

**T.C.  
ISTANBUL AYDIN UNIVERSITY  
INSTITUTE OF SOCIAL SCIENCES**



**THE IMPACT OF ELECTRONIC CUSTOMER RELATIONSHIP  
MANAGEMENT ON CUSTOMER SATISFACTION IN TURKEY**

**THESIS**

**Karlygash AMANZHANOVA**

**Department of Business**

**Business Administration Program**

**Thesis Advisor: Assist. Prof. Dr. Farid HUSEYNOV**

**JUNE, 2018**



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T.C.  
İSTANBUL AYDIN ÜNİVERSİTESİ  
SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜ

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1) Tez Danışmanı: Dr. Öğr. Üyesi Farid HUSEYNOV

2) Jüri Üyesi : Dr. Öğr. Üyesi Müge ÖRS

3) Jüri Üyesi : Dr. Öğr. Üyesi Erdal Şen

Not: Öğrencinin Tez savunmasında **Başarılı** olması halinde bu form **imzalanacaktır**. Aksi halde geçersizdir.





*This thesis is dedicated to:  
My beloved parents Salamat and Assiya  
&  
My dear sisters Malika and Amina*





## **FOREWORD**

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**Karlygash Amanzhanova**

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## **ABBREVIATIONS**

<b>AMOS</b>	: Analysis of a Moment Structures
<b>CFA</b>	: Confirmatory Factor Analysis
<b>CRM</b>	: Customer Relationship Management
<b>E-Commerce</b>	: Electronic Commerce
<b>E-CRM</b>	: Electronic Customer Relationship Management
<b>SEM</b>	: Structural Equation Modeling
<b>SMC</b>	: Squared Multiple Correlations
<b>SPSS</b>	: Statistical Package for the Social Sciences
<b>TAM</b>	: Technology Acceptance Model
<b>TCSI</b>	: Turkish Customer Satisfaction Index
<b>USA</b>	: United States of America



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# ELEKTRONİK MÜŞTERİ İLİŞKİLERİ YÖNETİMİNİN TÜRKİYE'DEKİ MÜŞTERİ MEMNUNİYETİ ÜZERİNE ETKİSİ

## ÖZET

Bu tezin temel amacı, elektronik müşteri ilişkileri yönetiminin (E-CRM) Türkiye'deki e-ticaret sektöründe, müşteri memnuniyeti (direkt) ve algılanan yararı üzerindeki (dolaylı) etkilerini incelemektir. 46 milyon internet kullanıcılarına sahip olan Türkiye, e-ticaret sektöründe parlak bir gelecek vaat ediyor. Genel olarak, e-ticaret sektörü sürekli dinamik ve yenilikçi olarak çalışmaktadır, dolayısıyla müşteri ilişkileri yönetimin fonksiyonları, sadece müşterilerle istikrarlı bir ilişkiyi sürdürmenin bir yolu olarak değil, aynı zamanda müşterileri memnun ve sadık tutmak için rekabet avantajı sağlayabilecek bir araç olarak da kullanılabilir. Bu çalışma kapsamında nicel araştırma yöntemleri uygulanmıştır. 210 kişi tarafından oluşturulan birincil data Likert tipi çevrimiçi anket aracılığıyla toplanmıştır. Araştırma model yapıları istatistiksel yazılımlarda, doğrulayıcı faktör analizi (CFA) ve yapısal eşitlik modellemesinden (SEM) yararlanılarak değerlendirilmiş ve analiz edilmiştir. Çalışmanın bulguları, mevcut araştırmada temsil edilen müşteri ilişkileri yönetim fonksiyonlarının (şikâyet yönetimi, iletişim, bilgi içeriği, güvenlik ve gizlilik), müşteri memnuniyeti üzerindeki, doğrudan ve dolaylı etkisinin (algılanan yarar değişkeniyle) olduğunu göstermiştir. Ayrıca, bu çalışmanın sonucunda, güçlü altyapısı olmayan e-ticaret şirketlerinin mevcut müşteri ilişkileri yönetim stratejilerini gözden geçirerek, iyileştirmeleri sağlaması, devamlılık ve verimlilik adına firmalara fayda sağlayacaktır.

**Anahtar kelimeler:** *E-CRM, e-ticaret, müşteri memnuniyeti, algılanan yarar, şikâyet yönetimi, iletişim, bilgi içeriği, güvenlik, gizlilik.*



## **THE IMPACT OF ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT ON CUSTOMER SATISFACTION IN TURKEY**

### **ABSTRACT**

The main purpose of this thesis is to examine the impacts of E-CRM features on customer satisfaction and perceived usefulness as a mediator variable within e-commerce sector of Turkey. Having 46 mln of internet users promises bright future to Turkey's e-commerce businesses. Overall, e-commerce businesses are operating in constantly changing environment and trends, thus E-CRM features may serve not only as a way for maintaining stable relationship with customers, but a tool that may provide competitive advantage in order to keep customers satisfied and loyal. Within the framework of this study quantitative research methods were applied. Primary data from 210 respondents has been collected through self-administered, Likert type online survey. Research model constructs were evaluated and analyzed with a help of confirmatory factor analysis (CFA) and structural equational model (SEM) processed in statistical software. The findings of the study indicated that E-CRM features represented in current research (complaint handling, communication, information content, security and privacy) demonstrate both direct and indirect impact (through perceived usefulness variable) on customer satisfaction. Additionally, the results of this study should alert e-retailers that do not have strong E-CRM framework, to rethink existing strategies and reconsider available E-CRM approach for further improvements.

**Keywords:** *E-CRM, e-commerce, customer satisfaction, perceived usefulness, complaint handling, communication, information content, security, privacy.*



## **1. INTRODUCTION**

### **1.1 Statement of the Problem**

According to Dishman (2014) most of the surveys designed by retailers to measure satisfaction level actually annoy customers. Research Company that concentrates on customer feedback analysis inform that 80% of the respondents neglected such surveys midway. Surveys create one way communication instead of dialogues and generally conducted in order to give grounds for marketing expenses. Usually surveys contain the long list of the questions (Swinscoe, 2016) and customers are motivated with certain rewards like gifts, gift cards, discount coupons etc. At this point quality of the obtained data is another issue for retailers that are looking for customer responses that will make their brands better. Encouraging the customers to be proactive in sharing their feedbacks is alternative strategy to measure satisfaction level, stimulate loyalty and forming profound connection with them (Ganeshan, 2016).

Mostly customers prefer to contact brands directly to express their unpleasant experience (using tools like e-mails, phone calls or web form) rather than using social media. By doing this, customers give an opportunity for retailers to make it up before going public. Therein customer support services have great chances to rehabilitate and ensure customer satisfaction. Also it is important to take into consideration that not all the customers consider social media as a channel that can solve their problems and there might be even certain percentage of them that do not have social media account (Dishman, 2014).

Nowadays firms cannot afford to concentrate only on production or marketing as contemporary customers are way more demanding, well-informed and need more attention. Accordingly the importance towards customer relationship management (CRM) has become more visible (Khalifa and Shen, 2005).

CRM comprises strategies, technology and practices used by companies to stay connected and engaged to their current and potential customers (Kulpa, 2017). With introduction of e-commerce customer relationship has been carried out to the next level, where E-CRM concept was brought out. E-CRM is known to be more interactive, comfortable, effective and with larger extent of personalization. Moreover, it is more affordable for companies and clients (Khalifa and Shen, 2005).

Efficiently implemented CRM may help companies to gain a competitive advantage which can be used as a tool to inhibit consumer-switching behavior. The significance of successful CRM establishment is enhanced in e-commerce as customer loyalty is way harder to obtain in a given sector (Kımlıoğlu and Zoralı, 2009). For this reason, insight E-CRM nature and measuring its impacts on customer satisfaction is vital for e-retailers. In e-commerce, the technology is not the only one to evolve with tremendous speed, consumer behavior change along with it. For this reason it is important for e-retailers to interact with customers and take necessary E-CRM strategies and decisions accordingly.

E-commerce in Turkey is continuously growing and expected to be an integral part of the consumer's life. Furthermore, 30-35% increase is anticipated within the sector in 2018 (EcommerceNews, 2018). Expecting dramatic growth mentioned above Turkish e-retailers should be aware of CRM importance to retain customers in highly competitive environment.

## **1.2 Purpose of the Study**

Overall, the objective of current study is to analyze the path of how E-CRM impacts Customer Satisfaction as well as Perceived Usefulness. In order to have detailed and deep analysis this research aims to evaluate two perspectives:

Firstly, impacts of E-CRM components like Complaint Handling, Information Content, Communication, and Security & Privacy on Customer Satisfaction are going to be examined. If the impact will be identified with a large extent, it will help those Turkish e-retailers that have weak E-CRM model to reevaluate their strategies, marketing activities and make decisions about investment for E-CRM if needed.



At the same time it will be helpful for Turkish e-retailers to assess which of E-CRM components require more attention or development and adopt necessary adjustments accordingly.

Secondly, Perceived Usefulness is going to be examined as a mediator factor between E-CRM and Customer Satisfaction. Basically this variable is going to measure E-CRM features about their usefulness and importance for further improvement of customer shopping experience. Additionally it is valuable factor in determining how well innovative E-CRM options are adapted.

### **1.3 Research Questions**

In accordance with the purpose of the study following research questions were formulated:

R1: What is the impact of the E-CRM on customer satisfaction?

R2: What is the impact of E-CRM on perceived usefulness?

R3: What is the impact of the perceived usefulness on customer satisfaction?

### **1.4 Justification of the Study**

Most of our daily activities are being transferred to online transactions like internet banking, internet stores, reservations and etc. Internet has not only modified the way we do things, but also created new business known as e-commerce. Development of internet turned it into a medium that connects businesses and customers online. A relatively new phenomenon like e-commerce has a great potential and deserves attention of the researchers (Bugaje, 2015).

As e-commerce is growing on daily basis, customer's needs and wants form this business which as a result challenging it for innovations and better solutions. Within these circumstances it is vital to retain existing customers and moreover to keep expanding its size. Satisfied customers improve business performance, e.g. expansion the number of sales channels which again in return demands more interaction with customers (Mettagarunagul and Puengprakiet, 2011).

According to discussions made by Tavana et al. (2013) nowadays customers have a kind of authority that makes companies base most of their development, marketing and strategic activities around them. Internet has upgraded CRM into more interactive environment where existing and new relationships with customers can be shaped and enhanced.

### **1.5 Thesis Outline**

This thesis consists of 6 main chapters:

Chapter 1, as Introduction part of the study includes the statement of the problem, objective of the research, formulated research questions and justification of the study that discusses the actuality of the topic.

Chapter 2 reviews available literature dedicated to background of e-commerce in general and e-commerce condition in Turkey respectively. Additionally, literature review has been conducted on background of E-CRM and previous studies made on this regard.

Chapter 3 depicts research model designed for this study and formulated hypotheses based on previous studies.

Chapter 4 describes the methodology of the research with research design, sample size, implemented survey tools and techniques subtopics.

Chapter 5 is dedicated for analyzing the data with a help of statistical techniques. This chapter also reveals the outcomes of the research.

Chapter 6 proposes managerial implications based on research results and discusses research results. Additionally it provides limitations of the study that can be used for future researches.

## **2. LITERATURE REVIEW**

### **2.1 Background of the E-commerce**

The e-commerce overcame constraints of traditional way of doing business and provided more expanded opportunities both for shoppers and sellers. Current shoppers are not limited neither by geographical location nor time framework.

Definition: E-commerce is combination of data management, security and communication systems. As a result, service or product commercial information flows within these three components. In 1970's e-commerce was known as exchange of business documents flow in electronic form. However, with constant development of the industry, e-commerce turned into business process performed via World Wide Web. Despite the fact that the web was introduced in 1994, it became available for users after four years. This is when commonly known e-commerce to us was introduced in USA and Europe. Obviously, those websites were basic and did not have many opportunities that are available nowadays; nevertheless by 2005 that shape of e-commerce was available in the most points of Europe, America and East Asia (Nanehkaran, 2013) .

Amazon and eBay are known for being an engine of the e-commerce. Moreover, Amazon is the first one to form online retailer business model and sold its first product in 1995. Amazon's performance is quite impressive as sales were available within whole USA and abroad (45 countries) only in its first month of operations. Despite the fact that Amazon has numerous reasons for holding its engine status, but the most outstanding one is timing. Entering the market when no competition existed let to concentrate on creation of customer-oriented online store that provided search option according to the name of the product, category and customer reviews. By 1997 Amazon expanded the range of the products from books to any other goods that shoppers could think of (Hussung, 2016).

Ebay entered the world of the e-commerce at the same time when Amazon did, however it had another name – AuctionWeb. In 1996 feedback option has been added to the website where both sellers and buyers were able to evaluate their experience. In 1997 AuctionWeb was renamed as eBay and this how the users all the over the world have been calling the website to the present day. It was innovation of its time that shifted the idea of the online sales being conducted only by entrepreneurs and technology experts to average users (eBay, 2008)

As pioneers of this industry eBay and Amazon set a market which provides wide range of opportunities, goods and services to current e-commerce shoppers. Yet, shoppers are not the only ones to gain; entrepreneurs are able to start their businesses without heavy investments and within short period of time nowadays by using e-commerce benefits (Hussung, 2016).

### **2.1.1 Advantages and disadvantages of e-commerce**

The inventions and development in technology created a new way of doing business. Moreover, online shopping is one of the most frequent activities in internet. E-commerce has wide range of advantages for users and entrepreneurs, but at the same time, certain disadvantages turn into severe issues. Some advantages and disadvantages discussed by Nanekaran (2013) and Niranjnamurthy et al. (2013) are provided below.

