schwarz's Bayesian) clustering criterion. The results of the segmentation analysis was discussed and presented in detail in the following paragraphs. In order to determine the number of segments to be extracted from the dataset, SPSS Two Step Cluster algorithm takes into consideration the following criterions: low BIC value coefficient, high value of BIC change and high value of Ratio of distance measures. Results of the auto clustering process is provided in Table 17. By taking into consideration the 5 determined behavioral factors clustering algorithm suggested 5 segments to be extracted from the data (BIC=16027.407, BIC change=-1306.710, Ratio of distance measures=1.400). The results of cluster analysis provided enough evidence to accept the Hypothesis 1 which proposes that a broad online consumer audience is composed of different consumer segments.

Table 17 - Two Step auto-clustering result (Behavioral segmentation)

Auto-Clustering

Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change[a]	Ratio of BIC Changes[b]	Ratio of Distance Measures[c]
1	25697.308			
2	21930.999	-3766.309	1.000	1.311
3	19079.934	-2851.064	.757	1.602
4	17334.117	-1745.817	.464	1.315
5	16027.407	-1306.710	.347	1.400
6	15119.551	-907.856	.241	1.213
7	14386.818	-732.733	.195	1.105
8	13732.136	-654.682	.174	1.047
9	13110.960	-621.175	.165	1.162
10	12588.588	-522.373	.139	1.064
11	12103.092	-485.496	.129	1.334
12	11761.484	-341.608	.091	1.074
13	11449.376	-312.108	.083	1.002
14	11138.002	-311.374	.083	1.133
15	10873.670	-264.331	.070	1.002

a. The changes are from the previous number of clusters in the table.

b. The ratios of changes are relative to the change for the two cluster solution.

c. The ratios of distance measures are based on the current number of clusters against the previous

The number of segments and their sizes are provided in Table 18. Opportunist Customers (13.7 percent), Transient Customers (24.8 percent) and Need-based Shoppers (15.8 percent) have 1367, 2477 and 1583 observations respectively. Skeptical Newcomers (21.8 percent) and Repetitive Purchasers (23.9 percent) have 2182 and 2391 observations respectively. Transient Customers is the one that have the largest number of observations. The ratio of the largest cluster size to the smallest one is 1.81 which is below the recommended maximum value of 2. The Centroids table presenting the mean and standard deviation of the observations in each segment is provided in Appendix K.

For each determined consumer segment a radar chart is created to show each segment's average score on each behavioral factor. In a radar chart, score on each behavioral factor is plotted along a separate axis. While the value 0.0 in the chart shows the entire sample mean, the numbers higher or lower than 0.0 represents the numbers of standard deviations from the entire sample mean. Each segment is given an appropriate name by taking into consideration their scores on various behavioral factors listed in Table 16. For comparison purpose, the average factor score of five derived consumer segments are plotted in a single radar chart given in Figure 21. Following subsections

analyze and discuss each segment in detail by taking into consideration the results of segmentation process (Table 18) and the results of variable importance chart created for each segment. Variable importance chart shows how important the different behavioral factors are to the formation of a given segment. The vertical axis in the chart shows each behavioral factor and the horizontal axis indicates the student's t statistics. While a negative Student's t statistic shows that the given factor generally takes smaller than average values within this segment, a positive Student's t statistic shows that the given factor takes larger than average values. Critical level (i.e., $p<0.05$) which is shown by two dashed lines (positive and negative) enable to determine the significance of each factor. These dashed lines are Bonferroni adjustment applied critical levels (i.e., $p=0.05$). Bar line of any given behavioral factor which is longer than the critical levels indicates that this particular factor statistically significantly contributes to the formation of this segment.

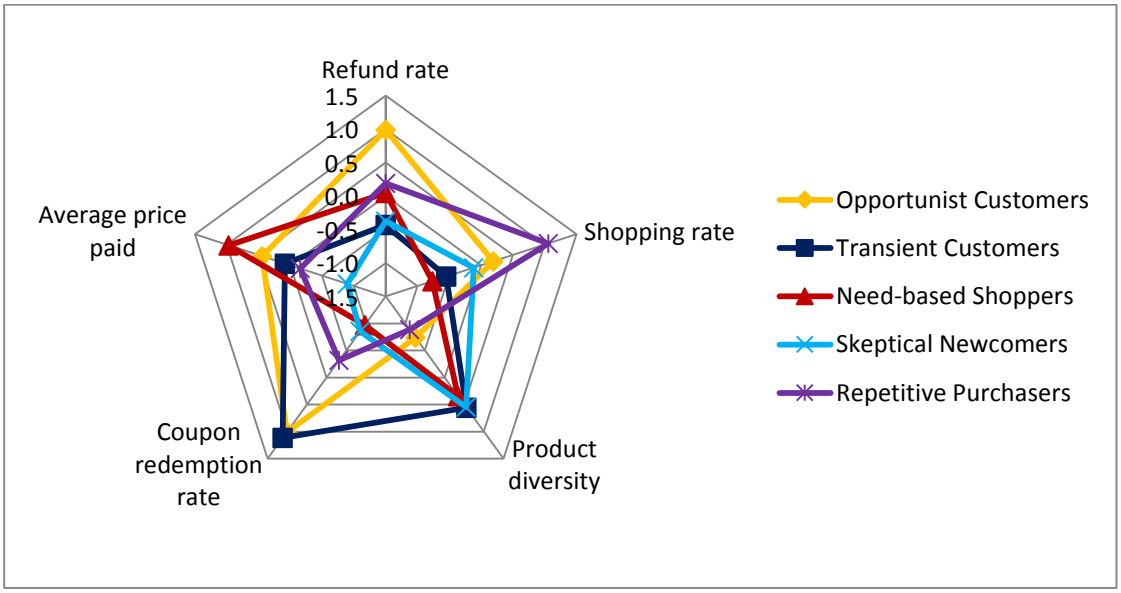

Figure 21 - Behavioral segmentation radar chart

Table 18 - Behavioral segmentation results

Factors		Opportunist Customers	Transient Customers	Need-based Shoppers	Skeptical Newcomers	Repetitive Purchasers
Demographic factors	Segment size (%)	13.7%	24.8%	15.8%	21.8%	23.9%
	Segment size (#)	1367	2477	1583	2182	2391
	Age	34.7	33.5	33.6	32.5	35.8
	Gender					
	Male	37.2%	30.6%	31.6%	16.5%	20.5%
	Female	62.8%	69.4%	68.4%	83.5%	79.5%
Segmentation factors (Centroids)	Refund rate (RR)*	0.99	-0.43	0.05	-0.37	0.19
	Shopping rate (SR)*	0.19	-0.54	-0.77	-0.11	1.06
	Product diversity (PD)*	-0.74	0.56	0.35	0.55	-0.89
	Coupon redemption (CR)*	1.01	1.12	-0.97	-0.86	-0.32
	Price payment (PP)*	0.44	0.08	0.97	-0.90	-0.16
Evaluation factors	Credit card storage	4.3%	2.6%	3.3%	2.7%	5.5%
	Free shipping usage (FR)*	0.25	0.04	0.11	-0.28	0.00
	Membership duration (MD)*	0.12	0.14	-0.20	-0.20	0.11
	Recent visits (RV)*	0.14	-0.21	-0.09	-0.11	0.30
	Subscriptions					
	SMS	93.1%	94.9%	93.8%	94.6%	93.6%
	e-Mail	68.0%	65.5%	66.2%	68.4%	66.4%

Note: *Shows standardized values (i.e., 0.00 represents the entire sample average and +/- represents number of standard deviations above or below the entire sample average.)

Along with segmentation factors numerous behavior evaluation factors were also utilized to understand the specific characteristics of each derived consumer segment. Results of these behavior evaluation factors according to each segment is provided in Table 18 and discussed in detail in the following subsections.

Figure 22 and Appendix L shows determined behavioral segment sizes according to seven geographical region of Turkey. At first glance it can be seen that for all geographical regions Transient Customers, Suspicious Newcomers and Repetitive Purchasers are the top three dominant consumer segments. For all regions except Central Anatolia, Opportunist Customers segment was found to have the smallest size.

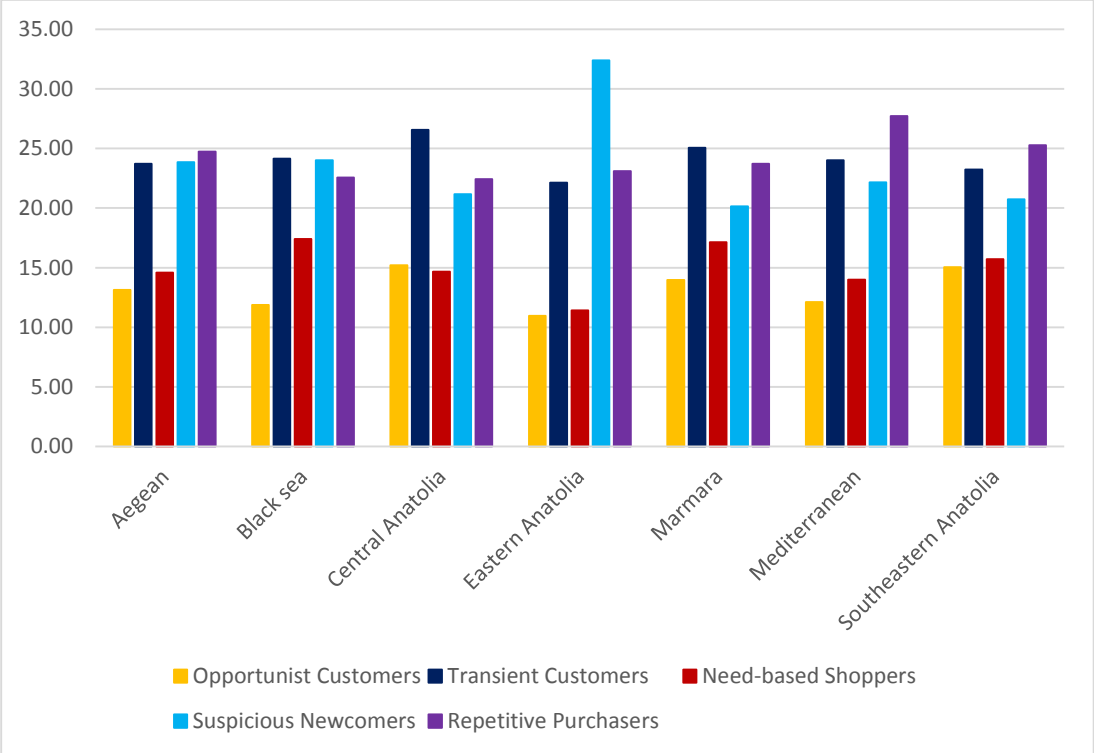

Figure 22 - Behavioral segment sizes according to regions

5.3.1 Opportunist Customers

Opportunist Customers segment is comprised of 37.2 percent of male and 62.8 percent of female consumers. The average age of this segment is 34.7 years. Top 3 geographical regions that customers within this segment reside are Marmara (46.0%), Central Anatolia (18.8%) and Aegean (13.2%) (Appendix L). On the other hand, decomposition of each geographical region in terms of determined consumer segments indicates that Central Anatolia (15.2%), Southeastern Anatolia (15.0%) and Marmara (14.0%) are the top three regions in which the size of Opportunist Customers are at the highest level (Figure 22).

The radar chart showing the average factors scores for Opportunist Customers segment is given in Figure 23. Based on this radar chart and the results of segmentation process given in Table 18, the distinguished characteristics of this segment can be stated as follows.

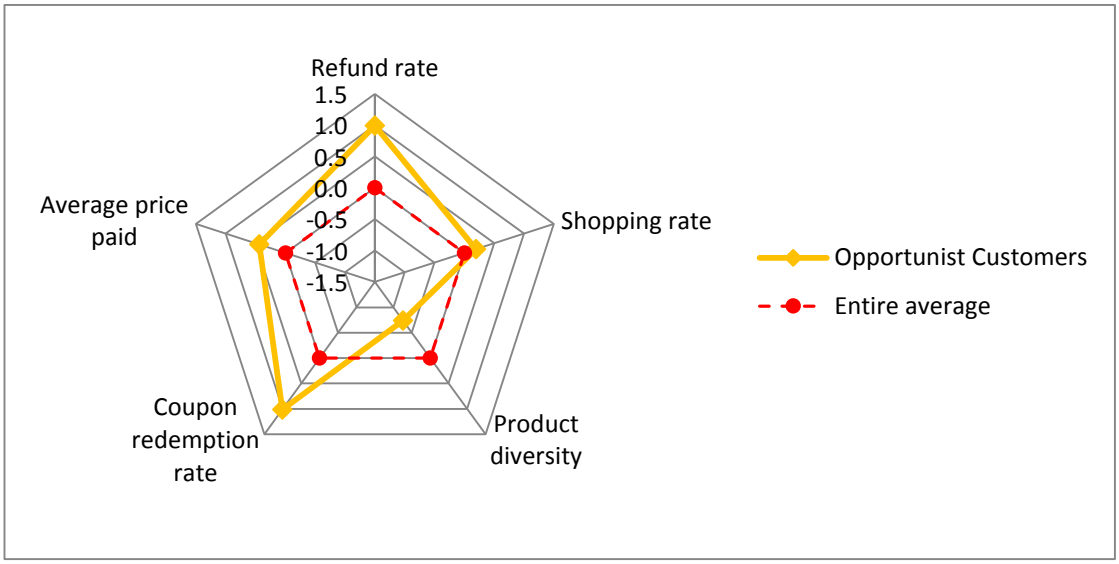

Figure 23 - Opportunist Customers (Radar chart)

Membership duration factor score for Opportunist Customers was found to be above the average (MD=0.12) which indicates that consumers in this segment are relatively old members. Recent visits factor score being above the average (RV=0.14) shows that this segment of consumers visit the online store more frequently than the entire sample average. As expected, their frequent visits resulted in higher shopping rate than average (SR=0.19). Furthermore, the average price of products that Opportunist Customers shop for is quite high (PP=0.44). This segment generally shops for very specific type of products which can be inferred from very low score on product diversity factor (PD=-0.74). Opportunist Customers apply for the refund of the purchased products quite often which is indicated by the significantly higher refund rate than average (RR=0.99). High refund rate is an indication of fast and uncertain decision-making characteristics of this segment. Two notable characteristics that differentiate Opportunist Customers segment from other determined consumer segments are their very high usage rate of discount coupons (CR=1.01) and free shipping options (FR=0.25) in online shopping transactions. That is, Opportunist Customers are more motivated to take advantage of discounts and free shipping opportunities to save money. Credit card storage rate for this segment was found to be 4.3 percent; that is, only a few customers saved their credit card details to online system for fast one-click payment option. In order to receive information from the company related to campaigns, 93.1 percent of consumers subscribed to receive SMS notifications and 68.0 percent of consumers preferred e-mail.

The variable importance chart given in Figure 24 shows how important the different behavioral factors are to the formation of Opportunist Customers segment. The results of variable importance chart coincides with the trend observed in the radar chart related to Opportunist Customers. According to variable importance chart, while “Refund rate”, “Coupon redemption rate”, “Average price payment” and “Online shopping rate” factors take statistically significantly larger scores than average within this segment, “Product diversity” factor takes statistically significantly lower scores than average. Coupon redemption rate and refund rate are the factors which contribute more to the formation of this segment.

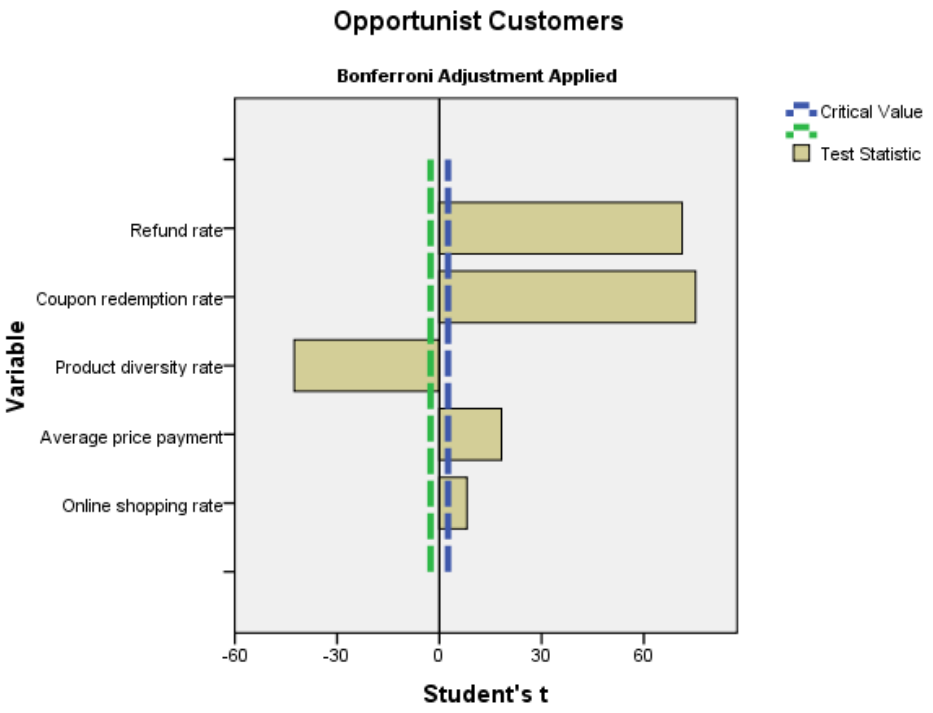

Figure 24 - Opportunist Customers (Variable importance plot)

In the light of findings presented above, it is reasonable to call this segment as Opportunist Customers. More specifically, visiting online store more often, purchasing online products more frequently, redeeming more coupons and preferring more free delivery options implies that consumers in this segment are more driven by available opportunities in online store. This type of consumers tend to take advantage of discount coupons and free delivery options for a few product types in which they are interested. Discount coupons are generally offered when customers spend some higher amount of money on certain type of products. Higher than average price payment of this segment probably is driven by the motivation to obtain discount coupons.

