Investigation of the Effect of Pop-Up Types Used in Shopping Websites on User Attitudes[1] doi

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Abstract

With the widespread use of the internet, it has become possible to shop from anywhere in the world without time limit. Internet users make comments, share images, and rate the purchased product during their online shopping. In this way, it can influence other customers about the product. In recent years, shopping sites have been offering discounts to their customers, tracking customer satisfaction, and offering the opportunity to share their experiences in e-commerce. In this way, businesses can offer products and services to a wide range of customers through e-commerce. In this study, it is aimed to examine the effect of pop-up types used on shopping sites on user attitudes. In the research, a shopping site was designed to enable users to gain experience by using pop-up types. Users evaluated the pop-up types with their experiences after using the shopping site. In this study, the relational survey model, which is a subtype of the general survey model, was used. The sample group in the study consists of students studying at Osmaniye Korkut Ata University in the 2024-2025 academic year. Appropriate sampling method was preferred to create a sample group. In the study, the questionnaire prepared by Yaman and Erdaş (2021) to reveal their perspectives on pop-up ads was used. According to the research results, individuals' attitudes towards the types of pop-ups used on shopping sites also vary according to their demographic characteristics. Variables such as gender and income level direct individuals' behaviors.

Keywords: Pop-up, Internet Advertising, Consumer Behavior, Pop-up Advertising, Attitude, Types of Internet Advertising, Sales Promotion.

JEL Codes: M15, L81, O32

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1. Introduction

Trade transactions carried out through virtual shopping environments via the internet are called e-commerce. E-commerce is websites and mobile application environments that do not require physical stores and payment tools. It has developed very rapidly in recent years and many researches have been carried out on e-commerce. Brokerage sites, opportunity sites, special shopping sites serve customers in different ways in the field of e-commerce.

A number of applications are used to make shopping sites attractive. One of them is pop-up ads. Pop-up ads; these are the forms of online advertising on the WWW (World Wide Web) through the web browser called web browser or web browser. Pop-up ads are a visual window that appears spontaneously when the relevant web page is opened in the web browser. Pop-up ads are ads that suddenly appear on part or all of the screen, usually presented as a separate window or box. Pop-up ads are intended to attract the user's attention. Various content can be presented to the user. In addition, pop-up ads can perform timed or action-based actions to increase effectiveness.

With the developing technology, marketing activities require the blending of traditional and modern methods. Today's marketing convergence scenario largely leverages the internet and related technologies. Advancements in web technologies have led to the overall integration of electronic and traditional marketing efforts to create best practices. This integration is an important foundation for e-commerce. Pop-up ads are mostly used on websites with high visitors. When the user clicks on the pop-up, a separate web page opens. Pop-up ads feature attractive audiovisual graphics and animations (Mehta et al., 2010, p.51; Base, 2020).

A significant amount of literature has been published on pop-up ads, but many researchers have specified different variables based on their assumptions in their research papers. It is important to find the most promising variable based on research expectations. In e-commerce, it is necessary to find the emotions that customers have (Krushali et al., 2018, p.720). Studies have shown that pop-up ads have differences in purchasing behavior between generations. It has been determined that pop-up ads lead to purchasing behaviors, especially in individuals in the z generation (Yaman and Erdaş, 2021). It has been observed that young people spend time on the internet and prefer shopping sites for reasons such as convenience, saving time, providing access to a wide variety and affordable prices (Tanyıldızı and Demirkıran, 2018, p. 41). In this sense, it is thought that the opinions of young people are important in examining the effect of pop-up types used on shopping sites on user attitudes.

With this research, users were provided with user experience (UX) in the field of e-commerce. The user experience (UX) provided in the research is a strong example of the "learning by doing" method as a process. In this sense, this research is important because it concerns different disciplines such as software development, design, business and marketing.

The problem statement of this research is: "What are the attitudes of university students towards the types of pop-ups used on shopping sites?"

2. Literature Review

In their study, Özen and Sarı (2008) tried to determine the attitudes and behaviors of internet users towards internet advertisements according to the dimensions determined as disturbing, effectiveness, usefulness, reliability and popularity of internet advertisements with a field study in which they formed a sample of academic staff. In the study, it was seen that pop-up ads were the second most disturbing type of advertising with a rate of 53.5%. McCoy et al., (2004) found that users find pop-up ads annoying because they interfere with their use of web pages. Pala and Sezgin (2021) examined the effect of pop-up ads on the consumer purchasing process in their study. It has been found that the attitude towards pop-up ads affects the purchasing process, the emergence of the need, the identification of alternatives, the evaluation of alternatives, the purchase decision, post-purchase attitudes and behaviors. In his study investigating the impact of pop-up ads on consumers, Bozkurt (2023) observed that pop-ups suggesting discounts were perceived positively, undecided users were interested in the pop-ups offered, and determined users could change their minds. In their study, Hsieh et al. (2021) examined the timing of the appearance of pop-up ads and the effect of this timing on perceived intrusiveness. When the pop-up ad is delayed by 20 seconds, the perceived intrusiveness is of low value and the user gains positive attitudes.