Advantages:

- No time restrictions. Online stores are open 24/7, 365 days a year and shoppers may complete their orders based on the most convenient time for them. Sales continue flowing with no time restrictions.
- Cost Saving. E-commerce is able to cut the costs that are considered as fixed in traditional businesses. There is a balance of provision of high level of service for lower operational costs.
- Easy way of doing a business. E-commerce does not always require a physical buildings or inventories and enables to lower down the number of stakeholders. Users may place an order no matter where they are as long as they have an internet access.

- Price Comparison. In e-commerce shoppers are given an opportunity to compare prices provided by various sellers. Additionally users have different discount earning approaches comparing to physical stores.

Disadvantages:

- Security. The security is one of the most critical issues of e-commerce. Websites are available to everyone and some of them may have bad intentions towards users.
- Guarantee. Usually product quality is not guaranteed in the websites. The goods may arrive with defects and damages or goods may look a bit a different comparing to the available pictures in the website (in terms of color, quality and etc.)
- Social Relationships. It is true that e-commerce wipes out boundaries in terms of geography, but at the same time there is lack of physical touch that causes a loss in terms of social relationships with other individuals as well as fluctuating customer loyalty towards seller.
- Impact. E-commerce is not only an innovation itself, but it also affects other segments of the business as well. All the previous transactions and previous methods are required to be adopted and updated according to new demands and standards. E-commerce has the most impact on following units: marketing, economics, finance and accounting, production and operation management.

### **2.1.2 Types of e-commerce.**

Kashyap and Maurya (2013); Nanekaran (2013); Alipour, Dorodi, and Pishgahi (2011); considered following commonly known e-commerce types:

- Business-to-Business (B2B) is e-commerce type where business transactions occur between two parties that represent two different companies. A wholesales made through website is a distinct example for this scenario.
- Business-to-Consumer (B2C) is a business model applied between a company and consumers that represent its end-users over the internet.

- Consumer-to-Business (C2B) is an opposite model to B2C where individuals offer products and services to businesses over the internet.
- Consumer-to-Consumer (C2C) refers to online transactions between users, in this model two end-users are able to interact directly with each other.
- Mobile-Commerce (M-commerce) has its origins from 1997 that refers to online buying and selling activities through wireless mobile devices (mobile phones, tablets and etc.). Without necessity to find a place to plug in, users are able to conduct selling and buying activities online. Mobile commerce activities keep developing and providing wider range opportunities like online bill payments, online banking etc.

### **2.1.3 Next phase of e-commerce**

As commerce shifted to e-commerce, there is a natural question arising about where e-commerce will shift later on? Consultant at Dijital Dönüşüm and founder of Me Consultancy predicts the next phase of e-commerce as follows:

- *Increased interest about Dropshipping.* Defined as stock free sales and having rising trend within e-commerce Dropshipping is expected to gain more attention. Usage of Dropshipping (model that provides customers with products directly from supplier's warehouse rather than keeping stock inventory) is expected to be raised among users and brands.
- *Increase in mobile shopping.* In the future everything will be made via mobile phones and tablets. In parallel with increase of smart devices usage, their sales increase and becoming indispensable part of our lives, mobile shopping is expected to grow as well.
- *Shopping from brick and mortar stores will become a hobby.* In the past when people needed to buy something they would go to the store and there is still big number of people that do shopping in this way. However, widespread use of internet and online shopping provided an alternative to this way of doing shopping.
- As the world is responding in a faster way on a daily basis consumers are looking for options to get their needs in less time. Within the next few decades the ability

to offer millions of choices over the internet with a click away will make shopping from the brick and mortar stores an old-fashioned hobby rather than part of everyday life routine.

- *Image and voice search.* Image search is expected to become one of the trends in e-commerce business.

For example users will be able to upload an image of desired product to any online store and based on that its search engine will be able to provide the list of similar products available. It is also expected that voice search option to be integrated to e-commerce websites by 2020.

- *Content Management will keep its strong position as an effective marketing tool.* Most of marketing specialists believe that content management will ever remain as valuable part of e-marketing. Accordingly, customized and personalized content management will have an important impact on the future of e-commerce.
- *E-exports will increase.* E-exports also known as “cross border e-commerce” will provide an opportunity to e-commerce businesses to reach customers from different countries by expanding boundaries. The interest in e-export will increase within upcoming years and many brands will work on development and renewal of cargo, software and e-commerce infrastructure (Perakende.org, 2018a).

#### **2.1.4 Digitalization of fast fashion retailers**

H&M and Inditex have set new rules to the market with their fast-fashion, trendy and extensive retail trade approach. However, new rule setters from e-commerce sector like Zalando, Asos and Amazon are on their way to bring new waves of changes and ironically fast-fashion leaders are quite slow with digitalizing. Sharing the market along with online players forced Zara to go online in 2010, comparatively Asos existed for 10 years by that time. Mostly the doubts were related to the fear that delivery/return related expenses will be too costly and cannibalization effect that may take place. Indetex’s centralized logistics and strategic locations for sourcing is a key factor for ensuring fast delivery to any part of the globe within 48 hours and useful for online sales as well (Shannon, 2017).

Another advantage of Inditex is related to middle-age customer profile that is able to meet high end prices. H&M has decentralized logistics and more democratic prices, these factors burden the company to compensate expenses (O'Leary, Ringstrom and Thomasson, 2015). H&M is able to provide affordable prices basing production in Asia, but it has longer lead time that as a result makes it hard to meet constantly changing demand. This weakness makes competition with pure online players tougher as they can respond to demand and update the assortment in faster manner (Shannon, 2017).

In contrast pure online player German Zalando is providing attractive deals like free of charge delivery and return (up to 100 days within Europe) (O'Leary, Ringstrom and Thomasson, 2015). At the same time UK based Asos provides wide range self-owned and other brand's products with fast delivery options. Asos is keeping up with current trends by concentrating on technology innovations (visual search as an example) and mobile shopping (Green, 2018). Shannon (2017) mentions Primark an example when sales through online channel did not work out. Despite a high demand within first weeks, its online experience lasted 3 months only. Low price goods combined with shipping expenses made it hard for Primark to continue operations online. One of the strategies taken by H&M in order to catch up with pure online retailers is integrating the physical store taking into consideration omni-channel approach. Yet, it is known that retailers with traditional trade background are not as flexible as pure online retailers that are open to new innovations and technology.

The important steps taken by Inditex for improvement its presence in e-commerce are providing next day delivery and free returns option. As a result of many efforts and focus to this channel, online sales made 10 % of the group sales. Moreover, online sales started being perceived as factor of growth. The company has ambitious plan as being presented online in all 96 markets where they are available. At the moment Inditex owns 19 warehouses worldwide to serve online orders. One of the main concerns of online retailers is not expansion itself, but keeping margins while going international, in other words "price sensitivity" should be taken into consideration. According to Inditex the margin related issues mostly related to unfavorable currency effect.



For development its online business Inditex focuses on applying centralized inventory system that may turn shops into warehouses. This system is already went live for Zara and expected to be implemented to certain group brands within 2018. It is planned to finalize deployment within whole group by 2020. One-third of the Inditex's online orders are being picked up from bricks-and-mortar stores (FinancialTimes, 2018).

E-commerce giant – Amazon is also trying to conquer its portion of fashion market. However, it does have struggles due to the fact that consumers usually do not associate Amazon with fashion. At the same time this matter should not lead other competitors to underestimation, as Amazon owns strong customer oriented basis constructed around provision of convenience (O'connor, 2017).

### **2.1.5 E-commerce going offline**

When most of the retailers rushing to go online there is an example of e-commerce business headed to try brick-and-mortar experience. It became possible through store-in-store concept. For instance Amazon based on partnership with Kohl's and Whole Foods is able to get closer to offline in order to understand their habits (O'connor, 2017).

Another approach that Amazon has chosen to go offline is by opening Amazon Go shop in Seattle. The store is fully equipped with artificial intelligence and high-tech systems that wholly digitalized market experience. One of the concerns that arouse within this subject related to privacy concerns. As an example in Amazon Go customers are being continuously tracked by cameras.

Amazon Go is not being considered only as an experiment as the company planning the expansion of this concept. As a result e-commerce business are not only capable of gaining customer base by taking them away from brick-and-mortar stores, but able to create decent competition offline. China's Alibaba has already opened 35 high-tech grocery stores that combine online ordering with robotized checkout. Another example from China is JD - one of the strong online retailers. JD making heavy investments on introducing robot based convenience shops (Wingfield, Mozur and Corkery, 2018).

## **2.2 E-commerce in Turkey**

Despite the fact that the core of e-commerce in Turkey was set before the year of 2000, visible growth can be followed from the beginning of the year 2005. The next phase of the growth falls within 2005-2010 with explicit increase in number of transactions and volume. Yet comparing to the volume of the total trade, the e-commerce has plenty room for growth and expansion. Turkish e-retailers are recommended to consider transnational strategies as this market is becoming more globalized and the demand is growing in every part of the globe accordingly. At the same time, in order to meet constantly changing demand of consumers businesses should take into consideration decentralized organizational structure that will help to avoid missed opportunities. However, transnational strategy should be implemented only in case the business is stable, prepared to go international and ready to compete with rivals in the global market. This strategy does not only valuable for entering new markets in other geographical locations, but to distribute the risks in general (Gokmen, 2012).

46 mln users of Internet users hints that Turkey is turning into important player within e-commerce world. Till now the e-commerce in Turkey had mainly been pushed forward by pure-online businesses. Brick and mortar retailers have 30% portion of online retail volume. One of the main advantages that e-commerce provides to its customers in Turkey is affordable price level (TUSIAD, 2017). The recent research conducted in Ankara, the capital of Turkey among university students studied critical factors that have impacts of consumer behavior. Based on the conducted survey, the bigger portion of the participants prefer smartphones for internet access. Additionally, the shoppers within this study scope spend a time in a large extent for pre-purchase product analysis. The main concerns are mostly related with security issues (Huseynov and Yıldırım, 2016) and these results are in a line with other studies about Turkish consumers conducted by Sakarya and Soyer (2013), Topaloglu (2012), Yoruk et al. (2011). One of the popular product categories purchased online in Turkey are clothes and goods for sports. The common payment method is credit card that provides installment options for the users (EcommerceNews, 2018).

According to Topaloglu (2012) due to security concerns along with credit cards Turkish consumers also use cash and wire payment methods during online shopping. The number of domestic and international e-commerce transactions with domestic cards in Turkey reached around 321 mln. and 65 mln. respectively in 2017. The number of domestic and international e-commerce transactions with international cards in Turkey reached around 321 mln. and 9 mln. respectively in 2017 (Bkm.com.tr).

Ajans Press – pioneer in media monitoring reported that in 2017 there were published 16 222 news with online shopping and e-commerce headers, 3 679 news with mobile shopping headers. The most discussed headers were related to the increased number of credit card usage for shopping made through internet and contribution of increased volume of e-commerce to the economy in general. According to Hopi mobile application designed by Ajans Press to measure personalized customer experience and the news available in media mostly users were buying shoes, the list is followed by pants and t-shirts. Based on statistics, the main shoppers in 2017 were men with an age range of 36-45. The most preferred color in 2017 was black (46%), the list was followed by navy blue and blue. “Casual” was the most demanded clothes style (Perakende.org, 2018b).

Most of the online shopping in 2017 was made by residence of Istanbul (33%), Ankara and Izmir. The most preferred time for online shopping was between 16:00-18:00 on Sundays. The month that showed the peak of sales was December, while the month with lowest sales was February. Approximately 30% of the users preferred only one brand, 58% of the users preferred only one online store and 42% of the users have chosen multiple brands. 61% present of the Hopi users were IOS holders, while 38% of the them were Android holders (Perakende.org, 2018b).Based on the data from December of Google Analytics (2017) one of the Turkey’s e-commerce website sahibinden.com has broken its own record according to user numbers that were reached both from the web site and mobile applications – 43.1 million per month (Perakende.org, 2018c). Another valuable engine of Turkish e-commerce in Hepsiburada has been recognized as “E-commerce platform of the year” Webrazzi awards 2017 (Turkey’s technology blog). Hepsiburada having presence in the sector for 18 years is comprised of 700 employees and more than 12 thousand partners (Perakende.org, 2018d).

### **2.3 Importance of Content Management in E-commerce**

Copied and pasted content in e-commerce websites may trigger negative perceptions of consumers states Cem Akbar Arel CEO of Wordapp that concentrates on development of e-commerce websites content. Turkey's e-export volume is around 4 billion euro, while world's e-commerce market makes around 2.3 trillion euro. According to Arel e-export may have significant contribution to meet Turkey's export targets in general. For this reason it is important for products available for sale within e-commerce business to have correct descriptions. Arel also pointed out that it is important for e-retailers to own original content and product descriptions especially when competition gets tougher in the market. One of the biggest mistakes made in e-commerce is the same product being sold at different online stores with the same promotion and product description. Technic features that take place in product description of the product should be taken seriously. Regular online shoppers over the world have negative perceptions towards products that do not have enough description. Not having an originality may leave e-retailer one step behind rivals. Moreover, the products that have description have higher sales rate (350%) than the ones without description (Perakende.org, 2018e).

### **2.4 Background of the E-CRM**

The e-commerce has not only brought changes to the way how businesses do operate but created new companies, organizational structure and opportunities (Lee, 2001); (Kımlıoğlu and Zaralı, 2009). Consequently, businesses are forced to reconsider the way they interact with their customers. Although the main principles of business and customer relationship changing its form and shape, meeting customers' need in order to reinforce profit flow remained unchanged (Yoon, Choi, and Sohn, 2008).