5.3.2 Transient Customers

Transient Customers segment is comprised of 30.6 percent of male and 69.4 percent of female consumers. The average age of this is segment is 33.5 years. Top 3 geographical regions that consumers within this segment reside are Marmara (45.6%), Central Anatolia (18.1%) and Aegean (13.2%) (Appendix L). Decomposition of each geographical region in terms of determined consumer segments (Figure 22) shows that Central Anatolia (26.6), Marmara (25.1) and Black Sea (24.1) are the top three regions in which the size of "Transient Customers" are at the highest level.

The average scores of Transient Customers segment on various behavioral factors is shown on a radar chart in Figure 25. Based on this radar chart and the results of segmentation process given in Table 18, the most prominent characteristics of this segment are as follows. Transient Customers segment is composed of relatively old members as membership duration factor score for this segment was found to be above the average (MD=0.14). Among other segments, Transient Customers are the ones who visit the online store very infrequently as their score on recent visits factor was

found to be the lowest (RV=-0.21). As a result of their infrequent visits, the shopping rate of this type of consumers is very low (SR=-0.54).

Another notable characteristic of consumers in this segment is their very high usage of discount coupons (CR=1.12) in their online shopping transactions. Even though online shopping rate was found to be low in this segment, discount usage rate was found to be high which means that in most of their product purchases, this type of customers redeemed discount coupons. Transient Customers tend to purchase diverse type of products as their score on this factor (PD=0.56) is higher than the average. In addition, their product refund rate was found to be lower (RR=-0.43) which indicates that this segment's product decision-making process is much better than other segments.

When it comes to subscriptions to receive notification from the company related to campaigns, 94.9 percent of consumers preferred SMS and 68.0 percent preferred e-mail. Among other segments, this segment is the one in which credit card storage rate for one-click payment option is at the lowest level (2.6%).

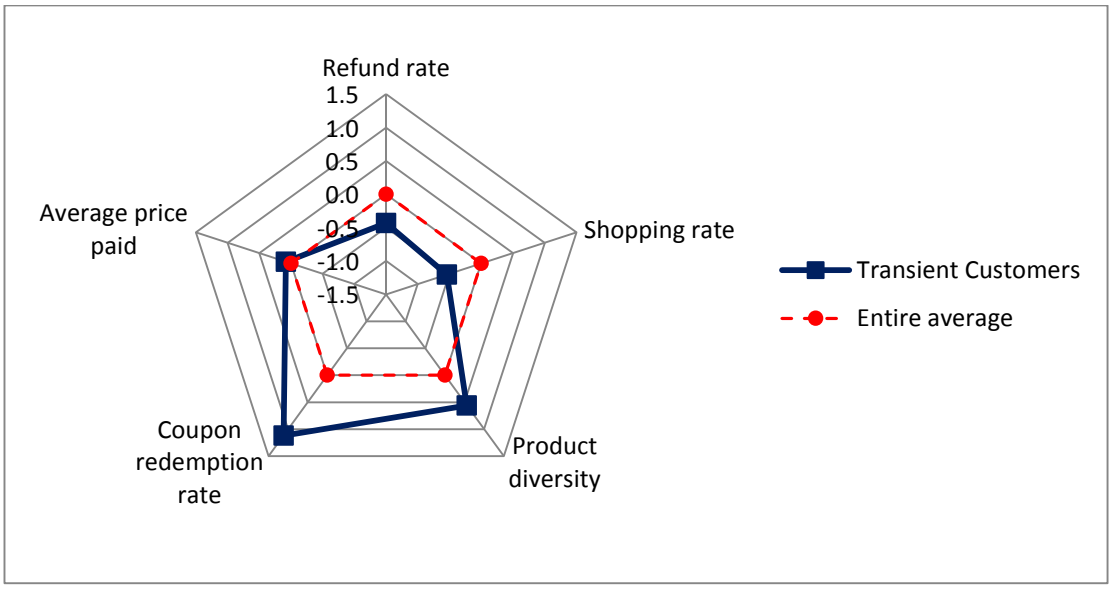

Figure 25 - Transient Customers (Radar chart)

In Figure 26, the variable importance chart depicts how important role different behavioral factors play in the formation of Transient Customers segment. The trend observed in the radar chart related to the characteristics of Transient Customers coincides with the findings of variable importance chart. This chart shows that all factors except "Average price payment" significantly contribute to the formation of this segment. While "Coupon redemption" and "Product diversity rate" factors take statistically significantly larger than average score within this segment, "Online shopping rate" and "Refund rate" factors take statistically significantly lower scores than average. Coupon redemption rate is the factor which contributes the most to the formation of this segment.

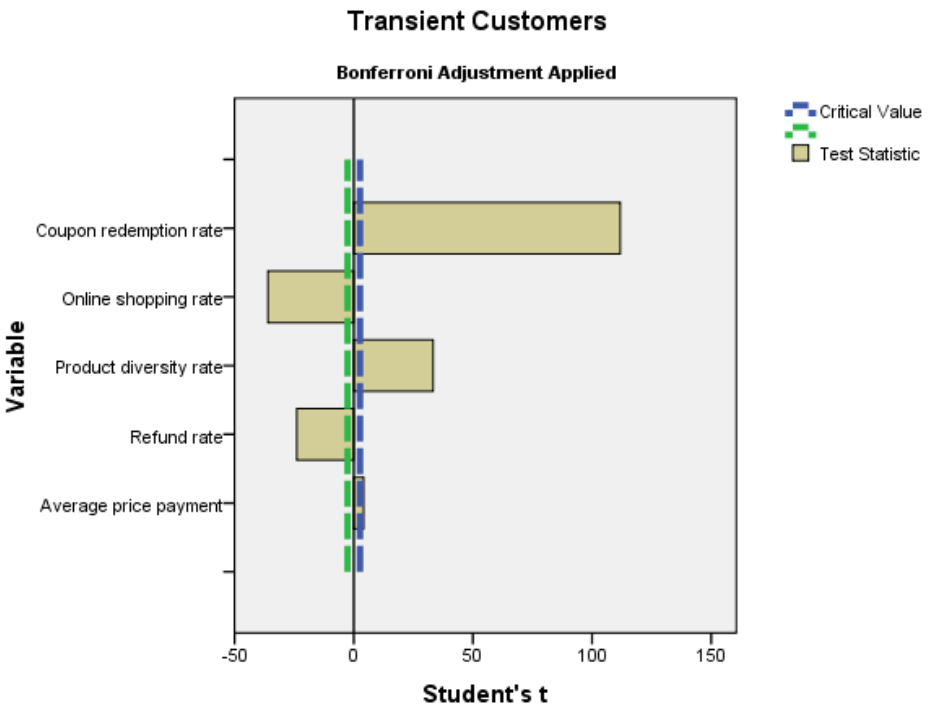

Figure 26 - Transient Customers (Variable importance plot)

By considering all the findings related to the behavioral characteristics of this segment, it makes sense to call this segment as Transient Customers. Visiting the online store less frequently, purchasing the products less frequently and in most of their online transactions redeeming more coupons on diverse type of products implies that consumers of this segment are more driven by offered discount coupons. Transient Customers do not have a habit of meeting their product needs over online stores. What drives them to online store is some type of incentives, namely discount coupons. After redeeming the discount coupons, this type of customers do not visit and shop in the online store on regular basis. This segment can also be called as coupon-prone customers.

5.3.3 Need-based Shoppers

Need-based Shoppers segment is composed of 31.6 percent of male and 68.4 percent of female consumers. The average age of this segment is 33.6 years. Consumers within this segment are mostly from Marmara (48.8%), Central Anatolia (15.7%) and Aegean (12.7%) geographical regions (Appendix L). Furthermore, decomposition of each geographical region in terms of determined consumer segments (Figure22) shows that Black Sea (17.4%), Marmara (17.1%) and Southeastern Anatolia (15.7%) are the top three regions in which the size of "Need-based Shoppers" are at the highest level.

The radar chart showing the average factors scores for Need-based Shoppers consumer segment is given in Figure 27. Based on this radar chart and the results of segmentation evaluation factors given in Table 18, the distinguished characteristics of this segment can be stated as follows. Membership duration factor score for this segment was found to be below the average (MD=-0.20) which implies that consumers in this segment are relatively new members. In addition, recent visits factor score was also found to be a

little below the average (RV=-0.09) which indicates that this segment of consumers visits the online store a little less frequently than the entire sample average.

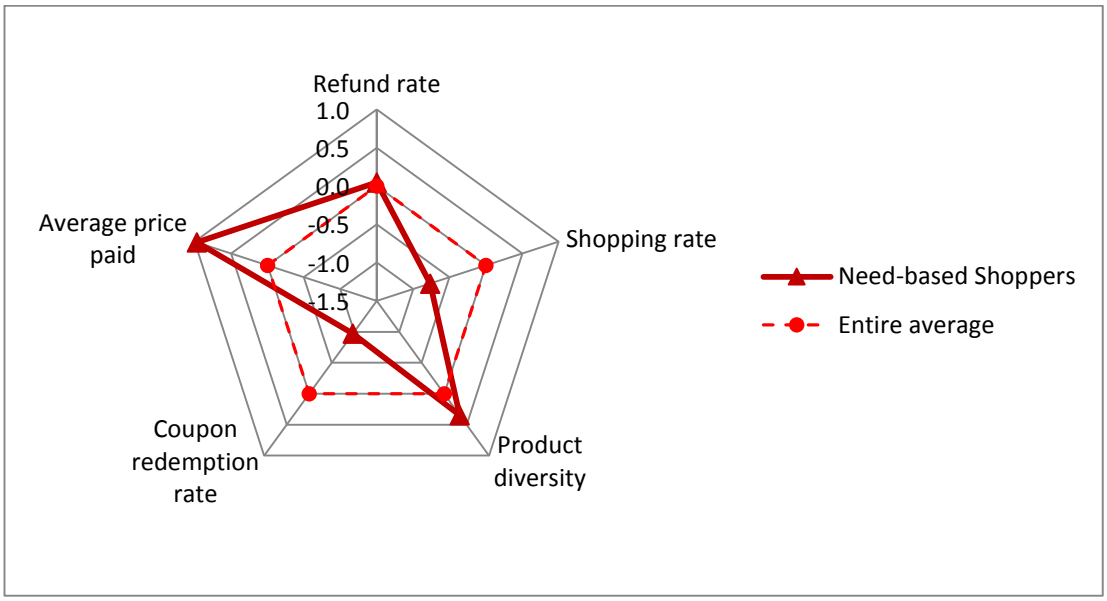

Figure 27 - Need-based Shoppers (Radar chart)

Compared with the entire sample average, shopping rate of Need-based Shoppers was found to be very low (SR=-0.77). However, this segment purchase very diverse type of products which can be understood from the high-level of product diversity score (PD=0.35). Among other segments, Need-based Shoppers are the ones who pay the highest amount of money to the online products on average which can be seen from their high score on price payment factor (PP=0.97). Coupon redemption rate of this segment was found to be well below the entire sample average (CR=-0.97). When it comes to the refund rate (RR=0.05), this segment's score does not differentiate from the average.

Subscription rate to receive SMS and e-mail from the company related to the campaigns were found to be 93.8 and 66.2 percent respectively. As in other segments, credit card storage rate in this segment is very low. That is, only 3.3 percent of consumers saved their credit card details to online shopping system for one-click payment option.

The variable importance chart given in Figure 28 shows how important role different behavioral factors play in the formation of Need-based Shoppers segment. The variable importance chart confirms what the radar chart indicated about the characteristics of Need-based Shoppers. According to variable importance chart, while "Average price payment" and "Product diversity rate" factors take statistically significantly larger scores than average within this segment, "Coupon redemption rate" and "Online shopping rate" factors take statistically significantly lower scores than average.

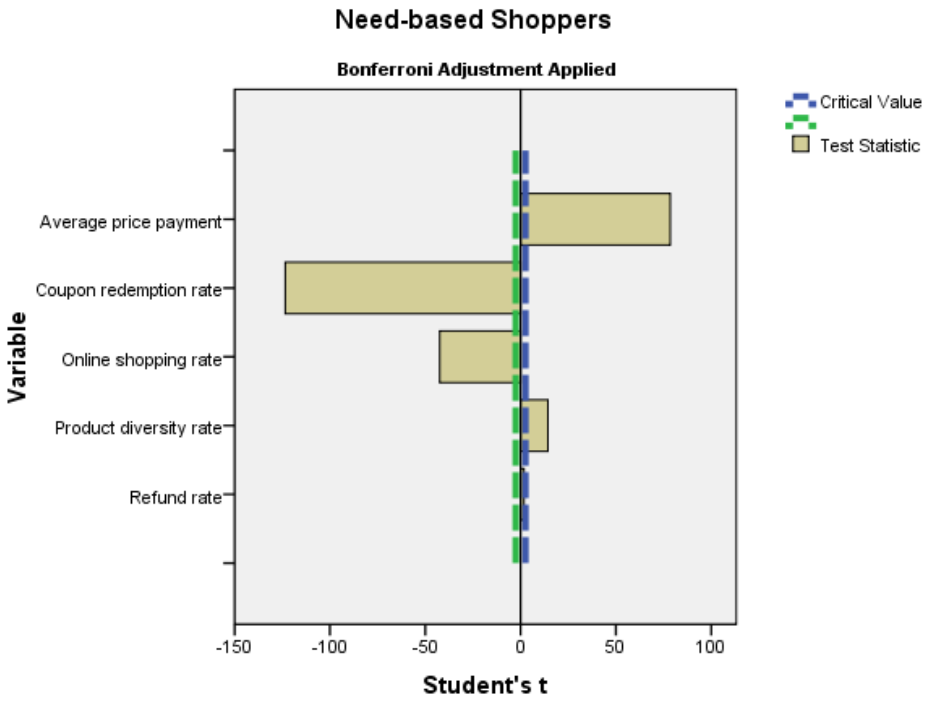

Figure 28 - Need-based Shoppers (Variable importance plot)

By considering all the points mentioned above, it makes sense to call this segment as Need-based Shoppers. Visiting the online store less frequently, purchasing the online products less frequently, buying more diverse type of products and redeeming less coupons imply that consumers in this segment are more driven by their actual product needs. More specifically, in general, this type of consumers visit online store with specific product in mind and look for that particular item. They do not visit online store frequently to take advantage of special discount or redeem offered discount coupons.

5.3.4 Skeptical Newcomers

Skeptical Newcomers segment is composed of 16.5 percent of male and 83.5 percent of female consumers. This segment is the one in which the percentage of male consumers is the lowest. The average age of this segment is 32.5 years. Consumers within this segment are mostly from Marmara (41.6%), Central Anatolia (16.4%) and Aegean (15.1%) geographical regions (Appendix L). Decomposition of each geographical region in terms of determined consumer segments (Figure 22) shows that Eastern Anatolia (32.4%), Black Sea (24.0%) and Aegean (23.9%) are the top three regions in which the size of "Suspicious Newcomers" are at the highest level.

The radar chart showing the average factors scores for Skeptical Newcomers segment is given in Figure 29. Based on this radar chart and the results of segmentation evaluation factors given in Table 18, the distinguished characteristics of this segment can be stated as follows.

