

CONSUMER ATTITUDES TOWARD AND UTILIZATION OF
DECISION-MAKING AIDS IN THE ONLINE ENVIRONMENT

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CONSUMER ATTITUDES TOWARD AND UTILIZATION OF
DECISION-MAKING AIDS IN THE ONLINE ENVIRONMENT

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Thesis Abstract

Cansu Karaduman, “Consumer Attitudes Toward and Utilization of Decision-Making Aids in the Online Environment”

With the advent of the Internet, consumers started to enjoy emerging tools such as recommendation agents, virtual dressing rooms, online shopping friends or wish lists. In the past, consumers relied on friends, relatives, salespeople or publications mostly, but now they also use various online tools that help in shaping their decisions. Yet, there are some considerations that must be taken into account when evaluating the advantages or disadvantages of such tools.

Online decision aids influence the purchase behavior and preferences of consumers in many ways. The objective of this thesis is to determine the basics of consumer attitudes toward and utilization of decision making aids. In this thesis, the general facets of attitudes such as trust toward web-sites, perceived usefulness, perceived ease of use, perceived cognitive effort, perceived personalization, and perceived entertainment value, demographic variables and specific tool types are elaborated. A comprehensive set of online decision-making tools is developed. Variables that may affect attitudes toward such tools are adapted from marketing literature. Usage frequencies of such tools are measured and clustering analyses have been made on the basis of utilization of online decision-making aids.

Data are collected from 383 participants with the purpose of probing consumer attitudes toward and utilization of online decision aids and have been analyzed via descriptive, reliability, cluster, cross-tab, independent t-test, and ANOVA tests, in order to test fourteen hypotheses and draw conclusions therein.

Tez Özeti

Cansu Karaduman, “İnternet’te Karar Destek Araçlarına Yönelik Tüketici Tutumu ve Bu Araçların Kullanımı”

İnternetin gelişiyile birlikte, tüketiciler öneri araçları, sanal giyinme odaları, sanal alışveriş arkadaşları veya beğeni listeleri gibi gelişmekte olan araçları kullanmaya başlamışlardır. Tüketiciler geleneksel ortamda satın alma kararlarını verdiklerinde çoğunlukla arkadaşlarının, akrabalarının, satış temsilcilerinin veya yayınların önerilerine güvenirken, artık İnternet’teki bu araçları da kullanmaktadırlar. Ancak, bu tür araçların avantajları veya dezavantajlarının değerlendirilmesinde dikkate alınması gereken bazı noktalar vardır.

İnternet’teki karar destek sistemleri, tüketicilerin satın alma davranışlarını ve tercihlerini birçok yönden etkiler. Bu tezin amacı, İnternet’te karar destek araçlarına yönelik tüketici tutumu ve bu araçların kullanımının temellerini belirlemektir. Bu çalışmada, tüketicilerin genel tutumlarından; web sitelerine duyulan güven, algılanan fayda, algılanan kullanım kolaylığı, algılanan bilişsel çaba, algılanan kişiselleştirme, ve algılanan eğlence ile, demografik değişkenler ve belirli araç tipleri detaylandırılmıştır. İnternet’te tüketicilere yönelik karar destek araçlarının kapsamlı bir listesi çıkarılmıştır. Bu tür araçlara yönelik tutumları etkileyebilecek değişkenler pazarlama literatüründen alınmıştır. Bu tür araçların kullanım sıklıkları ölçülmüş ve tüketicilerin bu araçları kullanımlarından yola çıkarak kümeleme yapılmıştır.

Tüketicilerin İnternet’te ürün seçme, değerlendirme ve satın alma sürecinde onlara yardımcı olan uygulamaların kullanımına yönelik tutumlarını ölçülmesi amacıyla 383 katılımcıdan toplanan veri, on dört adet hipotezi test etmek için tanımlayıcı, güvenilirlik, kümeleme, çapraz tablo, bağımsız t-testi ve ANOVA testleri ile analiz edilmiş ve ilgili sonuçlar çıkarılmıştır.

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CHAPTER 1

INTRODUCTION

The amount of information available on the Web is so huge and the number of options is so numerous that consumers face an information overload (West et al., 1999). To overcome the inherent difficulty of information overload and the fact that consumers stop searching long before exhausting the set of relevant products, smart recommendation agents have emerged (Ansari, Essegiaier, & Kohli, 2000). Lynch and Ariely (2000) find that the reduced costs provided by computer-mediated environments have largely beneficial effects on consumer welfare.

Duhan et al. (1997) argue that recommendations play a large role in decision making and that consumers will be more likely to use recommendation sources that have close relationships to them versus sources that are more distant. Bettman, Luce & Payne (1998) suggest that as the complexity of the product increases, consumers are likely to resort to simple heuristics and selective information processing which often reduces the effectiveness of their decisions.

Alba et al. (1997) maintain that the most important benefit of on-line shopping to consumers is not greater selection, lower cost of search for price information, or deeper quality information. They point to electronic screening as the most important development in on-line shopping.

In light of these, the objective of this thesis is to determine consumer attitudes toward and utilization of decision making aids by:

- developing a comprehensive set of online decision-making tools,
- adapting six variables with eleven items that may affect attitudes toward such tools from marketing literature,
- measuring the usage frequencies of such tools, and
- clustering consumers on the basis of utilization of online decision-making aids.

For this purpose, a broad survey of the current literature is conducted. Accordingly, a theoretical framework which shows a group of independent variables which may influence consumers' attitudes toward the utilization of online decision aids is suggested. Fourteen hypotheses are produced and tested with a questionnaire. After the data collection process, 383 responses are analyzed. Descriptive, reliability, correlations, cluster analysis, chi-square analysis, t-test, and ANOVA analyses are used to evaluate data.

The research questions of the thesis can be concisely described as follows:

- What are the segments according to the level of importance consumers attach to various online decision aids?
- What are Turkish consumers' attitudes toward online decision aids in general?
- What are Turkish consumers' attitudes toward specific online decision aids?
- Does the demographic profile of Turkish consumers (age/ gender/ education/ income level) have an impact on utilization of online decision aids?

- Does the Internet usage behavior (Internet experience/ Internet usage frequency/ daily Internet usage/ online shopping experience) have an impact on frequency of online decision aids usage?

This thesis comprises the following chapters. Chapter 1 consists of the introduction. Chapter 2 reviews the literature on decision-aids and their types. Chapter 3 presents the theoretical framework and the hypotheses of the thesis. Chapter 4 includes the research methodology of the thesis. Chapter 5 presents the findings and the analyses of the thesis. Finally, Chapter 6 includes discussions about the conclusions, implications of the thesis, limitations of the research, and guidelines for future studies.

Internet Usage in the World

According to OECD's indicators (OECD, 2011), 70 percent of households have access to the Internet at home in terms of OECD average of thirty-four member countries. The highest proportion (97 percent) of households with internet access in 2010 is recorded in Korea and the lowest (22 percent) in Mexico. As this study shows, 68 percent of households have broadband connection and 30 percent of Internet users buy goods or services over the Internet for private purposes.

In 2010, the "age divide" in OECD countries is still present even though elderly people on average have increased their use of the Internet by 44 percent since 2007. Men are more likely than women to use the Internet in most OECD countries. Between 2007 and 2010, the percentage of women using the Internet has increased by more than 50 percent in Turkey and Mexico, but the gap remains large in Turkey,

Italy and Portugal. Internet usage is lower for less educated individuals, both men and women. Nevertheless, in Korea, Portugal, Turkey and Greece there is still a significant gap. Internet penetration is the highest among high-income households. Households with children keep on using the Internet more than those without. However, Mexico, Turkey and Korea have the smallest gap.

Figure 1 shows the people living in non-OECD countries who use the Internet in a bar chart. According to OECD (2011): “In Singapore and the United Arab Emirates, the share of households with access to the Internet is comparable to those of the top-ranking OECD economies” (p. 9).

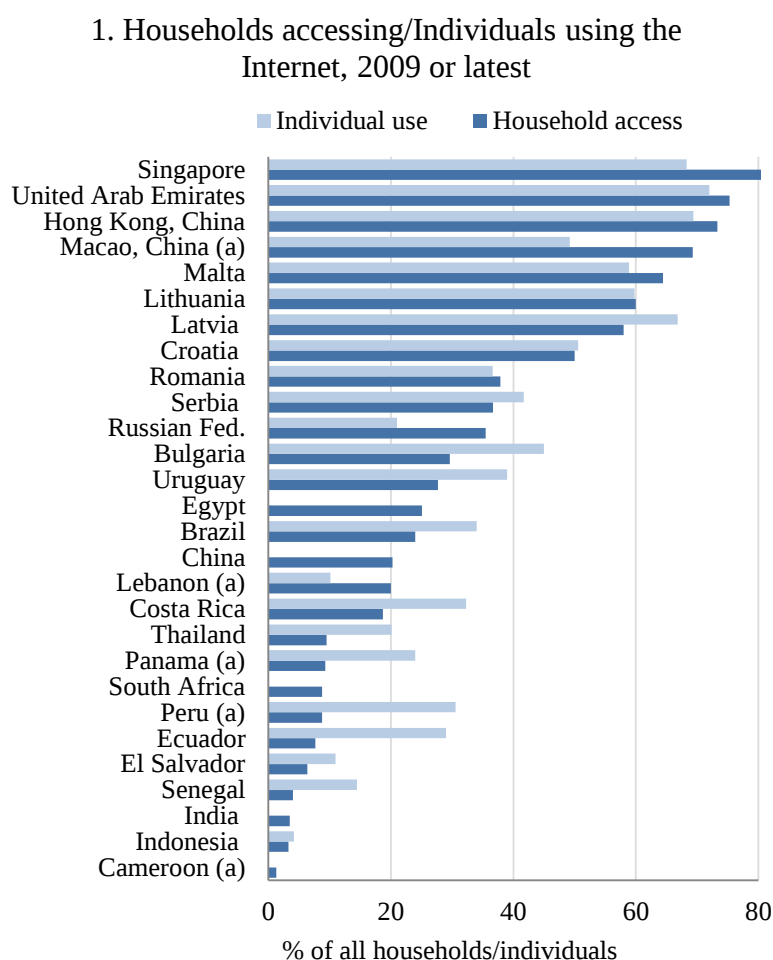


Fig. 1 Households accessing the Internet in non-OECD economies
Source: Adapted from OECD (2011, June).

Internet Usage in Turkey

According to the press release by TurkStat (Turkish Statistical Institute, 2011), 43 percent of households have access to the Internet at home. Percentages of households with access to the Internet in Istanbul (57 percent), East Marmara (57 percent), Central Anatolia (49 percent), West Anatolia (48 percent) and West Marmara (43 percent) are above the average of Turkey. 39 percent of households have broadband connection (via ADSL, wired fixed, fixed wireless or 3G). In addition, proportions of the males that use computer and Internet were 56 percent and 55 percent, while these proportions are 37 percent and 35 percent for females, respectively in the 16-74 age group. The highest proportion of computer and Internet usage is at 16-24 age group. Proportion of regular Internet user aged 16-74 who uses the Internet almost every day or at least once a week is 90 percent. Figure 2 shows the computer and Internet usage of individuals aged 16-74 which are 46 percent and 45 percent, respectively.

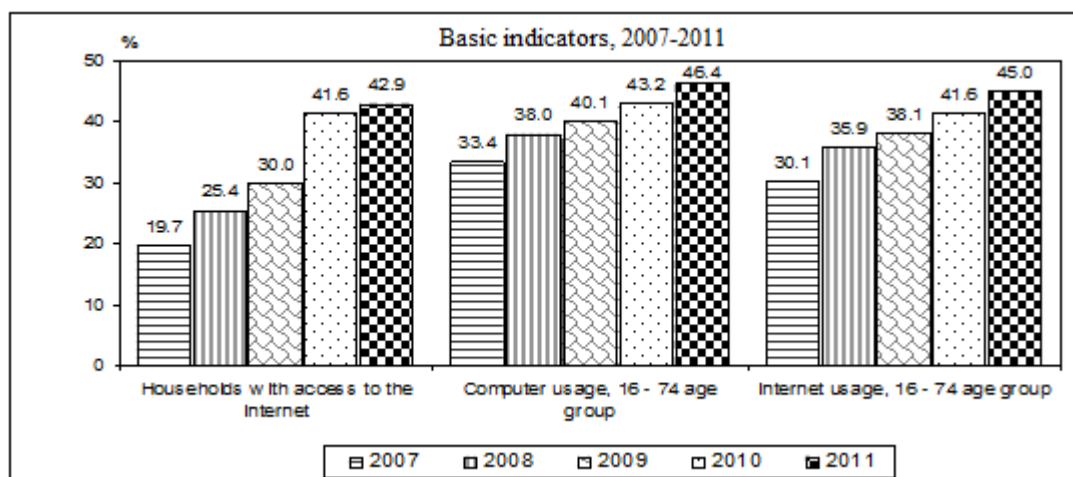


Fig. 2 Proportions of individuals having Internet access with computer and Internet usage

Source: Adapted from Turkish Statistical Institute. (2011, August 18).

Online Shopping in the World

Allen & Overy's (2011) report displays the findings of survey among over 3,000 online shoppers in the European Union. As can be seen from Figure 3, 52 percent of European online shoppers buy goods or services online at least several times per month. Young shoppers are expected to be frequent buyers than old shoppers (11 percent of 25-34 age group in contrast to 4 percent of 55-65 age group). Frequency differs across Europe, as British shoppers are the most likely to shop online several times a week or more (11 percent). On the other hand, French shoppers are the least likely to buy online more than once a week (4 percent).

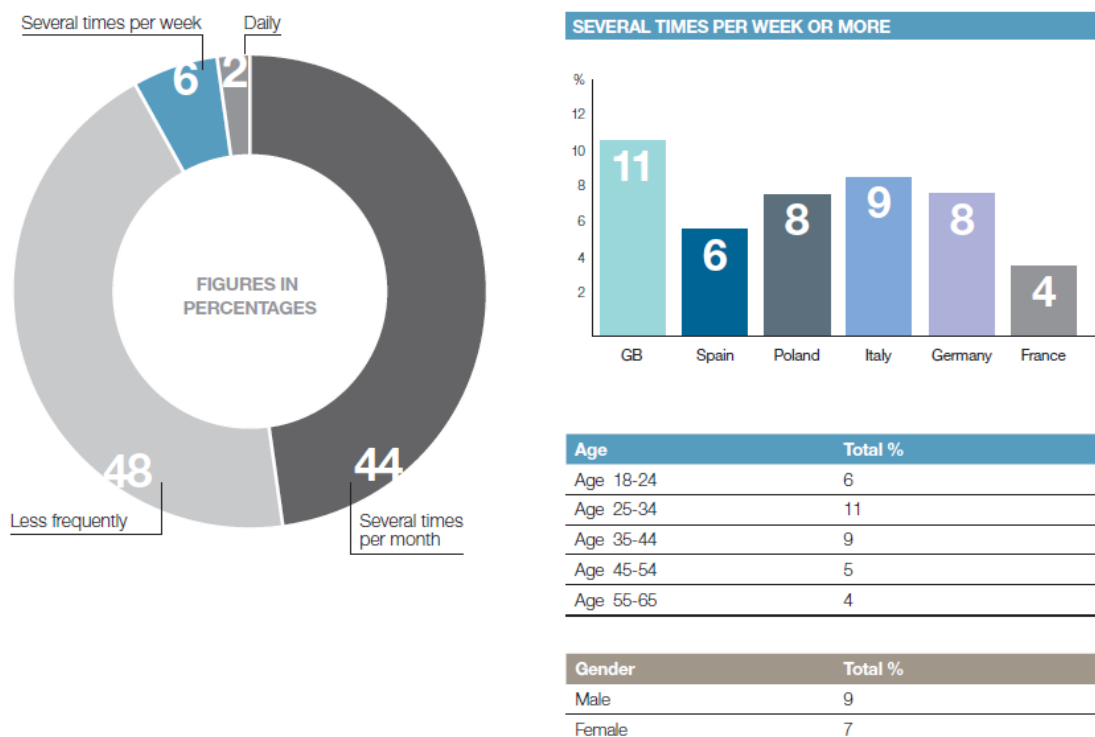


Fig. 3 Online buying habits of European consumers
Source: Adapted from Allen & Overy (January, 2011).

Nielsen (2010)'s report displays the findings of survey among over 27,000 online shoppers from fifty-five countries in Asia, Pacific, Europe, Middle East, North America and South America, as shown in Figure 4. It shows the importance of customer and expert reviews in online shopping. For example, 40 percent of online shoppers indicate they would not purchase consumer electronics without consulting online reviews. When researching purchases of vehicles and software, the same case occurs.

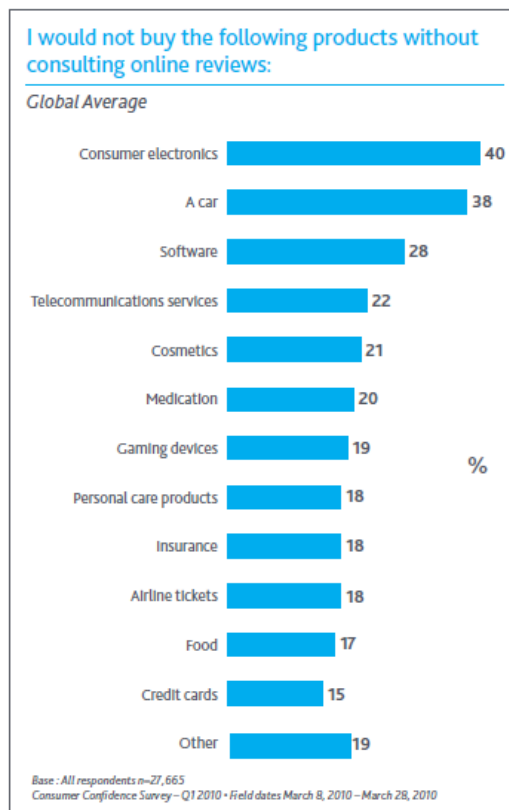


Fig. 4 Role of online reviews and peer recommendations in future purchases
Source: Adapted from Nielsen (June, 2010).

Online Shopping in Turkey

IAB Turkey (2010)'s report displays the findings of survey among four thousand respondents who are older than twelve years old. Figure 5 shows that 63 percent of online shoppers have made a purchase from the Internet at least once in the last three months. In addition, 74 percent of Turkish consumers visit sites for information on products that they are thinking of purchasing.

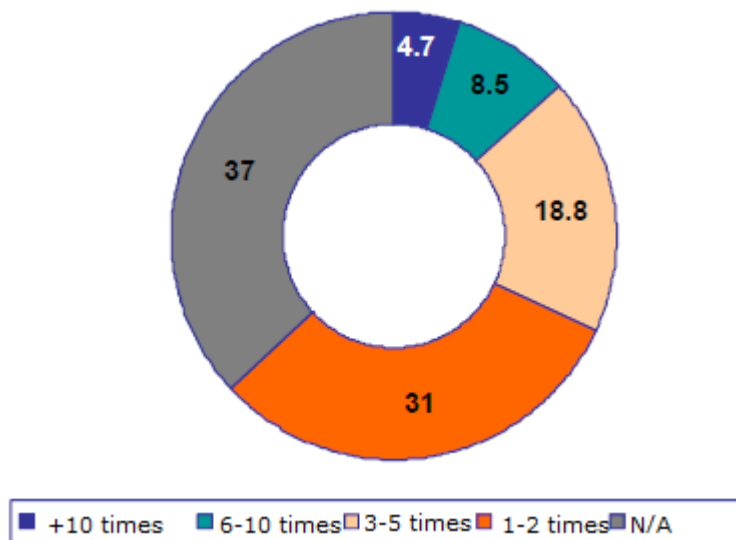


Fig. 5 Online shopping frequency in the past 3 months
Source: Adapted from IAB Turkey (October, 2010).

As shown in Figure 6, credit cards are largely used in online shopping (77 percent) and only 13 percent of online shoppers use virtual cards (IAB Turkey, 2010).

According to the press release of Turkish Statistical Institute (2011), 47 percent of Internet users have used the Internet for finding information about goods or services. As this study shows, 19 percent of Internet users aged 16-74 have bought goods or services over the Internet for private purposes and 29 percent of Internet customers

have bought clothes and sports goods, 28 percent of Internet customers have bought electronic equipment, 20 percent of Internet customers have bought household goods. Finally, 18 percent of Internet customers have bought books, magazines, newspapers (including e-books) in the last twelve months (April 2010-March 2011).