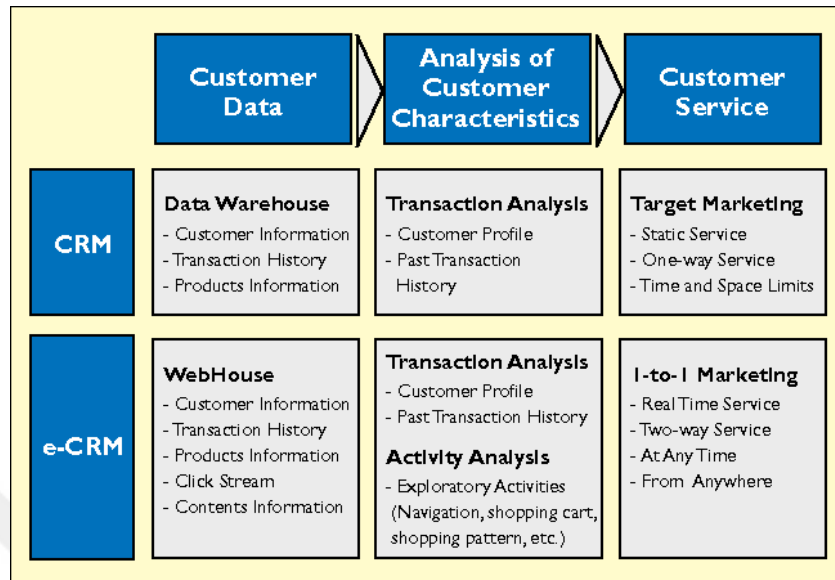
Mentioned changes generated a need for companies for up-to-date competitive advantage in order to cope with customer relationship online. It became vital for business to be able to follow up on e-commerce activities that sometimes may require prompt and customized reaction or response independent from set standard timeframe. Especially, the difficulty of supporting diverse customer base from different access channels in a high speed and quality manner became a new challenge for companies.

In order to meet customer needs and wants the business should sustain solidarity within all available channels (like e-mails, web, hotline, web form etc.) as well as within all units that engage with customers (like marketing, sales, service etc.). As a solution for this issue many businesses are considering the adoption of electronic customer service due to the fact that this concept provides an opportunity to grasp, consolidate and spread the information gained through web site across the organization. (Pan and Lee, 2003).

In the study about E-CRM application within telecommunications field Blery and Michalakopoulos (2006) stated that E-CRM is the finest tool to provide in-depth information about complex services designed to satisfy customers. According to Feinberg and Kadam (2002) E-CRM features do not impact customer satisfaction at the same extent. For this reason, each company should identify individually E-CRM aspects which determine satisfaction of their customers. Feinberg and Kadam (2002) contrasted the importance of 42 E-CRM features with their availability in the website highlighting following aspects that deserve certain attention of e-retailers: communication tools, complaining ability, privacy concerns and product customization.

At its core the CRM is a business strategy that provides the integrity within all units of the company that are interacting with customers specifically via integration of technology, process and people (Chen and Popovich, 2003) (Pan and Lee, 2003). While, E-CRM is widening common CRM processes by integrating innovative technology of e-channels and merges them with e-commerce applications into company's general customer relationship management strategy (Kennedy, 2006). As a result CRM can be thought as constituent part of E-CRM. More details provided in Figure 2.1 about CRM and E-CRM differences.

The development of web-based technology and constantly changing business improvements are pushing companies to start E-CRM implementation. The main trigger factors such as cost-effectiveness and velocity of the internet make the adoption of e-commerce possible and relatively affordable (Pan and Lee, 2003), (Grover, 2011).



**Figure 2.1 :** The differences between CRM and e-CRM (Pan and Lee, 2003).

Customer retention became an important concept in organizations agenda as it way more economic to retain existing customers rather than gaining new ones (Pan and Lee, 2003). The study conducted by Lee-Kelley, Gilbert and Mannicom (2003) demonstrated effects of E-CRM on loyalty of the online shoppers. However, it is important to note that it requires more than web engagement in order to keep the customers loyal. Despite of the size and nature of the industry E-CRM provides an equal opportunity to all the companies to build individual relationship with customers. Moreover, E-CRM features are able to generate great value by gathering, sorting and distributing customer information. The core concept of E-CRM lies within comprehending the customer profile, products or services that catch their attention as this is the only way to satisfy their needs and wants (Pan and Lee, 2003).

## 2.5 Customer Satisfaction

Customer satisfaction plays an important role within marketing activities and assumed to be its main outcome. The concept of customer satisfaction concentrated on generating profits by satisfying needs and wants of the customers. Generally satisfaction is a consequence of purchase and perception of the actual benefits and costs comparing to expectations of the customers (Churchill Jr and Surprenant, 1982).

According to classification of the satisfaction concept, satisfaction can be approached by conceptual criterion and referential criterion. Conceptual criterion outlines the satisfaction via processes and consumer responses types, while referential criterion represents aspects of the conditions where these responses and processes take place (Liebana-Cabanillas, Munoz-Leiva and Rejon-Guardia, 2013).

Conceptual criterion is constructed as follows:

- Evaluation process (the evaluation process of expectations, needs, product performance).
- Cognitive response (comparison of variables in a cognitive way like efforts made and rewards received, expectations and performance etc.) against affective response (comparison of variables in a affective way like happiness or displeasure).
- Evaluation process and affective response (refers to satisfaction to be associated with cognitive assessments and affective responses simultaneously resulted from using, buying and purchasing activities).

Referential criterion is constructed as follows:

- Specific transaction (satisfaction is linked to certain transaction regarding giving consumption).
- Cumulative character (evaluation of general experience of the consumer)

Szymanski and Henard (2001) have discussed three consequences of satisfaction:

- Complaining behavior (the higher is dissatisfaction level due to failed service, the more complaints will be addressed to the retailers or companies).
- Negative word of mouth (when buyers share their negative experience with others and gaining their sympathy, basically satisfaction and negative word of mouth are negatively related).

- Repurchase intentions (satisfaction mostly assumed as a mediator that leads to loyalty, as a result customer satisfaction and repurchase intentions are positively related).

## **2.6 Previous Studies on E-CRM**

The articles related to E-CRM have relatively small number comparing to its antecedent – CRM. Nevertheless, the subject area lies within marketing, operations, logistic & quality, information & knowledge management, library studies, communication, e-commerce disciplines. Reviewed articles about E-CRM were published within 2002-2016 time period. Large portion of the studies were conducted in single country. 76% of the studies applied primary data obtained through surveys.

Only 24% of survey participants are represented by students in these studies. 59% of the studies were user oriented, 29% of the studies were vendor oriented and 12% of them were both user and vendor oriented. The main limitations of reviewed articles were related to: sampling that may not represent whole population, sample size, secondary data, E-CRM having dynamic nature etc.

To review related articles within E-CRM scope following databases have been used:

- Emerald insight
- Researchgate
- Google Scholar
- Ieeexplore
- Academicjournals

Following keywords were used while searching the relevant articles:

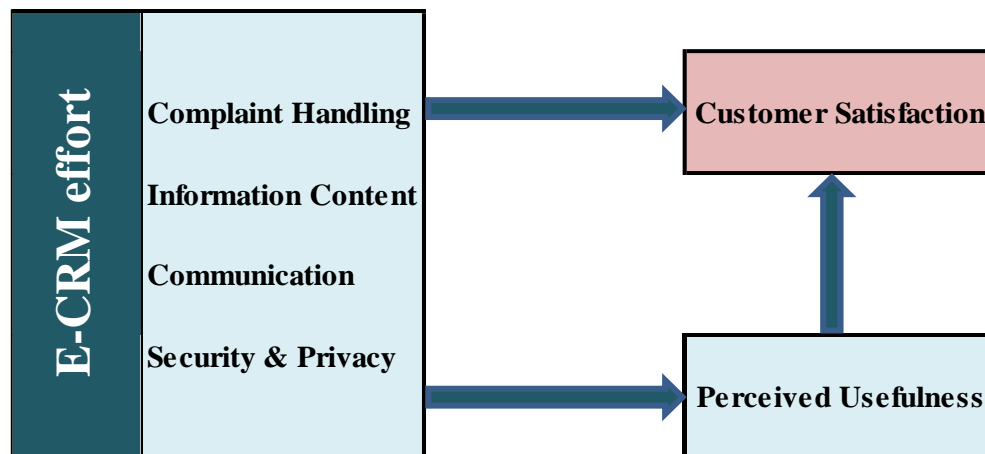
- e-crm
- electronic customer relationship management
- online crm
- electronic crm



### 3. RESEARCH MODEL DEVELOPMENT AND HYPOTHESES FORMULATION

#### 3.1 Conceptual Model

The research model of the study is depicted in Figure 3.1. The model visually describes the framework of variables to be examined: E-CRM features, customer satisfaction and perceived usefulness. The relationship within the variables will be tested in order to measure to which extent they impact each other. E-CRM features are independent variable, while remaining variables are dependent.



**Figure 3.1 :** Research Model.

#### 3.2 Complaint Handling

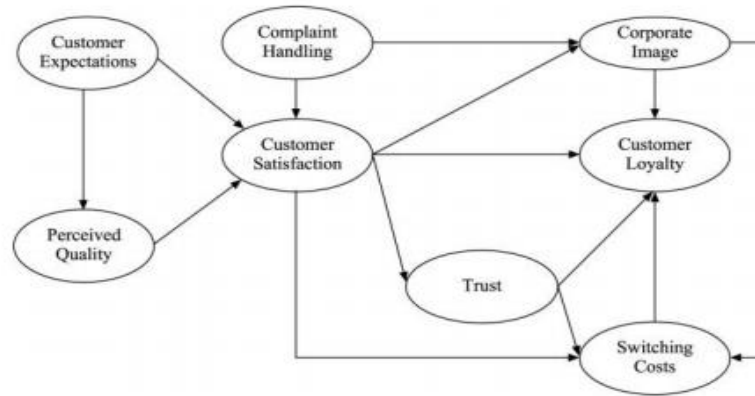
According to Varela-Neira, Vazquez-Casielles and Iglesias (2010) companies should continuously enhance customer satisfaction as it has impacts on other behaviors that lead to valuable benefits. Such loyalty behaviors motivate repurchase intentions of the customers, increase sales level and reduce price sensitivity.

Yet, service failures are inevitable, particularly in businesses that mostly involve service related activities and where human interaction takes place in a larger extent. Companies should be able to provide a solution for service failures in order to decrease the damage level as much as possible (Komunda and Osarenkhoe, 2012). In case the company will be able to recover from justified dissatisfaction with proper complaint management it will positively influence the customer satisfaction accordingly (Varela-Neira, Vázquez-Casielles and Iglesias, 2010). On other hand businesses should not only resolve occurred issues but train and instruct the employees how to provide explanations to the customers about the reason of the failure and meet complaints in a swift manner with by providing appropriate compensation and apologies plan of action. For this reason complaint handling should receive deserving attention from the management for related employees to conceive responsibility degree. (Komunda and Osarenkhoe, 2012)

As managing customer complaints in a polite and professional manner is another important key factor it is significant for customer service staff to master technical and interpersonal relationship skills. Consequently, sufficient training works and job design should be made to ensure proper workflow. In order to provide high quality service it is essential for related team to know the main purpose of their work and motivate with rewards accordingly. From human resources point of view recruiting department should select candidate with service and empathy orientation characteristics (Karatepe, 2006).

Estelami (2000) examined three dimensions of complaint handling: compensation, employee behavior and promptness. Based on the findings of the study compensatory procedures used for complaint handling tend to lead to satisfactory outcomes in a larger extent. Hence, the recovery strategies intended to prevent dissatisfaction of the customers should include following solutions: refunds, repair, replacement and post-service.

Aydin and Ozer (2005) included complaint handling to Turkish customer satisfaction index model (TCSI) as displayed in Figure 3.2. The results of the study demonstrated that there is a significant impact of complaint handling strategies on customer satisfaction.



**Figure 3.2 :** TCSI model (Aydin and Ozer, 2005).

As a consequence of the above mentioned discussion following hypothesis has been proposed:

**Hypothesis 1:** Complaint handling as E-CRM feature has a positive impact on customer satisfaction

Electronic complaint handling forms mostly used by online shoppers and for prosperity of complaint handling mechanism it is important to make sure that users do accept designed process flow. Accordingly, e-retailers should consider their complaint handling system carefully as if shoppers will not like it they might easily switch to other e-retailers without even expressing dissatisfaction (Chin, 2016). As per research conducted by Liang, Chen and Turban (2012) perceived care from customer services had significant influence on perceived usefulness. Based on this outcome, authors concluded that perceived care is effective measure for explaining perceived usefulness.

In the literature complaint handling sometimes mentioned as part of service quality. Service quality is comprised of several processes that are dedicated for improvement of customer experience. As in online shopping, shoppers lack physical contact service quality is very important. Moreover, components of service quality have significant impact on perceived usefulness of the website (Ahn, Ryu and Han, 2004).

Accordingly, following hypothesis has been proposed:

**Hypothesis 4:** Complaint handling as E-CRM feature has a positive impact on perceived usefulness

### **3.3 Communication**

Jun, Yang and Kim (2004) state that e-retailers should focus on providing customized services to the customers. For this reason it is crucial for them to have sufficient number of employees in order to respond to the customers' requests through e-mails, telephone calls and other CRM tools. Besides, customer representatives should track customer behavior of online customers and suggest a help if needed.

Posselt and Gerstner (2005) have determined customer support (based on availability, ease of contacting, politeness, problem solving, knowledge level of staff) as one of the most significant post-sale factor that impact re-purchase intention. According to study of Ahmad (2002) between e-mail and telephone big portion of customers preferred e-mails in case of general questions related to online store, but in case of service failure 51.4 % preferred telephone and 48.6% used e-mails. Additionally there were dissatisfied customers with a fact that they could not reach companies by phone. Moreover, some portion of the customers have not shared their complaint with a company, however as a result they have mentioned that will no shop in that online store anymore and furthermore they would demotivate their friends from using this online store.