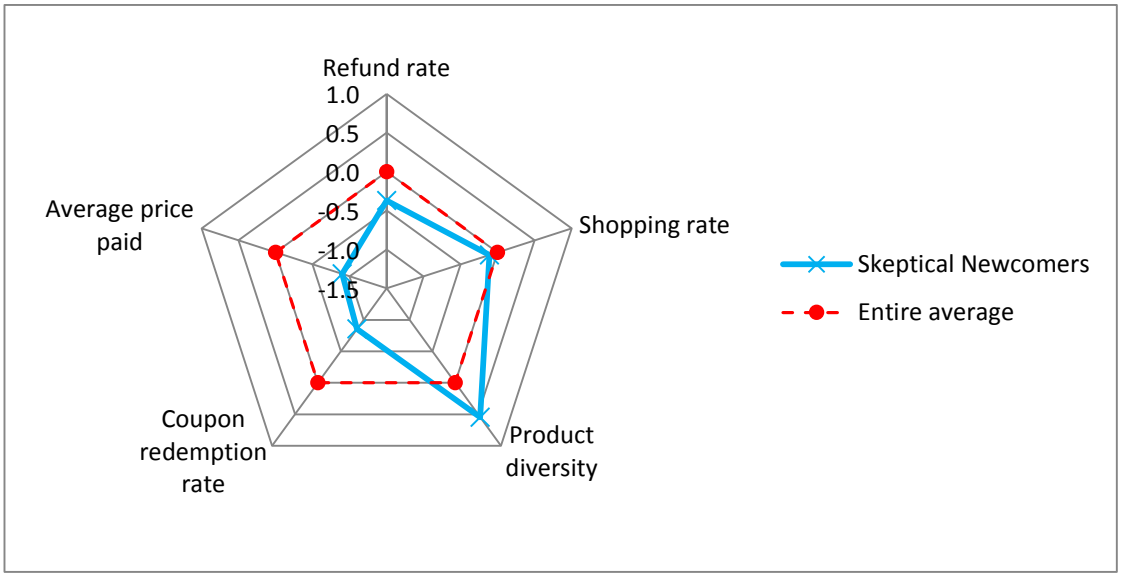

Figure 29 - Skeptical Newcomers (Radar chart)

Skeptical Newcomers segment is composed of relatively new members as membership duration factor score for this segment was found to be below the average (MD=-0.20). Furthermore, this type of consumers visits the online store less frequently than the entire sample average which can be inferred from this segment's low score on recent visits factor (RV=-0.11). As a result of Skeptical Newcomers' less frequent online store visits, online shopping rate was also found to be slightly less than average for this segment (SR=-0.11). This type of consumers purchased more diverse type of products which can be inferred from their higher product diversity score than average (PD=0.55). Furthermore, significantly lower average price payment factor score (PP=-0.90) shows that when purchasing online products this segment generally prefers low-price items. Coupon redemption rate (CR=-0.86) and free shipping usage rate (FR=-0.28) were also found to be very low for this segment.

Skeptical Newcomers apply for the refund of the purchased products less frequently than the entire sample average which is indicated by the lower refund rate (RR=-0.37) than average. Low refund rate can be considered as an indication of good decision-making characteristics of this segment. When it comes to credit card storage rate for one-click payment option, only 2.7 percent of consumers saved their credit card details to the online system. In order to receive information from the company related to campaigns, while 94.6 percent of consumers subscribed to receive SMS notifications, 68.4 percent of consumers preferred e-mail.

The variable importance chart given in Figure 30 shows that all the behavioral factors play a significant role in the formation of Skeptical Newcomers segment. According to this chart, all factors except "Product diversity rate" generally take larger scores than average within this segment. Two behavioral factors that contribute the most to the formation of this segment are "Average price payment" and "Coupon redemption rate". These results coincide with the patterns observed in the radar chart of Skeptical Newcomers.

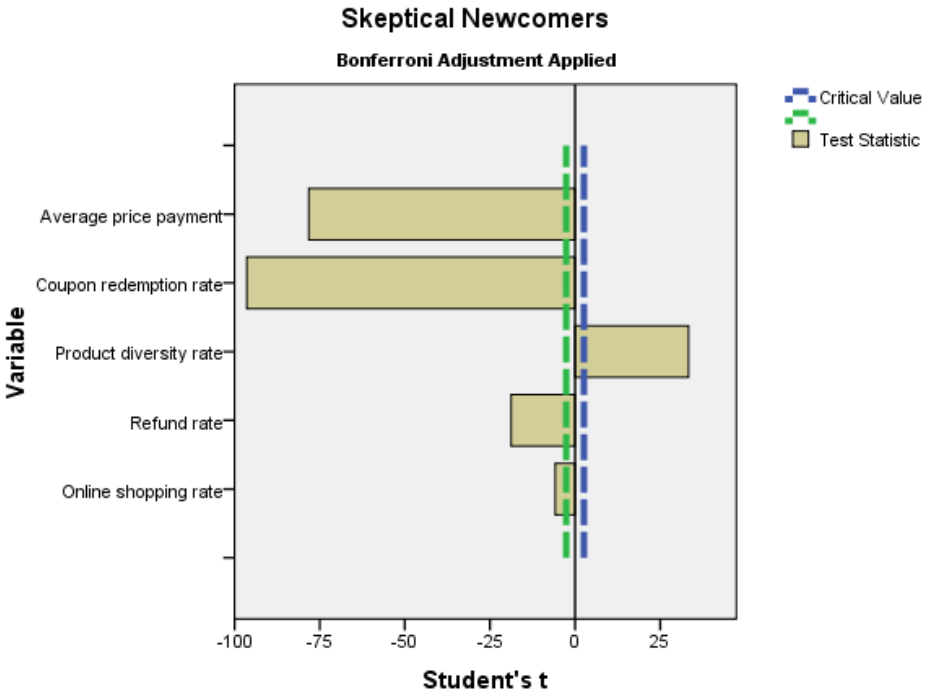

Figure 30 - Skeptical Newcomers (Variable importance plot)

By considering all the points mentioned above, it is reasonable to call this segment as Skeptical Newcomers. Being relatively new members, visiting the online store from time to time, purchasing very diverse type of low-price items imply that consumers in this segment are newcomers who tries to get accustomed to online shopping.

5.3.5 Repetitive Purchasers

Repetitive Purchasers segment is composed of 20.5 percent of male and 79.5 percent of female consumers. The average age of this is segment is 35.8 years. Consumers within this segment are mostly from Marmara (44.7%), Central Anatolia (15.9%) and Aegean (14.3%) geographical regions (Appendix L). Decomposition of each geographical region in terms of determined consumer segments (Figure 22) shows that Mediterranean (27.7%), Southeastern Anatolia (25.3%) and Aegean (24.7%) are the top three regions in which the size of "High-loyalty Customers" are at the highest level.

Based on the radar chart (Figure 31) and the results of segmentation process given in Table 18, the outstanding behavioral characteristics of this segment can be stated as follows. Repetitive Purchasers segment is composed of relatively old members which can be understood from higher than average membership duration factor score (MD=0.11). Very high score on recent visits factor (RV=0.30) implies that among other segments Repetitive Purchasers segment is the one that visits the online store the most frequently.

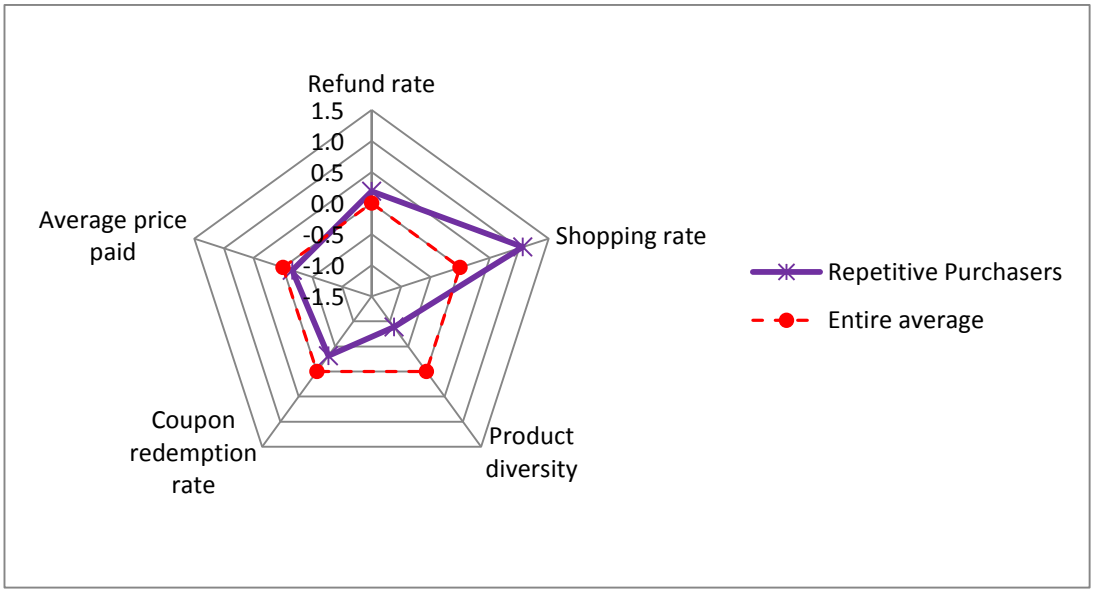

Figure 31 - Repetitive Purchasers (Radar chart)

The most notable characteristic of consumers in this segment is their very high online shopping rate which is indicated by shopping rate factor score (SR=1.06). Furthermore, very low product diversity factor score (PD=-0.89) shows that consumers in this segment generally shop for narrow product types. Repetitive Purchasers do not use many coupons in their online shopping transactions which is indicated by lower than average coupon redemption factor score (CR=-0.32). Refund rate factor score (RR=0.19) for this segment was found to be above the average which points to a relatively poor product related decision-making characteristics of this segment.

As for subscriptions to receive notification from the company related to campaigns, 93.6 percent of consumers preferred SMS and 66.4 percent preferred e-mail. Among other segments, this segment is the one in which credit card storage rate for one-click payment option is at the highest level (5.5%).

According to variable importance chart (Figure 32), all the behavioral factors play a significant role in the formation of Repetitive Purchasers segment. While "Online shopping rate" and "Refund rate" factors generally take larger scores than average within this segment, "Product diversity rate", "Coupon redemption rate" and "Average price payment" factors predominantly take lower scores than average. "Online shopping rate" and "Product diversity rate" are the factors that contribute the more to the formation of this segment. These results corresponds with the patterns observed in the radar chart of Repetitive Purchasers.

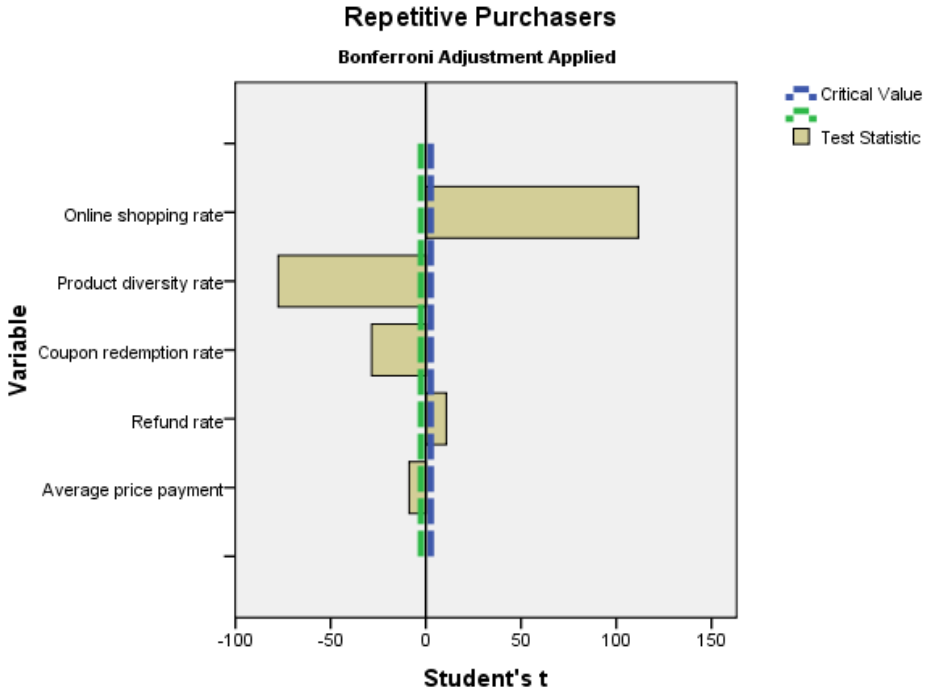

Figure 32 - Repetitive Purchasers (Variable importance plot)

Based on the discussion above, it also makes sense to call this segment as high-loyalty customers. Consumers in this segment are considered to be high-loyalty ones by taking into consideration their several outstanding behavioral characteristics such as being relatively old members, visiting the online store regularly and purchasing products much more frequently when compared with other segments.

5.4 Multi-group Structural Equation Modeling (SEM)

The four consumer segments determined as a result of psychographic segmentation analysis were further analyzed through developed behavior evaluation framework by conducting multi-group SEM analysis. The following subsections present and discuss the results of the multi-group SEM analysis.

5.4.1 Normality Assessment

The main assumption of SEM is that the data is multivariate normal. In order to test this assumption, for each segment normality of variables are assessed individually by examining their kurtosis statistics. While skewness in the data impacts tests of means, kurtosis in the data significantly impacts tests of variances and covariances (DeCarlo, 1997). SEM is based on the analysis of covariance structures; therefore, kurtosis statistics were taken into consideration to assess the normality of the data. In a normal distribution, the standardized kurtosis index has a value of 3. This value is generally rescaled by statistical analysis programs to 0. Therefore, the values which are larger than 0 indicate positive kurtosis, while smaller values indicate negative kurtosis. Rescaled standardized kurtosis index equal to or greater than 7 can be considered as indication of violation of normality (West et al., 1995). In Appendix M, rescaled standardized kurtosis index for all variables are provided for each determined segment.

Examination of these indices across four different segments does not indicate violation of normality.

5.4.2 Collinearity Assessment

Another assumption which was tested was collinearity or multicollinearity. Multicollinearity refers to the situation in which two or more study variables are correlated so highly that they actually refer to the same underlying construct (Byrne, 2010, pp.168). In order to make accurate inferences from statistical analysis, there should be no multicollinearity among study variables. Multicollinearity can be assumed to cause serious problems if simple correlation between independent (i.e., predictor or regressor) variables exceeds 0.8 or 0.9 (Judge et al., 1982, p.620; Katz, 2006, p. 69). All correlation coefficients between study variables across four consumer segments were found to be well below the maximum cut-off point of 0.8 or 0.9 (see Table 19)

Table 19 - Correlation between predictor variables

Predictor variables			Shopping Lovers	Direct Purchasers	Suspicious Browsers	Incompetent Consumers
PEOU	<-->	PENJ	.304	.212	.400	.329
PEOU	<-->	PIS	.284	.236	.289	.055
PEOU	<-->	PCP	.414	.370	.398	.224
PEOU	<-->	SN	.112	.419	.258	.307
PENJ	<-->	WS	.270	.272	.298	.440
PENJ	<-->	PCP	.720	.601	.698	.723
PENJ	<-->	PSP	.166	.305	.185	.376
PIS	<-->	PCP	.377	.327	.454	.421
PIS	<-->	PSP	.056	.318	.189	.320
PCP	<-->	PSP	.183	.316	.309	.288

5.4.3 Validity and Reliability Assessment

In order to assess the reliability of the factors of the model, composite reliability and average variance extracted (AVE) measures were utilized. Value of 0.7 and greater for composite reliability and value of 0.5 and greater for AVE were suggested by Hair et al. (1998) for factor to be considered as reliable. Composite reliability values for all segments were well above the 0.7 and AVE for all segments were above 0.5 except for PIS (0.497) and PSP (0.494) in Suspicious Browsers (Table 20). These two exceptions were very close to the recommended cut-off point of 0.5; therefore, they were considered not to be a major problem. By taking into consideration composite reliability and average variance extracted values, it can be concluded that model constructs were found to be reliable across four segments.

Convergent and discriminant validity are subtypes of construct validity. Convergent validity refers to the extent to which measures of a construct that theoretically assumed to be related are in fact reasonably related. On the other side, discriminant validity test whether the measures that should not be related are actually not related. In order to assess convergent validity, composite reliability and AVE was utilized (Gefen & Straub, 2005). That is, convergent validity is assumed to be satisfied if CR exceeds AVE. Table 20 shows that for all segments, composite reliability values are greater

than AVE which means that convergent validity was satisfied. In order to assess discriminant validity correlation between exogenous variables were analyzed . In the literature, a between-factor correlation has been used quite commonly to assess the discriminant validity. Discriminant validity ensures that there exists low correlation between factors that assumed to be different (Straub, 1989). Low correlation rate among different constructs is an indication of the fact that each construct differs from the other (Kline, 1998). Table 19 shows that the majority of correlation factors are well below .75 which implies that discriminant validity can be assumed.