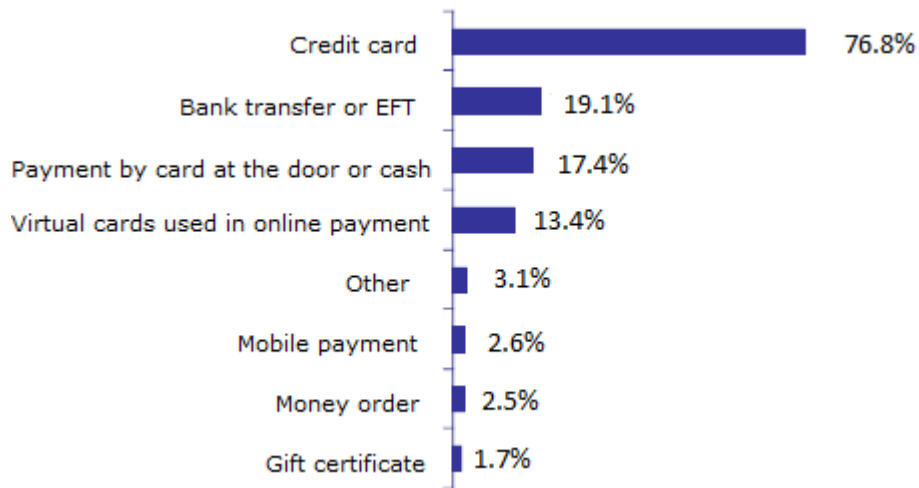


Fig. 6 Means of payment used in online shopping
Source: Adapted from IAB Turkey (October, 2010).

CHAPTER 2

LITERATURE REVIEW

The E-Commerce Ecosystem

Decision aid is a term that comprises tools such as shopbots, comparison-shopping agents, recommendation agents, product comparison agents and buyer's agents which mean more or less the same thing. Wan, Menon & Ramaprasad (2007) compare the online environment to an ecosystem. According to Figure 7, product comparison agents feed on original data producers, and then become the target of meta-agents. Demands of online shoppers give necessary information to online vendors via their clickstream.

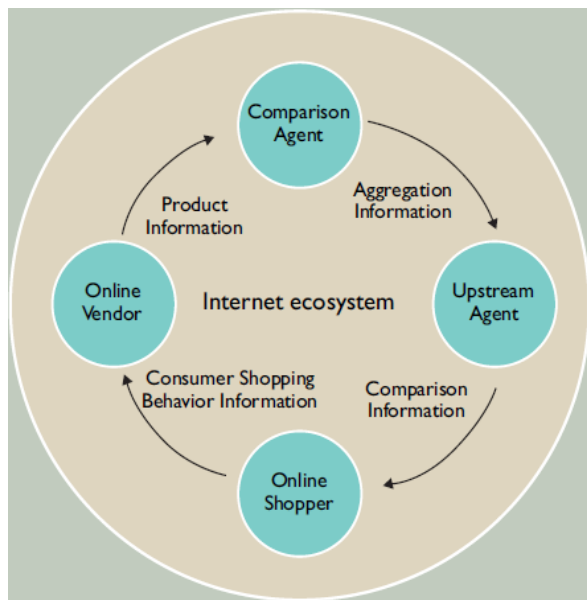


Fig. 7 The e-commerce ecosystem

Source: Adapted from Wan, Menon, & Ramaprasad (2007).

Web-based agents are virtual intermediaries with digital inputs and outputs.

Derivative product comparison agents, which collect and aggregate information from other agents, serve specialized consumer groups targeted by small online vendors via increasing their visibility in the clutter. More experienced online shoppers are aided by agents with more sophisticated user interaction modes. There are also deal agents which target niche markets in terms of aggregating shopping deals, thus these agents prompt comparisons. (Wan, Menon & Ramaprasad, 2007)

Web User Lifecycle

According to Silverman (2001), the five stages of goal-driven buyer behavior called the Web user life cycle are shown in Figure 8:

1. Recognition of the need to visit the Web site
2. Product information search using shopping metaphors, such as searching or browsing
3. Alternative products evaluation and purchase desire
4. Purchase action
5. Site exit and post-purchase evaluation

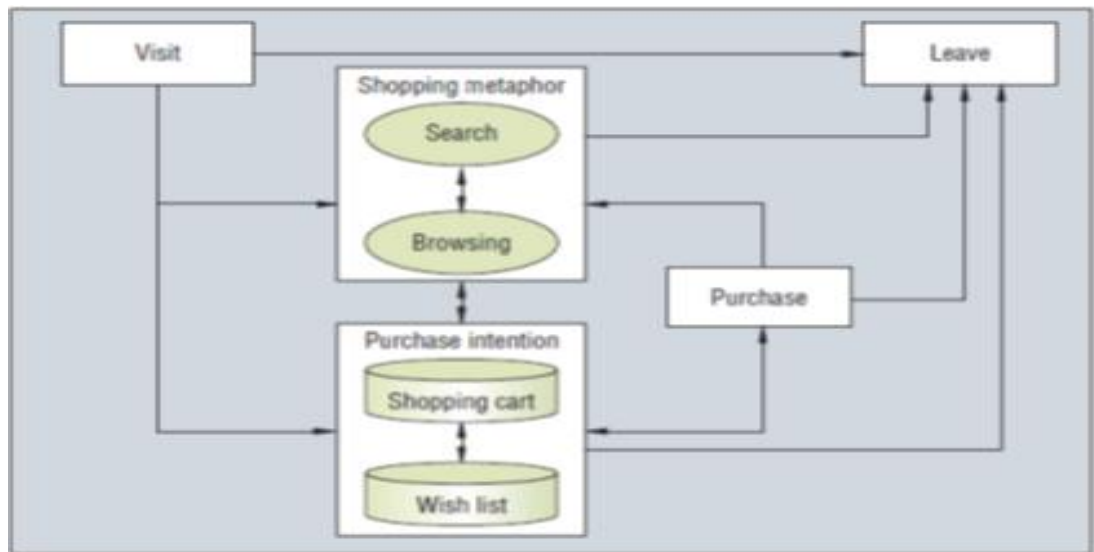


Fig. 8 Overview of the web user life cycle on an e-commerce web site
Source: Adapted from Ha (2002).

Decision-Making Processes

If consumers decide not to consult the product recommendation, they would rely only on their prior knowledge or experience and on other information about the products to make a decision.

- Affect referral decision making process: According to Olshavsky (1985), consumers do not base their decisions on an exhaustive evaluation of attributes and/or alternatives, but rather on their past experience.
- Own-based decision making process: Payne, Bettman, & Johnson (1993) suggest that consumers can use a variety of heuristics (lexicographic, disjunctive, etc.) that may vary according to the desired decision's accuracy and the effort that consumers are willing to invest in the particular decision. If consumers decide to consult and follow the product recommendation, the final brand decision comes from a recommendation source.

- Other-based decision-making process: Olshavsky (1985) and Rosen & Olshavsky (1987a, 1987b) suggest that consumers subcontract either part or all of their decision-making process because they do not have a preferred option or the capacity or the motivation to process information. Solomon (1986) predicates that consumers may use a surrogate to act on their behalf for information search, evaluation of options and/or even to carry out transactions.

If consumers decide to consult the product recommendation, but not to follow it, depending on the extent of the usage of the recommendation, they would choose one of the paths below:

- Own-based decision-making process: Consumers can be influenced by recommendations but do not rely on them exclusively to make decisions.
- Hybrid decision-making process: Rosen & Olshavsky (1987b) found evidence that consumers use a recommended brand from a trusted information source as a benchmark to evaluate other brands in order to find the best brand available.

User Perceptions and Evaluations of Decision Aids

Figure 9 introduces a framework to understand the user perceptions towards decision aids. Wang & Benbasat (2009) state that cognitive assessment is based on the understanding of the user and mental model of the decision aid. On the other hand, behavioral assessment is based on the evaluation of the assistance of the aid after using its features.

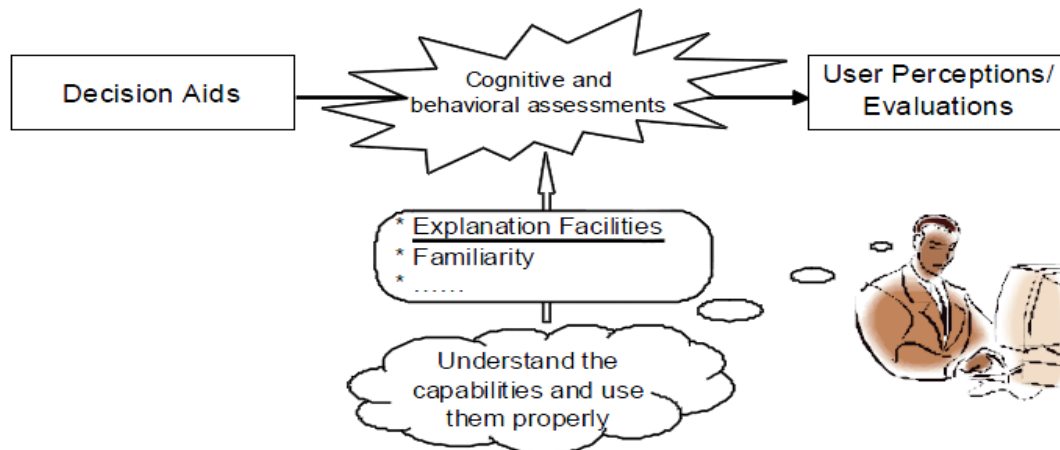


Fig. 9 User perceptions and evaluations of decision aids
Source: Adapted from Wang & Benbasat (2009).

Wang & Benbasat (2007) divide the explanation facilities, which transfer knowledge to users regarding the usage of decision aids, into three parts: how explanations, why explanations and guidance. As they point out:

How explanations reveal the logical processes and the line of reasoning used by the decision aid. Why explanations justify the importance and purpose of the questions asked by the aid in order to elicit users' preferences... (p. 296).

Guidance gives the user information regarding the alternatives so that he or she can specify his or her attribute preferences. Thanks to guidance, users are able to comprehend the decision aid's features and use them effectively.

Typology of Recommendation Agents

Figure 10 classifies recommendation agents based on the types of information provided and the nature of the site. Swaminathan (2003) asserts that pure infomediaries are focused exclusively on providing product information, and the

information can be based on a combination of expert opinion and customer reviews. On the other hand, retailer Web sites may also feature recommendation agents.

		Type of Information	
		Critics Reviews	Expert opinion
Type of Infomediary	Pure Infomediary	Epinions	Consumer Reports.org
	Retailer	Macy's.com	

Fig. 10 A typology of recommendation agents
Source: Adapted from Swaminathan (2003).

Swaminathan (2003) analyses the impact of recommendation agents on consumer evaluation and choice in terms of category risk, product complexity and consumer knowledge. Consumer evaluation is operationalized in terms of the amount of search before the decision is made and choice is operationalized in terms of decision quality. A set of hypotheses about the moderating effects of the number of product attributes and available alternatives are developed and tested. The results show that category risk (e.g. high price items) moderates the decision quality and product complexity moderates amount of search. Also, the order, in which the product category is shown, has an inverse relationship with the amount of search. As hypothesized, consumers tend to choose the dominant alternative when the category risk is high. When the number of attributes of a product is low, the amount of search decreases. In contrast to the study of Häubl and Trifts (2000), recommendation agent use does not have an effect on decision quality. The reasons behind this conflict are

due to the lab setting used in the former study. The duration of Swaminathan (2003)'s study is expanded to two weeks whereas the study of Häubl and Trifts (2000) was held at a single time. Second reason of the conflict is due to the assignment of weights to all attributes in the former study whereas top 3 most important attributes are considered in Swaminathan (2003)'s study.

Product Comparison Agent Categories

Wan, Menon & Ramaprasad (2007) differentiate between associative reasoning and rule-based reasoning when it comes to cognitive processes. Associative reasoning refers to grouping most similar objects at a low level of consciousness whereas rule-based reasoning refers to utilizing abstract symbols based on logical rules with a well-articulated structure. They may act at the same time or they may take place at different stages of comparison.

Table 1. Key Aspects of the Three PCA Categories

	Product Differentiation PCA	Product Evaluation PCA	Consumer Preference Identification PCA
Input	Objective data from online vendors	Evaluation information from online users	Usage experience information from online users
Output	Objective information for products or services	Subjective numeric information for products or services	Subjective text-based information for products or services
Processing	Categorization	Aggregation	Summarization
Example	Pricescan.com	BizRate.com	Epinion.com

Source: Adapted from Wan, Menon, & Ramaprasad (2007).

Table 1 classifies product comparison agents (PCA) into three categories. Wan, Menon & Ramaprasad (2007) declare that the first one is specialized on product differentiation which helps customers in differentiating the alternatives based on

tangible product attributes, such as price, weight, etc. Wan, Menon & Ramaprasad (2007) put it this way: “Differentiation is essentially a cognitive process that is dominated by rule-based reasoning. It abstracts the products in the choice set into symbols...It then operates on these symbols according to specific rules...” (p. 67).

The second category is specialized on product evaluation which helps customers in evaluating the alternatives based on both objective (e.g. price) and subjective (e.g. quality) data from customers. The aggregation of data stems either from past experience in a direct way (by associative reasoning) or from quantified information about the product (by rule-based reasoning).

The final category is specialized on consumer preference identification which helps customers to identify a preferred alternative based on context or scenario information. These types of aids are useful in services sector where the preferences differ in each context. The reason is that the information collected is not numeric, rather text-based and customers use experiences of their peers as surrogates in new products about which they do not have any preferences whatsoever.

Properties of Decision Aids

Wang & Benbasat (2009) compare different decision aids based on two characteristics: normativeness and complementarity. The first one refers to a strategy that takes the user’s attribute preferences and their significance into consideration and enables the user to make a trade-off among his or her preferences. On the other hand, the second property refers to decision rules being based on various strategies. Table 2 shows the decision aid categories with respect to these two properties.

Table 2. Properties of Decision Aids

Decision Aid \ Property	Normativeness	Complementarity
Elimination Aid	No	No
AC Aid	Yes	No
Hybrid Aid	Yes	Yes

Source: Adapted from Wang & Benbasat (2009).

According to Ansari, Essegai, & Kohli (2000), elimination aid removes product alternatives that do not satisfy attribute levels set by the user. The weak point of this type of aid is that it is not normative because product attributes having low values are not compensated by the ones having high values. Since the users might be confined to use decision processes that they do not favor, it is not complementary.

Todd & Benbasat (2000) introduce additive-compensatory (AC) strategy which evaluates each alternative considering all of its attributes. The user gives every attribute a weight which shows the relative importance to the user. When each attribute's normalized value and weight are summed up, a score is calculated for every alternative. So AC strategy is normative in the sense that it utilizes all the available information when making a choice.

Elrod, Johnson, & White (2004) mention hybrid aid as the combination of both elimination and AC aids. Thus, both strategies complement one another and offer more user assistance. Also, it is normative in the sense that it does not confine users to use one strategy only. The hybrid aid lets the user select his or her desired decision strategies in order to process various attributes.

Wang & Benbasat (2009) consider the influence of perceived strategy restrictiveness on consumer decision making in online recommendation agents. Perceived strategy restrictiveness is defined as the reliance of users on the decision aid's strategy solely whereas they prefer to use various processes themselves if left

alone. This study compares decision aids having dissimilar decision strategies and elaborates on effort-accuracy framework developed by Payne, Bettman, & Johnson (1993), which examines the positive effect of decision aids on lowering cognitive effort, thereby enhancing decision quality of the users. A set of hypotheses about perceived advice quality, perceived cognitive effort and role of the explanation facilities on a recommendation agent are developed and tested. The results of a laboratory experiment indicate that users want to be less restricted by the decision aids' strategies. As hypothesized, AC aid is perceived to be significantly different from the elimination aid. On the contrary, hybrid aid is not perceived to be significantly different than AC aid. This study shows that AC aid and hybrid aids are perceived as equivalent due to cognitive miser model developed by Beach (1993), which states that users do not scan all recommended products but rather they select a product from the very first pages of recommendation list. Finally, the effects of complementarity is not supported which means that only normativeness is important for users in making decisions.

+Classes of Decision Support Interface Systems (DSIS)

Figure 11 groups the decision support interface systems into four classes based on their interactive functionalities. Spiekermann & Paraschiv (2002) define the first class comprising automatic recommender systems which automatically suggest the products that the user may possibly be interested in with no user interaction beforehand. The most famous example is Amazon where it proposes: "Customers who bought this item also bought this item." Although these systems enable cross-

selling and up-selling, the downside is that they are not personalized to the user's preferences. Another disadvantage is that consumers may not be satisfied with the automatic advice that is derived from purchase traces or observed resemblances with other customers.



	<i>Interactivity class</i>	<i>DSIS examples</i>	<i>www.address</i>
Class 1:	Automatic Recommender Systems	Customers who Bought BookMatcher Match Maker Movie Matches	www.amazon.com www.amazon.com www.moviefinder.com www.reel.com
Class 2:	Shophots & Softbots	My Simon BargainFinder Jango PriceWatch EggHead 'Atira' 'Marc'	www.mysimon.com www.bargainvillage.com/bargainfinder www.jango.com www.pricewatch.com www.egghead.com www.shopping24.de http://www.eve-trek.de/product_FMD20P_e.html
Class 3:	Product Configuration Machines	Dell HP Apple Scout24 Volkswagen	www.dell.com www.hp.com www.apple.com www.scout24.de www.volkswagen.de
Class 4:	Utility Based Recommendation Systems	PersonalLogic Active Buyers' Guide	www.personallogic.com www3.activebuyersguide.com/start.cfm

Fig. 11 System interactivity classes

Source: Adapted from Spiekermann & Paraschiv (2002).

The second class includes shophots and softbots which the former lets the user search for a product with few specific product attributes and the latter talks to the user via a text-based exchange system. The most popular example cited in marketing literature is MySimon which compares prices and advises deals to its users. The foremost drawback in these systems is that the user should already have expertise on what he or she is searching for. Second, the keywords should be readily known by the user. Due to long text blocks required for detailed search, break-ups occur often which is an issue to be solved by websites utilizing keyword representation.

The third class includes product configuration machines which are actually manufacturers' website allowing for customization by their customers. The most famous example is Dell where one can select the specific details of a product and then the product is shipped directly to the user without any third parties meddling in. Each addition of a particular feature has repercussions on product price and if the customer requires more information, he or she can click on 'Learn more' buttons. Still, these systems are not perfect either: they lack to communicate with the customer as a result of a limited number of encodings of product attributes.

Finally, the fourth class includes utility based recommendation systems which are the most advanced DSISs in terms of supplying high quality qualitative information. These are the most personalized aids since they draw information via conversation with users which in turn calculates the linear utility function based on their inputs. These aids are also the most interactive among all other DSISs because users can monitor the order of the search criteria. Despite these positive properties, the lack of a feedback mechanism can be counted as the biggest weakness. Plus, the user does not know how the product ratings are figured out.

Interaction Process between Consumers and Electronic DSIS

Figure 12 presents a four-step process model for the consumer's decision on whether or not to interact with the DSISs. Spiekermann & Paraschiv (2002) proclaim that the first step analyzes the individual predispositions of purchase. Perceived risk is defined as "...an assessment consumers make of the consequences of making a purchase mistake as well as of the probability of such a mistake to occur." (p. 265).

Factors such as involvement of the consumer with a purchase, purchase goal, prior knowledge about a product category and the intended usage affect risk perception.

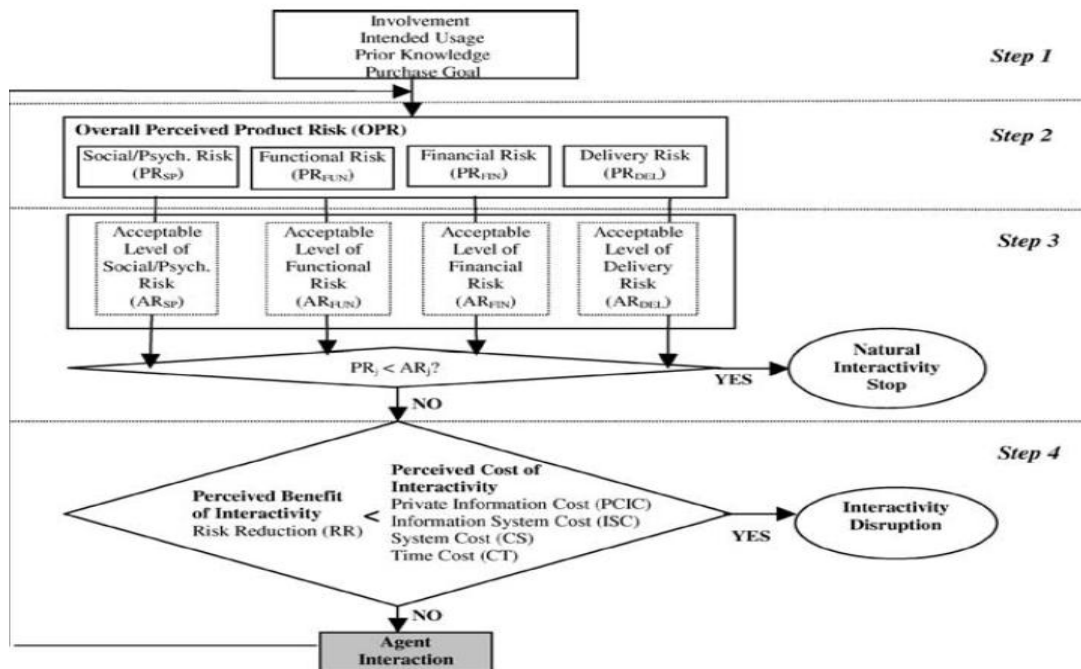


Fig. 12 Process model for human interaction readiness with DSISs
Source: Adapted from Spiekermann & Paraschiv (2002).