Companies are recommended to provide communication method for customers, especially for service failures. Cutting cost through expelling telephone might arise customer defection and may cause negative outcomes. Another important point to consider is that customers do not respond positively towards preliminary composed messages that they receive after claiming about service failure. In case of overloaded periods companies are recommended to indicate that this message carries general response nature and related staff would contact within 24-48 hours. It will be also beneficial to add to the preliminary prepared message a telephone number, for customers being able to reach customer care whenever they want (Ahmad, 2002).

The study of Park et al. (2015) demonstrated that electronic customer interactions increases perceived service quality which leads to customer satisfaction and customer loyalty respectively. Commonly the customers that contact e-contact for product information do not have previous antecedent experience with e-retailers. The study came up with following implications:

- E-listening is a useful way of increasing perceived service quality and turns e-contact centers into effective tool for improvement of customer-company engagement.
- As interpersonal engagement through e-contact center leads to customer satisfaction and loyalty, e-retailers should give an importance to the fact that the communication should be established mostly by related staff rather than automated voice records.
- While recruiting and training the staff for e-contact center importance should be given for empathic listening skills. Training should include relationship of customer satisfaction, loyalty and utilitarian value.
- E-contact center performance and interactions should be tracked on periodical basis in order to improve service level quality. Another point that should be taken into consideration is providing e-contact center with sufficient resources in order to meet customers' utilitarian needs. Based on discussion above following hypothesis has been proposed:

**Hypothesis 2:** Communication as E-CRM feature has a positive impact on customer satisfaction.

Monzavi et al. (2013) examined the factors that impact perceived ease of use and perceived usefulness externally, based on user experience during new software adoption process. The findings of the study demonstrated positive impact of communication channels on perceived usefulness.

According to Hai et al. (2015) while shopping online customers might need more detailed information, for this reason it is vital to provide timely communication. If seller fails to do so, shoppers may easily switch to another website.

Wu et al. (2010) in exploratory study about online baking adoption also highlights importance of knowledge and support provided to the customers. It has been discussed that support is required through interactive communication channels within any stage where customer might lack knowledge (e.g. registration). Based on obtained results within research, knowledge and support demonstrated significant correlation with perceived usefulness. Accordingly, following hypothesis has been formulated:

**Hypothesis 6:** Communication as E-CRM feature has a positive impact on perceived usefulness.

### **3.4 Security & Privacy**

According to Wang et al. (1998) privacy in e-commerce sector related to personal information. Encroachment of privacy refers to activities where personal data has been collected and revealed without certain permission as a result of online transactions. The personal information that was encroached can be divided into two groups according to their nature: static and dynamic personal information.

Static personal information refers to the information which is not anticipated to be changed dramatically over time, like health information, personal documents, beliefs etc. While dynamic personal information oppositely is anticipated to be updated dramatically over time.

There is variety of marketing activities which impact individual privacy of online shoppers in a negative way. Security related cases in terms of internet marketing can be described as follows:

- Junk e-mailing
- Web advertisement based on usage history of the customers and their preferences via cookies.
- Malicious programs that are intended to get user's personal files and credit information
- No opting out practices
- Sharing private information with third parties

Rust, Kannan and Peng (2002) discussed that demanded high level service by customers might require more detailed information to be provided than usual. As a result this creates massive customer data that mostly includes purchase habits and demographic details of the users. Comparing to traditional way of doing business in e-commerce customers voluntarily provide personal information and consequently this decreases related costs.

Regression analysis of Szymanski and Hise (2000) depicted statistically significant impact of financial security on e-satisfaction. Study showed that financial security is one of the initials concerns that online shoppers have while purchase decision making. Likewise the research of Dharmesti and Nugroho (2012) showed that security or privacy gives a significant influence on online customer satisfaction. Behjati, Nahich and Othaman (2012) also revealed significant relationship between security or privacy and customer satisfaction. Consequently following hypothesis has been proposed:

**Hypothesis 3:** Security & Privacy as E-CRM features have a significant impact on customer satisfaction.

Fortes and Rita (2016) studied the effects of the privacy concerns on online shopper's behavior concerning purchases. The results of the empirical research supported that there is negative effect of privacy concerns on perceived usefulness. Meanwhile, Chen and Wu (2017) constructed their study about mobile payment processes based on TAM and examined the effects of external variables on user satisfaction. Despite the fact that mechanism is getting quite popular among users, imperfection in performance create uncertainties related to security issues. For enhancing the trust of the users related to mobile payment system and provide them with a feeling of security mobile payment, mechanism should match needs of the customers and motivate them to use this payment method. Especially in terms of e-commerce security and privacy issues impact the confidence level of the online shoppers. Findings of the study demonstrate significant impact of the trust on perceived usefulness.

Taken into consideration discussion above following hypothesis has been formulated:

**Hypothesis 7:** Security & Privacy as E-CRM features have a significant impact on perceived usefulness

### **3.5 Perceived Usefulness**

Perceived usefulness is significant part of Technology Acceptance Model proposed by Davis (1989) and refers to decision about using or not using an application based on perception of the users about improvement in performance it may bring. According to Casalo, Flavian, and Guinaliu (2008) usability covers following factors:

- The easiness in understanding website framework, design, interface, features and contents available for others.
- Website simplicity in usage within initial steps.
- The extent at which users are able to find the information that they were searching for.
- Website navigation (necessary time and required steps to be taken in order to reach desired outcomes).
- The extent at which users are able to monitor taken actions in terms of location at any time.

Based on the conducted survey among 178 electronic services users by Naidoo and Leonard, (2007) it was demonstrated that perceived usefulness is a main determinant of continuance intentions. Therefore it is recommended for e-retailers to measure the usefulness of the websites comparing to competitors. Especially it is important to make this kind of analysis at early stages based on customer feedbacks. At the same time e-retailers need to make sure that necessary information is being shared in proper manner with their users regarding offered and proposed benefits as well as highlighting their advantages. Casalo, Flavia and Guinaliu (2008) and Vinerean (2013) acknowledged the impact of perceived usefulness on satisfaction.



Likewise the study of Casalo, Flavia and Guinaliu (2008) revealed significant role of usability, satisfaction and reputation for increasing website loyalty. Additionally, despite how attractive complex design with multimedia functions may seem, it is recommended for management to pay attention on simple user-friendly designs. Lin and Sun (2009) investigated that technology acceptance model factors (perceived usefulness and perceived ease of use) have a positive impact on electronic satisfaction and electronic loyalty of the customers. For this reason it is important for e-retailers to ensure that the website is user-friendly in order to have a positive impact on purchasing behavior of the customers. The website features and functions should create an environment where users will be able to save both time and effort that as a result leads to customer satisfaction and loyalty.

While studying the importance of TAM factors on student's e-satisfaction and e-retention within UAE e-learning scope Al-hawari and Mouakket (2010) found that perceived usefulness has a significant and direct relationship with e-retention and e-satisfaction. Rani, Suradi, and Yusoff (2014) found significant direct impact of perceived usefulness on e-retention within e-learning concept. At the same time in the same study perceived usefulness and e-satisfaction are positively related, however the relationship is not significant. Based on this discussion following hypotheses were proposed:

**Hypothesis 8:** Perceived usefulness has positive impact on customer satisfaction.

### **3.6 Information Content**

There are many differences between online and traditional shopping and the most important distinction is the fact that e-shoppers do not have a physical touch to the products. For this reason assessment and decision making of e-shoppers are made based on product information provided in the webpage which includes images, pictures, media files, product description and sometimes model parameters.

As a screen is the only source that e-shoppers use for their shopping activities, navigation, information presentation and organization of the product/service information are critical issues to consider (Park and Kim, 2008). According to the findings of Hassanein and Head (2007) social presence in the website can be created with a help of good quality descriptions and images, which further has positive effect on perceived usefulness.

E-retailers may provide certain customization options like saving customers' personal details and track & trace system for shipments. Saving customer's personal details will simplify order placing process for upcoming orders, while track & trace system provides an opportunity to identify the location of the shipment 24 hours a day. Another important point is making sure that website is simple in navigation in order to trigger positive sense of usefulness (Lin and Sun, 2009).

In online shopping customers have wide range of information with product or service descriptions before making purchase. Thanks to advance technologies customers are able to get recommendations, feedback of other shoppers and apply suitable filters. As online shoppers are not able to experience physical touch, they rely on product information. However, as this information is easy accessible it turned into advantage over brick-and-mortar business models. Moreover, some shoppers use the information provided in websites (price comparison, sales etc.) to make purchases in physical stores. As a result, in-depth information positively impacts intentions to shop online via perceived usefulness. The usefulness of the information determines purchase decision of online customers (Cho and Sagynov, 2015).

Zhou (2011) indicated information quality as one of the important factors that impact the success of mobile website adoption. The results of the research revealed significant effect information quality on perceived usefulness and this is in line with the study of Ahn, Ryu, and Han (2007). Based on this discussion following hypothesis has been proposed:

**Hypothesis 5:** Information Content as E-CRM feature has a positive impact on perceived usefulness.

## **4. RESEARCH METHODOLOGY**

### **4.1 Research Design**

This study aims to determine impact of E-CRM features on customer satisfaction within B2C e-commerce (apparel) scope. At the same time it is indendent to measure the relationship between the variables that may influence consumer attitude. To meet research objective quantitative research methods were implemented for this study. Primary data was obtained via self-administered online questionnaires. Online surveying has following advantages: elimination of survey related cost, time efficient, less social pressure on respondents as they feel anonymous (Smith and Albaum, 2005).

Structural Equational Model (SEM) is considered to be suitable method to meet objectives of this research as it applies different types of models to describe relationships within respected variables and conducts quantitative tests for a research model. One of the advantages of SEM related to the fact that it is universal for different research subjects. Moreover, SEM is able to test and evaluate various and complex models (Schumacker and Lomax, 2010).

SEM covers regression, path and confirmatory analysis. The variables in current research can be divided as latent and observed. Latent variables are those variables that cannot be measured directly. As latent variables cannot be observed directly they are being signified by observed variables which are being measured by means of surveys, tests etc. In contrast observed variables are being used to designate latent variable (Byrne, 2010).

Research stages for this study started with research idea, which further followed by related literature review phase. Based on reviewed literature research questions and hypotheses were formulated.

In order to test research questions and hypotheses, research design phase took a place and proceeded with required data collection. Collected data was measured and analyzed by the means of statistical tools. The research has been finalized by interpretation of the outcomes and conclusion.

## **4.2 Procedures**

The survey participants were required to fill in online survey that consisted of two main parts like: demographics of the respondents and variables related questions. However, before the questionnaire was distributed among participants necessary approvals were obtained from Istanbul Aydin University ethics committee. The participants were given information about the objectives of the survey in advance along with guidelines.

## **4.3 Study Sample**

The online questionnaire empowered by Google forms was distributed among online shoppers in Turkey. The sample selection was made according to nonprobability method. This method is based on judgements of the researcher and does not involve any probabilities techniques (Smith and Albaum, 2005). Pallant (2013) highlighted that multiple regression techniques require large sample size for generalization purposes and recommends using following formula proposed by Tabachnick and Fidell (2007) **(4.1)**:

$$N > 50 + 8m \quad \quad \quad \mathbf{(4.1)}$$

Where:

N = sample size

m = number of independent variables

Based on this formula required sample size for current research is  $N > 82$  (number of independent variables equals to four). On other hand, according to Hoelter's index, sufficient sample size for SEM method should exceed 200 as it represents the data in an adequate way (Byrne, 2010). Thus, current research intended to obtain at least 200 responses to meet both requirements mentioned above.

#### **4.4 Survey Instruments**

As current research concentrates on quantitative research techniques Likert type surveys were chosen for collection of the data. In the first part of the survey, participants were asked specific type of the questions in order to obtain information that will reflect demographics and customer profile.

This included gender, age, education level, internet usage, frequently used device for online shopping, online shopping experience, online purchased product category and to name an e-retailer that frequently being used for online shopping. The second part of the survey included questions that aimed to measure the research variables like: customer satisfaction, information content, complaint handling, communication, perceived usefulness, security & privacy.

Likert point 5 scale was used for measurement of research items as follows: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), 5 (strongly agree) and 1 (not at all), 2 (to little extent), 3 (to some extent), 4 (to moderate extent), 5 (to a large extent). Survey questions were prepared based on antecedent studies that validated research items. The questionnaires were available both in English and Turkish languages. Full version of the questionnaires and table that depicts the sources of the adapted questions are provided in Appendixes A, B and C.

#### **4.5 Statistical Techniques**

The statistical methods and tools that were applied to this research are: Confirmatory Factor Analysis (CFA) and Structural Equational Model (SEM). Thanks to CFA relationship between the factors as well as their observed variables can be measured (Byrne, 2010). At the same time CFA is able to evaluate the validity of the measures. CFA is tightly linked to SEM which is one of the widely used data analysis technique. SEM provides an ability to test the theories in a quantitative manner and relies on error factor. The main difference that exists between CFA and SEM is the fact that CFA concentrates on latent and observed variables relationship, while SEM covers structural path among focus (latent) variables. CFA is able to stand out as a solely analysis as well as part of SEM (Harrington, 2009)

IBM SPSS version 21 and IBM SPSS AMOS version 22 statistical software were used to conduct the analysis for this research. AMOS stands for “analysis of moment structure” and integral part of SPSS that can be used both for SEM and CFA considered in this study. This software provides an ability to design a path diagram as well as reflecting the estimates on illustrated graphics (Byrne, 2010).

On other hand SPSS is one of the oldest and commonly used statistical software. SPSS is appropriate for analysis of primary data obtained through questionnaire and able to carry our wide range of statistical techniques (Huizingh, 2007). SPSS analysis has been applied in order to process the data and prepare it for further SEM analysis carried out in AMOS.