Table 20 - Construct reliability assessment

Factors	Composite reliability				Variance extracted			
	Shop. Lov.	Direct Purch.	Susp. Brow.	Incomp. Cons.	Shop. Lov.	Direct Purch.	Susp. Brow.	Incomp. Cons.
ATT	0.845	0.877	0.850	0.825	0.651	0.706	0.656	0.613
PEOU	0.837	0.888	0.773	0.792	0.723	0.800	0.630	0.656
PENJ	0.822	0.867	0.848	0.821	0.608	0.686	0.652	0.606
PU	0.735	0.783	0.758	0.799	0.582	0.643	0.610	0.665
PIS	0.830	0.849	0.829	0.867	0.501	0.533	0.497	0.568
PCP	0.856	0.861	0.861	0.876	0.678	0.681	0.679	0.705
PSP	0.749	0.748	0.736	0.778	0.514	0.507	0.494	0.540
INT	0.838	0.853	0.820	0.834	0.635	0.660	0.604	0.628

5.4.4 The Baseline Model

The first step in multi-group SEM analysis is the determination of the baseline model. Determination of the baseline model is not subject to the between-group constraints; therefore, its data analysis can be carried out separately for each determined consumer segments (Byrne, 2010, p.200). Single-group analyses which were carried out on each segment resulted in a hypothesized model in which 27 items were retained to assess each segments' behavioral intention toward B2C e-commerce.

The hypothesized model is depicted in Figure 33. The hypothesized model which is given in Figure 33 was obtained after several re-specifications and re-estimations based on modification indices which were supplied by SPSS AMOS version 22 for each determined consumer segment. This hypothesized model is called final baseline model and it is used in equivalence tests across four determined consumer segments.

The main objective of confirmatory factor analysis (CFA) is to assess the extent to which the observed variables are connected to their respective underlying latent factors (Byrne, 2010, p.6). For that purpose, the strength of regression paths (i.e., factor loadings) from latent factors to their respective observed variables were analyzed. Appendix N shows that for each consumer segment all factor loading are highly significant with $p<0.001$.

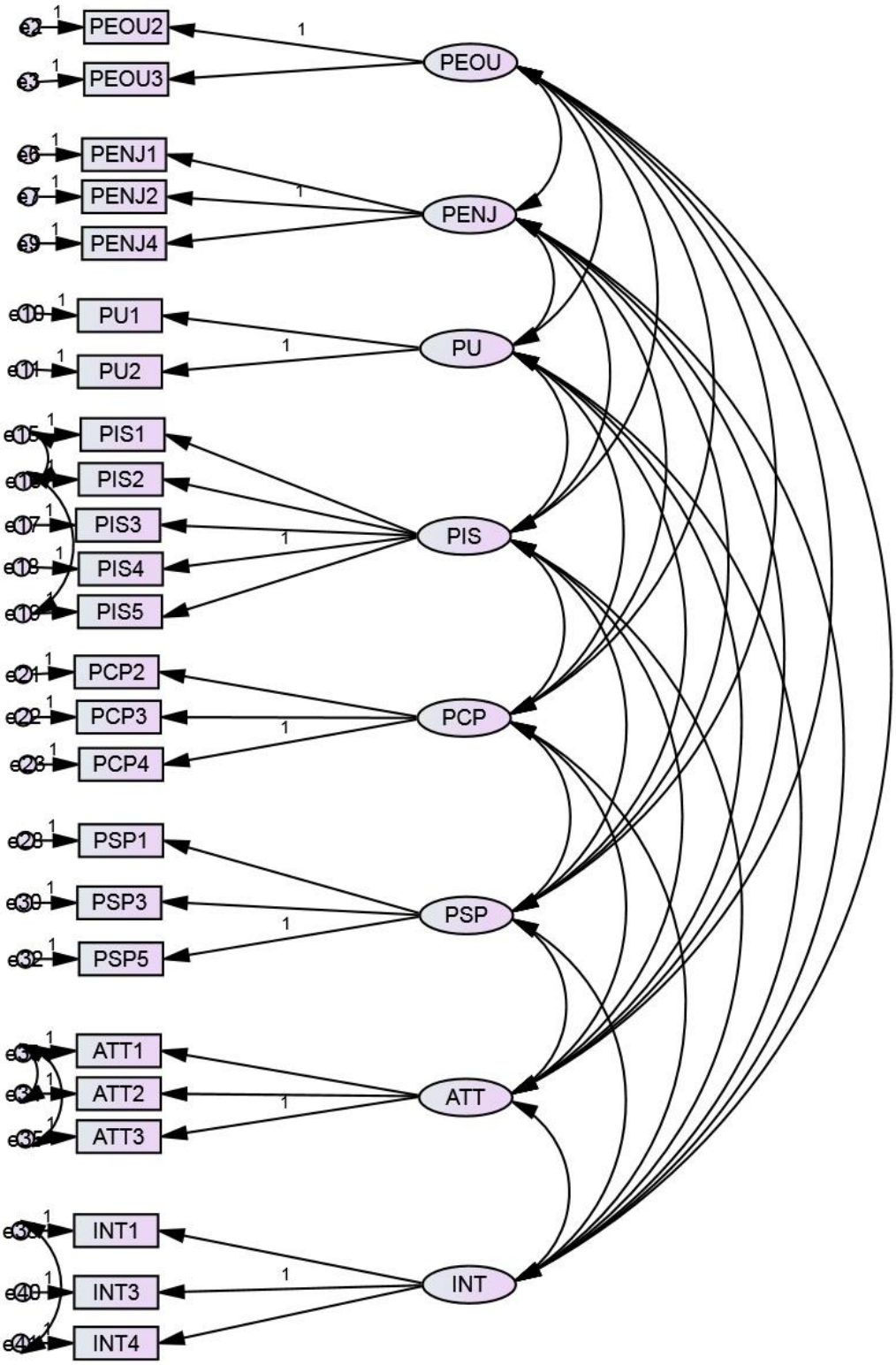

Figure 33 - CFA (Baseline Model)

Table 21 provides the goodness-of-fit statistics of baseline model for each determined consumer segment. Provided goodness-of-fit indices are as follows: CFI (Comparative Fit Index), TLI (Tucker-Lewis Index) and RMSEA (Root Mean Square of Approximation). In reviewing these fit indices for each consumer segments, it can be seen that the hypothesized baseline model was considerably well-fitting to each given segment as indicated by a CMIN/DF values were well below the cutoff value of 3. In addition, CFI ranging from 0.956 to 0.970 was an indication of well-fitting model. Furthermore, RMSEA values that range from 0.048 to 0.052 were within the recommended range of acceptability (< .05 to .08) (Byrne, 2010, pp.176). To sum up, the review of the several fit indices showed that final baseline model was the same for each consumer segment.

Table 21 - Goodness-of-Fit Statistics of Baseline Model

	Shopping Lovers	Direct Purchasers	Suspicious Browsers	Incompetent Consumers
X^2	332.731	324.468	375.163	352.374
df	219	219	219	219
CMIN/DF	1.519	1.482	1.713	1.609
CFI	0.962	0.970	0.956	0.960
TLI	0.952	0.962	0.945	0.95
RMSEA	0.048	0.045	0.052	0.049
RMSEA 90% CI	.038 - .059	.034 - .055	.043 - .061	.040 - .059

5.4.5 The Configural Model

Configural model can be considered as the starting point for invariance tests. The main objective of configural model is to assess the extent to which the same number of factors most properly represents the data for given number of groups. While testing for multigroup equivalence, no equality constraints are enforced on any parameters of the model. That is, exactly the same parameters which were estimated in the baseline model for each consumer segment are again estimated in multi-group model. This model is called the configural model and the process is called configural equivalence test. Group differences in terms of items or the factor covariances cannot be made at this stage as there are no equality constraints on any parameters in the model. Multigroup model enables equivalence tests to be conducted across the four consumer segments simultaneously. That is, parameters are estimated for four different segments at the same time. The fit of this configural model provides the baseline value which can later be compared with follow-up (i.e., constrained) models (Byrne, 2010, p.209). In multigroup model analysis, only one set of fit statistics is provided for overall model fit. Similar to single-group analysis results, goodness-of-fit results of this multigroup analysis are expected to exhibit a good fit to the data for four different segments. Multigroup model testing for configural equivalence resulted in the following goodness-of-fit statistics: χ^2= 1384.741 with 876 degree of freedom, CMIN/DF=1.581, CFI= 0.962, TLI=0.952 and RMSEA=0.024. By taking into consideration these goodness-of-fit statistics, it can be stated that the hypothesized multigroup model of consumer behavior evaluation structure is considerably well-fitting across four determined consumer segments.

5.4.6 Testing for Measurement and Structural Invariance

In configural equivalence testing, the main objective was to see whether the number of factors and the pattern of their structure exhibit similarity across four different consumer segments. In contrast, the main objective of measurement and structural invariance testing is to assess whether the parameters in the measurement and structural components of the model are invariant across the four segments. Configural model creates a baseline against which all follow-up tests (i.e., measurement, structural) for invariance are compared. Non-invariance is assumed if total change in the value of certain goodness-of-fit statistics (e.g., CFI, RMSEA) is statistically significant. The main steps involved in invariance testing are as follows. In the first step, namely measurement model, factor loading are constrained to be equal and a model is run. If total change in the value of goodness-of-fit indices provides enough evidence that groups are equivalent in terms of factor loadings then the second step is taken. In the second step, namely structural model, factor loading along with factor variances and covariances are constrained equal and model is run. Once again total change in the value of goodness-of-fit indices is checked to conclude whether groups are equivalent in terms of variance and covariance structures.

Goodness-of-fit statistics for multigroup invariance testing is provided in Table 22. Nested testing hierarchy suggested by (Bollen, 1989) was utilized in this study. While assessing the invariance of factor loading (i.e., measurement invariance), Model A, configural baseline model which is free from any constraints was compared with Model B in which only factor loadings were constrained to be equal. On the other hand, to assess equivalence of variance and covariance structure (i.e., structural invariance) across groups, Model B was compared with Model C.

Table 22 - Goodness-of-fit indices of multiple-group CFA invariance testing

	Model A	Model B	Model C
X^2	1384.741	1472.318	1736.539
df	876	916	1024
p	.000	.000	.000
CMIN/DF	1.581	1.607	1.696
CFI	.962	.958	.947
TLI	.952	.950	.943
RMSEA	.024	.025	.027

Model A: configural model (unconstrained baseline model).
Model B: measurement model (factor loadings are constrained to be equal).
Model C: structural model (factor loadings, factor variances, and factor covariances are constrained to be equal).

Cheung and Rensvold (2002) and Chen (2007) recommended using CFI, TLI and RMSEA in assessing the measurement and structural invariance. Cheung and Rensvold (2002) recommended that in order to ensure invariance across groups, total change in the value of CFI (ΔCFI) should not exceed .01. Chen (2007) stated that a change of .01 or more in CFI (ΔCFI) and TLI (ΔTLI), and a change of .015 or more in RMSEA (ΔRMSEA) are indications of non-invariance across groups. The CFI difference between Model A and Model B was .004 and this value met Cheung and Rensvold's (2002) recommended benchmark point of 0.01 for CFI change. The changes in the value of TLI and RMSEA were .001 and 0.002 respectively and these changes met the recommended benchmark points proposed by Chen (2007). These

changes in the value of CFI, TLI and RMSEA implied that the factor loadings were the same for the four determined consumer segments. The TLI and RMSEA difference between Model B and Model C were .007 and .002 respectively. These differences met the recommended benchmarks of Chen (2007) and implied that factor variance and covariance structure were invariant across four consumer segments.

5.4.7 Testing for the Invariance of a Causal Structure

Measurement and structural invariance tests showed that factor loadings and variance and covariance structures were the same across four determined consumer segments. After ensuring measurement and structural invariance across groups, the next step involves testing for the invariance of causal paths across four segments. This test ensures that strength of relationships among model factors holds across four determined consumer segments. Initially, unconstrained model, Model A, was estimated without imposing any constraints on any model parameters. Later, constrained model, Model B, was estimated by imposing equality constraint on all causal paths across four consumer segments. Goodness-of-fit statistics of unconstrained Model A were above the recommended thresholds (see Table 23). That is, CFI>.95, TLI>.95 and RMSEA<.05 imply that the current structural model applies well across four consumer segments. The difference of CFI (ΔCFI) between Model A and Model B were found to be .003 (i.e., less than .01) which means that causal path structure were the same across four consumer segments.

Table 23 - Goodness-of-fit indices of multigroup SEM analysis for causal structure

	Model A	Model B
X^2	1404.192	1527.759
df	888	981
p	.000	.000
CMIN/DF	1.579	1.557
CFI	.962	.959
TLI	.952	.954
RMSEA	.024	.024

Model A: unconstrained model.
Model B: causal (i.e., structural) paths are constrained to be equal.

5.4.8 Hypotheses Testing

This research makes use of unstandardized coefficients (i.e., unstandardized regression weights) to discuss the results of the study. When carrying out comparisons across different groups, the variances of the variables may exhibit differences. In this situation, using unstandardized coefficients are more meaningful as they are expressed in terms of construct's scale (i.e., its variance) and enable to carry out comparisons across various groups (Hair et al., 1998). On the other hand, standardized coefficients are expressed in terms of standard deviation units and they are useful in determining the relative importance of variables in the structural model. However, standardized coefficients are sample specific which makes it meaningless in multigroup comparisons. Therefore, in the structural model given in Figure 34, only unstandardized coefficients and their significance levels were provided. While unstandardized coefficients and significance levels were provided on arrows, squared multiple correlations were given inside the latent variables. Squared multiple correlation shows the percent of variance explained in dependent variable by

independent variables. Additional information related to hypothesized relationships such as standardized coefficients, standard errors and critical ratios for each determined consumer segment were provided in Appendix O.

Table 24 provides goodness-of-fit statistics of structural model for each determined consumer segment. For each given consumer segment CMIN/DF, CFI, TLI and RMSEA values are within the recommended ranges.

Table 24 - Goodness-of-fit indices of structural model

	Shopping Lovers	Direct Purchasers	Suspicious Browsers	Incompetent Consumers
X^2	333.978	328.039	380.036	362.155
df	223	223	223	223
p	.000	.000	.000	.000
CMIN/DF	1.498	1.471	1.704	1.624
CFI	.963	.970	.956	.959
TLI	.954	.963	.945	.949
RMSEA	.047	.044	.052	.050

In all segments perceived ease of use (H_{2a}: $\beta_{ShopLov}$=0.350, β_{DirPur}=0.363, β_{SusBrw}=0.234, $\beta_{IncCons}$=0.430, p<0.01), perceived enjoyment (H_{4a}: $\beta_{ShopLov}$=0.118, β_{DirPur}=0.128, p<0.05; β_{SusBrw}=0.217, $\beta_{IncCons}$=0.291, p<0.01) and perceived compatibility (H_{5a}: $\beta_{ShopLov}$=0.379, β_{DirPur}=0.465, β_{SusBrw}=0.370, p<0.01; $\beta_{IncCons}$=0.245, p<0.05) were found to have positive and significant relationships with consumers' perceptions about usefulness of B2C online shopping.

In all segments perceived usefulness (H_{3a}: $\beta_{ShopLov}$=0.661, β_{DirPur}=0.548, β_{SusBrw}=0.331, $\beta_{IncCons}$=0.377, p<0.01), compatibility (H_{5b}: $\beta_{ShopLov}$=0.357, β_{DirPur}=0.500, β_{SusBrw}=0.499, $\beta_{IncCons}$=0.271, p<0.01) and perceived social pressure (H_{7a}: $\beta_{ShopLov}$=0.206, β_{DirPur}=0.198, β_{SusBrw}=0.186, $\beta_{IncCons}$=0.167, p<0.01) were found to have positive and significant relationships with consumers' attitude toward B2C online shopping. Positive and significant relationship between perceived information security and attitude toward online shopping was found only for Shopping Lovers (H_6: $\beta_{ShopLov}$=0.125, p<0.05) and Incompetent Consumers (H_6: $\beta_{IncCons}$=0.161, p<0.01). However, perceived ease of use (H_{2b}: $\beta_{ShopLov}$=-0.099, β_{DirPur}=-0.015, β_{SusBrw}=0.068, $\beta_{IncCons}$=-0.004, p>0.05) and perceived enjoyment (H_{4b}: $\beta_{ShopLov}$=0.029, β_{DirPur}=-0.056, β_{SusBrw}=0.026, $\beta_{IncCons}$=0.053, p>0.05) were found to be unrelated with attitude toward online shopping.

In all segments, statistically strong and positive relationship was found between attitude toward online shopping and behavioral intention to shop online (H_8: $\beta_{ShopLov}$=0.474, β_{DirPur}=0.627, β_{SusBrw}=0.306, $\beta_{IncCons}$=0.830, p<0.01). However, perceived ease of use (H_{2c}: $\beta_{ShopLov}$=-0.064, β_{DirPur}=0.150, β_{SusBrw}=0.292, $\beta_{IncCons}$=-0.007, p>0.05) and perceived usefulness (H_{3b}: $\beta_{ShopLov}$=0.247, β_{DirPur}=0.057, β_{SusBrw}=0.086, $\beta_{IncCons}$=-0.192, p>0.05) did not show any significant relationship with intention to shop online for all consumer segments. For certain segments, perceived enjoyment (H_{4c}: β_{SusBrw}=0.107, $\beta_{IncCons}$=0.256, p<0.05), compatibility (H_{5c}: β_{SusBrw}=0.292, p<0.01) and perceived social pressure (H_{7b}: β_{SusBrw}=0.110, p<0.05) were found to have positive and significant relationship with behavioral intention to shop online. The summary of the hypotheses testing for each given consumer segment were provided in Table 25.