The second step portrays the risk dimensions such as socio-psychological risk, functional risk, financial risk and delivery risk. The first one deals with the consequences of a false product choice on a consumer's ego and the humiliation that goes with it. The second one deals with the disparity between a product's promised performance and how it actually performs. The third one deals with the availability of cheaper options that the consumer has failed to enjoy and whether or not the product is worth the price. Finally, delivery risk deals with the timing of the arrival of the product in its entirety.

The third step lays down risk reduction strategies. Consumers try to minimize the risk to an acceptable level by applying strategies such as information search.

When they succeed in lowering the perceived risk to a level that they can handle, they stop searching and finally buy the product. If not, they will pass to the fourth step.

The fourth step evaluates the costs and benefits pertaining to the interaction with DSISs. In terms of online search costs, system cost (CS), information service cost (ISC) and consumer private information cost (PCIC) are added to the time cost (CT) necessary to choose a product. CS includes the cost of hardware, maintenance, connectivity and bandwidth. ISC includes the monetary amount customers pay for the benefits they get from the online service. PCIC includes the cost incurred by the consumer when the website uses his or her personal information for further analysis or for sale.

As far as perceived benefits of interactivity are concerned, a DSIS is perceived to have search benefits when it reduces the perceived risk. That is why; if the consumer is not convinced that a decision aid lowers as many search cost factors as possible, he or she will think that it is not worth interacting with the aid.

Trust in Online Decision Aids

Wang & Benbasat (2005) analyze trust in and adoption of online recommendation agents. Trust is defined as the consumer's beliefs on the recommendation agent's competence, benevolence and integrity. This study focuses on the nomological validity trust which concerns whether trust in these agents foresee consumer behavior in terms of adoption. For this reason, Trust-TAM (Technology Acceptance Model) is developed for testing a set of hypotheses about perceived usefulness (PU), perceived

ease of use (PEOU) and initial trust on a recommendation agent. The results of a laboratory experiment indicate that consumers' intention to adopt a recommendation agent are influenced by PU in terms of advice tools and consumers' trust in terms of virtual assistants. As hypothesized, initial trust and PEOU have a significant impact on PU. On the contrary, PEOU does not have a significant impact on intention to adopt. This study shows that consumers place human attributes to electronic agents and the reasons of lack of trust to a recommendation agent are due to uncertainty, risk and complexity of purchase decisions. That is why; consumers make their own final decisions on whether to buy or not, they do not delegate this power to a recommendation agent.

Komiak & Benbasat (2006) examine the effects of personalization and familiarity on trust and adoption of recommendation agents. Trust, which involves reasoning and feeling, is made up of two parts, namely cognitive trust and emotional trust. The former refers to trustor's rational expectations that a trustee will have the necessary attributes to be relied on and the latter refers to the extent to which a person feels safe and comfortable about relying on the trustee. Cognitive trust is further divided into two as cognitive trust in competence which corresponds to trust in the capability of the recommendation agent to supply good advice; and cognitive trust in integrity which corresponds to trust in the objective advice from the recommendation agent. A set of hypotheses about perceived personalization, cognitive trust beliefs, emotional trust and intention to adopt the recommendations are developed and tested. The results of the experiment indicate that perceived personalization significantly increases customers' intention to adopt by increasing cognitive trust and emotional trust. As hypothesized, emotional trust completely

mediates the effect of cognitive trust on the intention to adopt the recommendation agent as a delegated agent, though it merely partly mediates the effect of cognitive trust on the intention to adopt the recommendation agent as a decision aid.

Familiarity increases the intention to adopt via cognitive trust and emotional trust.

CHAPTER 3

THEORETICAL MODEL AND HYPOTHESES

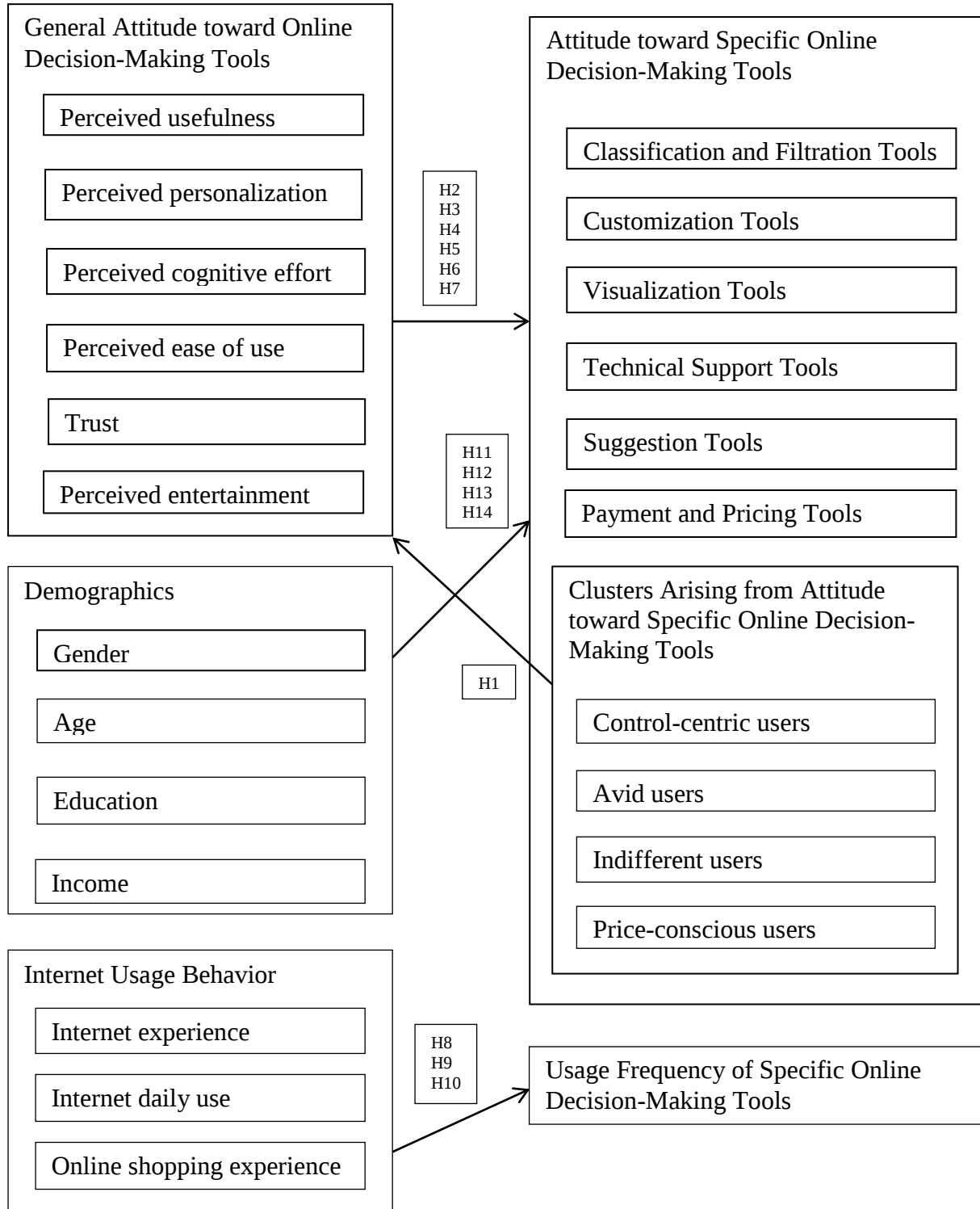


Figure 13 Theoretical framework

Hypotheses

Hypothesis 1: Individuals' attitudes towards online decision aids vary depending on their cluster memberships.

- Hypothesis 1a: Perceived usefulness of online decision aids varies depending on individuals' cluster memberships.
- Hypothesis 1b: Perceived personalization of online decision aids varies depending on individuals' cluster memberships.
- Hypothesis 1c: Perceived cognitive effort in online decision aids varies depending on individuals' cluster memberships.
- Hypothesis 1d: Perceived ease of use of online decision aids varies depending on individuals' cluster memberships.
- Hypothesis 1e: Trust in online decision aids varies depending on individuals' cluster memberships.
- Hypothesis 1f: Perceived entertainment value of online decision aids varies depending on individuals' cluster memberships.

Hypothesis 2: There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to classification and filtration tools.

- Hypothesis 2a: There is a positive relationship between perceived usefulness and the importance individuals attach to classification and filtration tools.

- Hypothesis 2b: There is a positive relationship between perceived personalization and the importance individuals attach to classification and filtration tools.
- Hypothesis 2c: There is a negative relationship between perceived cognitive effort and the importance individuals attach to classification and filtration tools.
- Hypothesis 2d: There is a positive relationship between perceived ease of use and the importance individuals attach to classification and filtration tools.
- Hypothesis 2e: There is a positive relationship between trust and the importance individuals attach to classification and filtration tools.
- Hypothesis 2f: There is a positive relationship between perceived entertainment value and the importance individuals attach to classification and filtration tools.

Hypothesis 3: There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to customization tools.

- Hypothesis 3a: There is a positive relationship between perceived usefulness and the importance individuals attach to customization tools.
- Hypothesis 3b: There is a positive relationship between perceived personalization and the importance individuals attach to customization tools.
- Hypothesis 3c: There is a negative relationship between perceived cognitive effort and the importance individuals attach to customization tools.
- Hypothesis 3d: There is a positive relationship between perceived ease of use and the importance individuals attach to customization tools.

- Hypothesis 3e: There is a positive relationship between trust and the importance individuals attach to customization tools.
- Hypothesis 3f: There is a positive relationship between perceived entertainment value and the importance individuals attach to customization tools.

Hypothesis 4: There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to visualization tools.

- Hypothesis 4a: There is a positive relationship between perceived usefulness and the importance individuals attach to visualization tools.
- Hypothesis 4b: There is a positive relationship between perceived personalization and the importance individuals attach to visualization tools.
- Hypothesis 4c: There is a negative relationship between perceived cognitive effort and the importance individuals attach to visualization tools.
- Hypothesis 4d: There is a positive relationship between perceived ease of use and the importance individuals attach to visualization tools.
- Hypothesis 4e: There is a positive relationship between trust and the importance individuals attach to visualization tools.
- Hypothesis 4f: There is a positive relationship between perceived entertainment value and the importance individuals attach to visualization tools.

Hypothesis 5: There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to technical support tools.

- Hypothesis 5a: There is a positive relationship between perceived usefulness and the importance individuals attach to technical support tools.
- Hypothesis 5b: There is a positive relationship between perceived personalization and the importance individuals attach to technical support tools.
- Hypothesis 5c: There is a negative relationship between perceived cognitive effort and the importance individuals attach to technical support tools.
- Hypothesis 5d: There is a positive relationship between perceived ease of use and the importance individuals attach to technical support tools.
- Hypothesis 5e: There is a positive relationship between trust and the importance individuals attach to technical support tools.
- Hypothesis 5f: There is a positive relationship between perceived entertainment value and the importance individuals attach to technical support tools.

Hypothesis 6: There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to suggestion tools.

- Hypothesis 6a: There is a positive relationship between perceived usefulness and the importance individuals attach to suggestion tools.
- Hypothesis 6b: There is a positive relationship between perceived personalization and the importance individuals attach to suggestion tools.
- Hypothesis 6c: There is a negative relationship between perceived cognitive effort and the importance individuals attach to suggestion tools.
- Hypothesis 6d: There is a positive relationship between perceived ease of use and the importance individuals attach to suggestion tools.

- Hypothesis 6e: There is a positive relationship between trust in suggestion tools varies and the importance individuals attach to suggestion tools.
- Hypothesis 6f: There is a positive relationship between perceived entertainment value and the importance individuals attach to suggestion tools.

Hypothesis 7: There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to payment and pricing tools.

- Hypothesis 7a: There is a positive relationship between perceived usefulness and the importance individuals attach to payment and pricing tools.
- Hypothesis 7b: There is a positive relationship between perceived personalization and the importance individuals attach to payment and pricing tools.
- Hypothesis 7c: There is a negative relationship between perceived cognitive effort and the importance individuals attach to payment and pricing tools.
- Hypothesis 7d: There is a positive relationship between perceived ease of use and the importance individuals attach to payment and pricing tools.
- Hypothesis 7e: There is a positive relationship between trust and the importance individuals attach to payment and pricing tools.
- Hypothesis 7f: There is a positive relationship between perceived entertainment value and the importance individuals attach to payment and pricing tools.

Hypothesis 8: There is a relationship between Internet experience and frequency of online decision aid usage.

- Hypothesis 8a: There is a relationship between Internet experience and frequency of classification and filtration tools usage.
- Hypothesis 8b: There is a relationship between Internet experience and frequency of customization tools usage.
- Hypothesis 8c: There is a relationship between Internet experience and frequency of visualization tools usage.
- Hypothesis 8d: There is a relationship between Internet experience and frequency of technical support tools usage.
- Hypothesis 8e: There is a relationship between Internet experience and frequency of suggestion tools usage.
- Hypothesis 8f: There is a relationship between Internet experience and frequency of payment and pricing tools usage.

Hypothesis 9: There is a relationship between Internet daily use and frequency of online decision aid usage.

- Hypothesis 9a: There is a relationship between Internet daily use and frequency of classification and filtration tools usage.
- Hypothesis 9b: There is a relationship between Internet daily use and frequency of customization tools usage.
- Hypothesis 9c: There is a relationship between Internet daily use and frequency of visualization tools usage.
- Hypothesis 9d: There is a relationship between Internet daily use and frequency of technical support tools usage.
- Hypothesis 9e: There is a relationship between Internet daily use and frequency of suggestion tools usage.

- Hypothesis 9f: There is a relationship between Internet daily use and frequency of payment and pricing tools usage.

Hypothesis 10: There is a relationship between online shopping experience and frequency of online decision aid usage.

- Hypothesis 10a: There is a relationship between online shopping experience and frequency of classification and filtration tools usage.
- Hypothesis 10b: There is a relationship between online shopping experience and frequency of customization tools usage.
- Hypothesis 10c: There is a relationship between online shopping experience and frequency of visualization tools usage.
- Hypothesis 10d: There is a relationship between online shopping experience and frequency of technical support tools usage.
- Hypothesis 10e: There is a relationship between online shopping experience and frequency of suggestion tools usage.
- Hypothesis 10f: There is a relationship between online shopping experience and frequency of payment and pricing tools usage.

Hypothesis 11: There is a difference between men and women in terms of the importance they attach to various online decision-making tools.

- Hypothesis 11a: There is a difference between men and women in terms of the importance they attach to classification and filtration tools.
- Hypothesis 11b: There is a difference between men and women in terms of the importance they attach to customization tools.
- Hypothesis 11c: There is a difference between men and women in terms of the importance they attach to visualization tools.

- Hypothesis 11d: There is a difference between men and women in terms of the importance they attach to technical support tools.
- Hypothesis 11e: There is a difference between men and women in terms of the importance they attach to suggestion tools.
- Hypothesis 11f: There is a difference between men and women in terms of the importance they attach to payment and pricing tools.

Hypothesis 12: The importance individuals attach to various online decision-making tools varies depending on their ages.

- Hypothesis 12a: The importance individuals attach to classification and filtration tools varies depending on their ages.
- Hypothesis 12b: The importance individuals attach to customization tools varies depending on their ages.
- Hypothesis 12c: The importance individuals attach to visualization tools varies depending on their ages.
- Hypothesis 12d: The importance individuals attach to technical support tools varies depending on their ages.
- Hypothesis 12e: The importance individuals attach to suggestion tools varies depending on their ages.
- Hypothesis 12f: The importance individuals attach to payment and pricing tools varies depending on their ages.

Hypothesis 13: The importance individuals attach to various online decision-making tools varies depending on their education levels.

- Hypothesis 13a: The importance individuals attach to classification and filtration tools varies depending on their education levels.

- Hypothesis 13b: The importance individuals attach to customization tools usage of individuals varies depending on their education levels.
- Hypothesis 13c: The importance individuals attach to visualization tools varies depending on their education levels.
- Hypothesis 13d: The importance individuals attach to technical support tools varies depending on their education levels.
- Hypothesis 13e: The importance individuals attach to suggestion tools varies depending on their education levels.
- Hypothesis 13f: The importance individuals attach to payment and pricing tools varies depending on their education levels.

Hypothesis 14: The importance individuals attach to various online decision-making tools varies depending on their income levels.

- Hypothesis 14a: The importance individuals attach to classification and filtration tools varies depending on their income levels.
- Hypothesis 14b: The importance individuals attach to customization tools varies depending on their income levels.
- Hypothesis 14c: The importance individuals attach to visualization tools varies depending on their income levels.
- Hypothesis 14d: The importance individuals attach to technical support tools varies depending on their income levels.
- Hypothesis 14e: The importance individuals attach to suggestion tools varies depending on their income levels.
- Hypothesis 14f: The importance individuals attach to payment and pricing tools varies depending on their income levels.

CHAPTER 4

RESEARCH METHODOLOGY

In this part of the thesis, the methodological base of this thesis is described.

Important matters such as preparation of the questionnaire including the method and procedure of data collection, components of the questionnaire, and sampling issues such as the choice of people for the questionnaire are covered.

Preparation of the Questionnaire

The questionnaire is developed after aggregating a set of items from the marketing literature and listing online decision aid tools by examining prominent global and local e-tailing web sites. The questionnaire consists of the following sections: (1) Demographic characteristics and Internet usage behavior of the consumers, and (2) Specific attitude toward various online decision-making tools and their usage frequency and general attitude toward online decision-making tools. The subject and the purpose of the research are stated both in the introductory note displayed at the beginning of the questionnaire and in the invitation mail. A standard survey, whose questions are in the same order, is applied to all respondents. The questionnaire has been live online for three weeks. Data collected by the survey are statistically analyzed by SPSS v. 20.

Expert Opinion and Pilot Studies in Questionnaire Preparation

A panel of experts, namely Prof. Dr. Meltem Özturan, Assoc. Prof. Dr. Aslı Sencer and Assoc. Prof. Dr. Aslıhan Nasır, has been consulted to ensure that the wording and measurement of the questionnaire are appropriate. These experts, all of whom are faculty members at the MIS Department in Boğaziçi University, have been asked to evaluate the survey from two aspects:

1. The understandability of the online decision-making tools
2. An overall evaluation of the survey

In the first version of the questionnaire, Internet usage frequency in terms of days and Internet daily use in terms of hours were combined in a single question. But this was deemed confusing to the respondents so two separate questions are used to find out about utilization of online environment. In the first version, demographic profile of the respondents included marital status but it was found irrelevant to the findings of the thesis, hence it was removed. Education level was measured by 6 items including Secondary School Graduate in the first version. But this level was considered to be too low when taking into account the level of complexity involved in using online decision aids, so it was removed, too. All thirty-seven tools were listed together one under another in the first version but the experts advised that similar tools should be grouped under one appropriate category. There were additional scales adopted from marketing literature in the first version which were minor modifications of the scales already used in the questionnaire when they were translated into Turkish, so the almost duplicate scales were removed.

The first pilot is conducted with nine graduate students at the MBA program in Boğaziçi University during class time in an elective “E-Marketing” course.

Opinions of the people who filled in the questionnaire have shaped the second version after the first one is edited in the light of the experts. In the second version, the frequency of online decision aid usage was asked at the end of the tool list with a single question but it has been suggested that the frequency of online decision aid usage should be asked after each tool category. There were two questions probing the propensity to use online decision aids currently and in the future in the first version, but these would produce an intuitive result and lengthen the questionnaire further so it is decided that a general question would be more suitable.