## 5. DATA ANALYSIS

### 5.1 Respondent Profile

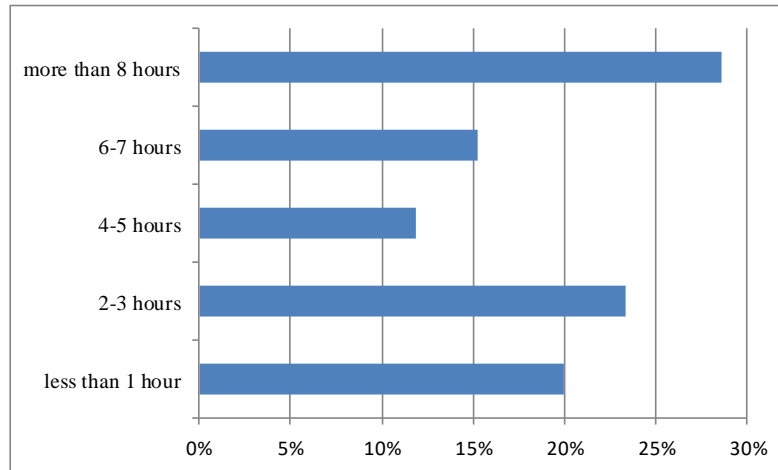
The sample for current study consisted of 210 complete responses. 48.1% of the respondents were male and 50.9% of the respondents were female. The age of survey participants varied between 18 and 43 years, whereas the mean age was 31 years. The majority of the participants (65.2%) have bachelor's degree. Considerable part of the survey participants (95.2%) have done online shopping (Table 5.1).

**Table 5.1 :** Demographic profile of respondents.

Demographics Profile		Frequencies	Percentage (%)
Gender			
	Male	101	48.1
	Female	107	50.9
Age			
	18-20	11	5.2
	21-30	139	66.2
	31-40	34	16.2
	41 and above	9	4.3
Education			
	Bachelors	137	65.2
	Masters	56	26.7
	PhD	4	1.9
	Other	11	5.2
Online shopping			
Experience	Yes	200	95.2
	No	8	3.8

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

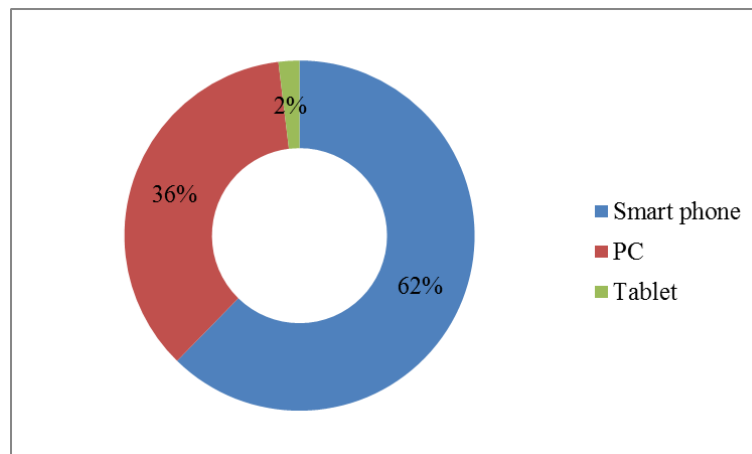
28.6% of the respondents spend more than 8 hours, 23.3% of the respondents spend 2-3 hours, 20% of the respondents spend less than 1 hour, 15.2% of the respondents spend 4-5 hours and 11.9% of the respondents spend 4-5 hours a day on personal computer (Figure 5.1).



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

**Figure 5.1 :** Respondent's computer usage per day.

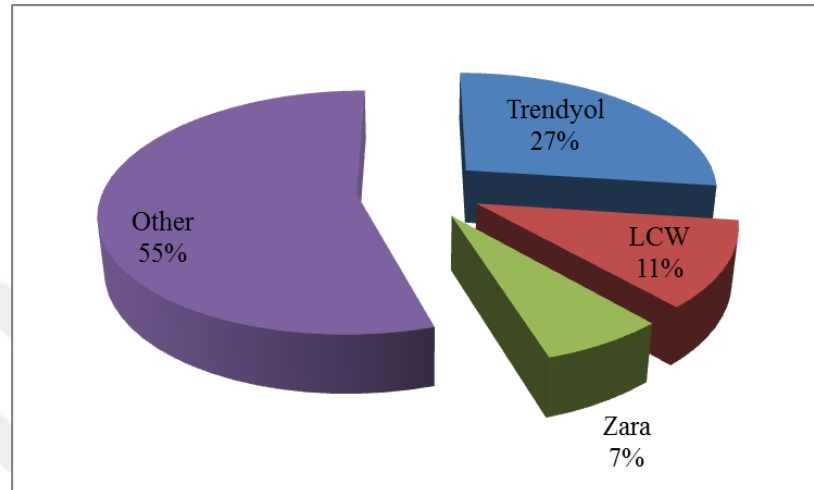
The bigger portion of the respondents (62%) prefer smart phone in order to access the internet most of the time (Figure 5.2).



**Figure 5.2 :** Device preferences of respondents.



For 74.8 % of the respondents clothing was an item purchased online. The most preferred online stores for clothing among Turkish shoppers within the scope of this study are as follows: Trendyol (27%), LC Waikiki (11%) and Zara (7%) (Figure 5.3).



**Figure 5.3 :** Online store preferences of the respondents.

## 5.2 Validity and Reliability Assessment

Validity and reliability are valuable part of quantitative research that mainly concentrate on measurement aspects. Validity focuses on checking if variables are being measured in an accurate manner. The role of validity is critical as certain abstract factors (latent variables) can't be measured directly due to their nature. That's why for research purposes such variables should be evaluated and measured indirectly with a help of instruments like questionnaires. Each question serves as a manifest variable allotted to disclose the latent variable as much as possible. Hence, development of accurate measurement instrument along with proper manifest is vitally important and not easy task to fulfill. As a result in case the measurement of latent variable was not designed in a correct way, all further analysis will have no value (Muijs, 2010). While measuring the instruments for validity, the degree of freedom from systematic error is taken into consideration. Systematic error may occur based on many reasons like: measuring instrument, the environment within the research is being conducted, the instrument user, the subject. In general, validity can be assessed in many forms:

- Construct validity

- Content validity
- Criterion validity.

Current study concentrates on construct validation, specifically focusing on:

- Convergent validity
- Discriminant validity

In order to demonstrate convergent validity, the measures (at least two) dedicated to measure latent variable should be related within the same construct. While for demonstration of discriminant validity the measures that represent different latent variables should not be more related than they are within the same construct (Smith and Albaum, 2005). The second way of evaluating the quality of the measurement instrument is reliability assessment. Within measurement process, the measurement error always takes place. Accordingly, reliability related to the degree to which test results are free of this error. In case of unreliability, moving to further tests will be pointless. Moreover, the measurements that are not reliable will cause insignificant relationship between other variables that consequently prevent the ability to have a clear picture about the outcomes. Likewise, unreliability is a common reason for insignificant relationship among variables in a research (Muijs, 2010) and refers to the fact that the scale cannot be valid as well. Additionally, the reliability examines how consistent the measured item is among respondents and steadiness of the characteristics across time period (Smith and Albaum, 2005). The thresholds suggested by Hair et al. (2010), Gefen and Straub (2005) to assess validity and reliability are as follows:

Reliability:

- CR (Composite Reliability) > 0.7

Convergent Validity:

- AVE (Average Variance Extracted) > 0.5

Discriminant Validity:

- MSV (Maximum Shared Variance) < AVE
- Square root of AVE > inter-construct correlations

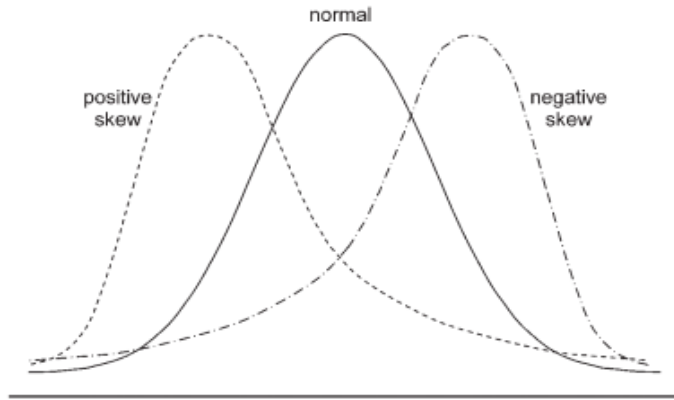
For conducting CFA it is important to ensure reliability, convergent and discriminant validity. Table 5.2 depicts the resume of validity and reliability assessment conducted for this research. It was carried out based on Correlations and Standardized Regression Weights tables withdrawn with a help of Amos software. Convergent validity has been established and evidenced by AVE that is above 0.5. The reliability has also been established and evidenced by CR which is above 0.7. In general discriminant validity has been revealed as well and evidenced by MSV being less AVE, except Complaint Handling (CH) where slight fluctuation took place (as MSV and AVE difference for this factor was insignificant, this flaw was not taken into consideration).

### 5.3 Normality Assessment

Normality assessment is one of the approaches of data screening. Normally skew and kurtosis reflect non-normality of the data on variable basis. They might take place individually as well as simultaneously. Skewness is a statistical measure that refers to measuring asymmetry of distribution data from the mean. Figure 5.4 shows examples of positive skew (when big portion of the scores lower than mean) and negative skew (when big portion of the scores above the mean) relative to normal curve (Klein, 2011).

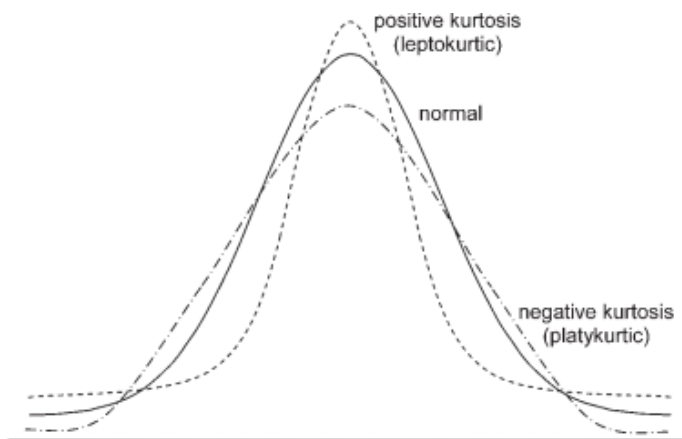
**Table 5.2** : The resume of Validity and Reliability Assessment.

	CR	AVE	MSV	MaxR(H)	PU	CS	CH	IC	COM	S&P
<b>PU</b>	0.814	0.687	0.494	0.824	<b>0.829</b>					
<b>CS</b>	0.885	0.658	0.370	0.893	0.482	<b>0.811</b>				
<b>CH</b>	0.753	0.504	0.526	0.758	0.602	0.584	<b>0.710</b>			
<b>IC</b>	0.855	0.598	0.465	0.866	0.564	0.608	0.614	<b>0.773</b>		
<b>COM</b>	0.841	0.574	0.526	0.866	0.703	0.551	0.725	0.650	<b>0.757</b>	
<b>S&amp;P</b>	0.885	0.660	0.465	0.903	0.394	0.569	0.541	0.682	0.647	<b>0.813</b>



**Figure 5.4 :** Examples of positive and negative skew (Klein, 2011).

Kurtosis on other hand is a statistical measure that indicates if the data is heavy-tailed and has higher peak (positive kurtosis) or if the data is light-tailed and has lower peak (negative kurtosis) comparing to a normal distribution. In descriptions distributions that have positive kurtosis are being called as leptokurtic and distributions that have negative kurtosis are known as platykurtic. Figure 5.5 depicts examples of positive and negative kurtosis in comparison with normal curve. The distributions that are skewed normally have positive kurtosis, which means that fixes applied for corrections of skew has a possibility to rectify kurtosis related issues. Classic tests (e.g. z-test) dedicated to measure normality of the data distribution might not be useful for large sample size cases. This mostly related to the fact that even slight fluctuations comparing to normality can be significant statistically (Klein, 2011).



**Figure 5.5 :** Examples of positive and negative kurtosis (Klein, 2011).

In order to conduct SEM analysis it is important to ensure that the given data is multivariate normal. It is related to the fact that SEM covers large sample for analysis purposes. Accordingly it is necessary to conduct data screening and specifically to check if data meets normality requirements. Most of the studies have concluded that generally acceptable range for KI is the value of 3. In case the value is more than 3 it refers to positive kurtosis and if less it refers to negative kurtosis. However, it is also known that most of statistical tools and software rescale this value to 0 (Byrne, 2012).

**Table 5.3 :** Rescaled Standardized Kurtosis Index and Skew Index.

Variable	min	max	Skew	c.r.	kurtosis	c.r.
SP4	1.000	5.000	-.443	-2.619	.037	.109
SP3	1.000	5.000	-.126	-.748	-.077	-.229
SP2	1.000	5.000	-.742	-4.387	1.089	3.220
SP1	1.000	5.000	-.870	-5.146	1.497	4.429
PU2	1.000	5.000	-.675	-3.993	.816	2.413
PU1	1.000	5.000	-.553	-3.269	.554	1.639
COM4	1.000	5.000	-.703	-4.158	1.100	3.255
COM3	1.000	5.000	-.809	-4.784	1.007	2.979
COM2	1.000	5.000	-.533	-3.153	.787	2.329
COM1	1.000	5.000	-.756	-4.470	.884	2.615
IC4	1.000	5.000	-.810	-4.791	1.379	4.079
IC3	1.000	5.000	-.846	-5.005	1.041	3.079
IC2	1.000	5.000	-.887	-5.246	1.917	5.670
IC1	1.000	5.000	-.635	-3.755	.301	.892
CH4	1.000	5.000	-.134	-.791	-.015	-.043
CH3	1.000	5.000	-.622	-3.680	.259	.766
CH2	1.000	5.000	-.459	-2.716	.536	1.584
CS1	1.000	5.000	-1.109	-6.560	1.770	5.235
CS2	1.000	5.000	-.849	-5.023	1.063	3.144
CS3	1.000	5.000	-.885	-5.238	1.665	4.925
CS4	1.000	5.000	-1.106	-6.542	2.434	7.199
Multivariate					229.248	53.444

For studies focusing on large samples within SEM scope following thresholds are recommended to conduct normality assessment:

- When absolute values of Skewness Index  $> 3.0$  the data distribution is considered as extremely skewed (Klein, 2011).