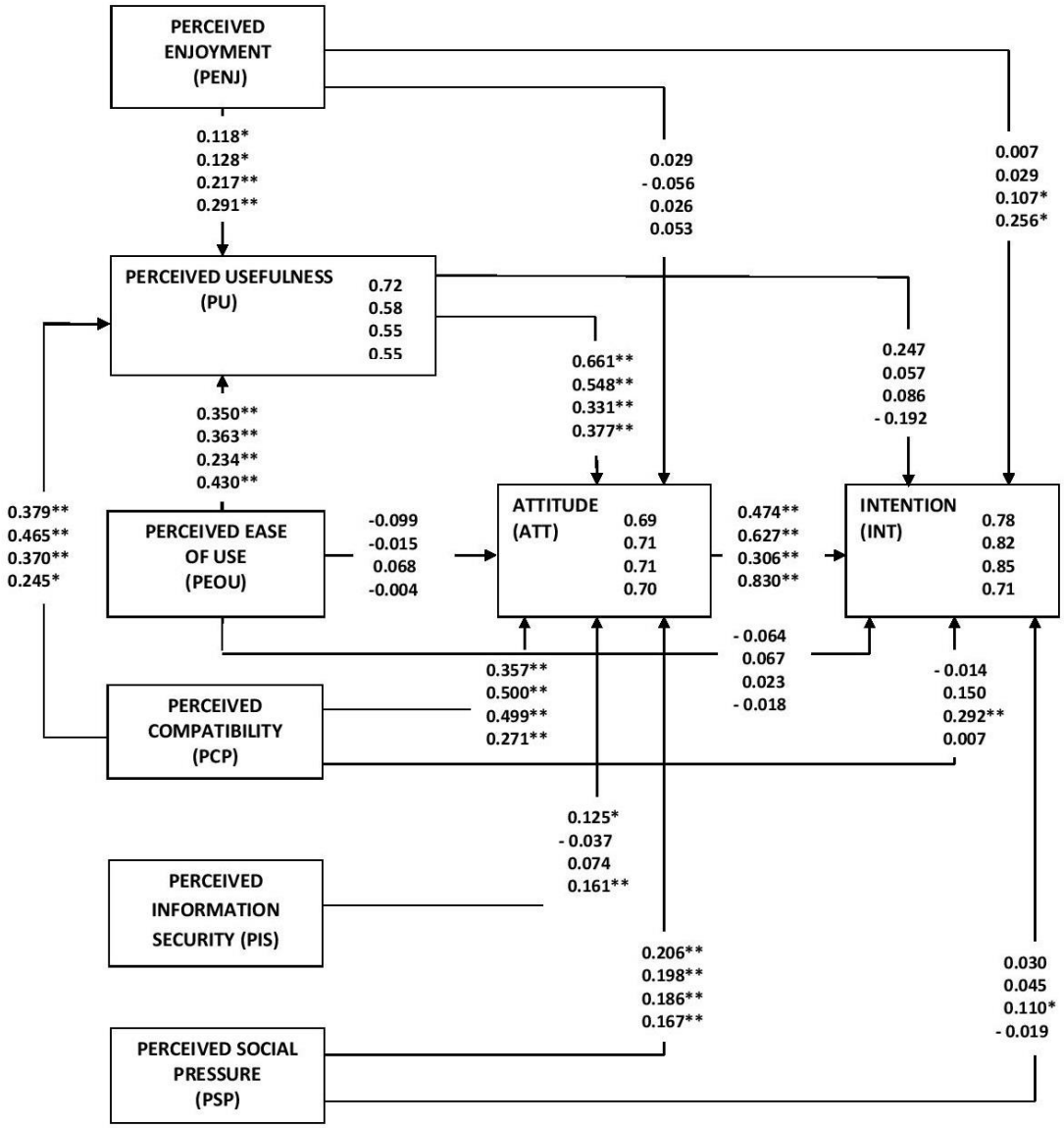

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Figure 34 - Structural Equation Model

[1] Unstandardized path coefficients are given on the arrows for four consumer segments. Squared multiple correlations are given inside the latent variables. Path coefficient and squared multiple correlations are given in the following order: Shopping Lovers, Direct Purchasers, Suspicious Browsers, Incompetent Consumers. **p<0.01, *p<0.05.

Table 25 - Hypotheses testing results

Hypotheses	Relationships	Shopping Lovers	Direct Purchasers	Suspicious Browsers	Incompetent Consumers
H2a	PEOU→PU	Supported	Supported	Supported	Supported
H2b	PEOU→ATT	Not supported	Not supported	Not supported	Not supported
H2c	PEOU→INT	Not supported	Not supported	Not supported	Not supported
H3a	PU→ATT	Supported	Supported	Supported	Supported
H3b	PU→INT	Not supported	Not supported	Not supported	Not supported
H4a	PENJ→PU	Supported	Supported	Supported	Supported
H4b	PENJ→ATT	Not supported	Not supported	Not supported	Not supported
H4c	PENJ→INT	Not supported	Not supported	Supported	Supported
H5a	PCP→PU	Supported	Supported	Supported	Supported
H5b	PCP→ATT	Supported	Supported	Supported	Supported
H5c	PCP→INT	Not supported	Not supported	Supported	Not supported
H6	PIS→ATT	Supported	Not supported	Not supported	Supported
H7a	PSP→ATT	Supported	Supported	Supported	Supported
H7b	PSP→INT	Not supported	Not supported	Supported	Not supported
H8	ATT→INT	Supported	Supported	Supported	Supported

CHAPTER VI

DISCUSSION AND CONCLUSION

6.1 Practical Business Implications

In this study, psychographic segmentation analysis was conducted on the basis of "Internet Shoppers Lifestyle Scale" of Swinyard and Smith (2003) and on three different themes of Internet usage. "Internet Shoppers Lifestyle Scale" is a very robust scale which has a cross-cultural validation. In psychographic segmentation analysis self-reports of 1027 volunteer student participants were utilized. The consumer segments determined as a result of psychographic segmentation analysis were further analyzed through developed behavior evaluation model by conducting multi-group SEM analysis. Testing the developed study model on each determined segment helped to understand for a particular segment which factors influence consumers' attitudes and behavioral intentions toward online shopping.

In addition to psychographic segmentation analysis, behavioral segmentation analysis was also carried out in this study. In order to reinforce the findings of psychographic segmentation analysis, this study carried out behavioral segmentation analysis which was based on online consumers real shopping behaviors instead of their self-reports. That is, behavioral segmentation analysis was conducted on the basis of online shopping related behavioral factors which were extracted from real e-commerce transaction records of 10.000 unique online customers. Findings of this research have practical implications to the online retailers which are discussed in detail in the following subsections.

6.1.1 Psychographic Segments

As a result of psychographic segmentation analysis, four different online consumer segments were determined. These segments are Shopping Lovers, Direct Purchasers, Suspicious Browsers and Incompetent Consumers. Each of these determined consumer segment was found to have unique characteristics that distinguished it from other segments. In addition to differences, there are also similarities between different consumer segment in terms of their perceptions about online shopping. The following paragraphs discuss each segment separately.

Shopping Lovers are very important to online retailers as they are the main source of profits. This segment of consumers enjoys spending money on shopping whether it is in online or physical stores. Among other segments, this segment is the one with the highest rate of e-commerce transaction. Shopping Lovers perceive online stores to be very secure and convenient in terms of purchasing products. This type of consumers also thinks that online stores have better prices and offers than physical stores. Shopping Lovers also enjoy spending time on online windows shopping which is an act of looking at online products with no intent to buy. Most probably, this type of consumers' habit of online window shopping lead them to make impulse purchases. Impulse purchase refers to the buying of products or services without planning to do so in advance. Online retailers can further increase the impulse shopping rate of this segment by making necessary modifications to their online stores. Enhancing online stores with product recommender systems which make suggestions to customers based on their shopping behavior can be very effective in increasing the impulse shopping rate of this segment. For this segment, especially collaborative filtering type of recommender system can be very effective as study of Hostler et al. (2011) showed that collaborative filtering recommender systems increase customers' satisfaction with the online store and it also increases the rate of unplanned online purchases. Rather than making random product suggestions, in collaborative filtering recommender systems, items are suggested to customers based on the ratings given by other customers with similar tastes. Furthermore, improvements made to online store design and navigation functions were found to influence impulse buying behavior of online customers (Floh and Madlberger, 2013). Compared to textual information, image interactivity, graphical information and animation within online stores can also increase the occurrences of impulse purchases (Fiore and Jin, 2003; Adelaar et al., 2003). The above mentioned findings show that Shopping Lovers already have strong favorable attitudes toward online shopping. That's why they tend to purchase more and more products and services online. Online retailers are recommended to work toward maintaining and even strengthening the positive impressions in the mind of this type of consumers toward online shopping. Shopping Lovers spend too much time on the Internet to watch videos, listen music, surf on social networks and play games. For this segment, entertainment and social networking channels can be very effective in reaching this type of consumers to inform them about products, services and promotions.

After the Shopping Lovers, Direct Purchasers are the second profitable segment for online retailers as their online shopping frequency is quite high. In contrast to Shopping Lovers, this segment of consumers does not like shopping at physical stores. Therefore, they mostly prefer online stores to physical stores in meeting their shopping needs. Consumers in this segment are good at finding what they want on online stores and they know well how to place online orders. They also are not concerned about the security of their private and financial information in online transactions. In contrast to Shopping Lovers, Direct Purchasers do not have a habit of online window shopping. This segment of consumers most of the time visit online shopping stores with the aim of purchasing products or services which they have previously decided on. That is, impulse online purchases (i.e., unplanned purchases) are not among the behavioral characteristics of this segment. Therefore, rather than encouraging Direct Purchasers to make impulse purchases, online retailers are recommended to leave good impression on them through provided services. Online retailers can improve content, design and functionality of their websites in order to satisfy this type of customers. From content

perspective, higher level of information quality, broad product variety, from functional perspective website customization, ease of searching process, ease of transaction processing and from design perspective, good visual aspects, ambience, atmosphere can increase online consumers' satisfaction levels and loyalty intentions toward online retailers (Liu et al., 2008; Ha, 2012; Mummalaneni, 2005; Kim and Niehm, 2009; Clemes et al., 2014; Chang and Chen, 2008; Jiang et al., 2013; Tsai and Huang, 2007). Direct Purchasers spend very little time on online entertainment and social networking platforms. Therefore, for this segment utilization of entertainment and social networking platforms as an advertisement channel will not bring desired effects. This segment generally use news portals, search engines and email services on the Internet. Therefore, for this segment, online retailers are recommended to focus on such online services to advertise their products, services and inform customers about promotions.

Suspicious Browsers are the group of consumers who generally tend to use online stores for looking at offered products or learning about latest trends in the market but not for making online purchases. Even though consumers in this segment perceive online stores to be convenient in terms of shopping, their certain types of online shopping related concerns prevent them from purchasing products from online stores. Among other segments, Suspicious Browsers segment is the one that concerns most about the security of their financial and personal information on online shopping platforms. Furthermore, this segment of consumers also have major concerns related to delivery and refund process of products purchased online. In a survey study conducted by Huseynov and Yıldırım (2016b), it was found that privacy of personal information and security of financial information are among the major concerns of the respondents with using the Internet. In this survey study respondents were also asked what would convince them to make online purchases and among the major driving factors there were security of personal and financial information, refund guarantee and on-time product delivery. In the same survey study, majority of respondents also reported that they will not consider shopping online if there is no refund guarantee and if there is no free shipping service available for returned items. In the light of above mentioned findings, several recommendations can be made to online retailers so that they can increase the online shopping frequency of Suspicious Browsers. Online retailers are recommended to take all necessary measures to protect the privacy of personal information and security of financial transactions of their customers in their online shopping platforms and they are also advised to inform customers about how their privacy and security are being protected. In addition, online retailers are advised to put necessary security and privacy seals in their online stores, as these seals were found to increase consumers' trust levels in online retailers (Huseynov and Yıldırım, 2016b). Online retailers are also advised to provide money-back guarantee if buyers are not satisfied with purchased products and they are urged to meet the shipping charges of returned products. From advertisement point of view, online retailers can utilize news portals, search engines, email services, entertainment portals and social networking platforms as this group of consumers were found to spend more time on such services on the Internet.

Incompetent Consumers are the group of consumers whose online shopping rate are very low. This group of consumers are not good at finding what they want on online stores, they do not know much about using online stores and they perceive online product ordering process to be hard to understand and use. In contrast to Shopping Lovers and Suspicious Browsers, this group of consumers do not even use the online

stores for just looking at offered products without purchasing intent. According to them online stores do not provide convenience in term of shopping. Incompetent Consumers also worried about their privacy and security in online shopping platforms. Consumers in this group tend to shop more at physical stores mainly because they like the energy and helpfulness of physical stores. They also enjoy shopping with their friends at physical stores. Shopping with their friends in physical stores enable them to ask for advice on products they want to purchase. Based on the above mentioned behavioral characteristics of this segment, several recommendations can be made to online retailers for attracting this group of consumers to online stores. Online retailers are advised to make this group of consumers feel that their privacy and security are protected in their online stores. Online retailers can address difficulties that Incompetent Consumers encounter while searching and ordering online products by integrating knowledge-based product recommender systems to their online stores. In such intelligent systems, customers specify their needs and the system searches the database and shows the most suitable products to the customers. In such systems, there exist continuous interaction between customer and system until the customer finishes his or her order. Since this group of consumers enjoy shopping with their friends, online retailers can provide the same experience to this group of consumers by enhancing their stores with collaborative shopping functions. Collaborative shopping functions create an environment where customers can share their shopping experience with friends. By using such functions, customers can view products and chat about brands, products and services (Laudon and Laudon, p426). This segment of consumers generally spend their time on entertainment and social networking platforms on the Internet. Therefore, for this segment online retailers are advised to consider such online services as an advertisement channels. Summary of the practical business implications for four online consumer segments that were identified as a result of psychographic segmentation analysis is provided in Table 26.

Behavior evaluation model developed in this study was tested on each determined consumer segment in order to see which factors influence different consumer segments' attitudes and behavioral intentions toward online shopping. Results showed that in all segments positive attitudes toward online shopping play an important role in the formation of online shopping intention. Therefore, if online retailers can develop positive attitudes in the mind of consumers toward online shopping, they can also increase the online shopping rate of these consumers. This research also presented interesting findings related to the determinants of attitude toward online shopping. The results showed that in all segments, consumers' perceptions about usefulness of online shopping, compatibility of online shopping with consumers' lifestyle and perceived social pressure to engage in online shopping are positively related to formation of favorable attitudes toward online shopping. In Shopping Lovers and Incompetent Consumers segment, perceived information security was found to be positively related with consumers' attitudes toward online shopping. That is, consumers in these two segments form positive attitude toward online shopping when they believe that online stores are secure for conducting online transactions. However, in Direct Purchasers and Suspicious Browsers segments perceived information security was not found to have any influence on consumers' attitudes toward online shopping. In all segments, factors positively influence consumers' perceptions about usefulness of online shopping are perceived ease of online stores' use, perceived enjoyment and perceived compatibility of online shopping with consumer's existing values and lifestyle.

It was also interesting to find that in different consumer segments, there exist factors (i.e., other than attitude) that directly influence consumers' behavioral intention to shop online. In Suspicious Browsers and Incompetent Consumers segments, perceived enjoyment was found to be a significant predictor of online shopping intention. Perceived compatibility of online shopping with consumers existing lifestyle was found to be a significant predictor of online shopping intention in Suspicious Browsers segment. Perceived social pressure was found to have significant effect in the formation of intention to shop online in Suspicious Browsers segment. By disseminating positive word-of-mouth messages through social networks and spreading positive impressions through popular press can be very effective in increasing the online shopping intention of this segment.