The second pilot is conducted with nineteen graduate students at the BIS (Business Information Systems) program in Boğaziçi University during class time in a required “E-Business Management” course. Opinions of the people who filled in the questionnaire have shaped the final version after the second one is edited in the light of the Executive MBA class. In the third version, the frequency questions were shown in five columns but in order to save some space, it is suggested that choices are displayed as horizontal buttons. Question texts were too long and they were advised to be summarized by pruning some words.

Choice of People for the Questionnaire

Convenience sampling is used in this thesis which is a non-probability sampling design used to get information quickly and efficiently. Data are collected from 420 individuals in Turkey who use the Internet. These individuals are older than eighteen years old. The questionnaire is prepared online via a survey preparation tool provider

web site. Data are collected both by Internet and printed channels. Respondents have been invited to fill in the survey by sending the survey link directly to their e-mail address, sharing the survey link on social media (Twitter and LinkedIn), Facebook collector and online dictionaries.

Method and Procedure of Data Collection

All the questions in the survey required an answer. If a respondent does not answer a question, an error message is displayed which says: "Please answer all questions". A question cannot be skipped. Respondents can go back to previous pages in the survey and update existing responses until the survey is finished or until they have exited the survey. After the survey is finished, the respondent is not able to re-enter the survey. An asterisk (*) is used to highlight required questions. A progress bar is displayed at the top of the page to show what percent of the survey is complete. A total of 542 people have started the survey but only 420 people have completed the survey.

Data have been examined for the existence of any outliers which are cases that deviate from other cases in the sample. It has been found that there are eight people whose Internet experience is less than four years. In addition, there are six people who use Internet only two or three times a week and twenty-one people have never made online shopping before. Moreover, two people filled in the survey after the data analysis has begun while the collectors were still open. Thus, thirty-seven responses have been removed and a final number of 383 responses are the actual sample in this thesis.

Components of the Questionnaire

The questionnaire is three pages long, beginning with the purpose of the thesis on the cover page. According to the pilot studies, the questionnaire takes about ten minutes to complete. English and Turkish versions of the questionnaire are provided in Appendices A and B, respectively.

Demographic Characteristics of Consumers

Demographic characteristics of consumers may play a direct or indirect role on consumers' attitudes towards and utilization of online decision aids. The following demographic variables are included in the survey:

1. Age: Ordinal scales are used for measuring the age of the respondents. The respondents are requested to select one of the eight alternatives as follows: "18-23", "24-29", "30-35", "36-41", "42-47", "48-53", "54-59" and "60+".
2. Gender: The respondents are requested to select one of the two alternatives as follows: "female" and "male".
3. Education: Ordinal scales are used for measuring the education level of the respondents. The respondents are requested to select one of the five alternatives as follows: "high school graduate", "undergraduate student", "undergraduate degree", "graduate student", and "graduate degree and above".
4. Monthly Income: Ordinal scales are used for measuring the monthly income level of the respondents. The respondents are requested to select one of the

five alternatives as follows: “<1,000 TL”, “1,000-2,000 TL”, “2,001-3,500 TL”, “3,501-5000 TL”, and “>5,000 TL”.

5. Internet Usage History: Ordinal scales are used for measuring the Internet experience of the respondents. The respondents are requested to select one of the three alternatives as follows: “0-4 years”, “5-9 years”, and “>9 years”.
6. Internet Usage Frequency: Ordinal scales are used for measuring the frequency of Internet usage of the respondents. The respondents are requested to select one of the three alternatives as follows: “I use it almost every day”, “I use it two or three times a week”, and “I use it two or three times a month or less frequent”.
7. Daily Internet Usage: Ordinal scales are used for measuring the Internet usage of the respondents every day. The respondents are requested to select one of the four alternatives as follows: “<1 hour”, “1-4 hours”, “5-8 hours”, and “>8 hours”.
8. Online Shopping Experience: Ordinal scales are used for measuring the online shopping experience of the respondents. The respondents are requested to select one of the five alternatives as follows: “I have never bought anything online”, “Rarely have I shopped once or twice online”, “I sometimes shop online”, “There are products that I buy online frequently”, and “I make most of my shopping online”.

Online Decision Aid Categories

These items are self-constructed by the researcher.

- Classification and Filtration Tools: Originally, these were two separate categories but their reliability was lower than the generally accepted threshold of 0.70. Cronbach's Alpha value for the first one was 0.644 (nine items under Classification Tools) and the same value for the second one was 0.594 (five items under Filtration Tools). The scale reliabilities did not improve even if several items were deleted. The categorization of these items was done intuitively by the researcher in light of the suggestions of the experts at the beginning. Alternatively, the reliability of the combination of these two scales was checked since the tools were quite related to one another and the resulting reliability was high enough to deduce meaningful results.

These tools assist the consumers in their decision-making process by demonstrating and classifying product features, attributes and characteristics. They also enable the consumer to sort and compare the product features, attributes and characteristics as they wish.

In order to measure the importance individuals attach to each of the classification and filtration tools specified below, five-point Likert scales are used as follows: "Very Important", "Partially Important", "Neither Important Nor Unimportant", "Not So Important", and "Not Important At All".

1. Demonstration of products on sale in a custom section
2. Demonstration of best-selling products
3. Grouping products according to their brands

4. Demonstration of new products
 5. Demonstration of product categories in detail (such as presence of laptop, desktop, tablet, netbook, etc. options under computer category)
 6. Demonstration of product sub-categories (such as accessories)
 7. Demonstration of the most popular / frequently visited products
 8. Classification of products according to purchase criteria (limited stock, fast shipment, price savers, etc.)
 9. Classification of products according to technical features (size, color, type, etc.)
 10. Sorting products according to various criteria (date of addition to website, product name, expiration date of discount, number of reviews, etc.)
 11. Sorting products according to price range
 12. Sorting products according to evaluation ratings
 13. Comparison of selected products side by side
 14. Demonstration of stores in which the product is in stock according to selected cities and districts
- Frequency of Classification and Filtration Tools Usage: The usage frequency of classification and filtration tools is measured with a five-point ordinal scale with the following intervals: “Always”, “Generally”, “Sometimes”, “Rarely” and “Never”.
 - Customization Tools: These tools assist the consumers in their decision-making process by customizing and personalizing the products as they please. They also enable the consumer to make special lists which alert them when necessary and making the shopping process easier.

In order to measure the importance individuals attach to each of the customization tools specified below, five-point Likert scales are used as follows: “Very Important”, “Partially Important”, “Neither Important Nor Unimportant”, “Not So Important”, and “Not Important At All”.

1. Customization of products (i.e. design of products online by consumers based on their own tastes)
 2. Personalization of offers (payment alternatives, promotions, etc.)
 3. Wish lists (i.e. enabling the consumers to save the product they are interested in so that they can buy it later on)
 4. Watch lists (i.e. alerting the consumers when the price of product they are interested in goes down)
 5. Shopping lists (i.e. enabling the consumer to add the frequently ordered products to cart without searching them again and again)
- Frequency of Customization Tools Usage: The usage frequency of customization tools is measured with a five-point ordinal scale with the following intervals: “Always”, “Generally”, “Sometimes”, “Rarely” and “Never”.
 - Visualization Tools: These tools assist the consumers in their decision-making process by examining the products’ outlook elaborately. They also enable the consumer to change the product attributes and see the results in appearance instantly.

In order to measure the importance individuals attach to each of the visualization tools specified below, five-point Likert scales are used as follows: “Very Important”, “Partially Important”, “Neither Important Nor Unimportant”, “Not So Important”, and “Not Important At All”.

1. Demonstration of product videos
 2. Examination of the product in detail by zooming in
 3. Modification of the product's color, accessories, size, etc. virtually
 4. Virtual try-on technology
- Frequency of Visualization Tools Usage: The usage frequency of visualization tools is measured with a five-point ordinal scale with the following intervals: "Always", "Generally", "Sometimes", "Rarely" and "Never".
 - Technical Support Tools: These tools assist the consumers in their decision-making process by enlightening them about technical terms via discussion forums, help icons and resources section on the web-site. They also enable the consumer to clarify any problems by asking questions to e-tailer's staff.

In order to measure the importance individuals attach to each of the technical support tools specified below, five-point Likert scales are used as follows: "Very Important", "Partially Important", "Neither Important Nor Unimportant", "Not So Important", and "Not Important At All".

1. Provision of detailed information and suggestions about the products by experts
2. Demonstration of customer reviews about the products
3. Presence of a discussion board in order to enable the exchange of information among consumers about the products
4. Attachment of a button which offers technical advice about products
5. Glossary of technical terms
6. Live counseling system where questions regarding sales and after-sales transactions are answered

- **Frequency of Technical Support Tools Usage:** The usage frequency of technical support tools is measured with a five-point ordinal scale with the following intervals: “Always”, “Generally”, “Sometimes”, “Rarely” and “Never”.
- **Suggestion Tools:** These tools assist the consumers in their decision-making process by offering them advice about similar products which their peers have viewed or bought. They also enable the consumer to select products from a pre-arranged set or bundle on special occasions, such as Valentine’s Day, New Year’s Eve, Mother’s Day, etc. or on specific contexts, such as birthdays, parties, babies, etc.

In order to measure the importance individuals attach to each of the suggestion tools specified below, five-point Likert scales are used as follows:

“Very Important”, “Partially Important”, “Neither Important Nor Unimportant”, “Not So Important”, and “Not Important At All”.

1. Provision of baskets / package deals for special events or cases
2. Demonstration of bundles that are bought together frequently by other consumers

- **Frequency of Suggestion Tools Usage:** The usage frequency of suggestion tools is measured with a five-point ordinal scale with the following intervals: “Always”, “Generally”, “Sometimes”, “Rarely” and “Never”.
- **Payment and Pricing Tools:** Originally, these were two separate categories but their reliability was lower than the generally accepted threshold of 0.70. Cronbach’s Alpha value for the first one was 0,638 (4 items under Payment Tools) and the same value for the second one was merely 0,569 (2 items under Pricing Tools). The scale reliabilities did not improve even if several

items were deleted. The categorization of these items was done intuitively by the researcher in light of the suggestions of the experts at the beginning. Alternatively, the reliability of the combination of these two scales was checked since the tools were quite related to one another and the resulting reliability was high enough to deduce meaningful results.

These tools assist the consumers in their decision-making process by facilitating the last step of the purchase transaction and tabularizing the shipment fees and payment schedule. They also enable the consumer to change the product attributes and see the results in price instantly.

In order to measure the importance individuals attach to each of the payment and pricing tools specified below, five-point Likert scales are used as follows: “Very Important”, “Partially Important”, “Neither Important Nor Unimportant”, “Not So Important”, and “Not Important At All”.

1. Demonstration of payment options in a tabular form in terms of installment amount and credit cards
2. Display of shipping costs and options by geographic region
3. Enabling the use of online means of payment (PayPal, Google Checkout, etc.)
4. Enabling the use of alternative means of payment (cash, virtual cards, etc.)
5. Demonstration of discount rate and amount (i.e. the original price is written in a strikethrough format and the saving amount is shown)
6. Enabling the consumer to see the price changes immediately when a feature is added to or removed from the product

- Frequency of Payment and Pricing Tools Usage: The usage frequency of payment and pricing tools is measured with a five-point ordinal scale with the following intervals: “Always”, “Generally”, “Sometimes”, “Rarely” and “Never”.

Personal Attitude Scales

- Perceived Usefulness (First to third items): The statements measuring perceived usefulness of online decision aids are adopted from Heijden (2004). It measures whether or not the consumers believe that online decision aids enhance their online shopping performance.

In order to measure the perceived usefulness of online decision aids specified below, five-point Likert scales are used as follows: “Strongly Agree”, “Agree”, “Neither Agree Nor Disagree”, “Disagree”, and “Strongly Disagree”.

1. I can decide more quickly and more easily which product I want to buy among various alternatives by using such tools
 2. I can better and more accurately decide which product I want to buy among various alternatives by using such tools
 3. I am better informed about new products by using such tools
- Perceived Personalization (Fourth item): The statements measuring perceived personalization of online decision aids are adopted from Komiak & Benbasat (2006). It measures whether or not the consumers believe that online decision aids comprehend and represent their personal requirements.

In order to measure the perceived personalization of online decision aids specified below, five-point Likert scales are used as follows: “Strongly Agree”, “Agree”, “Neither Agree Nor Disagree”, “Disagree”, and “Strongly Disagree”.

1. Such tools understand my needs and know what I want.

- Perceived Cognitive Effort (Fifth item): The statements measuring perceived cognitive effort in online decision aids are adopted from Wang & Benbasat (2009). This scale is antagonistic to perceived ease of use in the sense that it measures whether the consumers find such tools time-consuming or not.

In order to measure the perceived cognitive effort of online decision aids specified below, five-point Likert scales are used as follows: “Strongly Agree”, “Agree”, “Neither Agree Nor Disagree”, “Disagree”, and “Strongly Disagree”.

1. The task of selecting a product using such tools takes too much time.

- Perceived Ease of Use (Sixth item): The statements measuring perceived ease of use of online decision aids are adopted from Venkatesh & Davis (2000). It measures whether or not the consumers believe that online decision aids are free of effort.

In order to measure the perceived ease of use of online decision aids specified below, five-point Likert scales are used as follows: “Strongly Agree”, “Agree”, “Neither Agree Nor Disagree”, “Disagree”, and “Strongly Disagree”.

1. I find such tools easy to use

- Trust (Seventh to Ninth items): The statements measuring trust in online decision aids are adopted from Komiak & Benbasat (2006). It measures

whether or not the consumers expect that online decision aids have the capability to provide good product recommendations and objective advice. It also assesses whether or not the consumers feel confident and comfortable about relying on online decision aids for what to buy decisions.

In order to measure the trust in online decision aids specified below, five-point Likert scales are used as follows: “Strongly Agree”, “Agree”, “Neither Agree Nor Disagree”, “Disagree”, and “Strongly Disagree”.

1. Such tools can replace a real expert in assessing products.
 2. Such tools provide unbiased product recommendations.
 3. I feel secure about relying on such tools for my decision.
- Perceived Entertainment Value (Tenth to Eleventh items): The statements measuring perceived entertainment value of online decision aids are adopted from Davis, Bagozzi, & Warshaw (1992). It measures whether or not the consumers perceive such tools to be enjoyable to use while shopping online.

In order to measure the trust in online decision aids specified below, five-point Likert scales are used as follows: “Strongly Agree”, “Agree”, “Neither Agree Nor Disagree”, “Disagree”, and “Strongly Disagree”.

1. Shopping with such tools is fun.
2. Shopping with such tools is interesting.

Dependent Variables and Measurement Constructs

The wording used in all scales is modified; the terms such as recommendation agent, virtual advisor, and recommendation mechanism are changed to “such tools” and the tenses are converted to present. Trust scale is originally made up of three parts;

namely cognitive trust in competence of online decision aid, cognitive trust in integrity of online decision aid, and emotional trust. But in this thesis, all these components are combined into one single scale. All scales that measure the personal views of the respondents are trimmed in order to keep the questionnaire short and not to bore the respondents. The removed scales are very similar to one another when translated into Turkish, thus the slight nuances between the adjectives are not truly conveyed. The original scales are composed of at least five statements but they are measured with one to three statements in this survey.

CHAPTER 5

ANALYSES AND FINDINGS

In this chapter, results of the statistical analyses are discussed starting from descriptive analyses, followed by scale reliabilities, correlations, cluster analysis, cross-tab analysis, t-test, and ANOVA analyses to test the research hypotheses.

Descriptive Statistics

Frequency analyses have been performed for “demographic characteristics”, specifically age, gender, education and personal monthly income; “internet usage behavior”, specifically daily and hourly use of Internet and Internet usage history, “online shopping habits” and finally “usage frequencies of the six online decision aid categories”.

Measures of central tendencies and dispersion are presented for the online decision tools under each category: namely classification and filtration, customization, visualization, technical support, suggestion, and payment and pricing. Mean values and standard deviations are found to measure the importance attached to each tool by the respondents. The average of each category is stated at the end of the tools pertaining to that category.

Finally, measures of central tendencies and dispersion are found for the scales adapted from the marketing literature to measure the personal attitudes of consumers towards online decision aids. The statements under each scale are aggregated to find the overall mean and standard deviation values.

Demographic Profile

Basic Demographic Characteristics

Table 3. Basic Demographic Characteristics

Age	18-23	24-29	30-35	>35
	79	229	52	23
	20 percent	60 percent	14 percent	6 percent
Gender	Female	Male		
	201	182		
	53 percent	47 percent		
Education	Undergraduate Student and below	Undergraduate Degree	Graduate Student	Graduate Degree and above
	95	125	100	63
	25 percent	33 percent	26 percent	16 percent
Income	< 1,000 TL	1,000-2,000 TL	2,001-3,500 TL	>3,501 TL
	96	112	91	84
	25 percent	29 percent	24 percent	22 percent

It may be seen from Table 3 that the greatest number of individuals in the sample are young who are in their mid-twenties (60 percent), followed by even a younger group in their early-twenties (20 percent). There are nine individuals each from thirty-six – forty-one and forty-two – forty-seven years of age (2 percent from each), 4 individuals from forty-eight – fifty-three years of age (1 percent), one individual from fifty-four – fifty-nine years of age (1 percent) and none of the respondents are older than sixty years old. According to Sekaran & Bougie (2010), sub-samples should have a minimum number of thirty subjects. That is why, it has been decided that a new age category is formed by recoding individuals who are older than thirty years old (20 percent).

It is found that 53 percent of the respondents are female and 47 percent of the respondents are male, as shown in Table 3.

There are fourteen individuals who have a high school diploma (4 percent) and eighty-one individuals who attend university (21 percent). In the same token as is the case in age, it has been decided that a new age category is formed by recoding individuals who are undergraduate students and below (25 percent). The majority of the respondents have graduated from university (33 percent). The smallest group consists of individuals who have either a master or doctorate degree (16 percent). These findings show that the sample is well-educated, as shown in Table 3.

As far as income is concerned, there is a fairly similar distribution between the first three groups which altogether corresponds to more than two-thirds of the sample (78 percent). The affluent individuals also show a close resemblance in the sense that 3,501 - five thousand TL monthly income category and people who make more than five thousand TL are evenly distributed (12 percent and 10 percent respectively), as shown in Table 3.

Internet Usage Behavior

Table 4. Internet and Online Shopping Experience

Internet Experience	< 9 years	> 9 years	
	115	268	
	30 percent	70 percent	
Internet Usage Frequency	Every day		
	383		
	100 percent		
Daily Internet Usage	< 4 hours	5-8 hours	> 8 hours
	173	123	87
	45 percent	32 percent	23 percent

As is already described in Chapter 4 under “Handling Outliers” sub-heading, respondents, who have less than four years of Internet experience, have been eliminated from the data analysis due to a distortion of findings. That is why, the category of respondents who have five – nine years of Internet experience are renamed as having less than nine years of Internet experience (30 percent). An overwhelming majority of the respondents have more than nine years of Internet experience (70 percent), as can be seen in Table 4.

In the same token with Internet experience, individuals who use the Internet two – three times a week have been eliminated from the data analysis due to a distortion of findings. None of the respondents use the Internet two – three times a month or less. That is why; the entire actual sample comprises heavy Internet users, as shown in Table 4.

There are only ten individuals who use the Internet less than one hour (2 percent) and 163 individuals use the Internet one – four hours daily (43 percent). Because of the rule mentioned by Sekaran & Bougie (2010), it has been decided that a new age category is formed by recoding individuals who use the Internet less than four hours (45 percent). The Internet addicts who use it more than eight hours a day are the smallest group with 23 percent of total subjects. 32 percent of total subjects are medium Internet users with five – eight hours of daily Internet activity, as shown in Table 4.

Online Shopping Habits

In parallel with the case in Internet experience, individuals who do not have prior online shopping experience have been eliminated from the data analysis due to a distortion of findings. So, the entire sample comprises individuals who have more or less online shopping experience. The majority of respondents are medium online shoppers (40 percent) and heavy online shoppers include 11 percent of total subjects. 15 percent of total subjects have a limited experience of online shopping and 34 percent of total subjects shop online more than average, as shown in Table 5.

Table 5. Online Shopping Experience Frequencies

Online Shopping Experience	Frequency	Percent
Rarely have I shopped once or twice online	59	15%
I sometimes shop online	153	40%
There are products that I buy online frequently	129	34%
I make most of my shopping online	42	11%
Total	383	100%

Online Decision Aids

From the results in Table 6, it may be seen that the means on filtration by price range and classification by product categories are the same with a very high value of 4.69 which show that respondents deem such tools very important. The mean of average of classification and filtration tools (4.08) is above four points which refers to a partial importance attached to these tools by the respondents. As far as tools such as classification by the most popular / frequently visited products (3.51) are concerned, the respondents find them neither important nor unimportant.