- When absolute values of Kurtosis Index > 8.0 to over 20.0 the data distribution depicts “extreme” kurtosis (Klein, 2011).
- Byrne (2012) citing West et al. (1995) suggested that when an absolute Kurtosis value is > 7.0, it refers to significant departure from normality.

Table 5.3 includes normality assessment conducted through AMOS software. Obtained results meet normality criteria set above.

#### 5.4 Collinearity Assessment

For data screening purposes current study has conducted collinearity assessment as well. The collinearity takes place when different independent variables happen to measure the same thing and this is not desirable. One of the common methods used to measure the collinearity level between the variables is running linear analysis in statistical software like SPSS. Following thresholds are recommended to conduct collinearity assessment:

- Tolerance values that are < .10 are strong indicators of multivariate collinearity
- Variance Inflation Factor (VIF) > 10.0 is a strong indicator of multivariate collinearity

Using SPSS software VIF and Tolerance have been calculated for independent variables separately by running collinearity regressions. Based on obtained results multivariate collinearity issues were not found (Klein, 2011). The summary of the results depicted for each independent variable individually in Tables 5.4, 5.5, 5.6 and 5.7.

**Table 5.4 :** Dependent Variable: Total CH.

Model	Collinearity Statistics	
	Tolerance	VIF
Total IC	0.548	1.824
Total COM	0.59	1.695
Total SP	0.539	1.855

**Table 5.5** : Dependent Variable: Total IC.

Model	Tolerance	Collinearity Statistics	VIF
Total COM	0.576		1.737
Total SP	0.61		1.641
Total CH	0.641		1.56

**Table 5.6** : Dependent Variable: Total COM.

Model	Tolerance	Collinearity Statistics	VIF
Total SP	0.562		1.779
Total CH	0.681		1.468
Total IC	0.568		1.759

**Table 5.7** : Dependent Variable: Total SP.

Model	Tolerance	Collinearity Statistics	VIF
Total CH	0.644		1.553
Total IC	0.622		1.608
Total COM	0.581		1.721

### 5.5 Confirmatory Factor Analysis (CFA)

CFA focuses on revealing the relationship of the observed factors with their latent factors. Hence, regression paths that connect above mentioned variables were checked and evaluated. Table 5.8 depicts these relations within hypothesized model are highly significant (\*\*\*) refers to  $p < 0.001$ ).

**Table 5.8 : CFA Factor Loadings.**

			Estimate	S.E.	C.R.	P
CS4	<---	Satisfaction	1.000			
CS3	<---	Satisfaction	1.103	.094	11.752	***
CS2	<---	Satisfaction	1.294	.107	12.113	***
CS1	<---	Satisfaction	1.187	.104	11.414	***
CH2	<---	ComplaintHandling	1.000			
CH3	<---	ComplaintHandling	1.100	.136	8.077	***
CH4	<---	ComplaintHandling	1.104	.130	8.510	***
IC1	<---	InformationContent	1.000			
IC2	<---	InformationContent	1.016	.105	9.660	***
IC3	<---	InformationContent	1.079	.135	7.989	***
IC4	<---	InformationContent	1.099	.113	9.711	***
COM1	<---	Communcation	1.000			
COM2	<---	Communcation	.914	.067	13.583	***
COM3	<---	Communcation	.748	.078	9.588	***
COM4	<---	Communcation	.743	.071	10.469	***
PU1	<---	PerceivedUsefulness	1.000			
PU2	<---	PerceivedUsefulness	1.129	.112	10.108	***
SP1	<---	SecurityPrivacy	1.000			
SP2	<---	SecurityPrivacy	1.155	.076	15.278	***
SP3	<---	SecurityPrivacy	.967	.079	12.311	***
SP4	<---	SecurityPrivacy	1.034	.089	11.603	***

As per Klein (2011) for conducting a CFA at least two indicators are needed for each factor. This study included minimum two and maximum four indicators per factor. In order to measure relative strength of the observed variable to explain latent variable Standardized Regression Weights was obtained. In general, values of the estimates demonstrate strong contribution (Table 5.9). Based on literature review the research model has been hypothesized and with a help of collected data its goodness-of-fit is being tested (Byrne, 2010). Hypothesized model is demonstrated in Figure 5.6.



**Table 5.9** : Standardized Regression Weights.

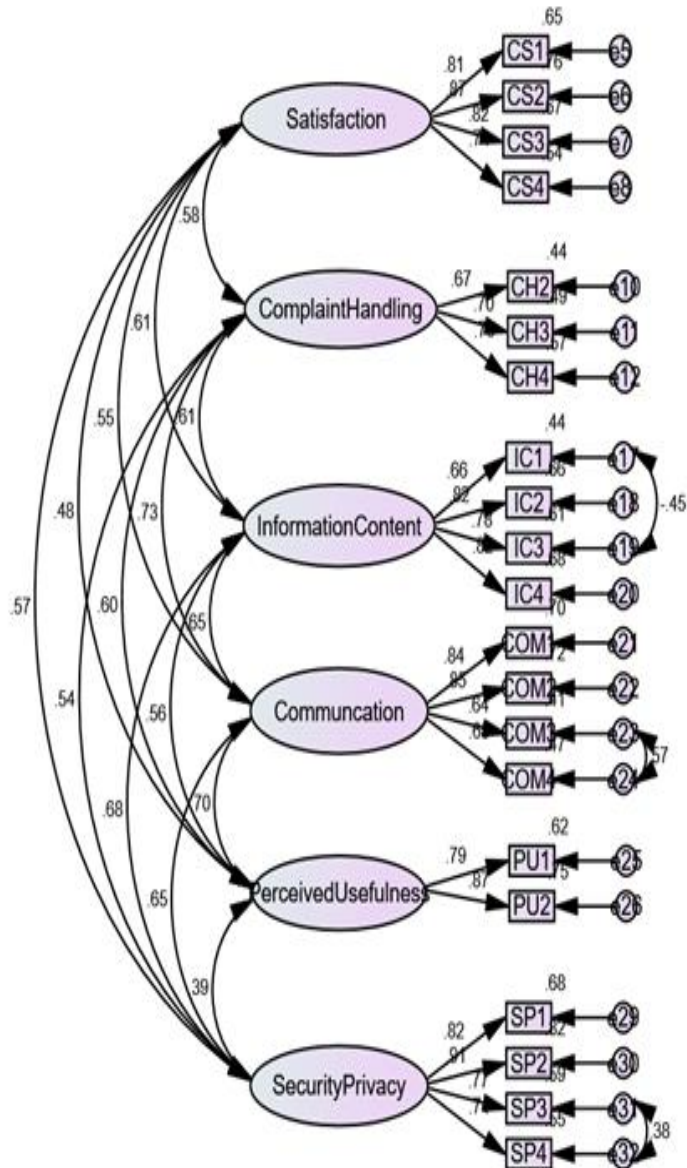
			Estimate
CS4	<---	Satisfaction	.737
CS3	<---	Satisfaction	.821
CS2	<---	Satisfaction	.874
CS1	<---	Satisfaction	.808
CH2	<---	ComplaintHandling	.666
CH3	<---	ComplaintHandling	.703
CH4	<---	ComplaintHandling	.758
IC1	<---	InformationContent	.661
IC2	<---	InformationContent	.815
IC3	<---	InformationContent	.783
IC4	<---	InformationContent	.823
COM1	<---	Communcation	.838
COM2	<---	Communcation	.847
COM3	<---	Communcation	.639
COM4	<---	Communcation	.683
PU1	<---	PerceivedUsefulness	.789
PU2	<---	PerceivedUsefulness	.867
SP1	<---	SecurityPrivacy	.823
SP2	<---	SecurityPrivacy	.905
SP3	<---	SecurityPrivacy	.771
SP4	<---	SecurityPrivacy	.742

According to Hooper et al. (2008) there are three types of model fit indices considered by researchers:

- Absolute fit indices ( $\chi^2/df$ , RMSEA, SRMR, GFI and AGFI)
- Incremental fit indices (CFI and NFI)
- Parsimony fit indices (PGFI and PNFI; AIC and CAIC)

Recommended thresholds that will help to determine the goodness of fit are followings:

- $p\text{-value} > 0.05$  (Hooper, Coughlan and Mullen, 2008)
- $CFI \geq 0.95$  (Hu and Bentler, 1999); (Schreiber et al., 2006)
- GFI - the values close to 1.00 demonstrate good level of fit (Byrne, 2010)
- $AGFI >$  the values close to 1.00 demonstrates good level of fit (Byrne, 2010)



**Figure 5.6 : CFA model.**

- $SRMR \leq 0.05$  (Byrne, 2010) or  $\leq 0.08$  (Schreiber et al., 2006)
- RMSEA – the values between 0 and 0.08 (Hooper, Coughlan and Mullen, 2008) or  $\leq 0.06$  to 0.08 (Schreiber et al., 2006) demonstrate good level of fit
- $PCLOSE > 0.05$  (Byrne, 2010)

The model depicted in Figure 5.6 was adapted after certain re-evaluations and recalculations made relying on modification indices obtained through Amos version 22. Modification indices propose fixes to be made in order to solve conflicts between suggested and estimated model. The role of modification indices are significant as in CFA regression lines cannot be added for model fit as regression lines between observed and latent factors already have been applied.

For this reason for CFA analysis modification indices related to covariances are being considered. However, it is important to note that only error terms that belong to the same factor can be covaried and the priority is given to the modification indices with a higher value. In this study E17 and E19, E23 and E24, and E31 and E32 have been convaried in order to get the best model fit. While conducting CFA analysis there were 231 distinct sample moments identified which refers to the number of elements available in sample covariance matrix. 60 parameters were estimated which is leaving 171 degrees of freedom.

With Chi-square value of 282.275 the probability level equals to 0.000. Table 5.10 demonstrates model fit analysis of the hypothesized model. Reviewing above mentioned parameters (Chi-square value, degree of freedom and p-value) can be considered as a first step for a quick overview regarding model fit.

**Table 5.10** : Model Fit Analysis for CFA.

Measure	Result
Chi-square/df (cmin/df)	1.651
p-value	0.000
CFI	0.958
GFI	0.890
AGFI	0.851
SRMR	0.0496
RMSEA	0.056
PCLOSE	0.201

Hooper, Coughlan and Mullen (2008) citing Hu and Bentler (1999) highlights that the Chi-Square value is a common statistical measure used to measure generic goodness-of-fit that evaluates the extension of nonconformity among fitted covariances matrices and sample. It is also known that Chi-Square is very sensitive related to a sample size. Hence, as an alternative  $\chi^2/df$  evaluation method has been proposed in order to minimize this effect (Hooper, Coughlan and Mullen, 2008). Good model fit can be recognized when  $\chi^2/df$  is less than value of 2,  $\chi^2/df$  value of current research being equal to 1.651 indicates one of the first signs of goodness-of-fit.

Despite the fact that RMSEA (root mean square error of approximation) has been introduced in 1980 by Steiger and Lind, its valuableness has been recognized recently and it is being considered as one of the most informative fit indices. RMSEA helps to eliminate sample size related issues by analyzing to which extent hypothesized model along with optimally chosen parameter estimates would match the population's covariance matrix (Byrne, 2010). As RMSEA value within current study is less than 0.06 and 0.08 and it indicated well-fit of the model.

PCLOSE stands for closeness of fit and is a measure that indicates good level of RMSEA within population (Byrne, 2010). PCLOSE value of 0.201 meets its acceptable threshold level.

SRMR (standardized root mean square residual) is another absolute measure of fit that linked to the correlation residuals. SRMR refers to the difference between observed and hypothesized correlation matrices. It is important to note that SRMR is sensitive towards factor covariances that are not specified in CFA while analyzing measurement models (Klein, 2011). As SRMR value equals to 0.0496 in current research and it is less than 0.05 and 0.08 model fit from this perspective can be recognized.

Hooper, Coughlan and Mullen (2008) citing Tabachnick and Fidell (2007) state that GFI (goodness-of-fit statistic) and AGFI (adjusted goodness-of-fit statistic) were initially introduced by Jöreskog and Sorbom as an alternative analysis to Chi-Square test. Both GFI and AGFI calculate nonconformity between the model that has been fitted along with covariance matrix in a given population.

The only difference that AGFI having an ability to adjust according to the number of degree of freedom in a given model (Byrne, 2010). As GFI and AGFI are sensitive to sample size current research has adopted a threshold recommend by Byrne (2010) which states that values close to 1.00 indicate good model fit. The results of GFI and AGFI of current study 0.890 and 0.851 respectively meet these recommendations.