Table 26 - Practical Business Implications (Psychographic Segments)

PSYCHOGRAPHIC ONLINE CONSUMER SEGMENTS				
	Shopping Lovers	**Direct Purchasers**	**Suspicious Browsers**	**Incompetent Consumers**
SIZE	22.3%	25.1%	27.2%	25.4%
E-COMMERCE EXPERIENCE	98.7%	97.7%	91.8%	68.6%
GENDER DOMINATION	Female 	Male 	Female 	Female 
SEGMENT'S PROFITABILITY	Very high 	High 	Medium 	Low 
SEGMENT'S MAIN GOALS	Enjoy shopping 	Meet specific needs 	Window Shopping 	No major goals 
SEGMENT'S MAIN CONCERNS	No major concerns 	Out-of-stock 	Privacy & Security 	How to use; Privacy & Security 
MARKETING COSTS	Low	Medium	High	Very high
ADVERTISEMENT CHANNELS	*Entertainment portals *Social networks	*News portals *Search engines *Email services	*News portals *Search engines *Email services *Entertainment portals	*Entertainment portals *Social networks

			*Social networks	
RETAILER'S PRIMARY FOCUS	*Maintain or strengthen existing good relationships	*Convert to loyal customers	*Reduce distrust level in online shopping	*Educate on how to place online orders * Reduce distrust level in online shopping
RETAILER'S PRIMARY ACTION	*Develop positive attitudes in the mind of consumers toward online shopping *Enhance the security features of e-store *Further reinforce the loyalty levels *Develop effective loyalty programs *Give customers advanced access to new products, special sales coupons and free items. *Stimulate impulse purchases *Install collaborative filtering recommender system *Improve online store's design and navigation functions	*Develop positive attitudes in the mind of consumers toward online shopping *Leave good impression through provided services *Solve the out-of-stock problems *If possible implement Just-in-time (JIT) inventory strategy *Increase information quality and product variety *Improve e-store customization functions, searching process and transaction processing *Improve e-store's visual aspects, ambience and atmosphere	*Develop positive attitudes in the mind of consumers toward online shopping *Spreading positive impressions through social media and popular press. *Take measures to overcome privacy and security fears *Inform customers about how their privacy and security are being protected *Put necessary security and privacy seals in online stores *Simplify and ease the refund process *Provide money-back guarantee *Meet the shipping charges of returned products	*Develop positive attitudes in the mind of consumers toward online shopping *Take measures to overcome privacy and security fears *Make this segment feel secure while shopping online. *Simplify online product searching and ordering process *Integrate knowledge-based product recommender systems to online store *Enhancing online stores with collaborative shopping functions *Create an environment where customers can share their shopping experience with friends *Synchronous or asynchronous communications tools (e.g., live chat or electronic mail communication with customer representatives)

6.1.2 Behavioral Segments

As a result of behavioral segmentation analysis, five different online consumer segments were determined. These segments are Opportunist customers, Transient customers, Need-based shoppers, Skeptical newcomers and Repetitive purchasers. Each determined consumer segment was found to have unique characteristics that differentiated it from other segments.

Opportunist customers regularly visit and shop at online store. They tend to take advantage of discount coupons and free shipping offers during their online purchases. In order to increase the online shopping frequency of Opportunist customers, free shipping offers and discount coupons can be very effective incentives. Product refund rate of Opportunist customers was also found to be high which indicates their poor decision-making characteristic in online product selection. Integration of intelligent shopping tools to online stores can help these customers improve the decision-making process as such tools were found to significantly improve consumers' decision quality and product selection process while shopping online (Haubl and Murray, 2006; Huseynov et al., 2016).

Transient customers segment is the largest segment in size which makes it worthwhile to go after. Transient customers were found to be coupon-prone customers who redeem a relatively large number of discount coupons. Transient customers' online shopping rate is low but their discount coupon redemption rate is high which means that most of their online product purchases were triggered by offered coupons. Promotional discounts and attractive discount coupons can play an important role in driving these consumers to the retailer's online store. However, they can be easily lost to competitors who offer similar or better promotions. For this segment, it is important to identify customers who can be persuaded by promotions and discount coupons to make incremental purchases and become frequent visitors of online store.

Need-based shoppers purchase very diverse types of online products. This type of customers are driven by a specific product need. They visit the online store with a specific product in their minds and look whether they can have that need filled in a better manner. Need-based shoppers generally purchase very diverse type of products which are very high in price. Customers usually get worried while purchasing high price items from the Internet due to several reasons. In a survey study, majority of the respondents stated that while shopping online, they were concerned that they might not get what they actually ordered and the product they purchased might get lost on delivery (Huseynov and Yıldırım, 2016b). Probably, consumers in this segment prefer purchasing high price items from online store due to perceived benefits of online shopping such as shopping convenience, broader product selection, attractiveness of prices and etc. These perceived benefits were found to be positively correlated with the amount of money spent online (Forsythe et al., 2006). Therefore, broad product selection, competitive prices and timely shipping can be good strategies to prevent this type of customers from switching to competitors. Discount coupons redemption rate of Need-based shoppers was found to be significantly low which implies that coupon-based incentives might not be effective in making them repetitive purchasers.

Skeptical newcomers segment is composed of consumers who are relatively new to the online store. This type of consumers purchase very diverse type of products whose prices are very low. Study of Forsythe et al. (2006) showed that product related risks

and risk of incurring financial losses negatively and statistically significantly correlated with online purchasing frequency and amount of money spent online. Product and financial risks refer to consumers concerns such as inability in examining the online product, choosing the wrong size of clothes, distrust to online seller, being overcharged and even not getting the ordered product. Survey study showed that in online shopping context, perceived product and perceived financial risks were among the major concerns of consumers (Huseynov and Yıldırım, 2016b). Majority of participants in this survey worried that difficulty of examining quality of online products, possibility of receiving malfunctioning products and risk of not getting purchased product can cause them to incur financial losses. Probably, due to perceived product and perceived financial risks, Skeptical Newcomers tend to purchase low price items. In order to increase shopping rate of these customers, it is important that online sellers reduce this type of consumers' risk perceptions related to online shopping. Similar to Need-based shoppers, coupon redemption rate of Skeptical newcomers is also very low. Therefore, discount coupon rewards may not have any significant effects on their online spending rate.

Repetitive purchasers are predominantly old members who visit the online store on frequent basis and purchase online products significantly higher than all other segments. Study of Forsythe et al. (2006) showed that frequency of online store visits and frequency of online purchases are statistically significantly and positively correlated with perceived benefits of online shopping. Perceived benefits can be shopping convenience, broader product selection, ease of shopping and enjoyment. Frequent online store visits and high online shopping rate indicate that consumers in this segment perceive the online stores to be convenient and useful in terms of shopping. This type of consumers is highly loyal to the online seller. Loyalty in online e-commerce context refers to customer's favorable attitude toward the online retailer that leads to repeat buying behavior (Anderson and Srinivasan, 2003). Loyal consumers are the main source of profits and they also drive new customers to the company by disseminating positive word-of-mouth messages about the company. Therefore, it is important that the company maintains good relationship with loyal customers as they are very important to the company's long term success. Researchers found that high degree of information quality, system quality, service quality, customization, interactivity and functional look-and-feel in online stores are associated with higher customer satisfaction and higher customer satisfaction in turn is associated with higher customer loyalty (Chang and Chen, 2008; Chen et al., 2015). That is, if online sellers can improve their online stores' functional and visual features along with service and information quality, they can increase the loyalty level of not only repetitive purchasers but also all other determined consumer segments.

Beside the differences, all determined consumer segments have similarities in different aspects. In all segments, the sizes of female consumers are significantly higher than male consumers. Online retailers are advised to take necessary measures to attract more male consumers to shop online. Furthermore, for all segments, the subscription rates to SMS notifications of the company are higher than e-mail subscription rates. Moreover, for one-click payment option, the storage rates of credit card details to the online system are very low in all consumer segments. These findings show that consumers in all segments have concerns about the security of their financial details in online shopping systems. These findings coincide with the findings of a survey study which show that in online shopping platforms, the majority of consumers fear that their

credit-card details may not be secure and may be misused (Udo, 2011; Huseynov and Yıldırım, 2016b). Online retailers are recommended to take necessary security and privacy measures in their online stores to protect personal and financial details of customers and they are also advised to inform customers about how their security and privacy are being protected in their online stores. Summary of the practical business implications of five online consumer segments that were identified as a result of behavioral segmentation analysis is provided in Table 27.

Table 27 - Practical Business Implications (Behavioral Segments)

BEHAVIORAL ONLINE CONSUMER SEGMENTS					
	Transient Customers	**Need-based Shoppers**	**Skeptical Newcomers**	**Opportunist Customers**	**Repetitive Purchasers**
SIZE	24.8%	15.8%	21.8%	13.7%	23.9%
E-COMMERCE EXPERIENCE	Low	Low	Low	High	High
GENDER DOMINATION	Female 	Female 	Female 	Female 	Female 
SEGMENT'S PROFITABILITY	Very Low **$**	Low **$**	Medium **$**	High **$**	Very high **$**
SEGMENT'S MAIN GOALS	Attractive discount coupons 	Specific product needs 	Purchase low-priced items 	Free shipping offers & discount coupons 	Enjoy online shopping 
MARKETING COSTS	Very high **$**	High **$**	Medium **$**	Low **$**	Very low **$**
RETAILER'S PRIMARY FOCUS	*Attract customers to online store through various types of incentives	*Meet customers diverse product needs	*Provide such a service that instill trust on customers	*Convert to regular shopper and eventually to loyal customers	*Reinforce already existing good relationships

RETAILER'S PRIMARY ACTION	*Identify customers who can be persuaded by promotions and discount coupons to make incremental purchases *Offer attractive discount coupons and free shipping offers *Persuade customers to make regular visits to the online store. *Integrate collaborate filtering type of recommender system to online store which will suggest products to customers based on the ratings given by other users with similar tastes	*Solve the out-of-stock problems *If possible implement Just-in-time (JIT) inventory strategy *Expansion of product line *Competitive prices and timely shipping can be good strategies to prevent this type of customers from switching to competitors.	* Make online payment easy and secure *Offer money back guarantee * Provide an estimated or if possible a guaranteed delivery date at check-out *Do not apply shipping charges for returned products *Address difficulties encountered in examination of quality of online products *Increase quantity and quality of provided information	*Provide free shipping offers *Offer discount coupons and promotions *To reduce high refund rate, address fast and uncertain decision-making characteristics of this segment * Integrate intelligent shopping agents to online store *Enhance product searching functions	*Develop effective loyalty programs *Give customers advanced access to new products, special sales coupons and free items. *Stimulate impulse purchases *Encourage this segment to drive new customers to store through positive word-of-mouth messages (WOMs) *Provide high degree of information quality, system quality, service quality, customization, interactivity and functional look-and-feel in online stores

6.2 Limitations and Future Research Suggestions

As every research, this study also has its limitations. Firstly, this study utilized convenience sampling method in the psychographic segmentation process; that is, participants of the study were selected based on their ease of access. Secondly, participants in psychographic segmentation analysis were limited to university students living in a single city area. According to the Internet Word Stats (2015), 46.4 percent of world population actively uses Internet and demographic profile of Internet users indicates that university students constitute very large portion of active Internet users. Even though student participants can be considered as limitation, generalizability power of the study results does not decrease with student participants by considering the demographic profile of active Internet users. Yet, future studies are recommended to carry out similar analyses with non-student participants and with expanded geographical area in order to increase the generalizability of the study findings. Thirdly, psychographic segmentation process was based on the respondents' self-reported data. Self-reported data sometimes does not reflect the respondents' actual behaviors.

Finally, in the behavioral segmentation process, this study utilized e-commerce log data of a single type of B2C e-commerce platform. Future studies are recommended to utilize e-commerce data of different types of e-commerce platforms such as market creators. Furthermore, future studies are recommended to carry out behavioral segmentation analysis by using different behavioral factors from the ones used in this study. By this way, how segment types and their characteristics differ according to different e-commerce platforms and different behavioral factors will be understood.

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APPENDICES

APPENDIX A – LIST OF REVIEWED JOURNALS

Journal Name	# of Articles	Cum. #	Cum. %
Journal of Business Research	18	18	8.7
Electronic Commerce Research and Applications	14	32	15.4
Computers in Human Behavior	11	43	20.7
International Journal of Retail & Distribution Management	11	54	26.0
Journal of Retailing and Consumer Services	10	64	30.8
Electronic Commerce Research	8	72	34.6
Information & Management	8	80	38.5
Electronic Markets	7	87	41.8
International Journal of Information Management	7	94	45.2
Information Systems and e-Business Management	5	99	47.6
Internet Research	5	104	50.0
Journal of Fashion Marketing and Management	4	108	51.9
Decision Support Systems	4	112	53.8
Direct Marketing: An International Journal	3	115	55.3
International Journal of Consumer Studies	4	119	57.2
Journal of Consumer Behaviour	4	123	59.1
Journal of Research in Interactive Marketing	4	127	61.1
Journal of Retailing	4	131	63.0
Journal of Services Marketing	4	135	64.9
Psychology and Marketing	4	139	66.8
Technovation	4	143	68.8
Asia Pacific Journal of Marketing and Logistics	3	146	70.2
Expert Systems with Applications	3	149	71.6
Journal of Interactıve Marketing (Wiley)	3	152	73.1
Journal of Interactive Marketing (Elsevier)	3	155	74.5
Clothing & Textiles Research Journal	2	157	75.5
European Journal of Marketing	2	159	76.4
IEEE Transactions on Engineering Management	2	161	77.4
Information Development	2	163	78.4

Information Systems Frontiers	2	165	79.3
Journal of Asia Business Studies	2	167	80.3
Journal of Service Management	2	169	81.3
Annals of Operations Research	1	170	81.7
Appetite	1	171	82.2
Canadian Journal of Administrative Sciences	1	172	82.7
Ethics and Information Technology	1	173	83.2
EuroMed Journal of Business	1	174	83.7
Family and Consumer Sciences Research Journal	1	175	84.1
Global Business and Organizational Excellence	1	176	84.6
IEEE Transactions On Systems, Man, and Cybernetics	1	177	85.1
Industrial Management & Data Systems	1	178	85.6
Information Systems Journal	1	179	86.1
Information Technology and Management	1	180	86.5
Int. J. Human-Computer Studies	1	181	87.0
International Journal of Hospitality Management	1	182	87.5
International Journal of Industrial Organization	1	183	88.0
International Journal of Service Industry Management	1	184	88.5
Journal of Business and Psychology	1	185	88.9
Journal of Business Ethics	1	186	89.4
Journal of Computer-Mediated Communication	1	187	89.9
Journal of Consumer Marketing	1	188	90.4
Journal of Creative Communications	1	189	90.9
Journal of Economic Psychology	1	190	91.3
Journal of Hospitality & Tourism Research	1	191	91.8
Journal of Indian Business Research	1	192	92.3
Journal of Product & Brand Management	1	193	92.8
Journal of the Academy of Marketing Science	1	194	93.3
Journal of The American Society For Information Scıence and Technology	1	195	93.8
Knowledge and Process Management	1	196	94.2
Management Research News	1	197	94.7
Marketing Intelligence & Planning	1	198	95.2
Marketing Letters	1	199	95.7
Mathematical and Computer Modelling	1	200	96.2
Nankai Business Review International	1	201	96.6
Omega	1	202	97.1
Online Information Review	1	203	97.6
Qualitative Market Research: An International Journal	1	204	98.1
Quality & Quantity	1	205	98.6
Systems Research and Behavioral Science	1	206	99.0
Telematics and Informatics	1	207	99.5
The Journal of Business Perspective	1	208	100.0

APPENDIX B – ETHICAL CLEARANCE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
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Gönderen : Prof. Dr. Canan Sümer
IAK Başkan Vekili

İlgi : Etik Onayı

Danışmanlığını yapmış olduğunuz Bilişim Sistemleri bölümü doktora öğrencisi Farid Huseynov'un "**B2C E-Ticaret Platformlarında Online Tüketicilerin Tipolojilerinin ve Alışveriş Davranışlarının Belirlenmesi**" isimli araştırması "İnsan Araştırmaları Komitesi" tarafından uygun görülerek gerekli onay verilmiştir.

Bilgilerinize saygılarımla sunarım.

Etik Komite Onayı

Uygundur

21/04/2015

Prof.Dr. Canan Sümer
Uygulamalı Etik Araştırma Merkezi
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APPENDIX C – DEMOGRAPHIC AND DOMAIN SPECIFIC SCALE

English Version

1. Age
2. Gender
3. Education Level
4. Department
5. Have you purchased any products or services online before? (Yes / No)

How often do you carry out below listed activities on the Internet?

*** All items range from 1 (Never) to 5 (Always).

1. Purchasing items from online stores
2. Conducting banking and financial transactions
3. Purchasing tickets and/or making reservation
4. Playing games
5. Watching videos and/or listening to music
6. Surfing on social networking platforms
7. Surfing on the Internet
8. Reading news and magazines
9. Searching information on search engines
10. Sending/Reading emails

APPENDIX C – DEMOGRAPHIC AND DOMAIN SPECIFIC SCALE

Turkish Version

1. Yaş
2. Cinsiyet
3. Eğitim düzeyi
4. Bölüm
5. Daha önce Internet üzerinden herhangi bir ürün veya hizmet satın aldınız mı? (Evet / Hayır)

İnternet üzerinden aşağıda gösterilen aktiviteleri ne sıklıkla yaparsınız?