The standard deviation of classification by best-selling products (1.06) is the highest indicating that most respondents are very far to the mean whereas the standard deviations of filtration by price range and classification by product categories are low (0.59 and 0.58 respectively) which refers to the closeness of the respondents to the mean on these two tools.

Table 6. Classification and Filtration Tools

	Mean (Over 5)	Std. Dev.
Sorting products according to price range	4.69	0.59
Demonstration of product categories in detail	4.69	0.58
Demonstration of products on sale in a custom section	4.38	0.77
Demonstration of brands sold concomitantly	4.33	0.86
Comparison of selected products side by side	4.20	0.85
Classification of products according to purchase criteria	4.13	0.89
Demonstration of product sub-categories	4.10	0.90
Demonstration of stores in which the product is in stock according to selected cities and districts	3.98	1.05
Sorting products according to various criteria	3.95	0.99
Classification of products according to technical features	3.91	1.08
Sorting products according to evaluation ratings	3.91	0.97
Demonstration of new products	3.74	1.05
Demonstration of best-selling products	3.65	1.06
Demonstration of the most popular / frequently visited products	3.51	1.02
AVERAGE OF CLASSIFICATION AND FILTRATION TOOLS	4.08	0.43

Note: All measures are five-point scales with anchors 5 = very important and 1 = not important at all.

From the results in Table 7, it may be seen that the mean of personalization of offers (4.19) is the highest and above four points which refers to a partial importance attached to these tools by the respondents. As far as tools such as customization of products (3.86) are concerned, the respondents find those neither important nor unimportant.

The standard deviations of all customization tools are considered high indicating that most respondents are far to the mean, especially the value for watch lists is very high (1.02).

Table 7. Customization Tools

	Mean (Over 5)	Std. Dev.
Personalization of offers	4.19	0.83
Shopping lists	4.04	0.99
Wish lists	3.97	0.96
Watch lists	3.91	1.02
Customization of products	3.86	0.95
AVERAGE OF CUSTOMIZATION TOOLS	3.99	0.71

Note: All measures are five-point scales with anchors 5 = very important and 1 = not important at all.

From the results in Table 8, it may be seen that the mean of zooming has a very high value of 4.78 with a very low standard deviation of 0.48. This shows that most respondents think it is a very important tool. The mean of average of visualization tools (4.25) is above four points which refers to a partial importance attached to these tools by the respondents. As far as tools such as virtual try-on technology (3.93) are concerned, the respondents find those neither important nor unimportant.

The standard deviations of all visualization tools except zooming (0.48) are considered high indicating that most respondents are far to the mean, especially the value for virtual try-on technology is very high (1.08).

Table 8. Visualization Tools

	Mean (Over 5)	Std. Dev.
Scrutiny of the product in detail by zooming in	4.78	0.48
Modification of the product's color, accessories, size, etc virtually	4.33	0.84
Demonstration of product videos	3.97	0.91
Virtual try-on technology	3.93	1.08
AVERAGE OF VISUALIZATION TOOLS	4.25	0.63

Note: All measures are five-point scales with anchors 5 = very important and 1 = not important at all.

From the results in Table 9, it may be seen that the mean of help icon is the highest (4.48) and above four points which refers to partial importance attached to these tools by the respondents. As far as tools such as technical resources are concerned which has the lowest mean (3.41), the respondents find them neither important nor unimportant.

The standard deviations of all technical support tools are considered high indicating that most respondents are far to the mean, especially the value for glossary of technical terms is very high (1.18).

Table 9. Technical Support Tools

	Mean (Over 5)	Std. Dev.
Attachment of a button which offers technical advice about products	4.48	0.77
Live counseling system where questions regarding sales and after-sales transactions are answered	4.40	0.89
Demonstration of customer reviews about the products	4.35	0.86
Provision of detailed information and suggestions about the products by experts	4.10	0.90
Presence of a discussion board in order to enable the exchange of information among consumers about the products	4.08	0.96
Glossary of technical terms	3.41	1.18
AVERAGE OF TECHNICAL SUPPORT TOOLS	4.14	0.63

Note: All measures are five-point scales with anchors 5 = very important and 1 = not important at all.

From the results in Table 10, it may be seen that the means of suggestion tools are not very high indicating that the respondents find them neither important nor unimportant.

The standard deviations of all technical support tools are considered very high indicating that most respondents are very far to the mean.

Table 10. Suggestion Tools

	Mean (Over 5)	Std. Dev.
Provision of baskets / package deals for special events or cases	3.81	1.04
Demonstration of bundles that are bought together frequently by other consumers	3.27	1.06
AVERAGE OF SUGGESTION TOOLS	3.54	0.92

Note: All measures are five-point scales with anchors 5 = very important and 1 = not important at all.

From the results in Table 11, it may be seen that the mean of instant changes in pricing by modifying product features (4.64) is the highest so respondents deem such tools very important. The mean of online payment methods (4.10) is above four points which refers to a partial importance attached to these tools by the respondents.

The standard deviation of online payment methods (1.05) is very high indicating that most respondents are very far to the mean whereas the standard deviation of instant changes in pricing by modifying product features (0.60) is low which refers to the closeness of the respondents to the mean on these tools.

Table 11. Payment and Pricing Tools

	Mean (Over 5)	Std. Dev.
Enabling the consumer to see the price changes immediately when a feature is added to or removed from the product	4.64	0.60
Demonstration of payment options in a tabular form in terms of installment amount and credit cards	4.62	0.69
Enabling the use of alternative means of payment	4.53	0.81
Display of shipping costs and options by geographic region	4.41	0.83
Demonstration of discount rate and amount	4.34	0.84
Enabling the use of online means of payment	4.10	1.05
AVERAGE OF PRICING TOOLS	4.44	0.50

Note: All measures are five-point scales with anchors 5 = very important and 1 = not important at all.

As can be seen from the results in Table 12, the highest number of respondents in frequent category is 50 percent of total subjects who use classification and filtration tools. Also, payment and pricing tools are used very heavily by 48 percent of total subjects. Finally, the lowest number of users in seldom category is merely percent2 of total subjects who use classification and filtration tools, followed by percent3 of total subjects who use payment and pricing tools. This substantiates the first finding that most respondents are very familiar with classification, filtration, payment and pricing tools. On the other hand, the case is the opposite for suggestion tools which is always used by only 6 percent of total subjects. Thus, respondents are hesitant in trying such tools generally.

Table 12. Frequency of Using Online Decision Aids

	Seldom	Sometimes	Frequently	Always
Classification and Filtration Tools (*)	8	38	192	145
	2%	10%	50%	38%
Customization Tools	57	143	128	55
	15%	37%	33%	15%
Visualization Tools	32	82	168	101
	9%	21%	44%	26%
Technical Support Tools	42	128	152	61
	11%	33%	40%	16%
Suggestion Tools	131	155	72	25
	34%	41%	19%	6%
Payment and Pricing Tools (*)	11	47	143	182
	3%	12%	37%	48%

(*): The averages of frequency items are recomputed.

Since the four scales used in the questionnaire, namely Classification, Filtration, Payment and Pricing Tools, are combined into two scales due to their low reliability scores, the pertaining frequency questions must also be combined in order to be consistent. Thus, the resulting frequency tables present decimal numbers which are rounded up. The legend of the re-computation is shown as follows:

- 1: “Never”,
- 1.5 - 2: “Rarely”,
- 2.5 - 3: “Sometimes”,
- 3.5 – 4: “Frequently”
- 4.5 – 5: “Always”

As already mentioned in “Descriptive Statistics” section under “Online Decision Aids” sub-heading, when the number of people who use the online decision aids in a given category is lower than thirty, this hinders drawing meaningful conclusions in data analysis as mentioned by Sekaran & Bougie (2010). As far as classification and filtration tools are concerned, there is not a single person who has never used those before. In addition, there are only eight people who rarely use such tools. Likewise,

there are only six people who have never used customization tools before, two people have never used visualization tools before, seven people who have never used technical support tools before and merely one person has never used payment and pricing tools before. So, never and rarely categories are merged into a single variable which is renamed as seldom.

Personal Attitude Scales

From the results in Table 13, it may be seen that the mean of quick and easy decision-making (4.41) is the highest and above four points which refers to a partial agreement to these statements by the respondents. As far as attitudes such as the belief of online decision aids to be a real expert are concerned which has the lowest mean (3.29), the respondents neither agree nor disagree with this statement.

The standard deviations of all statements are considered very high indicating that most respondents are very far to the mean, especially the value for the belief of online decision aids to be unbiased is very high (1.14).

Table 13. Personal Attitude Statements

		Mean (Over 5)	Std. Dev.
1	I can decide more quickly and more easily which product I want to buy among various alternatives by using such tools	4.41	0.78
2	I can better and more accurately decide which product I want to buy among various alternatives by using such tools	4.37	0.77
3	I am better informed about new products by using such tools	4.22	0.83
4	Such tools understand my needs and know what I want	3.76	1.01
5	The task of selecting a product using such tools takes too much time	3.49	1.24
6	I find such tools easy to use	4.06	0.88
7	Such tools can replace a real expert in assessing products	3.29	1.13
8	Such tools provide unbiased product recommendations	3.34	1.14
9	I feel secure about relying on such tools for my decision	3.68	1.00
10	Shopping with such tools is fun for its own sake	3.78	1.04
11	Shopping with such tools is interesting	3.59	1.06
	AVERAGE OF PERSONAL ATTITUDE STATEMENTS	3.82	0.65

Note: All measures are five-point scales with anchors 5 = strongly agree and 1 = strongly disagree.

When the statements are aggregated in scales adopted from marketing literature, it can be seen that standard deviations have improved and the combined scales have converged to the average from extreme values. From the results in Table 14, it may be seen that the mean of perceived usefulness is the highest and above four points which refers to a partial agreement to these statements by the respondents. As far as trust is concerned which has the lowest mean (3.44), the respondents are indifferent.

Table 14. Personal Attitude Scales

	Mean (Over 5)	Std. Dev.
Perceived Usefulness (1 st to 3 rd statements)	4.33	0.69
Perceived Personalization (4 th statement)	3.76	1.01
Perceived Cognitive Effort (5 th statement)	3.49	1.24
Perceived Ease of Use (6 th statement)	4.06	0.88
Trust (7 th to 9 th statements)	3.44	0.92
Perceived Entertainment Value (10 th to 11 th statements)	3.68	0.96

Note: All measures are five-point scales with anchors 5 = strongly agree and 1 = strongly disagree.

Internal Consistency of Scales

In this part, the consistency of the individuals' responses to all the items in each scale is tested. Cronbach's coefficient alpha is used for five-point scaled items to test the reliabilities. The items are correlated with each other to the extent that they measure the same scale independently.

Online Decision Aids

The inter-item consistency reliability coefficients of the six tool categories are obtained, as shown in Table 15. Cronbach's alpha is above .80 only in customization tools which is considered to be good. The reliabilities of technical support tools, classification and filtration tools, and visualization tools are in the .70 range which are acceptable. Even if the reliabilities of suggestion tools and payment and pricing tools are below .70, they are not considered as poor since they are not less than .60. Robinson, Shaver, & Wrightsman (1991) argue that Cronbach's alpha may decrease to .60 in exploratory research.

Table 15. Reliability of Online Decision Aid Categories

	Number of Items	Cronbach's Alpha
Customization Tools	5	0.802
Technical Support Tools	6	0.758
Classification and Filtration Tools	14	0.734
Visualization Tools	4	0.728
Suggestion Tools	2	0.685
Payment and Pricing Tools	6	0.672

Personal Attitude Scales

Table 16 shows Cronbach's alpha for all the scales, both combined and separate are over .80, ranging from .80 to .86. Since the closer the reliability coefficients get closer to 1.00, the better it is. Fifth statement is a negatively worded item so it is reversed in order to get a correct overall reliability and ensure that all the items measuring attitudes are in the same direction.

Table 16. Reliability of Personal Attitude Scales

	Number of Items	Cronbach's Alpha
Overall Reliability of Personal Attitude Scales	11	0.860
Perceived Usefulness	3	0.835
Perceived Entertainment Value	2	0.811
Trust	3	0.800

Cluster Analysis

Cluster analysis is performed to segment consumers according to their attitudes toward using various decision-making tools. The sample of online shoppers is clustered into four segments by using the average value of each online decision aid category as the base for segmentation. Cluster analysis is tried for two, four, and five clusters but the optimum solution is achieved with four clusters. Two clusters only delivered high and low usage and the number of cases in five clusters was not distributed in a reasonable way.

K-means cluster analysis is performed to segment respondents according to the differences in the importance they attach to online decision aid categories. It is

used to classify respondents into mutually exclusive and collectively exhaustive groups with high homogeneity within clusters and low homogeneity between clusters. Respondents who are similar to each other based on the importance they attach to online decision aid categories are identified at the fourteenth iteration, as shown in Table 17.

Table 17. Iteration History of Cluster Analysis

Iteration	Change in Cluster Centers			
	Cluster 1	Cluster 2	Cluster 3	Cluster 4
1	2.191	1.639	2.049	2.376
2	.167	.142	.123	.415
3	.196	.135	.121	.259
4	.249	.124	.111	.150
5	.163	.075	.091	.067
6	.090	.049	.030	.044
7	.065	.033	.032	.055
8	.017	.018	.031	.030
9	.031	.010	.042	.051
10	.034	.012	.018	.048
11	.025	.011	.000	.035
12	.000	.011	.020	.023
13	.009	.015	.000	.024
14	.000	.000	.000	.000

As shown in Table 18, there are no extreme values in the number of cases in each cluster, thus it is deemed reasonable.

Table 18. Number of Cases in Each Cluster

Cluster	Frequency	Percent
Cluster 1	101	26%
Cluster 2	117	31%
Cluster 3	67	17%
Cluster 4	98	26%
Total	383	100%

Respondents in Cluster 1 find suggestion tools somewhat unimportant but they think other tools are partially important. Based on their peculiar attitudes, respondents in Cluster 1 are named as control-centric users.

The highest mean values are attributed to respondents in Cluster 2 who think almost all tools are very important in decision-making. Based on their peculiar attitudes, respondents in Cluster 2 are named as avid users.

The lowest mean values are attributed to respondents in Cluster 3 who do not think the online decision aids, except suggestion tools, are important or unimportant. They share control-centric users' view about suggestion tools which they find somewhat unimportant. Based on their peculiar attitudes, respondents in Cluster 3 are named as indifferent users.

Respondents in Cluster 4 think that online decision aids, other than pricing and payment tools, are mediocre but they value such tools highly because they are price-oriented. Based on their peculiar attitudes, respondents in Cluster 4 are named as pocket-driven users.

The final cluster centers which represent the mean importance of each online decision aid category over five points for each cluster is shown in Table 19.

Table 19. Final Cluster Centers

	Cluster 1 (Control- centric Users)	Cluster 2 (Avid Users)	Cluster 3 (Indifferent Users)	Cluster 4 (Price-conscious Users)
Classification and Filtration Tools	4.09	4.39	3.70	3.97
Customization Tools	4.24	4.51	3.26	3.63
Visualization Tools	4.40	4.74	3.69	3.91
Technical Support Tools	4.35	4.53	3.52	3.86
Suggestion Tools	2.96	4.40	2.37	3.90
Payment and Pricing Tools	4.50	4.76	3.97	4.32

In Table 20, differentiation power of each online decision aid category in cluster analysis is shown. The ANOVA table shows that the F values of each tool are significant at the .01 level.

Table 20. Significance of Online Decision Aid Categories with Respect to Clusters

	F	Significance
Classification and Filtration Tools	57.440	.000 (**)
Customization Tools	103.977	.000 (**)
Visualization Tools	88.701	.000 (**)
Technical Support Tools	74.927	.000 (**)
Suggestion Tools	294.192	.000 (**)
Payment and Pricing Tools	53.998	.000 (**)

(**) significant at the 0.01 level

Relational Findings

ANOVA Analysis for Personal Attitude Scales and Clusters

In this part, analysis of variance is used to find out about any significant mean differences among clusters on individuals' attitudes towards online decision-making tools. Table 21 portrays an outline of tests and related variables.

Table 21. Summary of Conducted Tests and Relevant Variables for Hypothesis

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
1a	Cluster Membership	Perceived Usefulness	ANOVA
1b		Perceived Personalization	ANOVA
1c		Perceived Cognitive Effort	ANOVA
1d		Perceived Ease of Use	ANOVA
1e		Trust	ANOVA
1f		Perceived Entertainment Value	ANOVA

As may be seen from Table 22, only the perceived cognitive effort does not indicate any significant differences in attitudes toward online decision aids among four clusters. The rest of the tools' F values are significant at the 0.01 level.

Table 22. ANOVA between Personal Attitude Scales and Clusters

	Cluster	Mean (over 5)	F	Sig.
Perceived Usefulness	Control-centric Users	4.32	32.204	.000 (**)
	Avid Users	4.73		
	Indifferent Users	3.84		
	Price-conscious Users	4.21		
Perceived Personalization	Control-centric Users	3.60	25.366	.000 (**)
	Avid Users	4.32		
	Indifferent Users	3.13		
	Price-conscious Users	3.67		
Perceived Cognitive Effort	Control-centric Users	2.33	1.230	.299
	Avid Users	2.63		
	Indifferent Users	2.60		
	Price-conscious Users	2.51		
Perceived Ease of Use	Control-centric Users	3.96	7.867	.000 (**)
	Avid Users	4.36		
	Indifferent Users	3.78		
	Price-conscious Users	4.00		
Trust	Control-centric Users	3.24	21.844	.000 (**)
	Avid Users	3.93		
	Indifferent Users	2.96		
	Price-conscious Users	3.37		
Perceived Entertainment Value	Control-centric Users	3.44	18.201	.000 (**)
	Avid Users	4.11		
	Indifferent Users	3.19		
	Price-conscious Users	3.76		

(**) significant at the 0.01 level

Table 23 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between cluster membership and attitudes toward online decision aids are supported, except perceived cognitive effort.

Table 23. Testing Results of Hypothesis 1 and Its Sub-hypotheses

#	Hypothesis	Result
1	Individuals' attitudes towards online decision aids vary depending on their cluster memberships.	Partially substantiated
1a	Perceived usefulness of online decision aids varies depending on individuals' cluster memberships.	Substantiated
1b	Perceived personalization of online decision aids varies depending on individuals' cluster memberships.	Substantiated
1c	Perceived cognitive effort in online decision aids varies depending on individuals' cluster memberships.	Not substantiated
1d	Perceived ease of use of online decision aids varies depending on individuals' cluster memberships.	Substantiated
1e	Trust in online decision aids varies depending on individuals' cluster memberships.	Substantiated
1f	Perceived entertainment value of online decision aids varies depending on individuals' cluster memberships.	Substantiated

Correlation Matrices for Personal Attitude Scales and the Importance Individuals

Attach to Various Online Decision Aids

In this part, Pearson correlation is used to find out about nature, direction, and significance of the bivariate relationships among individuals' attitudes towards various online decision aids and the importance they attach to such tools. Table 24 portrays an outline of tests and related variables.

Table 24. Summary of Conducted Tests and Relevant Variables for Hypotheses 2, 3, 4, 5, 6 and 7

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
2a	Perceived Usefulness	Importance Consumers Attach to Classification and Filtration Tools	Correlation
2b		Importance Consumers Attach to Customization Tools	Correlation
2c		Importance Consumers Attach to Visualization Tools	Correlation
2d		Importance Consumers Attach to Technical Support Tools	Correlation
2e		Importance Consumers Attach to Suggestion Tools	Correlation
2f		Importance Consumers Attach to Payment and Pricing Tools	Correlation
3a	Perceived Personalization	Importance Consumers Attach to Classification and Filtration Tools	Correlation
3b		Importance Consumers Attach to Customization Tools	Correlation
3c		Importance Consumers Attach to Visualization Tools	Correlation
3d		Importance Consumers Attach to Technical Support Tools	Correlation
3e		Importance Consumers Attach to Suggestion Tools	Correlation
3f		Importance Consumers Attach to Payment and Pricing Tools	Correlation
4a	Perceived Cognitive Effort	Importance Consumers Attach to Classification and Filtration Tools	Correlation
4b		Importance Consumers Attach to Customization Tools	Correlation
4c		Importance Consumers Attach to Visualization Tools	Correlation
4d		Importance Consumers Attach to Technical Support Tools	Correlation
4e		Importance Consumers Attach to Suggestion Tools	Correlation
4f		Importance Consumers Attach to Payment and Pricing Tools	Correlation

Table 24. continued.