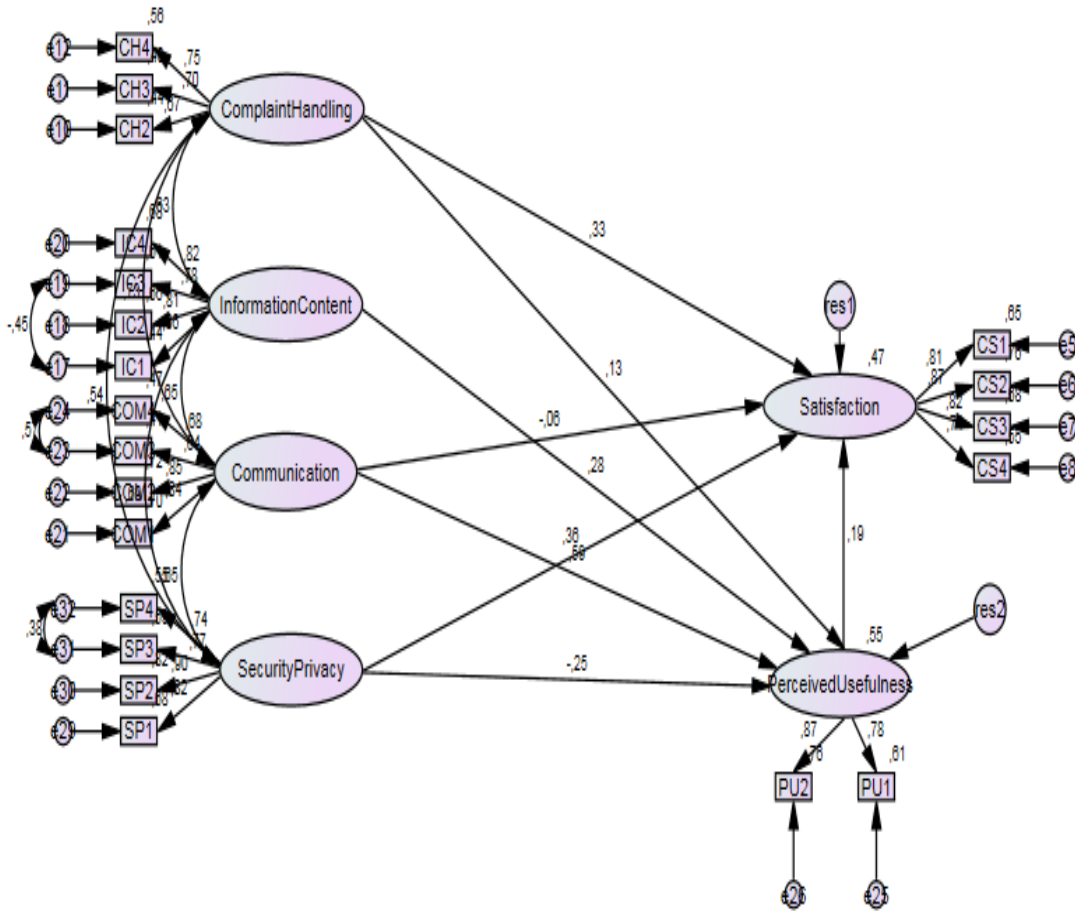
As NFI (Normed Fit Index) has a tendency of not being reliable when it comes to large sample sizes, Competitive Fitness Index (CFI) has been recommended for assessing the model fit (Byrne, 2010). CFI assumes that all latent variables are not correlated and contrasts hypothesized model with null model (Hooper, Coughlan and Mullen, 2008). According to Hu and Bentler (1999) the threshold for CFI is the value  $\geq 0.95$ . CFI within this study being equal to 0.958 confirms that the model is fit. Based on results discussed above it can be concluded that hypothesized model demonstrated well fit according to collected data within this study.

### **5.6 Hypotheses Testing (SEM)**

Structural Equation Modeling concentrates on analyzing and evaluating relationships between hypothesized latent variables. Moreover, SEM provides larger extent of options related to relationship among latent variables comparing to CFA and imply two components:

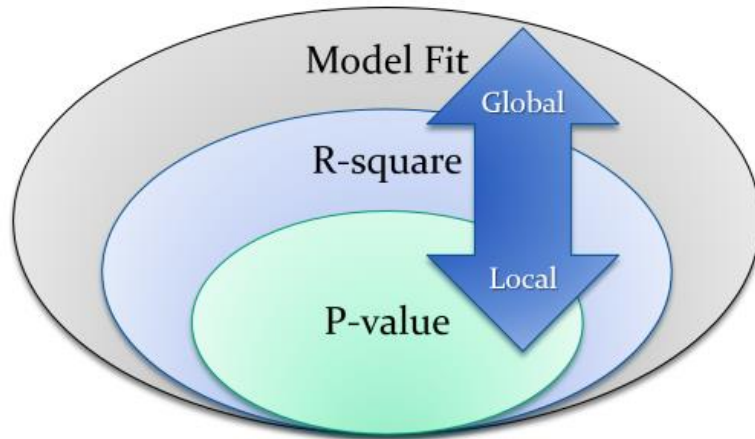
- measurements model (basically CFA itself)
- structural model

As measurement model has been analyzed earlier, current section focuses on structural model. Structural model (Figure 5.7) depicts interrelationship between latent and observable variables where several regression equations take place. Direct and indirect effects are being taken into consideration within this model. Direct effect refers to effect of exogenous variable on endogenous variable. While indirect effect refers to effect of exogenous variable on endogenous variable by means of mediating variable (Schreiber et al., 2006).



**Figure 5.7 :** Structural Equation Model.

In order to examine hypotheses global and local tests will be conducted (Figure 5.7). For hypothesis to be supported it is critical for local test to be passed. At the same time, it is important to note that initially global test should be met for local test to make sense. Basically, hypotheses that have significant p-value but with poor model fit lose their reliability. Another global test to be conducted is R-squared. Respectively, in case of significant p-value and model fit, but low R-square hypotheses cannot be supported as relationships tested do not reflect adequate variance in endogenous variable (Gaskin, 2016).



**Figure 5.8 :** Hypotheses support through global and local tests (Gaskin, 2016).

Model fit statistical results conducted for structural equation model are provided below and based on obtained results it can be concluded that hypothesized structural equation model has overall good fit.

- Chi-square = 282.275 with 171 degree of freedom
- Chi-square/df = 1.651
- p-value = 0,000
- CFI = 0.958
- GFI = 0.890
- AGFI = 0.851
- RMSEA = 0.056
- PCLOSE = 0.201

R-squared is also known as Squared Multiple Correlations (SMC) indicates the variance level (percentage) reflected by predictors of the factors in question (Byrne, 2010). R-squared values are within 0 and 100%. In other words, higher the value of R-squared, better sample data matches the model. SMC values for hypothesized structural model are depicted in table 5.11 and based on these results it can be concluded that overall predictors explain respective variable relatively well.

**Table 5.11 : Squared Multiple Correlations**

Predictor Variable	Estimate
SP4	.552
SP3	.594
SP2	.818
SP1	.675
PU2	.760
PU1	.614
COM4	.466
COM3	.409
COM2	.717
COM1	.702
IC4	.677
IC3	.611
IC2	.663
IC1	.441
CH4	.564
CH3	.494
CH2	.445
CS1	.654
CS2	.756
CS3	.680
CS4	.547

Lastly, thanks to p-value hypotheses were analyzed in terms of being supported or not (Table 5.12). Complaint handling (H1:  $\beta = 0.340$ , S.E.= 0.134 and  $p < 0.05$ ) as E-CRM feature has a positive impact on customer satisfaction. However, Communication (H2:  $\beta = -0.042$ , S.E.= 0.116 and  $p > 0.05$  and 0.10) as E-CRM feature did not show positive impact on customer satisfaction. Security & Privacy (H3:  $\beta = 0.306$ , S.E.= 0.082 and  $p < 0.001$ ) as E-CRM feature demonstrated strong positive impact on customer satisfaction.

Complaint handling (H4:  $\beta = 0.160$ , S.E.= 0.162 and  $p > 0.05$  and 0.10) as E-CRM feature did not show positive impact on perceived usefulness. Information content (H5:  $\beta = 0.304$ , S.E.= 0.125 and  $p < 0.05$ ) as E-CRM feature has a positive impact on perceived usefulness. At the same time Communication (H6:  $\beta = 0.520$ , S.E.= 0.123 and  $p > 0.001$ ) demonstrated strong, positive impact in perceived usefulness.



Security & Privacy (H7:  $\beta = -0.247$ , S.E. = 0.106 and  $p < 0.05$ ) as E-CRM feature has positive impact on perceived usefulness. Finally, perceived usefulness (H8:  $\beta = 0.163$ , S.E. = 0.096 and  $p < 0.10$ ) demonstrated positive impact on customer satisfaction. The summary of the hypotheses testing is provided in Table 5.13.

**Table 5.12** : Regression Weights.

			Estimate	S.E.	P
Satisfaction	<---	ComplaintHandling	0.34	0.134	0.011
Satisfaction	<---	Communication	-0.042	0.116	0.72
Satisfaction	<---	SecurityPrivacy	0.306	0.082	***
PerceivedUsefulness	<---	ComplaintHandling	0.16	0.162	0.321
PerceivedUsefulness	<---	InformationContent	0.304	0.125	0.015
PerceivedUsefulness	<---	Communication	0.52	0.123	***
PerceivedUsefulness	<---	SecurityPrivacy	-0.247	0.106	0.02
Satisfaction	<---	PerceivedUsefulness	0.163	0.096	0.088

Note: \*\*\* refers to  $P < 0.001$

**Table 5.13** : Hypotheses Testing Results.

Hypotheses	Relationships	Status
H1	CS←CH	Supported
H2	CS←COM	Not supported
H3	CS←SP	Supported
H4	PU←CH	Not supported
H5	PU←IC	Supported
H6	PU←COM	Supported
H7	PU←SP	Supported
H8	CS←PU	Supported



## **6. DISCUSSION AND CONCLUSION**

### **6.1 Discussion of Findings and Conclusion**

Taking into consideration current trend of online shopping and its great potential for growth this thesis work focused on e-commerce and online shopper's behavior particularly. As e-commerce is very competitive environment to be, each customer counts and considerable effort should be given not only for attracting new customers, but retaining existing ones as well. Effort of E-CRM on this regard was revealed based on conducted literature review within this scope.

Research aimed to understand the online shoppers of Turkey and their attitudes towards available E-CRM features. The findings will be useful for e-retailers of Turkey within clothing/fashion segment in order to evaluate their current E-CRM features, decide if they are meeting expectations of the customers and implement updates if necessary. With 46 mln users of Internet in Turkey demonstrate plenty room for growth in e-commerce sector. According to obtained results one of the most preferred apparel online stores among survey participants are: Trendyol, LC Waikiki and Indetex's Zara. Trendyol and LC Waikiki are local brands, whereas Zara is part of the world's largest apparel retailer.

This research analyzed the impacts of E-CRM features on customer satisfaction and perceived usefulness as a mediator variable. It is important to note that E-CRM does not only refer to the concept that focuses on interaction with customers, but also capable of creating value by collecting, screening and making use of customer information. Meanwhile, customer satisfaction focuses at increasing profits by meeting customer needs and wants. At the same time perceived value within this study refers to the extent to which customers or users believe that making use of E-CRM features may improve their shopping experience.

Primary data has been obtained for analysis of research questions and hypotheses testing purposes. In total there were 210 volunteer participants of the survey. As this study made use of quantitative research techniques, Likert type survey has been implemented. Received responses represent both genders equally (48.1% of males and 50.9% of females). The age of the respondents varied from 18 to 43 years and 65.2% of them have bachelor's degree. 62% of the respondents indicated mobile phone as first option to access an internet.

Before starting statistical analysis validity and reliability assessment have been applied. These assessments are significant part of quantitative research that focus on measurement issues of the factors. Validity analysis focuses on checking if variables are being measured in an accurate manner. Meanwhile, reliability focuses on the extent to which results are free of the measurement error. The factors within this research demonstrated adequate validity and reliability.

Another step that should not be omitted in quantitative research is data screening process. This step was vital as it is important to make sure that the obtained data is clean and useable. Two data screening methods have been implemented: normality and multicollinearity assessment. Within the scope of normality assessment skewness and kurtosis of the results have been evaluated and the data met normality criteria. At the same time it is important to make sure that the variance within independent variable does not represent overlapping. Accordingly, for data to be useable, multicollinearity should not exist. Based on linear regression analysis no multicollinearity issues were found. As a result, collected data was considered useable, valid and reliable for further statistical analysis.

The impacts of E-CRM features were analyzed through CFA and SEM analysis processed through SPSS (version 21) and SPSS AMOS (version 22) statistical software. Within the scope of CFA standardized regression weights were calculated. It intends to measure the extent to which observed variables represent latent variables. Overall, outcomes represent considerable contribution.

Further on, the model fit of hypothesized model has been tested. Following model fit indices were used for analysis:  $\chi^2/df$ , RMSEA, SRMR, CFI, PCLOSE, GFI and AGFI. The results demonstrated well fit. Finally, SEM analysis covered hypotheses testing that included both global and local tests. For conducting global tests, model fit and R-squared have been analyzed. Model fit assessment demonstrated good fit and based on R-squared analysis it was concluded overall, predictors explain respective variable relatively well. After global test, local test took a place in term of p-value analysis.

Complaint handling as E-CRM feature demonstrated positive impact ( $p < 0.05$ ) on customer satisfaction, however failed to do so with perceived usefulness ( $p > 0.05$  and  $0.10$ ). On other hand, communication as E-CRM feature did not show positive impact on customer satisfaction ( $p > 0.05$  and  $0.10$ ), but demonstrated significantly positive impact on perceived usefulness ( $p > 0.001$ ). Security and privacy as E-CRM feature showed significantly positive impact on customer satisfaction ( $p < 0.001$ ) and positive impact on perceived usefulness ( $p < 0.05$ ). At the same time, information content has positive impact on perceived usefulness ( $p < 0.05$ ). Lastly, perceived usefulness demonstrated positive impact on customer satisfaction ( $p > 0.10$ ).