***Yanıtlar 1 (Hiçbir zaman) ile 5 (Her Zaman) arasında bir değer olarak belirtilecek.

1. Online mağazalardan ürün satın alırım
2. Bankacılık işlemleri veya parasal işlemler yaparım
3. Bilet alırım veya rezervasyon yaparım
4. Oyun oynarım
5. Video izler veya müzik dinlerim
6. Sosyal ağlarda gezinirim
7. İnternette gezinirim
8. Haber ve dergi okurum
9. Arama motorlarında bilgi ararım
10. E-mail gönderir ve okurum

APPENDIX D – INTERNET PSYCHOGRAPHICS SCALE

*** All items range from 1 (Strongly Disagree) to 5 (Strongly Agree)

Item Code	Description
DisTr1	I worry about my credit card number being stolen on the Internet
	İnternet üzerinden kredi kartı bilgimin çalınması beni endişelendiriyor.
DisTr2	I don't want to give a computer my credit-card number
	Bir bilgisayara kredi kartı numaramı vermeyi istemiyorum.
DisTr3	Buying things on the Internet scares me
	İnternet üzerinden ürün almak beni korkutuyor.
DisTr4	I just don't trust Internet retailers
	İnternet satıcılarına güvenmiyorum.
Conv1	I like that no car is necessary on Internet
	Internet üzerinde alışverişte araba gerekli olmamasını seviyorum.
Conv2	I like not having to leave home when shopping
	İnternet üzerinden alışveriş yaparken evden ayrılmak zorunda olmamayı seviyorum.
Conv3	Internet shopping is easier than local
	İnternet üzerinden alışveriş fiziksel mağazadan daha kolay.
Conv4	I like having merchandise delivered to me at home
	Ürünün evime kadar getirilmesini seviyorum.
Phys1	I like to go shopping with my friends
	Arkadaşlarımla alışverişe çıkmayı severim.
Phys2	I like the energy at local retail stores
	Fiziksel mağazalardaki enerjiyi seviyorum.
Phys4	I like helpfulness at local stores
	Fiziksel mağazalardaki yardımseverliği seviyorum.

Ineff1	I’m not good at finding what I want on online stores
	İnternet mağazalarında istediğimi bulmakta iyi değilim.
Ineff2	I don’t know much about using the Internet stores
	Internet mağazalarını kullanmayı bilmiyorum.
Ineff3	Internet ordering is hard to understand and use
	İnternet üzerinden sipariş vermeyi anlamak ve kullanmak zordur.
Log2	It’s a hassle to return merchandise bought on-line
	Online alınan ürünü iade etmek zordur.
Log3	It’s hard to judge merchandise quality on Internet
	İnternet üzerinden ürün kalitesini anlamak zordur.
Log4	Internet buying has delivery problems
	İnternet üzerinden alışverişte teslimat problemleri vardır.
Win1	I use the Internet to look for products
	Ürünlere bakmak için İnterneti kullanırım.
Win2	I use the Internet for product recommendations and comments
	Ürün yorumları ve tavsiyeleri için İnterneti kullanırım.
Win3	I like surfing on online stores
	Online alışveriş sitelerinde gezinmeyi seviyorum.
IntOffer1	Internet offers lower prices than local stores
	İnternet fiziksel mağazalardan daha düşük fiyatlar sunar.
IntOffer2	Internet shopping offers better selection
	İnternet alışverişi daha iyi seçenekler sunar.
IntOffer3	Internet has better quality than stores
	İnternet mağazaları fiziksel mağazalardan daha kalitelidir.

APPENDIX E – MAIN SURVEY ITEMS

*** All items range from 1 (Strongly Disagree) to 7 (Strongly Agree)

Code	Description	Source
PERCEIVED EASE OF USE		
PEOU 2	Internet shopping is (would be) easy to use	Cha, 2011 Juniwati, 2014
	Internet üzerinden alışverişi kullanmak kolaydır.	
PEOU 3	It is easy to access online shopping sites	
	Online alışveriş sitelerine erişim kolaydır.	
PERCEIVED ENJOYMENT		
PENJ1	I (would) find shopping at online stores to be enjoyable	Shun & Yunjie, 2006 Cha, 2011
	Internet üzerinden alışverişi zevkli buluyorum.	
PENJ2	I (would) find shopping at online stores to be interesting	
	Internet üzerinden alışverişi ilginç buluyorum.	
PENJ4	Shopping at online stores are a very nice time out	
	Online alışveriş yaparak vakit geçirmek hoşuma gidiyor.	
PERCEIVED USEFULNESS		
PU1	Shopping at online stores makes (would make) my life easier	Cha, 2011 Juniwati, 2014
	İnternet üzerinden alışveriş yapmak hayatımı kolaylaştırır.	
PU2	Online shopping provides many product alternatives	
	Online alışveriş bir çok ürün alternatifi sağlar.	
PERCEIVED INFORMATION SECURITY		
PIS1	I feel secure sending personal / financial info across the Internet	O'Cass & Fenech, 2003 Flavian & Guinaliu, 2006
	Kişisel ve finansal bilgilerimi Internet üzerinden göndermeyi güvenli buluyorum.	
PIS2	I feel safe providing personal / financial info about me to online retailers	

	Kişisel ve finansal bilgilerimi Internet satıcılarına vermeyi güvenli buluyorum.	
PIS3	I think online stores have mechanisms to ensure the safe transmission of its users'	
	Online alışveriş sitelerinin kullanıcı bilgilerini güvenli aktarmak için bir mekanizması olduğunu düşünüyorum.	
PIS4	When I send data to online stores, I am sure that they will not be intercepted by unauthorized third parties	
	Online alışveriş sitelerine bilgi verdiğimde, bunların yetkisiz üçüncü şahıslarca ulaşılamayacağından eminim.	
PIS5	Online retailers implement security measures to protect Internet shoppers	
	Internet satıcıları müşterilerini korumak için güvenlik önlemleri uygularlar.	
PERCEIVED COMPATIBILITY		
PCP2	Using the online stores to shop fit (will fit) with my lifestyle	Taylor & Todd, 1995
	Alışveriş için Interneti kullanmak yaşam tarzıma uygundur.	
PCP3	Shopping online fits well with my shopping style	
	Online alışveriş, alış veriş yapma tarzıma uygundur.	
PCP4	Shopping online for any product fits well with my shopping needs	
	Bir ürünü online satın almak alışveriş ihtiyaçlarımı karşılamada yeterlidir.	
PERCEIVED SOCIAL PRESSURE		
PSP1	Online shopping is common in my circle of friends	Järveläinen, 2007 Lim et al 2011
	Arkadaş çevremde online alışveriş yaygındır.	
PSP3	The popular press has a positive review towards online shopping	
	Popüler basının görüşü online alışverişe karşı olumludur.	
PSP5	My friends' attitudes are positive towards online shopping	

	Arkadaşlarımın tutumu online alışverişe karşı olumludur.	
ATTITUDE		
ATT1	Shopping online is a good idea	Taylor & Todd, 1995
	Online alışveriş yapmak iyi bir fikirdir.	
ATT2	Shopping online is a wise idea	
	Online alışveriş yapmak mantıklıdır.	
ATT3	I think online shopping is essential nowadays	
	Bence günümüzde online alışveriş bir gerekliliktir.	
BEHAVIORAL INTENTION		
INT1	I will use the online stores for my shopping needs	Lin, 2007 Lim & Ting, 2012
	Alışveriş ihtiyaçlarım için online alışverişi kullanırım.	
INT3	I will likely visit online stores to shop for my needs	
	İhtiyaçlarım için online mağazaları muhtemelen ziyaret ederim.	
INT4	I will strongly recommend online shopping to others	
	Kesinlikle diğer insanlara online alışverişi tavsiye edeceğim.	

APPENDIX F – DATA ITEMS (E-COMMERCE TRANSACTION LOGS)

Variable	**Type**
Age	Interval
Gender	Categorical (Dichotomous)
Region	Categorical
Online store membership duration	Interval
Recent online store visit	Ratio
Online shopping rate	Ratio
Average price paid for items	Ratio
Discount coupon redemption rate	Ratio
Product diversity rate	Ratio
Product refund rate	Ratio
Free shipping usage rate	Ratio
SMS subscription	Categorical (Dichotomous)
E-mail subscription	Categorical (Dichotomous)
Credit-card storage	Categorical (Dichotomous)

APPENDIX G – CORRELATION MATRIX (INTERNET ACTIVITIES)

Correlation Matrix[a]

		Shop1	Shop2	Shop3	Fun1	Fun2	Fun3	Fun4	Info1	Info2	Info3
Correlation	Shop1	1.000	.336	.346	.146	.239	.149	.235	.228	.242	.256
	Shop2	.336	1.000	.506	.016	.029	-.029	.075	.213	.223	.298
	Shop3	.346	.506	1.000	.023	.166	.135	.223	.268	.298	.404
	Fun1	.146	.016	.023	1.000	.309	.223	.280	.076	.049	-.035
	Fun2	.239	.029	.166	.309	1.000	.483	.518	.245	.286	.231
	Fun3	.149	-.029	.135	.223	.483	1.000	.570	.186	.171	.156
	Fun4	.235	.075	.223	.280	.518	.570	1.000	.306	.365	.284
	Info1	.228	.213	.268	.076	.245	.186	.306	1.000	.405	.343
	Info2	.242	.223	.298	.049	.286	.171	.365	.405	1.000	.566
	Info3	.256	.298	.404	-.035	.231	.156	.284	.343	.566	1.000
Sig. (1-tailed)	Shop1		.000	.000	.000	.000	.000	.000	.000	.000	.000
	Shop2	.000		.000	.307	.177	.176	.008	.000	.000	.000
	Shop3	.000	.000		.227	.000	.000	.000	.000	.000	.000
	Fun1	.000	.307	.227		.000	.000	.000	.008	.057	.130
	Fun2	.000	.177	.000	.000		.000	.000	.000	.000	.000
	Fun3	.000	.176	.000	.000	.000		.000	.000	.000	.000
	Fun4	.000	.008	.000	.000	.000	.000		.000	.000	.000
	Info1	.000	.000	.000	.008	.000	.000	.000		.000	.000
	Act_Info2	.000	.000	.000	.057	.000	.000	.000	.000		.000
	Act_Info3	.000	.000	.000	.130	.000	.000	.000	.000	.000	

a. Determinant = .081

APPENDIX H – ANTI IMAGE MATRICES (INTERNET ACTIVITIES)

Anti-image Matrices

		Shop1	Shop2	Shop3	Fun1	Fun2	Fun3	Fun4	Info1	Info2	Info3
Anti-image Covariance	Shop1	.786	-.145	-.102	-.071	-.072	-.003	-.028	-.043	-.024	-.028
	Shop2	-.145	.685	-.264	-.025	.047	.059	.015	-.048	-.016	-.053
	Shop3	-.102	-.264	.639	.027	-.011	-.030	-.030	-.042	-.008	-.120
	Fun1	-.071	-.025	.027	.856	-.141	-.020	-.095	-.002	.012	.089
	Fun2	-.072	.047	-.011	-.141	.627	-.158	-.130	-.036	-.049	-.033
	Fun3	-.003	.059	-.030	-.020	-.158	.617	-.237	-.012	.044	-.008
	Fun4	-.028	.015	-.030	-.095	-.130	-.237	.530	-.062	-.096	-.024
	Info1	-.043	-.048	-.042	-.002	-.036	-.012	-.062	.771	-.142	-.058
	Info2	-.024	-.016	-.008	.012	-.049	.044	-.096	-.142	.594	-.253
	Info3	-.028	-.053	-.120	.089	-.033	-.008	-.024	-.058	-.253	.595
Anti-image Correlation	Shop1	.868[a]	-.197	-.144	-.086	-.102	-.004	-.044	-.055	-.036	-.040
	Shop2	-.197	.714[a]	-.398	-.032	.071	.091	.025	-.065	-.024	-.083
	Shop3	-.144	-.398	.778[a]	.036	-.017	-.048	-.052	-.059	-.012	-.195
	Fun1	-.086	-.032	.036	.754[a]	-.193	-.027	-.142	-.002	.016	.125
	Fun2	-.102	.071	-.017	-.193	.829[a]	-.254	-.226	-.052	-.080	-.053
	Fun3	-.004	.091	-.048	-.027	-.254	.744[a]	-.414	-.018	.073	-.013
	Fun4	-.044	.025	-.052	-.142	-.226	-.414	.791[a]	-.097	-.170	-.042
	Info1	-.055	-.065	-.059	-.002	-.052	-.018	-.097	.896[a]	-.210	-.085
	Info2	-.036	-.024	-.012	.016	-.080	.073	-.170	-.210	.776[a]	-.425
	Info3	-.040	-.083	-.195	.125	-.053	-.013	-.042	-.085	-.425	.782[a]

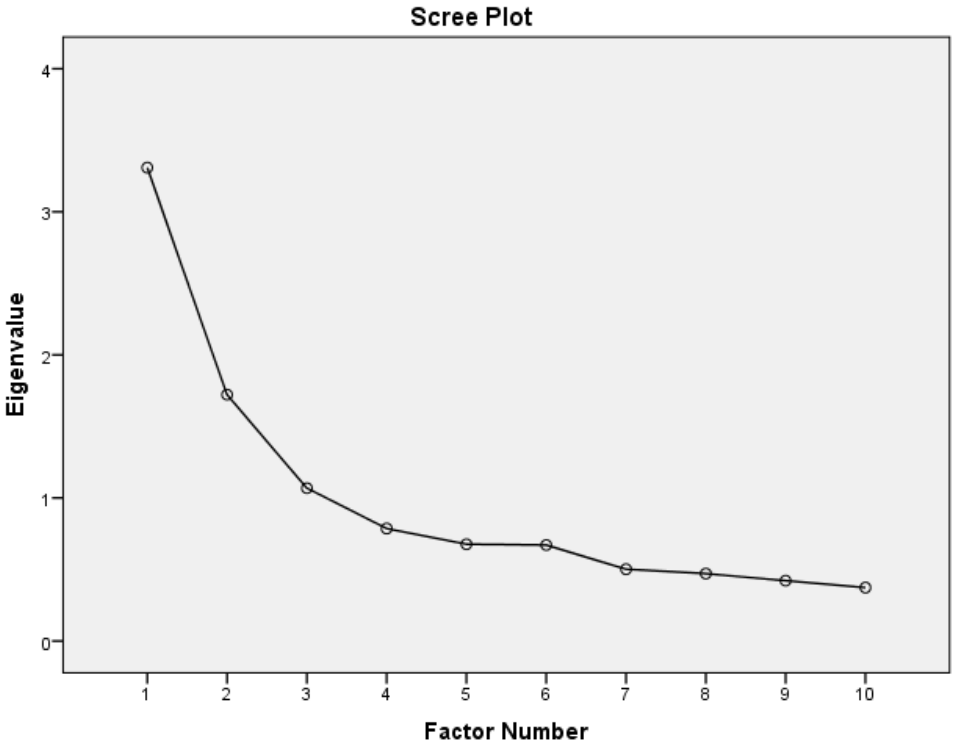
a. Measures of Sampling Adequacy(MSA)

APPENDIX I – EXPLAINED VAR. & SCREE PLOT (INT. ACTIVITIES)

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.309	33.089	33.089	2.804	28.038	28.038	1.710	17.096	17.096
2	1.722	17.219	50.308	1.216	12.161	40.199	1.512	15.116	32.212
3	1.068	10.683	60.992	.530	5.302	45.501	1.329	13.289	45.501
4	.786	7.861	68.853						
5	.676	6.764	75.617						
6	.671	6.708	82.325						
7	.502	5.016	87.341						
8	.471	4.711	92.052						
9	.422	4.216	96.267						
10	.373	3.733	100.000						

Extraction Method: Principal Axis Factoring.



[2]

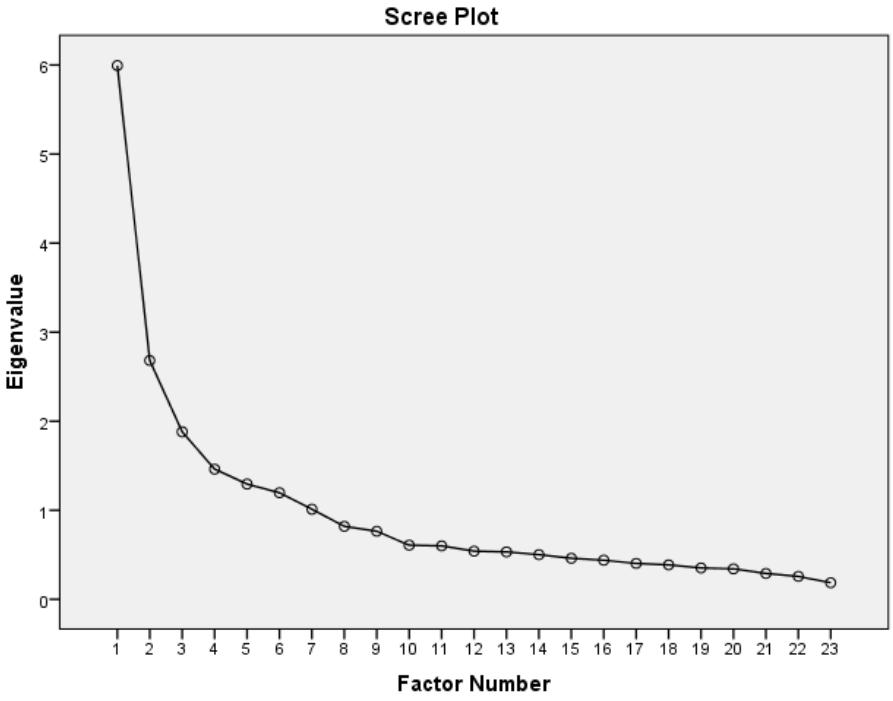
[2] The inflextion point at 4 indicates 3 factors (i.e., one less) to be considered for extraction.