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
5a	Perceived Ease of Use	Importance Consumers Attach to Classification and Filtration Tools	Correlation
5b		Importance Consumers Attach to Customization Tools	Correlation
5c		Importance Consumers Attach to Visualization Tools	Correlation
5d		Importance Consumers Attach to Technical Support Tools	Correlation
5e		Importance Consumers Attach to Suggestion Tools	Correlation
5f		Importance Consumers Attach to Payment and Pricing Tools	Correlation
6a	Trust	Importance Consumers Attach to Classification and Filtration Tools	Correlation
6b		Importance Consumers Attach to Customization Tools	Correlation
6c		Importance Consumers Attach to Visualization Tools	Correlation
6d		Importance Consumers Attach to Technical Support Tools	Correlation
6e		Importance Consumers Attach to Suggestion Tools	Correlation
6f		Importance Consumers Attach to Payment and Pricing Tools	Correlation
7a	Perceived Entertainment Value	Importance Consumers Attach to Classification and Filtration Tools	Correlation
7b		Importance Consumers Attach to Customization Tools	Correlation
7c		Importance Consumers Attach to Visualization Tools	Correlation
7d		Importance Consumers Attach to Technical Support Tools	Correlation
7e		Importance Consumers Attach to Suggestion Tools	Correlation
7f		Importance Consumers Attach to Payment and Pricing Tools	Correlation

The Pearson correlation matrix obtained for the six interval-scaled personal attitude variables is shown in Table 25. From the results, it is seen that the importance individuals attach to classification and filtration tools is, as would be expected, significantly, positively correlated to perceived usefulness, perceived

personalization, perceived entertainment value, trust and perceived ease of use, given in a descending order. That is, consumers find classification and filtration tools important if they perceive the said properties in such tools. The correlation between perceived cognitive effort and the importance individuals attach to classification and filtration tools is not statistically significant. It is important to note that no correlation exceeded .41 for this sample.

Table 25. Pearson Correlation Matrix between Personal Attitude Scales and the Importance Individuals Attach to Classification and Filtration Tools

	Pearson Correlation	Significance (2-tailed)
Perceived Usefulness	.409**	.000
Perceived Personalization	.362**	.000
Perceived Cognitive Effort	.036	.479
Perceived Ease of Use	.281**	.000
Trust	.299**	.000
Perceived Entertainment Value	.323**	.000

(**) significant at the 0.01 level

Table 26 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between the importance consumers attach to classification and filtration tools and attitudes toward such aids are supported, except perceived cognitive effort.

Table 26. Testing Results of Hypothesis 2 and Its Sub-hypotheses

#	Hypothesis	Result
2	There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to classification and filtration tools.	Partially substantiated
2a	There is a positive relationship between perceived usefulness and the importance individuals attach to classification and filtration tools.	Substantiated
2b	There is a positive relationship between perceived personalization and the importance individuals attach to classification and filtration tools.	Substantiated
2c	There is a negative relationship between perceived cognitive effort and the importance individuals attach to classification and filtration tools.	Not substantiated
2d	There is a positive relationship between perceived ease of use and the importance individuals attach to classification and filtration tools.	Substantiated
2e	There is a positive relationship between trust and the importance individuals attach to classification and filtration tools.	Substantiated
2f	There is a positive relationship between perceived entertainment value and the importance individuals attach to classification and filtration tools.	Substantiated

The Pearson correlation matrix obtained for the six interval-scaled personal attitude variables is shown in Table 27. From the results, it is seen that the importance individuals attach to customization tools is, as would be expected, significantly, positively correlated to perceived usefulness, trust, perceived personalization, perceived ease of use, and perceived entertainment value, given in a descending order. That is, consumers find customization tools important if they perceive the said properties in such tools. The correlation between perceived cognitive effort and the importance individuals attach to customization tools is not statistically significant. It is important to note that no correlation exceeded .32 for this sample.

Table 27. Pearson Correlation Matrix between Personal Attitude Scales and the Importance Individuals Attach to Customization Tools

	Pearson Correlation	Significance (2-tailed)
Perceived Usefulness	.324**	.000
Perceived Personalization	.235**	.000
Perceived Cognitive Effort	.070	.171
Perceived Ease of Use	.214**	.000
Trust	.237**	.000
Perceived Entertainment Value	.177**	.000

(**) significant at the 0.01 level

Table 28 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between the importance consumers attach to customization tools and attitudes toward such aids are supported, except perceived cognitive effort.

Table 28. Testing Results of Hypothesis 3 and Its Sub-hypotheses

#	Hypothesis	Result
3	There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to customization tools.	Partially substantiated
3a	There is a positive relationship between perceived usefulness and the importance individuals attach to customization tools.	Substantiated
3b	There is a positive relationship between perceived personalization and the importance individuals attach to customization tools.	Substantiated
3c	There is a negative relationship between perceived cognitive effort and the importance individuals attach to customization tools.	Not substantiated
3d	There is a positive relationship between perceived ease of use and the importance individuals attach to customization tools.	Substantiated
3e	There is a positive relationship between trust and the importance individuals attach to customization tools.	Substantiated
3f	There is a positive relationship between perceived entertainment value and the importance individuals attach to customization tools.	Substantiated

The Pearson correlation matrix obtained for the six interval-scaled personal attitude variables is shown in Table 29. From the results, it is seen that the importance individuals attach to visualization tools is, as would be expected, significantly,

positively correlated to perceived usefulness, perceived personalization, trust, perceived entertainment value, and perceived ease of use, given in a descending order. That is, consumers find visualization tools important if they perceive the said properties in such tools. The correlation between perceived cognitive effort and the importance individuals attach to visualization tools is not statistically significant. It is important to note that no correlation exceeded .31 for this sample.

Table 29. Pearson Correlation Matrix between Personal Attitude Scales and the Importance Individuals Attach to Visualization Tools

	Pearson Correlation	Significance (2-tailed)
Perceived Usefulness	.310**	.000
Perceived Personalization	.281**	.000
Perceived Cognitive Effort	-.017	.739
Perceived Ease of Use	.165**	.001
Trust	.235**	.000
Perceived Entertainment Value	.207**	.000

(**) significant at the 0.01 level

Table 30 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between the importance consumers attach to visualization tools and attitudes toward such aids are supported, except perceived cognitive effort.

Table 30. Testing Results of Hypothesis 4 and Its Sub-hypotheses

#	Hypothesis	Result
4	There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to visualization tools.	Partially substantiated
4a	There is a positive relationship between perceived usefulness and the importance individuals attach to visualization tools.	Substantiated
4b	There is a positive relationship between perceived personalization and the importance individuals attach to visualization tools.	Substantiated
4c	There is a negative relationship between perceived cognitive effort and the importance individuals attach to visualization tools.	Not substantiated
4d	There is a positive relationship between perceived ease of use and the importance individuals attach to visualization tools.	Substantiated
4e	There is a positive relationship between trust and the importance individuals attach to visualization tools.	Substantiated
4f	There is a positive relationship between perceived entertainment value and the importance individuals attach to visualization tools.	Substantiated

The Pearson correlation matrix obtained for the six interval-scaled personal attitude variables is shown in Table 31. From the results, it is seen that the importance individuals attach to technical support tools is, as would be expected, significantly, positively correlated to perceived usefulness, perceived personalization, trust, perceived ease of use, and perceived entertainment value, given in a descending order. That is, consumers find technical support tools important if they perceive the said properties in such tools. The correlation between perceived cognitive effort and the importance individuals attach to technical support tools is not statistically significant. It is important to note that no correlation exceeded .34 for this sample.

Table 31. Pearson Correlation Matrix between Personal Attitude Scales and the Importance Individuals Attach to Technical Support Tools

	Pearson Correlation	Significance (2-tailed)
Perceived Usefulness	.339**	.000
Perceived Personalization	.320**	.000
Perceived Cognitive Effort	-.038	.460
Perceived Ease of Use	.280**	.001
Trust	.282**	.000
Perceived Entertainment Value	.253**	.000

(**) significant at the 0.01 level

Table 32 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between the importance consumers attach to technical support tools and attitudes toward such aids are supported, except perceived cognitive effort.

Table 32. Testing Results of Hypothesis 5 and Its Sub-hypotheses

#	Hypothesis	Result
5	There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to technical support tools.	Partially substantiated
5a	There is a positive relationship between perceived usefulness and the importance individuals attach to technical support tools.	Substantiated
5b	There is a positive relationship between perceived personalization and the importance individuals attach to technical support tools.	Substantiated
5c	There is a negative relationship between perceived cognitive effort and the importance individuals attach to technical support tools.	Not substantiated
5d	There is a positive relationship between perceived ease of use and the importance individuals attach to technical support tools.	Substantiated
5e	There is a positive relationship between trust and the importance individuals attach to technical support tools.	Substantiated
5f	There is a positive relationship between perceived entertainment value and the importance individuals attach to technical support tools.	Substantiated

The Pearson correlation matrix obtained for the six interval-scaled personal attitude variables is shown in Table 33. From the results, it is seen that the importance individuals attach to suggestion tools is, as would be expected, significantly, positively correlated to perceived personalization, trust, perceived usefulness, perceived entertainment value, and perceived ease of use, given in a descending order. That is, consumers find suggestion tools important if they perceive the said properties in such tools. The correlation between perceived cognitive effort and the importance individuals attach to suggestion tools is not statistically significant. It is important to note that no correlation exceeded .38 for this sample.

Table 33. Pearson Correlation Matrix between Personal Attitude Scales and the Importance Individuals Attach to Suggestion Tools

	Pearson Correlation	Significance (2-tailed)
Perceived Usefulness	.339**	.000
Perceived Personalization	.384**	.000
Perceived Cognitive Effort	-.081	.112
Perceived Ease of Use	.204**	.001
Trust	.374**	.000
Perceived Entertainment Value	.331**	.000

(**) significant at the 0.01 level

Table 34 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between the importance consumers attach to suggestion tools and attitudes toward such aids are supported, except perceived cognitive effort.

Table 34. Testing Results of Hypothesis 6 and Its Sub-hypotheses

#	Hypothesis	Result
6	There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to suggestion tools.	Partially substantiated
6a	There is a positive relationship between perceived usefulness and the importance individuals attach to suggestion tools.	Substantiated
6b	There is a positive relationship between perceived personalization and the importance individuals attach to suggestion tools.	Substantiated
6c	There is a negative relationship between perceived cognitive effort and the importance individuals attach to suggestion tools.	Not substantiated
6d	There is a positive relationship between perceived ease of use and the importance individuals attach to suggestion tools.	Substantiated
6e	There is a positive relationship between trust and the importance individuals attach to suggestion tools.	Substantiated
6f	There is a positive relationship between perceived entertainment value and the importance individuals attach to suggestion tools.	Substantiated

The Pearson correlation matrix obtained for the six interval-scaled personal attitude variables is shown in Table 35. From the results, it is seen that the importance individuals attach to payment and pricing tools is, as would be expected, significantly, positively correlated to perceived usefulness, perceived entertainment value, perceived personalization, trust, and perceived ease of use, given in a descending order. That is, consumers find payment and pricing tools important if they perceive the said properties in such tools. The correlation between perceived cognitive effort and the importance individuals attach to payment and pricing tools is not statistically significant. It is important to note that no correlation exceeded .44 for this sample.

Table 35. Pearson Correlation Matrix between Personal Attitude Scales and the Importance Individuals Attach to Payment and Pricing Tools

	Pearson Correlation	Significance (2-tailed)
Perceived Usefulness	.441**	.000
Perceived Personalization	.282**	.000
Perceived Cognitive Effort	.030	.564
Perceived Ease of Use	.232**	.001
Trust	.236**	.000
Perceived Entertainment Value	.294**	.000

(**) significant at the 0.01 level

Table 36 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between the importance consumers attach to payment and pricing tools and attitudes toward such aids are supported, except perceived cognitive effort.

Table 36. Testing Results of Hypothesis 7 and Its Sub-hypotheses

#	Hypothesis	Result
7	There is a positive relationship between individuals' general attitudes towards online decision aids and the importance they attach to payment and pricing tools.	Partially substantiated
7a	There is a positive relationship between perceived usefulness and the importance individuals attach to payment and pricing tools.	Substantiated
7b	There is a positive relationship between perceived personalization and the importance individuals attach to payment and pricing tools.	Substantiated
7c	There is a negative relationship between perceived cognitive effort and the importance individuals attach to payment and pricing tools.	Not substantiated
7d	There is a positive relationship between perceived ease of use and the importance individuals attach to payment and pricing tools.	Substantiated
7e	There is a positive relationship between trust and the importance individuals attach to payment and pricing tools.	Substantiated
7f	There is a positive relationship between perceived entertainment value and the importance individuals attach to payment and pricing tools.	Substantiated

Chi-Square Tests for Internet Usage Behavior and Frequency of Online Decision Aid

Usage

In this part, chi-square tests are used to find out about the relationships between Internet usage behavior and frequency of online decision aid usage and whether they are independent of one another. Table 37 portrays an outline of tests and related variables.

Table 37. Summary of Conducted Tests and Relevant Variables for Hypotheses 8 and 9

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
8a	Internet Experience	Frequency of Classification and Filtration Tools Usage	Cross-tab
8b		Frequency of Customization Tools Usage	Cross-tab
8c		Frequency of Visualization Tools Usage	Cross-tab
8d		Frequency of Technical support Tools Usage	Cross-tab
8e		Frequency of Suggestion Tools Usage	Cross-tab
8f		Frequency of Payment and Pricing Tools Usage	Cross-tab
9a	Internet Daily Use	Frequency of Classification and Filtration Tools Usage	Cross-tab
9b		Frequency of Customization Tools Usage	Cross-tab
9c		Frequency of Visualization Tools Usage	Cross-tab
9d		Frequency of Technical support Tools Usage	Cross-tab
9e		Frequency of Suggestion Tools Usage	Cross-tab
9f		Frequency of Payment and Pricing Tools Usage	Cross-tab

As may be seen from Table 38, none of the online decision aids' λ^2 value has two-sided asymptotic significance. In other words, Internet experience and frequency of online decision aids usage are not related.

Table 38. Summary of Crosstab Results between Internet Experience and Frequency of Online Decision Aids Usage

	Pearson χ^2 Value	Sig.
Classification and Filtration Tools	1.149	.563
Customization Tools	5.113	.164
Visualization Tools	1.664	.435
Technical Support Tools	.748	.862
Suggestion Tools	1.153	.562
Payment and Pricing Tools	.510	.775

Table 39 shows an overall testing result of the corresponding hypothesis which is studied in the chi-square tests. As can be seen below, none of the relationships between Internet experience and frequency of online decision aid usage are supported.

Table 39. Testing Results of Hypothesis 8 and Its Sub-hypotheses

#	Hypothesis	Result
8	There is a relationship between Internet experience and frequency of online decision aid usage.	Not substantiated
8a	There is a relationship between Internet experience and frequency of classification and filtration tools usage.	Not substantiated
8b	There is a relationship between Internet experience and frequency of customization tools usage.	Not substantiated
8c	There is a relationship between Internet experience and frequency of visualization tools usage.	Not substantiated
8d	There is a relationship between Internet experience and frequency of technical support tools usage.	Not substantiated
8e	There is a relationship between Internet experience and frequency of suggestion tools usage.	Not substantiated
8f	There is a relationship between Internet experience and frequency of payment and pricing tools usage.	Not substantiated

As already mentioned in “Descriptive Statistics” section under “Online Decision Aids” sub-heading, the number of people who seldom use classification and filtration tools (eight respondents) is lower than thirty which hinders drawing meaningful results in data analysis as mentioned by Sekaran & Bougie (2010). That is why; the

frequency of using classification and filtration tools is recoded into three variables as shown in the legend below:

- Low category: Rarely + Sometimes = $38 + 8 = 46$ respondents
- Medium category: Frequently = 192 respondents
- High category: Always = 145 respondents

Table 40. Crosstab between Internet Daily Use and Frequency of Classification and Filtration Tools Usage

Internet Daily Use	Frequency of Classification and Filtration Tools Usage		
	Low	Medium	High
<4 hours	28	93	52
	16%	54%	30%
5-8 hours	10	63	50
	8%	51%	41%
>8 hours	8	36	43
	10%	41%	49%

The cross-tabulation count indicates that, of the respondents who use the Internet less than four hours a day, 16 percent use classification and filtration tools less than average, 54 percent use such tools on average, and 30 percent use them more than average. Of the respondents who use the Internet five – eight hours a day, only 8 percent use classification and filtration tools less than average, 51 percent use such tools on average, and 41 percent use them more than average. Finally, of the respondents who use the Internet more than eight hours a day, 10 percent use classification and filtration tools less than average, 41 percent use such tools on average and 49 percent use them more than average; this shows an improving pattern. Table 40 shows that as respondents use the Internet more often during the day, they increase their utilization of classification and filtration tools.

As already mentioned in “Descriptive Statistics” section under “Online Decision Aids” sub-heading, the number of people who always use the suggestion tools (twenty-five respondents) is lower than thirty which hinders drawing meaningful findings in data analysis as mentioned by Sekaran & Bougie (2010). That is why; the frequency of using suggestion tools is recoded into three variables as shown in the legend below:

- Low category: Seldom= 131 respondents
- Medium category: Sometimes = 155 respondents
- High category: Frequently + Always = 72 + 25 = 97 respondents

Table 41. Crosstab between Internet Daily Use and Frequency of Suggestion Tools Usage

Internet Daily Use	Frequency of Suggestion Tools Usage		
	Low	Medium	High
<4 hours	66	67	40
	38%	39%	23%
5-8 hours	44	54	25
	36%	44%	20%
>8 hours	21	34	32
	24%	39%	37%

The cross-tabulation count indicates that, of the respondents who use the Internet less than four hours a day, 38 percent use suggestion tools less than average, 39 percent use such tools on average, and 23 percent use them more than average. Of the respondents who use the Internet five – eight hours a day, 36 percent use suggestion tools less than average, 44 percent use such tools on average, and 20 percent use them more than average. Finally, of the respondents who use the Internet more than eight hours a day, 24 percent use suggestion tools less than average, 39 percent use such tools on average and 37 percent use them more than average. Table 41 shows

that as respondents use the Internet more often during the day, they increase their utilization of suggestion tools.

Table 42. Summary of Crosstab Results between Internet Daily Use and Frequency of Online Decision Aids Usage

	Pearson λ^2 Value	Sig.
Classification and Filtration Tools	12.547	.014 (*)
Customization Tools	9.552	.145
Visualization Tools	6.276	.179
Technical Support Tools	8.459	.206
Suggestion Tools	10.037	.040 (*)
Payment and Pricing Tools	8.009	.091

(*) significant at the 0.05 level

As may be seen from Table 42, with the λ^2 value of 12.55, classification and filtration tools have two-sided asymptotic significance. Also, with the λ^2 value of 10.04, suggestion tools have two-sided asymptotic significance. In other words, Internet experience and frequency of online decision aids usage are related only for these tools, not for the rest of the online decision aids.

Table 43. Testing Results of Hypothesis 9 and Its Sub-hypotheses

#	Hypothesis	Result
9	There is a relationship between Internet daily use and frequency of online decision aid usage.	Partially substantiated
9a	There is a relationship between Internet daily use and frequency of classification and filtration tools usage.	Substantiated
9b	There is a relationship between Internet daily use and frequency of customization tools usage.	Not substantiated
9c	There is a relationship between Internet daily use and frequency of visualization tools usage.	Not substantiated
9d	There is a relationship between Internet daily use and frequency of technical support tools usage.	Not substantiated
9e	There is a relationship between Internet daily use and frequency of suggestion tools usage.	Substantiated
9f	There is a relationship between Internet daily use and frequency of payment and pricing tools usage.	Not substantiated

Table 43 shows the testing results of the corresponding hypotheses above. As can be seen, only the relationships between the Internet daily use and frequency of classification and filtration tools and suggestion tools usage are supported.

Chi-Square Tests for Online Shopping Habits and Frequency of Online Decision Aid

Usage

In this part, chi-square tests are used to find out about the relationships between online shopping habits and frequency of online decision aid usage and whether they are independent of one another. Table 44 portrays an outline of tests and related variables.