As perceived usefulness has positive impact on customer satisfaction it demonstrates its mediator role in the structural model. Based on that, the communication that has significant positive impact on perceived usefulness has indirect impact on customer satisfaction as perceived usefulness serves as a mediator in this case. The same applies to information content factor, having positive impact on perceived usefulness refers to indirect effect on customer satisfaction. Overall, E-CRM features represented in current research demonstrate both direct and indirect impact on customer satisfaction.

## **6.2 Implications**

Most of the companies that are focusing on customer satisfaction are aware of the fact that current online shoppers should not be treated according to old standards. Nowadays customers have a power of information, especially when it comes to e-commerce business. Within a click customer either places an order on your website or change his/her mind and switch to the competitor.

It is vital to understand needs and wants of the online shoppers as well as meeting their expectations for generating satisfaction and loyalty respectively. E-CRM is a tool that meets requirements mentioned above in certain extent. By defining commonly discussed E-CRM features current study focused on four of them: complaint handling, communication, information content, security and privacy. All of mentioned features demonstrated either direct or indirect impact (through mediator variable – perceived usefulness) on customer satisfaction. It is important findings for e-retailers that may believe that they are meeting customer expectations, needs and wants without paying attention to the features mentioned above in their E-CRM strategies.

The e-retailers that allocate big portion of the budget and effort for marketing activities to create an image of caring company about customer satisfaction, should make sure that their background in terms of E-CRM is indeed performing in way how it is being announced in order to create loyal customer base for a long run. At the same time, the results of this study should alert e-retailers that do not have strong E-CRM framework, to rethink existing strategies and reconsider available E-CRM approach for further improvements.

Another important finding is the fact that E-CRM features like communication, information content, security and privacy have positive impact on perceived usefulness. This demonstrates importance of E-CRM features that may enhance customer shopping experience one way or another. Thus, the e-retailers that are concerned with perceived usefulness of their website should consider E-CRM features as one of the critical measures.

### **6.3 Limitations and Recommendations for Future Researches**

Primarily, this thesis work tried to depict the effects on E-CRM features on customer satisfaction. Even though obtained results seem encouraging as any study it has its limitations. First of all, the data that was used for analysis has been obtained based on accessibility and subjective opinion of the researcher.

Secondly, despite the fact that respondents prior filling in surveys were given detailed information about its purpose and objective, surveys carried self-reported nature.

Thirdly, only four E-CRM features (based on collected literature within study scope) have been analyzed in current study. There might other critical E-CRM features that impact Turkish customers' satisfaction in considerable way.

Fourthly, as E-CRM has dynamic nature, obtained results might not be actual after certain period of time and the model might require specific updates and modifications in the future. Finally, the limited time was another constraint that researcher faced during research period.

Taking into consideration above mentioned limitations researchers may conduct new studies with improved models and hypotheses that will let to have better understanding about online shoppers in Turkey. It will be interesting to direct future researches to have mixed outcomes that will include both customer and e-retailer perspectives. In this way, we will be able to see the picture as a whole and fill in existing gaps in a more efficient manner.

Despite the fact that structural equation modeling requires minimum of 200 responses as a sample size, covering large samples will help to represent bigger portion of the population and generalize outcomes. Current and earlier researches determined apparel sector as one of the most demanded in e-commerce of Turkey, however it will be interesting to focus on another segments as well. By doing so the results within E-CRM concepts can be generalized and represent segments that are absent in the literature at the moment.





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## APPENDICES

### Appendix A: Main Survey Items Sources

Variable	No	V-code	Question	Source
Customer Satisfaction	1	CS1	I like to purchase products from the online store	Chou et al. 2015
	2	CS2	I am pleased with the experience of purchasing products from the online store	
	3	CS3	I think purchasing products from the online store is a good idea	
	4	CS4	Overall, I am satisfied with the experience of purchasing products from the online store	
Complaint Handling	5	CH2	Promotes and encourages customers to share problems when they arise	Lee-Kelley et al. 2003
	6	CH3	Corrective action is taken if customers are unhappy with the quality of the products and services	
	7	CH4	Customers complaints are reviewed and acted of swiftly	
Information Content	8	IC1	The online store provides in depth information	Chou et al. 2015
	9	IC2	This online store has good selection	
	10	IC3	It is easy to get anywhere on the site	Ma Sabiote et al. 2012
	11	IC4	Information on this site is well organised	
Communication	12	COM1	The e-CRM prototype supplies me with sufficient feedbacks	Wang, 2008
	13	COM2	The e-CRM prototype answers my questions in an efficient manner	
	14	COM3	It is easier for me to contact a library service staff through the e-CRM prototype	
	15	COM4	I accomplished just what I wanted to with the virtual customer service contact center	Park et al. 2015
Perceived Usefulness	16	PU1	I would find CHART-MASTER useful in my job	Davis, 1989
	17	PU2	Using World Wide Web would enhance my effectiveness in shopping or information seeking	Ramayah and Ignatius, 2005
Security & Privacy	18	SP1	I believe that the online store implements security measures to protect internet shoppers	Chou et al. 2015
	19	SP2	I believe that the online store has a very safe online paying mechanism;	
	20	SP3	I believe that the online store has the superior ability to handle online hijackings;	
	21	SP4	I feel safe providing personal or financial info about me to online retailers	Huseynov and Yildirim, 2016

## **Appendix B: Survey Questionnaire (English Version)**

Dear survey participant, first of all thank you for your interest in this survey. You are kindly requested to fill in this questionnaire by considering your favorite and commonly used online clothing store.

### **Part 1. Respondent Profile**

1. Gender

- Female
- Male

2. Please indicate your age \_\_\_\_\_

3. Education

- Bachelors
- Masters
- Phd
- Other

4. How many hours do you spend on personal computer in a day?

- Less than 1 hour
- 2 – 3 hours
- 4 – 5 hours
- 6 – 7 hours
- More than 8 hours

5. On which device do you access the Internet most of the time?

- Smart phone
- Personal computer
- Tablet

6. Have you ever done online shopping?

- Yes
- No

7.What kind of items have you purchased online? (Among online shoppers)

- Clothes
- Electronic devices
- Social event tickets (e.g. movie, theatre, concert)
- Books
- Hobby items
- Computer hardware
- Any kind of service
- Game
- Software
- Music / Video

8.Please name an e-retailer from where you mostly shop for clothing \_\_\_\_\_

## **Part 2. Main survey items**

### **Customer Satisfaction**

9.I like to purchase products from this online store.

10.I am pleased with the experience of purchasing products from this online store.

11.I think purchasing products from this online store is a good idea.

12.Overall, I am satisfied with the experience of purchasing products from this online store.

### **Complaint Handling**

13.I think this online store promotes and encourages customers to share problems when they arise.

14.Corrective action is taken if am unhappy with the quality of the products and services.

15.Customers complaints are reviewed and acted of swiftly by this online store.

### **Information Content**

16.This online store provides in depth information.

17.This online store has good selection.

18.It is easy to get anywhere on this site.

19.Information on this site is well organized.

### **Communication**

20.Online store's customer service supplies me with sufficient feedback.

21.Online store's customer service answers my questions in an efficient manner.

22.It is easier for me to contact a store through the website's communication tools (e-mail, webform, etc.).

23.I accomplished just what I wanted to with the website's communication tools (e-mail, webform, etc.).

### **Perceived Usefulness**

24.I find customer service useful while shopping.

25.Using customer service would enhance my effectiveness in shopping or information seeking.

### **Security & Privacy**

26.I believe that this online store implements security measures to protect internet shoppers.

27.I believe that this online store has a very safe online paying mechanism.

28.I believe that this online store has the superior ability to handle online hijackings.

29.I feel safe providing personal or financial info about me to this online store.

## Appendix C: Survey Questionnaire (Turkish Version)

Sayın anket katılımcıları, öncelikle gösterdiğiniz ilgi için teşekkür ederiz. Anketi en sevdiğiniz ve sık alışveriş yaptığınız giyim internet mağazasını düşünerek doldurmanızı rica ederiz.

### 1.Cinsiyet

- Kadın
- Erkek

### 2.Lütfen yaşınızı belirtiniz \_\_\_\_\_

### 3.Eğitim

- Lisans
- Yüksek Lisans
- Doktora
- Diğer.

### 4.Gün içerisinde bilgisayar başında kaç saat geçiriyorsunuz?

- 1 saatten az
- 2 – 3 saat
- 4 – 5 saat
- 6 – 7 saat
- 8 saatten fazla

### 5.En çok hangi cihazdan internete bağlanıyorsunuz?

- Cep telefonu
- PC
- Tablet

### 6.İnternette alışveriş yaptınız mı?

- Evet
- Hayır

### 7.İnternette hangi ürünleri satın aldınız?

- Giyim
- Elektronik aletler
- Sosyal etkinlik biletleri (ör. film, tiyatro, konser)
- Kitaplar
- Hobi ürünleri
- Bilgisayar donanımı

- Oyunlar
- Yazılım programları
- Müzik/Video

8.Lütfen en sık giyim alışveriş yaptığınız internet mağazasını belirtiniz \_\_\_\_\_

### **Müşteri memnuniyeti**

9.Bu internet mağazasından alışveriş yapmayı severim.

10.Bu internet mağazasından yaptığım alışveriş deneyimimi keyifli olarak değerlendiriyorum.

11.Bu internet mağazasından alışveriş yapmanın iyi bir fikir olduğunu düşünüyorum.

12.Genel olarak, bu internet mağazasından yaptığım alışveriş deneyiminden memnun kaldım.

### **Şikayet Yönetimi**

13.Bu internet mağazasının problem oluştuğunda müşterileri destekleyip rahatça paylaşımları için teşvik ettiğini düşünüyorum.

14.Ürün ve hizmetlerin kalitesinden memnun kalmazsam gerekli işlemlerin yapılacağına inanıyorum.

15.Bu internet mağazası tarafından müşteri şikayetleri gözden geçirilmekte ve hızlı bir şekilde çözüm sağlanmaktadır.

### **Bilgi içeriği**

16.Bu internet mağazası her konuda detaylı bilgi verir.

17.Bu internet mağazasında iyi seçenekler vardır.

18.Bu sitede herhangi bir yere ulaşmak kolaydır.

19.Bu sitedeki bilgiler iyi organize edilmiştir.

### **İletişim**

20.İnternet mağazasının müşteri hizmetleri bana yeterli seviyede geri bildirim verir.

21.İnternet mağazasının müşteri hizmetleri sorularımı doğru bir şekilde yanıtlar.

22.Web sitesinin iletişim araçları (e-posta, web formu, vb.) ile bir mağazaya ulaşmak benim için kolaydır.

23.Web sitenin iletişim araçlarını kullandım ve istediğim bilgilere ulaştım (e-posta, web formu,vb.).



### **Algılanan Yarar**

24. Alışveriş yaparken müşteri hizmetlerini kullanışlı buluyorum.

25. Müşteri hizmetlerini kullanmanın alışveriş yaparken veya bilgiye ulaşmada yararlı olduğunu düşünürüm.

### **Gizlilik ve Güvenlik**

26. Bu internet mağazasının internet müşterilerini korumak için güvenlik önlemleri aldığına inanırım.

27. Bu internet mağazasının çok güvenli bir internet ödeme yöntemine sahip olduğuna inanıyorum.

28. Bu internet mağazasının internet saldırıları ile başa çıkma konusunda üstün bir yeteneğe sahip olduğuna inanıyorum.

29. Bu internet mağazasına kişisel veya finansal bilgilerimi paylaştığımda kendimi güvende hissediyorum.



Evrak Tarih ve Sayısı: 06/04/2018-2161



T.C.  
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Sosyal Bilimler Enstitüsü Müdürlüğü

Sayı : 88083623-044-2161  
Konu : KARLYGASH AMANZHANOVA'nın  
Etik Onay Hk.

06/04/2018

Sayın KARLYGASH AMANZHANOVA

Enstitümüz Y1412.130070 numaralı İşletme (İngilizce) Anabilim Dalı İşletme Yönetimi (İngilizce) tezli yüksek lisans programı öğrencilerinden KARLYGASH AMANZHANOVA'nın "THE IMPACT OF ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT ON CUSTOMER SATISFACTION IN TURKEY" adlı tez çalışması gereği "Müşteri Sadakati", "Müşteri Memnuniyeti", "Şikayet Yönetimi", "Bilgi İçeriği", "Algılanan Yarar", "İletişim" ve "Gizlilik" ile ilgili anketi 28.03.2018 tarihli ve 2018/12 sayılı İstanbul Aydın Üniversitesi Etik Komisyon Kararı ile etik olarak uygun olduğuna karar verilmiştir.

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Adres:Beşyol Mah. İnönü Cad. No:38 Sefaköy , 34295 Küçükçekmece / İSTANBUL  
Telefon:444 1 428  
Elektronik Ağ:<http://www.aydin.edu.tr/>

Bilgi için: NESLIHAN KUBAL  
Unvanı: Enstitü Sekreteri





## **RESUME**

Name Surname: Karlygash Amanzhanova

Place and Date of Birth: 10.12.1988, Kazakhstan

E-mail: amanzhanova@yahoo.com



### **EDUCATION:**

Bachelor: 2010, Suleyman Demirel University, Faculty of Economics and Management, Department of Management

Master: 2018, Istanbul Aydin University, The Graduate School (Institute) Of Social Sciences, Business Administration

### **PROFESSIONAL EXPERIENCE:**

E-Commerce Operation Support Customer Representative (August 2016-now)  
LC Waikiki Mağazacılık Hizmetleri Ticaret A.Ş., Istanbul

Order processing coordinator (January 2013 – August 2014)  
Grundfos Kazakhstan LLP, Almaty

### **REWARDS:**

The Nippon Foundation scholarship for students from Central Asia studying in Turkey, 2014-2016

Lee Iacocca and US State Department Scholarship, Global Village, summer 2012