APPENDIX J – EXPLAINED VAR. & SCREE PLOT (INT. PSYCHOGRAPHICS)

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.994	26.059	26.059	5.576	24.245	24.245	2.621	11.395	11.395
2	2.681	11.657	37.716	2.277	9.901	34.146	2.106	9.157	20.552
3	1.881	8.177	45.893	1.489	6.473	40.618	1.676	7.286	27.839
4	1.462	6.355	52.248	1.059	4.606	45.225	1.674	7.280	35.118
5	1.294	5.625	57.873	.903	3.928	49.153	1.567	6.815	41.933
6	1.197	5.202	63.076	.775	3.369	52.522	1.530	6.653	48.586
7	1.011	4.397	67.473	.590	2.563	55.085	1.495	6.499	55.085
8	.819	3.563	71.036						
9	.764	3.321	74.356						
10	.608	2.643	76.999						
11	.600	2.607	79.606						
12	.540	2.350	81.956						
13	.533	2.317	84.272						
14	.501	2.178	86.451						
15	.460	2.001	88.452						
16	.439	1.908	90.360						
17	.403	1.752	92.112						
18	.387	1.683	93.795						
19	.352	1.531	95.325						
20	.342	1.487	96.813						
21	.290	1.261	98.074						
22	.257	1.117	99.190						
23	.186	.810	100.000						

Extraction Method: Principal Axis Factoring.



[3]

[3] The inflextion point at 8 indicates 7 factors (i.e., one less) to be considered for extraction.

APPENDIX K – CENTROIDS (SEGMENTATION FACTORS)

Centroids (Psychographic Factors)

		Cluster				
		Shopping Lovers	Direct Purchasers	Suspicious Browsers	Incompetent Consumers	Combined
Entertainment activities (EA)	Mean	.6115643	-.9663981	.3163373	.0805531	.0000000
	Std.Dev.	.49575241	.85902354	.71272929	1.04308175	1.00000000
Information gathering (IG)	Mean	.3281012	-.1615879	.6557623	-.8291310	.0000000
	Std.Dev.	.63293835	.83567489	.59901057	1.11741810	1.00000000
eCommerce transaction rate (ETR)	Mean	.8223320	.4432768	-.4687510	-.6586126	.0000000
	Std.Dev.	.69997154	.74501965	.81248754	.89453910	1.00000000
Privacy and Security Fears (PSF)	Mean	-.8412237	-.4099359	.7571881	.3339012	.0000000
	Std.Dev.	.87846038	.91110720	.58838590	.74936468	1.00000000
eCommerce convenience (EC)	Mean	.2979448	-.1175562	.1514038	-.3070555	.0000000
	Std.Dev.	.85406026	.92477545	1.01291126	1.07378047	1.00000000
Shopping at physical stores (SPS)	Mean	.2515726	-.5285660	.0268134	.2730995	.0000000
	Std.Dev.	.94857120	.96614414	1.06102870	.78873787	1.00000000
eCommerce inefficacy (EI)	Mean	-.3288855	-.2083510	-.3055236	.8211127	.0000000
	Std.Dev.	.63393938	.69545502	.80582135	1.22720261	1.00000000
eCommerce logistics issues (ELI)	Mean	-.3436127	-.0699402	.2924551	.0579958	.0000000
	Std.Dev.	1.13692759	1.02857753	.79664188	.94037084	1.00000000
Internet window shopping (IWS)	Mean	.4746561	-.1338159	.2453133	-.5464144	.0000000
	Std.Dev.	.68395978	.68757651	.78741129	1.35099331	1.00000000
eCommerce offers (EO)	Mean	.3454328	-.2540552	-.1005547	.0555436	.0000000
	Std.Dev.	.91932958	1.00668227	1.00989655	.96421014	1.00000000

Centroids (Behavioral Factors)

		Cluster					
		Opportunist Customers	Transient Customers	Need-based Shoppers	Skeptical Newcomers	Repetitive Purchasers	Combined
Online shopping rate	Mean	.194286	-.544132	-.765385	-.111658	1.061259	.000000
	Std.Dev.	.8878105	.7525797	.7174993	.8976785	.4649115	1.0000500
Refund rate	Mean	.99241	-.43327	.04845	-.37276	.18957	.00000
	Std.Dev.	.515057	.900781	1.053410	.927972	.865612	1.000050
Product diversity	Mean	-.73563	.55935	.34471	.54725	-.88652	.00000
	Std.Dev.	.638673	.834824	.957851	.766697	.559528	1.000050
Average price paid	Mean	.439679	.082215	.970653	-.899925	-.157923	.000000
	Std.Dev.	.8898875	.9923490	.4920676	.5376158	.8839264	1.0000500
Coupon redemption rate	Mean	1.01415	1.11737	-.97063	-.85462	-.31484	.00000
	Std.Dev.	.498556	.497202	.312827	.413970	.540882	1.000050

APPENDIX L – BEHAVIORAL SEGMENT SIZES ACCORDING TO REGIONS

Regions	Opportunist Customers	Transient Customers	Need-based Shoppers	Suspicious Newcomers	Repetitive Purchasers	**Total**
Aegean	13.13	23.71	14.58	23.86	24.73	**100.00**
Black sea	11.87	24.14	17.41	24.01	22.56	**100.00**
Central Anatolia	15.20	26.55	14.67	21.17	22.41	**100.00**
Eastern Anatolia	10.95	22.14	11.43	32.38	23.10	**100.00**
Marmara	13.96	25.06	17.14	20.13	23.71	**100.00**
Mediterranean	12.13	24.01	13.99	22.15	27.72	**100.00**
Southeastern Anatolia	15.03	23.23	15.72	20.73	25.28	**100.00**

Note: Segment sizes are given in percentage points (%).

Regions	Opportunist Customers	Transient Customers	Need-based Shoppers	Skeptical Newcomers	Repetitive Purchasers
Marmara	46.0	45.6	48.8	41.6	44.7
Central Anatolia	18.8	18.1	15.7	16.4	15.9
Aegean	13.2	13.2	12.7	15.1	14.3
Mediterranean	7.2	7.8	7.1	8.2	9.4
Black Sea	6.6	7.4	8.3	8.3	7.2
Southeastern Anatolia	4.8	4.1	4.4	4.2	4.6
Eastern Anatolia	3.4	3.8	3.0	6.2	4.1
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Note: Segment sizes are given in percentage points (%).

APPENDIX M – NORMALITY ASSESSMENT

	Shopping Lovers		Direct Purchasers		Suspicious Browsers		Incompetent Consumers	
Variable	kurtosis	c.r.	kurtosis	c.r.	kurtosis	c.r.	kurtosis	c.r.
PSP3	-.046	-.139	.304	.964	-.249	-.824	-.294	-.953
PIS5	-.095	-.291	.129	.408	-.580	-1.921	-.732	-2.371
PIS3	1.094	3.335	-.365	-1.158	-.982	-3.252	-.808	-2.619
INT1	2.703	8.240	.117	.372	-.608	-2.014	-1.073	-3.477
INT3	8.125	24.766	1.980	6.275	1.221	4.043	-.336	-1.088
INT4	3.773	11.502	.031	.099	-.478	-1.581	-.833	-2.700
ATT1	4.845	14.768	1.232	3.903	.769	2.544	-.584	-1.893
ATT2	2.240	6.827	1.398	4.430	.750	2.483	-.485	-1.572
ATT3	1.210	3.688	-.138	-.439	-.007	-.023	-.397	-1.286
PSP1	1.947	5.935	.609	1.929	.296	.980	-.330	-1.069
PSP5	.980	2.987	.750	2.378	.974	3.223	-.091	-.293
PCP2	2.598	7.918	-.436	-1.383	-.849	-2.809	-.929	-3.009
PCP3	1.283	3.910	-.701	-2.222	-.903	-2.989	-.950	-3.080
PCP4	-.098	-.300	-.908	-2.876	-.987	-3.267	-.700	-2.267
PIS1	-.282	-.860	-1.014	-3.214	.417	1.379	-.802	-2.598
PIS2	-.235	-.717	-.841	-2.666	1.100	3.643	-.503	-1.629
PIS4	-.175	-.534	-.846	-2.681	-.671	-2.222	-.799	-2.590
PU1	2.945	8.978	1.265	4.008	.668	2.210	-.442	-1.434
PU2	.260	.791	.737	2.336	.751	2.485	-.172	-.557
PENJ1	1.083	3.300	-.315	-.999	-.392	-1.299	-.854	-2.767
PENJ2	-.031	-.095	-.763	-2.418	-.495	-1.640	-.818	-2.652
PENJ4	-.035	-.107	-.985	-3.120	-1.185	-3.923	-1.061	-3.439
PEOU2	3.288	10.021	2.911	9.225	3.060	10.131	-.173	-.559
PEOU3	2.778	8.468	4.272	13.536	4.538	15.024	.683	2.214

APPENDIX N – CFA FACTOR LOADINGS

			Shopping Lovers				Direct Purchasers				Suspicious Browsers				Incompetent Consumers			
Variables		Factors	Estimate	S.E.	C.R.	P	Estimate	S.E.	C.R.	P	Estimate	S.E.	C.R.	P	Estimate	S.E.	C.R.	P
PEOU3	<---	PEOU	.669	.081	8.221	***	.908	.079	11.552	***	.765	.105	7.298	***	.924	.113	8.207	***
PEOU2	<---	PEOU	1.000				1.000				1.000				1.000			
PENJ4	<---	PENJ	1.248	.125	9.954	***	1.042	.084	12.449	***	1.177	.095	12.432	***	1.112	.100	11.086	***
PENJ2	<---	PENJ	1.000				1.000				1.000				1.000			
PENJ1	<---	PENJ	1.052	.099	10.624	***	1.125	.074	15.142	***	1.154	.083	13.967	***	1.190	.097	12.212	***
PU2	<---	PU	1.000				1.000				1.000				1.000			
PU1	<---	PU	1.278	.119	10.728	***	1.043	.088	11.876	***	1.066	.098	10.920	***	1.110	.093	11.962	***
PIS4	<---	PIS	1.000				1.000				1.000				1.000			
PIS2	<---	PIS	.777	.105	7.438	***	.789	.088	8.949	***	.949	.114	8.331	***	1.055	.092	11.413	***
PIS1	<---	PIS	.748	.099	7.545	***	.905	.091	9.892	***	1.008	.119	8.440	***	.963	.095	10.177	***
PCP4	<---	PCP	1.000				1.000				1.000				1.000			
PCP3	<---	PCP	1.544	.178	8.680	***	1.525	.145	10.489	***	1.476	.126	11.715	***	1.416	.109	12.992	***
PCP2	<---	PCP	1.438	.166	8.663	***	1.450	.139	10.422	***	1.446	.124	11.656	***	1.349	.106	12.707	***
PSP5	<---	PSP	1.000				1.000				1.000				1.000			
PSP1	<---	PSP	1.009	.125	8.100	***	.969	.102	9.470	***	1.008	.113	8.931	***	.929	.098	9.444	***
ATT3	<---	ATT	1.000				1.000				1.000				1.000			
ATT2	<---	ATT	.836	.088	9.506	***	.984	.086	11.418	***	.938	.082	11.400	***	1.152	.104	11.112	***
ATT1	<---	ATT	.915	.100	9.167	***	1.069	.101	10.588	***	1.030	.091	11.378	***	1.176	.104	11.363	***
INT4	<---	INT	1.516	.142	10.689	***	1.106	.088	12.559	***	1.489	.123	12.129	***	1.314	.120	10.994	***
INT3	<---	INT	1.000				1.000				1.000				1.000			

INT1	<---	INT	1.525	.145	10.530	***	1.192	.081	14.758	***	1.443	.126	11.495	***	1.232	.125	9.875	***
PIS3	<---	PIS	.997	.093	10.724	***	1.003	.083	12.128	***	1.431	.138	10.338	***	1.002	.081	12.369	***
PIS5	<---	PIS	.911	.085	10.678	***	.965	.080	12.117	***	1.183	.119	9.965	***	.913	.080	11.416	***
PSP3	<---	PSP	.585	.099	5.881	***	.556	.080	6.943	***	.547	.082	6.655	***	.869	.091	9.563	***[4]

[4] ***: p<0.001

APPENDIX O – ESTIMATED STRUCTURAL COEFFICIENTS

Variables		Shopping Lovers					Direct Purchasers					Suspicious Browsers					Incompetent Consumers				
Depend. Var.	Independ. Var.	R^2	U.Est.	S.Est.	S.E.	C.R.	R^2	U.Est.	S.Est.	S.E.	C.R.	R^2	U.Est.	S.Est.	S.E.	C.R.	R^2	U.Est.	S.Est.	S.E.	C.R.
PU	PEOU	0.72	.350	.355	.076	4.611	0.58	.363	.325	.074	4.884	0.55	.234	.211	.083	2.809	0.55	.430	.429	.075	5.720
	PCP		.379	.487	.089	4.273		.465	.463	.091	5.093		.370	.404	.090	4.097		.245	.232	.102	2.387
	PENJ		.118	.193	.059	1.986		.128	.170	.057	2.228		.217	.276	.076	2.875		.291	.301	.102	2.861
ATT	PEOU	0.69	-.099	-.068	.116	-.855	0.71	-.015	-.011	.080	-.186	0.71	.068	.052	.084	.806	0.70	-.004	-.005	.076	-.057
	PU		.661	.448	.235	2.811		.548	.463	.121	4.525		.331	.283	.112	2.967		.377	.407	.098	3.852
	PCP		.357	.311	.139	2.566		.500	.422	.110	4.560		.499	.465	.110	4.526		.271	.277	.092	2.951
	PENJ		.029	.032	.079	.362		-.056	-.063	.057	-.984		.026	.028	.075	.339		.053	.059	.093	.567
	PIS		.125	.137	.052	2.417		-.037	-.038	.050	-.743		.074	.064	.067	1.109		.161	.202	.051	3.173
	PSP		.206	.217	.054	3.810		.198	.187	.065	3.067		.186	.177	.061	3.072		.167	.187	.063	2.673
INT	PU	0.78	.247	.253	.157	1.574	0.82	.057	.053	.119	.479	0.85	.086	.091	.085	1.012	0.71	-.192	-.195	.124	-1.545
	PCP		-.014	-.018	.086	-.163		.150	.138	.099	1.509		.292	.338	.088	3.314		.007	.007	.107	.068
	PENJ		-.007	-.012	.047	-.147		.029	.036	.048	.619		.107	.144	.054	1.996		.256	.270	.102	2.508
	PSP		.030	.047	.038	.774		.045	.046	.057	.778		.110	.130	.047	2.353		-.019	-.020	.075	-.259
	ATT		.474	.716	.116	4.092		.627	.685	.133	4.716		.306	.379	.096	3.174		.830	.780	.184	4.520
	PEOU		-.064	-.066	.069	-.932		.067	.056	.066	1.024		.023	.022	.059	.386		-.018	-.018	.080	-.227

R^2: Squared multiple correlation
U.Est: Unstandardized estimate
S.Est: Standardized estimate
S.E.: Standard error
C.R.: Critical ratio

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YAZARIN

Soyadı : HUSEYNOV
Adı : Farid
Bölümü : Bilişim Sistemleri

TEZİN ADI (İngilizce) : DETERMINING ONLINE CONSUMER TYPOLOGIES AND THEIR SHOPPING BEHAVIORS IN B2C E-COMMERCE PLATFORMS

TEZİN TÜRÜ : Yüksek Lisans ☐ Doktora ☒

1. Tezimin tamamı dünya çapında erişime açılsın ve kaynak gösterilmek şartıyla tezimin bir kısmı veya tamamının fotokopisi alınsın. ☐
2. Tezimin tamamı yalnızca Orta Doğu Teknik Üniversitesi kullancılarının erişimine açılsın. (Bu seçenekle tezinizin fotokopisi ya da elektronik kopyası Kütüphane aracılığı ile ODTÜ dışına dağıtılmayacaktır.) ☐
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