Table 44. Summary of Conducted Tests and Relevant Variables for Hypothesis 10

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
10a	Online Shopping Experience	Frequency of Classification and Filtration Tools Usage	Cross-tab
10b		Frequency of Customization Tools Usage	Cross-tab
10c		Frequency of Visualization Tools Usage	Cross-tab
10d		Frequency of Technical support Tools Usage	Cross-tab
10e		Frequency of Suggestion Tools Usage	Cross-tab
10f		Frequency of Payment and Pricing Tools Usage	Cross-tab

Even though the number of people in each online shopping experience category is greater than thirty, the distribution of respondents is not reasonable; this means that the number of expected counts in some categories is less than five. That is why; the online shopping experience is recoded into two variables as shown in the legend below:

- Light Users category: Rarely + Sometimes = $> 59 + 153 = 212$ respondents
- Heavy Users category: Generally + Always = $> 129 + 42 = 171$ respondents

Table 45. Crosstab between Online Shopping Experience and Frequency of Classification and Filtration Tools Usage

Online Shopping Experience	Frequency of Classification and Filtration Tools Usage		
	Low	Medium	High
Light Users	38	105	69
	17%	50%	33%
Heavy Users	8	87	76
	5%	51%	44%

The cross-tabulation count indicates that, of the respondents who do not have enough online shopping experience, 17 percent use classification and filtration tools less than average, 50 percent use such tools on average, and 33 percent use them more than average. Of the respondents who have very much online shopping experience, only 5 percent use classification and filtration tools less than average, 51 percent use such tools on average, and 44 percent use them more than average. Table 45 shows that as respondents have more experience in online shopping, they increase their utilization of classification and filtration tools.

Even though the number of people in each frequency category is greater than thirty as far as visualization tools are concerned, the distribution of respondents is not reasonable; this means that the number of expected counts in some categories is less than five. That is why; the frequency of using visualization tools is recoded into three variables as shown in the legend below:

- Low category: Seldom + Sometimes = $> 32 + 82 = 114$ respondents
- Medium category: Frequently = 168 respondents
- High category: Always = 101 respondents

Table 46. Crosstab between Online Shopping Experience and Frequency of Visualization Tools Usage

Online Shopping Experience	Frequency of Visualization Tools Usage		
	Low	Medium	High
Light Users	63	103	46
	29%	49%	22%
Heavy Users	51	65	55
	30%	38%	32%

The cross-tabulation count indicates that, of the respondents who do not have enough online shopping experience, 29 percent use visualization tools less than average, 49 percent use such tools on average, and 22 percent use them more than average. Of the respondents who have very much online shopping experience, 30 percent use visualization tools less than average, 38 percent use such tools on average, and 32 percent use them more than average. Table 46 shows that as respondents have more experience in online shopping, they increase their utilization of visualization tools.

As already mentioned in “Descriptive Statistics” section under “Online Decision Aids” sub-heading, the number of people who seldom use the payment and pricing tools (eleven respondents) is lower than thirty which hinders justifying meaningful results in data analysis as mentioned by Sekaran & Bougie (2010). That is why; the frequency of using visualization tools is recoded into three variables as shown in the legend below:

- Low category: Seldom + Sometimes => 11 + 47 = 58 respondents
- Medium category: Frequently = 143 respondents
- High category: Always = 182 respondents

Table 47. Crosstab between Online Shopping Experience and Frequency of Payment and Pricing Tools Usage

Online Shopping Experience	Frequency of Payment and Pricing Tools Usage		
	Low	Medium	High
Light Users	39	96	77
	18%	46%	36%
Heavy Users	19	47	105
	11%	28%	61%

The cross-tabulation count indicates that, of the respondents who do not have enough online shopping experience, 18 percent use payment and pricing tools less than average, 46 percent use such tools on average, and 36 percent use them more than average. Of the respondents who have very much online shopping experience, 11 percent use payment and pricing tools less than average, 28 percent use such tools on average, and 61 percent use them more than average. Table 47 shows that; as respondents have more experience in online shopping, they increase their utilization of payment and pricing tools.

Table 48. Summary of Crosstab Results between Online Shopping Experience and Frequency of Online Decision Aids Usage

	Pearson χ^2 Value	Sig.
Classification and Filtration Tools	17.401	.000 (**)
Customization Tools	5.281	.152
Visualization Tools	6.344	.042 (*)
Technical Support Tools	2.978	.395
Suggestion Tools	.798	.671
Payment and Pricing Tools	23.879	.000 (**)

(**) significant at the 0.01 level

(*) significant at the 0.05 level

As may be seen from Table 48, with the χ^2 value of 17.40, classification and filtration tools have two-sided asymptotic significance at the 0.01 level. In parallel to this, with the χ^2 value of 23.88, payment and pricing tools have two-sided asymptotic significance at the 0.01 level. Also, with the χ^2 value of 6.34, visualization tools have

two-sided asymptotic significance at the 0.05 level. In other words, Internet experience and frequency of online decision aids usage are related only for these tools, not for the rest of the online decision aids.

Table 49. Testing Results of Hypothesis 10 and Its Sub-hypotheses

#	Hypothesis	Result
10	There is a relationship between online shopping experience and frequency of online decision aid usage.	Partially substantiated
10a	There is a relationship between online shopping experience and frequency of classification and filtration tools usage.	Substantiated
10b	There is a relationship between online shopping experience and frequency of customization tools usage.	Not substantiated
10c	There is a relationship between online shopping experience and frequency of visualization tools usage.	Substantiated
10d	There is a relationship between online shopping experience and frequency of technical support tools usage.	Not substantiated
10e	There is a relationship between online shopping experience and frequency of suggestion tools usage.	Not substantiated
10f	There is a relationship between online shopping experience and frequency of payment and pricing tools usage.	Substantiated

Table 49 shows the testing results of the corresponding hypotheses above. As can be seen, only the relationships between online shopping experience and frequency of classification and filtration tools, visualization tools and payment and pricing tools usage are supported.

t-test for Gender and the Importance Consumers Attach to Online Decision Aids

In this part, t-test is used to find out about any significant mean differences between men and women on the importance they attach to various online decision-making tools. Table 50 portrays an outline of tests and related variables.

Table 50. Summary of Conducted Tests and Relevant Variables for Hypothesis 11

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
11a	Gender	Importance Consumers Attach to Classification and Filtration Tools	t-test
11b		Importance Consumers Attach to Customization Tools	t-test
11c		Importance Consumers Attach to Visualization Tools	t-test
11d		Importance Consumers Attach to Technical Support Tools	t-test
11e		Importance Consumers Attach to Suggestion Tools	t-test
11f		Importance Consumers Attach to Payment and Pricing Tools	t-test

As may be seen from Table 51, the difference in the means of 4.13 and 3.85 for the women and men on the importance they attach to customization tools is significant at the 0.01 level and the difference in the means of 4.37 and 4.13 for the women and men on utilization of visualization tools is significant at the 0.01 level. Similarly, the difference in the means of 4.23 and 4.04 for the women and men on the importance they attach to technical support tools is significant at the 0.01 level and the difference in the means of 4.23 and 4.04 for the women and men on the importance they attach to technical support tools is significant at the 0.01 level. Finally, the difference in the means of 3.65 and 3.41 for the women and men on the importance they attach to suggestion tools is significant at the 0.01 level and the difference in the means of 4.50 and 4.38 for the women and men on the importance they attach to technical support tools is significant at the 0.05 level. All the significances are two-tailed, equal variances assumed. On the other hand, the perceived differences regarding classification and filtration tools are not significantly different for women than for men.

Table 51. Independent t-test between Gender and the Importance Consumers Attach to Online Decision Aids

	Gender	Mean (over 5)	t	Sig.
Classification and Filtration Tools	Female	4.12	1.804	.072
	Male	4.04		
Customization Tools	Female	4.13	3.967	.000 (**)
	Male	3.85		
Visualization Tools	Female	4.37	3.844	.000 (**)
	Male	4.13		
Technical Support Tools	Female	4.23	2.938	.004 (**)
	Male	4.04		
Suggestion Tools	Female	3.65	2.657	.008 (**)
	Male	3.41		
Payment and Pricing Tools	Female	4.50	2.551	.011 (*)
	Male	4.38		

(**) significant at the 0.01 level

(*) significant at the 0.05 level

Table 52 shows the testing results of the corresponding hypotheses below. As can be seen, all the relationships between gender and frequency of online decision-making tools usage are supported, except classification and filtration tools.

Table 52. Testing Results of Hypothesis 11 and Its Sub-hypotheses

#	Hypothesis	Result
11	There is a difference between men and women in terms of the importance they attach to various online decision-making tools.	Partially substantiated
11a	There is a difference between men and women in terms of the importance they attach to classification and filtration tools.	Not substantiated
11b	There is a difference between men and women in terms of the importance they attach to customization tools.	Substantiated
11c	There is a difference between men and women in terms of the importance they attach to visualization tools.	Substantiated
11d	There is a difference between men and women in terms of the importance they attach to technical support tools.	Substantiated
11e	There is a difference between men and women in terms of the importance they attach to suggestion tools.	Substantiated
11f	There is a difference between men and women in terms of the importance they attach to payment and pricing tools.	Substantiated

ANOVA for Between Demographic Characteristics and the Importance Consumers

Attach to Online Decision Aids

In this part, analysis of variance is used to find out about any significant mean differences among demographic characteristics of individuals on the importance they attach to various online decision-making tools. Table 53 portrays an outline of tests and related variables.

Table 53. Summary of Conducted Tests and Relevant Variables for Hypotheses 12, 13 and 14

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
12a	Age	Importance Consumers Attach to Classification and Filtration Tools	ANOVA
12b		Importance Consumers Attach to Customization Tools	ANOVA
12c		Importance Consumers Attach to Visualization Tools	ANOVA
12d		Importance Consumers Attach to Technical Support Tools	ANOVA
12e		Importance Consumers Attach to Suggestion Tools	ANOVA
12f		Importance Consumers Attach to Payment and Pricing Tools	ANOVA
13a	Education	Importance Consumers Attach to Classification and Filtration Tools	ANOVA
13b		Importance Consumers Attach to Customization Tools	ANOVA
13c		Importance Consumers Attach to Visualization Tools	ANOVA
13d		Importance Consumers Attach to Technical Support Tools	ANOVA
13e		Importance Consumers Attach to Suggestion Tools	ANOVA
13f		Importance Consumers Attach to Payment and Pricing Tools	ANOVA

Table 53. continued.

Hypothesis #	Independent Variable	Dependent Variable	Type of Test
14a	Monthly Income	Importance Consumers Attach to Classification and Filtration Tools	ANOVA
14b		Importance Consumers Attach to Customization Tools	ANOVA
14c		Importance Consumers Attach to Visualization Tools	ANOVA
14d		Importance Consumers Attach to Technical Support Tools	ANOVA
14e		Importance Consumers Attach to Suggestion Tools	ANOVA
14f		Importance Consumers Attach to Payment and Pricing Tools	ANOVA

As may be seen from Table 54, none of the online decision aids' F value is significant. In other words, there are not any significant differences in the means of the importance respondents attach to online decision aids in the three age groups.

Table 54. ANOVA between Age and the Importance Consumers Attach to Online Decision Aids

	Age	Mean (over 5)	F	Sig.
Classification and Filtration Tools	18-23	4.11	.244	.784
	24-29	4.07		
	> 30	4.08		
Customization Tools	18-23	4.06	1.715	.181
	24-29	4.02		
	> 30	3.86		
Visualization Tools	18-23	4.23	.116	.891
	24-29	4.25		
	> 30	4.28		
Technical Support Tools	18-23	4.16	.510	.601
	24-29	4.15		
	> 30	4.07		
Suggestion Tools	18-23	3.46	.949	.388
	24-29	3.59		
	> 30	3.45		
Payment and Pricing Tools	18-23	4.46	.118	.889
	24-29	4.43		
	> 30	4.45		

Table 55 shows the testing results of the corresponding hypotheses below. As can be seen, none of the relationships between age and the importance individuals attach to various online decision-making tools are supported.

Table 55. Testing Results of Hypothesis 12 and Its Sub-hypotheses

#	Hypothesis	Result
12	The importance individuals attach to various online decision-making tools varies depending on their ages.	Not substantiated
12a	The importance individuals attach to classification and filtration tools varies depending on their ages.	Not substantiated
12b	The importance individuals attach to customization tools varies depending on their ages.	Not substantiated
12c	The importance individuals attach to visualization tools varies depending on their ages.	Not substantiated
12d	The importance individuals attach to technical support tools varies depending on their ages.	Not substantiated
12e	The importance individuals attach to suggestion tools varies depending on their ages.	Not substantiated
12f	The importance individuals attach to payment and pricing tools varies depending on their ages.	Not substantiated

As may be seen from Table 56, F value of 3.258 for visualization tools is significant at the 0.05 level and F value of 3.332 for technical support tools is significant at the 0.05 level. Other than these two, none of the online decision aids' F value is significant. In other words, there are not any significant in the means of the importance respondents attach to classification and filtration tools, customization tools, suggestion tools and payment and pricing tools in the four education levels.

Table 56. ANOVA between Education and the Importance Consumers Attach to Online Decision Aids

	Education	Mean (over 5)	F	Sig.
Classification and Filtration Tools	Undergraduate Student and below	4.13	1.297	.275
	Undergraduate Degree	4.03		
	Graduate Student	4.12		
	Graduate Degree and above	4.06		
Customization Tools	Undergraduate Student and below	4.01	1.023	.382
	Undergraduate Degree	4.02		
	Graduate Student	4.03		
	Graduate Degree and above	3.85		
Visualization Tools	Undergraduate Student and below	4.34	3.258	.022 (*)
	Undergraduate Degree	4.31		
	Graduate Student	4.09		
	Graduate Degree and above	4.25		
Technical Support Tools	Undergraduate Student and below	4.31	3.332	.020 (*)
	Undergraduate Degree	4.10		
	Graduate Student	4.04		
	Graduate Degree and above	4.10		
Suggestion Tools	Undergraduate Student and below	3.62	1.774	.152
	Undergraduate Degree	3.55		
	Graduate Student	3.59		
	Graduate Degree and above	3.30		
Payment and Pricing Tools	Undergraduate Student and below	4.44	.945	.419
	Undergraduate Degree	4.44		
	Graduate Student	4.49		
	Graduate Degree and above	4.35		

(*) significant at the 0.05 level

Table 57 shows the testing results of the corresponding hypotheses below. As can be seen, only the relationships between education and the importance individuals attach to visualization tools and technical support tools are supported.

Table 57. Testing Results of Hypothesis 13 and Its Sub-hypotheses

#	Hypothesis	Result
13	The importance individuals attach to various online decision-making tools varies depending on their education levels.	Partially substantiated
13a	The importance individuals attach to classification and filtration tools varies depending on their education levels.	Not substantiated
13b	The importance individuals attach to customization tools usage of individuals varies depending on their education levels.	Not substantiated
13c	The importance individuals attach to visualization tools varies depending on their education levels.	Substantiated
13d	The importance individuals attach to technical support tools varies depending on their education levels.	Substantiated
13e	The importance individuals attach to suggestion tools varies depending on their education levels.	Not substantiated
13f	The importance individuals attach to payment and pricing tools varies depending on their education levels.	Not substantiated

As may be seen from Table 58, only the F value of 4.450 for technical support tools is significant at the 0.01 level. The rest of the tools' F values are not significant at all. In other words, there are not any significant differences in the means of the importance respondents attach to classification and filtration tools, customization tools, visualization tools, suggestion tools and payment and pricing tools in the four income levels.

Table 58. ANOVA between Income and the Importance Consumers Attach to Online Decision Aids

	Income	Mean (over 5)	F	Sig.
Classification and Filtration Tools	< 1,000 TL	4.12	1.645	.179
	1,000-2,000 TL	4.10		
	2,001-3,500 TL	4.00		
	> 3,501 TL	4.10		
Customization Tools	< 1,000 TL	4.00	2.075	.103
	1,000-2,000 TL	4.12		
	2,001-3,500 TL	3.88		
	> 3,501 TL	3.95		
Visualization Tools	< 1,000 TL	4.29	1.424	.235
	1,000-2,000 TL	4.33		
	2,001-3,500 TL	4.20		
	> 3,501 TL	4.17		
Technical Support Tools	< 1,000 TL	4.29	4.450	.004 (**)
	1,000-2,000 TL	4.18		
	2,001-3,500 TL	4.09		
	> 3,501 TL	3.96		
Suggestion Tools	< 1,000 TL	3.54	.552	.647
	1,000-2,000 TL	3.56		
	2,001-3,500 TL	3.44		
	> 3,501 TL	3.61		
Payment and Pricing Tools	< 1,000 TL	4.45	1.295	.276
	1,000-2,000 TL	4.51		
	2,001-3,500 TL	4.41		
	> 3,501 TL	4.37		

(**) significant at the 0.01 level

Table 59 shows the testing results of the corresponding hypotheses below. As can be seen, only the relationship between income and the importance individuals attach to technical support tools are supported.

Table 59. Testing Results of Hypothesis 14 and Its Sub-hypotheses

#	Hypothesis	Result
14	The importance individuals attach to various online decision-making tools varies depending on their income levels.	Partially substantiated
14a	The importance individuals attach to classification and filtration tools varies depending on their income levels.	Not substantiated
14b	The importance individuals attach to customization tools varies depending on their income levels.	Not substantiated
14c	The importance individuals attach to visualization tools varies depending on their income levels.	Not substantiated
14d	The importance individuals attach to technical support tools varies depending on their income levels.	Substantiated
14e	The importance individuals attach to suggestion tools varies depending on their income levels.	Not substantiated
14f	The importance individuals attach to payment and pricing tools varies depending on their income levels.	Not substantiated

CHAPTER 6

CONCLUSION AND IMPLICATIONS

The most popular online decision-making tools are identified in the descriptive statistics. The most important online decision aid is the payment and pricing tools. They are followed by visualization tools. On the other hand, the least important tool is the suggestion tools. They are followed by customization tools. Consumers are indifferent about technical support tools and classification and filtration tools.

Second, it is shown in the cluster analysis that each segment differs from one another with respect to their attitudes towards online decision aids, except that they all disagree on the time-consuming aspect of such tools. Avid users and indifferent users are at the two extremes in the sense that the former segment thinks that online decision aids takes into account their needs and wants and that they are dependable and engaging. On the other hand, the latter segment is undecided regarding the said properties. In addition, avid users find such tools very beneficial but indifferent users find them somewhat useful. The distinction between control-centric users and price-conscious users lies in their perception of online decision aids to be entertaining. The first segment is undecided about the enjoyment part involved in using such tools whereas the latter segment finds such tools enjoyable. This shows that control-centric users demand functional online decision aids.

In addition, the more useful, personalized, trustworthy, entertaining and the easier to use online decision aids are, the more important consumers find such tools. Whether a decision-making tool requires too much effort for the consumers does not influence the importance they attach to such tools.

Moreover, whether a consumer has a long history of using the Internet or not does not have any effect on the frequency of online decision aid usage. Novice consumers and experienced consumers do not use online decision aids more or less often than one another.

Furthermore, as consumers use the Internet longer hours every day, they tend to use classification and filtration tools and suggestion tools more often. If an individual spends more than eight hours online, he or she more frequently uses the said tools. On the other hand, if an individual spends less than 4 hours online, he or she less frequently uses the said tools.

Besides, as an individual gets more experienced in online shopping, people use classification and filtration tools, visualization tools, and payment and pricing tools more often, but not the other tools. Light users, who occasionally shop online, less frequently use the said tools whereas heavy users, who repeatedly shop online, more frequently use the said tools.

Also, females consistently find all online decision aids, except classification and filtration tools, more important than males. The most important decision-making tool according to both sexes is payment and pricing tools. Women find the said tools very important but men find them somewhat important. Both sexes agree that the least important decision-making tool is suggestion tools. Again, women find the said tools somewhat important but men are indifferent about them.

Still, old and young consumers do not show any differences in the importance they attach to decision-making tools. Thus, age is not a differentiating factor with respect to what consumers find important or not.

What is more, more educated consumers find visualization tools and technical support tools less important than their relatively lower educated counterparts. This is a surprising finding in the sense that as the consumers' education level increases, they prefer to use their own decision-making mechanisms. More educated consumers may find the said tools subjective hence they tend to choose independent decision-making.

Finally, as people get richer, they find technical support tools less important than their relatively poorer counterparts. This case is similar to the more educated consumers in the sense that they think that they do not need the guidance of the technical support tools.

Managerial Implications

In today's competitive e-commerce environment, it is very important for the businesses to understand the consumers' attitude towards online decision aids in order to initiate the decision aid systems in case the website does not have one and ameliorate the existing ones in accordance with the findings of this thesis.

First of all, avid users should be targeted by the e-tailers because they are more open to trying new online decision aids. On the other hand, indifferent users should be avoided because it is very difficult to satisfy them. This calls for an urge to apply behavioral segmentation by e-tailers since each segment has different behaviors and cannot be satisfied by a mainstream marketing approach.

Second, the most important decision-making tools, namely payment and pricing tools and visualization tools, must be present in every e-tailer web site. But

the least popular ones, namely suggestion tools and customization tools, may not be added to some e-tailer web sites which strive to decrease costs. The reason is that the more comprehensive an e-tailer web site is in terms of the abundance of decision-making tools, the more time and effort it takes to manage them.

As far as attitudes towards decision-making tools are concerned, each scale is elaborated on below:

- Perceived usefulness of online decision aids influences consumers to better evaluate the product before purchasing by accumulating sufficient information on product features in an online environment. This will reduce the probability of an inferior decision and decrease the associated product risk.
- Firms should provide online decision aids which have high perceived personalization values to improve consumers' decision making. If consumers prefer a specific brand and the online decision aids recommend it, they may perceive that such tools internalize their needs and wants.
- Perceived ease of use of visualization tools should be increased by the e-tailers via investing in high-definition images and high-speed streaming videos. This will mean a commitment to the relationships with consumers.
- Consumers may perceive that online decision aids are somewhat untrustworthy because they may not have enough online shopping and/ or Internet usage experience, they may think that online decision aids work on behalf of e-tailers' interests instead of theirs or they may feel that e-tailers' web-sites lack security. Consumers may be wary of potential harmful

transactions handled behind their backs and they may perceive higher risks in an online environment.

- Perceived entertainment value may encourage consumers to spend more time on e-tailer's web-site and to interact more with the e-tailer's web-site. This means the e-tailer's web-site may attract unique and repeat traffic visitors and consequently create an online competitive advantage.

Based on the findings of the study, e-tailers which target frequent online shoppers and less educated consumers should more effectively use visualization tools to provide better information before the purchase process of consumers. This will reduce the costs associated with product returns. High-speed Internet connection is growing rapidly, thus it is easier to download product images and videos very quickly. To enhance visualization tools, avatars may be used among interfaces with additional animation.

Likewise, e-tailers which target less educated and less affluent consumers, such as cost-leader clicks, should take into account technical support tools and tailored answers to consumers' questions and problems should be given on time.

E-tailers which target Internet addicts should care more about suggestion tools for increasing sales, too because consumers enjoy putting several items together online. In addition, suggestion tools are an effective way of endorsing consumer trust in e-tailers. For building trust, consumers rely on e-tailers' web-sites to evaluate the credibility of online decision aids. If consumers do not have enough trust toward e-tailers' web-sites, they may switch to competitors. In order to increase trust, online decision aids should be better designed and feedback should be requested from customers.

Finally, e-tailers which target Internet addicts and frequent online shoppers should invest more on classification and filtration tools. For example, product understanding may be improved by embedding 3-D technology.

Limitations and Recommendations for Further Research

Convenience sampling is used in this thesis to collect information from respondents. This method was convenient since the respondents, who are reached through social media and personal connections, were available to fill in the survey. Those people did not have any probabilities attached to them in order to be chosen as sample subjects.

If the representativeness of the sample is deemed critical for the studies in the future, a probability sampling design should be used because data collected will be more reliable. By this way, the findings from the thesis can be confidently generalized to the population as a whole.

The tools under each online decision aid category in the survey were explained in detail by giving informative examples where deemed necessary. These tools were neither presented in a computer lab as part of an experiment nor shown as screenshots in the appendix of the questionnaire. Thus, it is not certain whether the respondents understood what is meant by the description of various online decision-making tools. Even if they did, the researcher is not sure that all the respondents understood the same tools from a given question. There is a probability that some respondents may confuse the specified tool in the question with another similar aid.

An extensive study can be done by a controlled experiment using a simulated online store to test the hypotheses. A task for either searching information about a product or buying a product in a specific category can be given to the respondents by using the online decision aids described in this thesis. By this way, the internal validity of the study will be high.

Another option is to expand the content of the questionnaire used in this thesis by adding images of online decision aid tools from prominent e-tailer websites which most online shoppers are familiar with. This will ensure that any possible ambiguity inherent in written descriptions of online decision-making tools will be eliminated.

Furthermore, this thesis examines Turkish online consumers' attitudes towards and utilization of online decision aids. The cities of residence of the respondents are not known, so it may be such that the majority of the sample is from Istanbul. Even this example shows that the generalizability of the scope is limited. A more widespread study can delve into other regions of Turkey.

Finally, this thesis is based on a survey which deals with online applications which aid consumers in selection, evaluation and purchase of goods in general. The respondents may have different product categories or even services in their minds while answering the questions about online decision-making tools. There was not a common product which all the respondents would think about consulting an online decision aid either to make a purchase or to make a research about.

Later studies may aim at obtaining a deeper understanding of the consumers' attitudes towards online decision aids in a specific product category. For example, the utilization of online decision aids before purchasing an expensive durable good,

such as a TV, may be different for a book. In addition, individuals may be hesitant to purchase some goods such as apparel, accessories, etc. because they cannot try such items on. They do not have the ability to feel the material or know the exact measurements of the product to see whether it fits. A future research may investigate the utilization of online decision aids in purchasing experience goods.

Behavioral segmentation approach is used in this thesis to discover particular types of online consumers. Respondents are segmented by the importance they attach to online decision-making tools. This practice in marketing and management information systems is proven valuable for further research as they find more about the customer needs in other areas, too.

APPENDIX A
QUESTIONNAIRE (ENGLISH)

Description

This survey is carried out for the master's thesis by Cansu Karaduman who is a graduate student at the Management Information Systems Department under the advisory of Assoc. Prof. Dr. Hande Kimiloğlu. The subject of the survey is the utilization of online applications which aid consumers in product selection, evaluation and purchase process. Your responses will make a great contribution to our survey. All questions must be answered completely to make the survey valid. You are required to specify your name and e-mail in order to participate in the survey. The findings will be solely used for academic purposes.

Thank you for your support and time. If you have any questions, please feel free to contact us.

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PART I. PERSONAL INFORMATION

Please put an [x] next to the answer that best suits you.

1. Your age

18-23	
24-29	
30-35	
36-41	
42-47	
48-53	
54-59	
60+	

2. Your gender

Female	
Male	

3. Your education level

High School Graduate	
Undergraduate Student	
Undergraduate Degree	
Graduate Student	
Graduate Degree and above	

4. Your personal monthly income

< 1,000 TL	
1,000-2,000 TL	
2,001-3,500 TL	
3,501-5000 TL	
> 5,000 TL	

5. For how many years have you been using the Internet?

0-4 years	
5-9 years	
> 9 years	

6. How often do you use the Internet?

I use it almost every day	
I use it 2 or 3 times a week	
I use it 2 or 3 times a month or less frequent	

7. How many hours do you use the Internet on average daily?

< 1 hour in a day	
1-4 hours in a day	
5-8 hours in a day	
> 8 hours in a day	

8. What is your experience on online shopping?

I have never bought anything online	
Rarely have I shopped once or twice online	
I sometimes shop online	
There are products that I buy online frequently	
I make most of my shopping online	

PART II. UTILIZATION OF ONLINE DECISION AIDS

1. Considering how much each of these CLASSIFICATION tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Demonstration of products on sale in a special section					
Demonstration of best-selling products					
Grouping products according to their brands					
Demonstration of new products					
Demonstration of product categories in detail (such as presence of laptop, desktop, tablet, netbook, etc. options under computer category)					
Demonstration of product sub-categories (such as accessories)					
Demonstration of the most popular / frequently visited products					
Classification of products according to purchase criteria (limited stock, fast shipment, price savers, etc.)					
Classification of products according to technical features (size, color, type, etc.)					

2. Please indicate to what extent you use these CLASSIFICATION tools during online shopping in general.

☐Always ☐Generally ☐Sometimes ☐Rarely ☐Never

3. Considering how much each of these FILTRATION tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Sorting products according to various criteria (date of addition to website, product name, expiration date of discount, number of reviews, etc.)					
Sorting products according to price range					
Sorting products according to evaluation ratings					
Comparison of selected products side by side					
Demonstration of stores in which the product is in stock according to selected cities and districts					

4. Please indicate to what extent you use these FILTRATION tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

5. Considering how much each of these CUSTOMIZATION tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not important At All
	5	4	3	2	1
Customization of products (i.e. design of products online by consumers based on their own tastes)					
Personalization of offers (payment alternatives, promotions, etc.)					
Wish lists (i.e. enabling the consumers to save the product they are interested in so that they can buy it later on)					
Watch lists (i.e. alerting the consumers when the price of product they are interested in goes down)					
Shopping lists (i.e. enabling the consumer to add the frequently ordered products to cart without searching them again and again)					

6. Please indicate to what extent you use these CUSTOMIZATION tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

7. Considering how much each of these VISUALIZATION tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Demonstration of product videos					
Examination of the product in detail by zooming in					
Modification of the product's color, accessories, size, etc. virtually					
Virtual try-on technology					

8. Please indicate to what extent you use these VISUALIZATION tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

9. Considering how much each of these TECHNICAL SUPPORT tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Provision of detailed information and suggestions about the products by experts					
Demonstration of customer reviews about the products					
Presence of a discussion board in order to enable the exchange of information among consumers about the products					
Attachment of a button which offers technical advice about products					
Glossary of technical terms					
Live counseling system where questions regarding sales and after-sales transactions are answered					

10. Please indicate to what extent you use these TECHNICAL SUPPORT tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

11. Considering how much each of these SUGGESTION tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Provision of baskets / package deals for special events or cases					
Demonstration of bundles that are bought together frequently by other consumers					

12. Please indicate to what extent you use these SUGGESTION tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

13. Considering how much each of these PAYMENT tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Demonstration of payment options in a tabular form in terms of installment amount and credit cards					
Display of shipping costs and options by geographic region					
Enabling the use of online means of payment (PayPal, Google Checkout, etc.)					
Enabling the use of alternative means of payment (cash, virtual cards, etc.)					

14. Please indicate to what extent you use these PAYMENT tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

15. Considering how much each of these PRICING tools is important for you, please choose the appropriate answer.

	Very Important	Partially Important	Neither Important Nor Unimportant	Not So Important	Not Important At All
	5	4	3	2	1
Demonstration of discount rate and amount (i.e. the original price is written in a strikethrough format and the saving amount is shown)					
Enabling the consumer to see the price changes immediately when a feature is added to or removed from the product					

16. Please indicate to what extent you use these PRICING tools during online shopping in general.

☐Always ☐Frequently ☐Sometimes ☐Rarely ☐Never

17. This part includes some scales related to your personal views towards online decision aids. Please evaluate the following statements in terms of your agreement.

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
	5	4	3	2	1
I can decide more quickly and more easily which product I want to buy among various alternatives by using such tools					
I can better and more accurately decide which product I want to buy among various alternatives by using such tools					
I am better informed about new products by using such tools					
Such tools understand my needs and know what I want					
The task of selecting a product using such tools takes too much time					
I find such tools easy to use					
Such tools can replace a real expert in assessing products					
Such tools provide unbiased product recommendations					
I feel secure about relying on such tools for my decision					
Shopping with such tools is fun					
Shopping with such tools is interesting					

APPENDIX B

QUESTIONNAIRE (TURKISH)

Açıklama

Bu anket Boğaziçi Üniversitesi, Yönetim Bilişim Sistemleri Bölümü öğretim üyesi Doç.Dr. Hande Kımiloğlu yönetiminde yüksek lisans öğrencisi Cansu Karaduman tarafından tez çalışması için gerçekleştirilmektedir. Anketin konusu, İnternet’te tüketicilerin ürün seçme, değerlendirme ve satın alma sürecinde onlara yardımcı olan uygulamaların kullanımıdır. Anketi yanıtlamanız çalışmamıza büyük katkı sağlayacaktır. Anketin geçerli olabilmesi için tüm soruların yanıtlanması gereklidir. İsim ya da e-posta belirtmeniz istenmemektedir. Elde edilen sonuçlar tamamen akademik amaçlar için kullanılacaktır.

Desteyiniz ve zaman ayırdığınız için teşekkür ederiz. Soru ya da görüşleriniz için:

Cansu Karaduman: cansu.karaduman@boun.edu.tr

Doç. Dr. Hande Kımiloğlu: hande.kimiloglu@boun.edu.tr

BÖLÜM I KİŞİSEL BİLGİLER

Lütfen seçiminizi uygun kutuya x koyarak belirtiniz.

1. Yaş grubunuz

18-23	
24-29	
30-35	
36-41	
42-47	
48-53	
54-59	
60+	

2. Cinsiyetiniz

Kadın	
Erkek	

3. Eğitim durumunuz

Lise mezunu	
Lisans öğrencisi	
Lisans mezunu	
Lisansüstü öğrencisi	
Lisansüstü mezunu	

4. Aylık kişisel geliriniz

< 1,000 TL	
1,000-2,000 TL	
2,001-3,500 TL	
3,501-5000 TL	
> 5,000 TL	

5. Kaç yıldır İnternet kullanıyorsunuz?

0-4 yıl	
5-9 yıl	
> 9 yıl	

6. İnternet'i ne sıklıkta kullanıyorsunuz?

Hemen hemen her gün kullanıyorum	
Haftada ortalama 2-3 kez kullanıyorum	
Ayda 2-3 kez ya da daha az sıklıkta kullanıyorum	

7. Günde ortalama kaç saat İnternet kullanıyorsunuz?

Günde 1 saatten az	
Günde 1-4 saat	
Günde 5-8 saat	
Günde 8 saatten fazla	

8. İnternet'ten alışveriş konusundaki deneyim düzeyiniz nedir?

İnternetten hiçbir şey satın almadım	
İnternetten nadir olarak bir iki kez alışveriş yaptığım oldu	
Ara sıra İnternetten alışveriş yapıyorum	
Sık sık İnternetten satın aldığım ürün ve hizmetler var	
Alışverişimin çoğunu İnternetten yapıyorum	

BÖLÜM II SATIN ALMA DESTEK UYGULAMALARININ KULLANIMI

1. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan SINIFLANDIRMA uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
İndirimli ürünlerin özel bir alanda ya da ayrı bir yerde gösterilmesi					
En çok satan ürünlerin gösterilmesi					
Ürünlerin markalara göre gruplandırılması					
Siteye yeni eklenen ürünlerin gösterilmesi					
Ürün kategorilerinin detaylı biçimde gösterilmesi (bilgisayar kategorisinin altında dizüstü, masaüstü, netbook, tablet, monitör, yazıcı, vb. seçeneklerin bulunması gibi)					
Ürünlerin yanında alt kategorilerinin gösterilmesi (aksesuarlar gibi)					
Müşteriler tarafından en beğenilen / sık ziyaret edilen ürünlerin gösterilmesi					
Ürünlerin sınırlı stok, hızlı gönderi, fiyatı düşenler, vb. gibi satın alma özelliklerine göre gruplandırılması					
Ürünlerin boyutu, rengi, tipi, vb. gibi teknik özelliklerine göre gruplandırılması					

2. İnternet alışverişlerinizde bu tür SINIFLANDIRMA uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

3. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan FİLTRELEME uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Ürünlerin siteye eklenme tarihi, ürün ismi, indirim bitiş tarihi, yapılan yorum sayısı, vb. gibi çeşitli özelliklere göre sıralanması					
Ürünlerin fiyat aralığına göre sıralanması					
Ürünlerin değerlendirme puanlarına göre sıralanması					
Seçilen ürünlerin çeşitli özelliklerine göre yan yana karşılaştırılması					
Ürünün hangi mağazalarda stokta bulunduğunun seçilen il ve ilçeye göre gösterilmesi					

4. İnternet alışverişlerinizde bu tür FİLTRELEME uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

5. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan KİŞİSELLEŞTİRME uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Ürünlerin kişiselleştirilmesi (tüketicilerin ürünü İnternet üzerinden kendi beğenileri doğrultusunda tasarlayabilmeleri)					
Müşteriye sunulan tekliflerin kişiselleştirilmesi (ödeme alternatifleri, promosyonlar, vb.)					
Dilek listesi (tüketicinin beğendiği ürünleri daha sonra isterse satın almak üzere kaydedebilmesi)					
Haber listesi (tüketicinin beğendiği ürünleri fiyatı düşünce haber verme olanağı)					
Alışveriş listesi (tüketicinin sürekli sipariş verdiği ürünleri her seferinde tekrar aramadan sepete ekleyebilme olanağı)					

6. İnternet alışverişlerinizde bu tür KİŞİSELLEŞTİRME uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

7. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan GÖRSELLİK uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Ürünün videosunun gösterilmesi					
Ürünlerin yakından görüntüleme özelliğiyle detaylı biçimde incelenmesi					
Ürün üzerinde sanal olarak renk, aksesuar, boyut, vb. değişikliklerin yapılabilmesi					
Ürünün sanal olarak prova edilebilmesi					

8. İnternet alışverişlerinizde bu tür_GÖRSELLİK uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

9. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan TEKNİK YARDIM uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Danışmanların sitede ürünler hakkında detaylı bilgi vermesi ve önerilerde bulunması					
Ürünlerle ilgili yazılı müşteri yorumlarının gösterilmesi					
Sitede tüketicilerin kendi aralarında ürün ile ilgili bilgi alışverişini sağlamak amacıyla tartışma panosu sunulması					
Ürünün teknik özelliklerinin istendiğinde daha detaylı açıklanmasını sağlayan bir buton konulması					
Sitede teknik terimler sözlüğü bulunması					
Satış ve satış sonrası (arıza ve bakım gibi) işlemlerle ilgili soruların yanıtladığı canlı danışma sisteminin bulunması (telefon / İnternet ortamında sohbet)					

10. İnternet alışverişlerinizde bu tür TEKNİK YARDIM uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

11. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan ÜRÜN / PAKET ÖNERME uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Özel gün ya da durumlara yönelik paket / sepet önerilerinde bulunulması					
Diğer müşteriler tarafından birlikte satın alınan benzer ürünlerin gösterilmesi					

12. İnternet alışverişlerinizde bu tür ÜRÜN / PAKET ÖNERME uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

13. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan ÖDEME uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Ödeme seçeneklerinin taksit miktarı ve kredi kartına göre tablo halinde gösterilmesi					
Tüketicinin bulunduğu coğrafi bölgeye göre gönderi ücreti ve seçeneklerinin görülebilmesi					
Sitede İnternet ortamına özgü ödeme araçlarının kullanılabilmesi (PayPal, Google Checkout, vb.)					
Alternatif ödeme araçlarının kullanılabilmesi (nakit ödeme, sanal kart gibi)					

14. İnternet alışverişlerinizde bu tür ÖDEME uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

15. Tüketicilerin İnternet ortamındaki satın alma kararlarını desteklemek amacıyla kullanılan FİYAT uygulamalarının sizin için ne derece önemli olduğunu ölçek üzerinde gösteriniz.

	Çok Önemli	Kısmen Önemli	Ne Önemli Ne Önemsiz	Oldukça Önemsiz	Çok Önemsiz
	5	4	3	2	1
Bir ürünlerdeki indirim oran ve miktarının gösterilmesi (ürünün eski fiyatının üzeri çizilerek, tüketicinin kazancının TL cinsinden gösterilmesi gibi)					
Ürüne çeşitli özellikler eklenip çıkarıldığında oluşan fiyat değişikliklerinin anında görülebilmesi					

16. İnternet alışverişlerinizde bu tür FİYAT uygulamalarını genel olarak ne derece kullandığınızı belirtiniz.

☐Her zaman ☐Oldukça sık ☐Bazen ☐Nadiren ☐Hiçbir zaman

17. Bu bölümde İnternet'teki satın alma destek uygulamaları ile ilgili görüşleriniz sorulmaktadır. Lütfen tüm yargılara katılma derecenizi belirtiniz.

	Kesinlikle Katılıyorum	Kısmen Katılıyorum	Ne Katılıyorum Ne Katılmıyorum	Kısmen Katılmıyorum	Kesinlikle Katılmıyorum
Bu tür uygulamaları kullanarak çeşitli seçenekler arasından hangi ürünü satın almak istediğime daha hızlı ve daha kolay karar verebilirim					
Bu tür uygulamaları kullanarak çeşitli seçenekler arasından hangi ürünü satın almak istediğime daha iyi ve doğru biçimde karar verebilirim					
Bu tür uygulamaları kullanarak yeni ürünler hakkında daha iyi bilgi edinirim					
Bu tür uygulamalar ihtiyaçlarımı anlar ve ne istediğimi bilir					
Bu tür uygulamaları kullanarak bir ürün seçme işi çok zaman alır					
Bu tür uygulamaların kullanımı kolaydır					
Bu tür uygulamalar ürünlerin değerlendirilmesinde gerçek bir uzmanın yerini alabilir					
Bu tür uygulamalar tarafsız ürün önerileri verir					
Bu tür uygulamalara dayanarak verdiğim kararlar konusunda kendimi güvende hissederim					
Bu tür uygulamaları kullanarak alışveriş yapmak benim için eğlencelidir					
Bu tür uygulamaları kullanarak alışveriş yapmak benim için ilginçtir					

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