In his study in which he examined the types of internet advertisements comparatively in terms of consumer attitudes, Çalıkuşu (2009) ranks second after banner ads according to the dimensions of the most clicks, attention-grabbing and memorability. In the study, consumer behaviors towards pop-up ads were investigated according to gender, education level, age group and monthly income level; Hanbazazh and Reeve (2021) found that consumers do not like pop-up ads, have a negative attitude towards pop-up ads, and pop-up ads create a sense of discomfort and anger. Focusing on web users' attitudes towards web ads, researchers have examined the impact of entertaining, annoying, and informative factors on pop-up ads. Katuwandeniya and Abeywardana

(2019) have revealed that entertainment has no effect, disturbing has no negative effect, and informative has no effect.

In the comparative studies of Le and Vo (2017) on banner, pop-up and inline ads, the attitudinal dimensions of information, annoyance and entertainment were applied. Banner ads, the most informative and entertaining type of advertising in terms of informative and entertainment attitude, were found to be the most disturbing pop-up ads in terms of the level of annoyance. In their study, Willermark et al. (2020) investigated the user experience of modal pop-ups based on the click event, which is called polite pop-ups. They found that polite pop-ups were not perceived by users as annoying. In his study, Uma (2024) reveals that social media users perceive that pop-up ads build trust about products, they are satisfied with pop-up ads, and they intend to recommend pop-up ads to others.

In their study, Mbugua and Ndavi (2021) reveal that internet users have negative attitudes towards pop-up ads, which is due to the intrusive and obstructive nature of pop-up ads. In their study, Edwards et al. (2002) examined four advertising elements that can reduce the perception of pop-up ads as intrusive, such as display timing, ad duration, compatibility with editorial content, and perceived information and entertainment value. Pop-up ads evoke a feeling of discomfort when perceived as intrusive, and therefore ads are avoided, and viewers experience interruptions more intensely when they are focused than when they are not focused; It found that when pop-ups provide value in the form of information or entertainment, they are perceived as less disruptive and less disruptive. Simamora and Sitanggang (2023) determined that pop-up ads have a positive effect on e-commerce advertising and brand image in their study. Yetkin and Basal (2024) investigated the effect of pop-up ads on consumers' brand attitudes, their perceptions of pop-up ads, and their attitudes towards the brand in pop-up ads, and concluded that there is a positive relationship between pop-up ads and brand attitudes. Ristiand and Abdi (2024) found that pop-up ads have a direct and positive impact on customer satisfaction; However, it reveals that pop-up ads do not have a direct and positive effect on customers' repurchase decisions. In addition, sales promotions appear to have a direct and positive impact on customer satisfaction. Balhareth (2023) examined buyers' intentions towards online pop-up ads and their impact on purchasing behavior. In his study, he evaluated factors such as attitude, impulsive behavior, intention to visit pop-up ads, and impact on the purchase decision. The impulsive propensity to buy and the attitude of buyers are strongly influenced by pop-up ads; It has been concluded that while the images, videos and attention-grabbing statements in the ads shape the buyers' decisions to visit or purchase the site, positive or negative attitudes towards the products determine the preference or rejection of pop-up ads. Azeem and Ul-haq (2012) found that pop-up ads are often perceived by users as intrusive and disruptive elements as they interrupt the user experience and negatively affect the browsing process.

3. Method

The data collected in the study were collected in the spring semester of the 2024-2025 academic year at Osmaniye Korkut Ata University via Google Form. In the study, survey method was preferred as a data collection method. Since the research was conducted to study the experiences of shopping website users directly and by requiring primary data, data was collected through a survey. The questionnaire used consists of demographic questions and statements prepared on a five-scale scale such as completely disagree, disagree, no opinion/undecided, agree, completely agree. The questionnaire used in the study was prepared by Yaman and Erdaş (2021). The reliability of the questionnaire used in the study was tested and the questionnaire was found to be reliable (Cronbach Alpha = 0.74) (Yaman and Erdaş, 2021). The applied questionnaire form is given in Appendix-1.

Ethics committee report for the study; taken from Osmaniye Korkut Ata University Social Sciences and Humanities Research Ethics Committee with the decision number 2025/1/7 dated 06.01.2025. This report was sent with the study.

Within the scope of the study, a shopping site with examples of pop-up types was created by the researchers. Website; It was developed using HTML, Bootstrap 5.3.3 to create a modern and flexible user interface, and jQuery 3.7.1 to provide an interactive user experience. While Bootstrap has ensured that the page has a responsive structure that adapts to different device and screen sizes, it has contributed to the creation of a regular, aesthetic, and user-friendly design thanks to the ready-made components it offers. Dynamic content management has been effectively implemented with jQuery, and the user experience has been made more fluid by optimizing interactive elements to run smoothly. In Figure 1, the shopping website designed for the research is given.
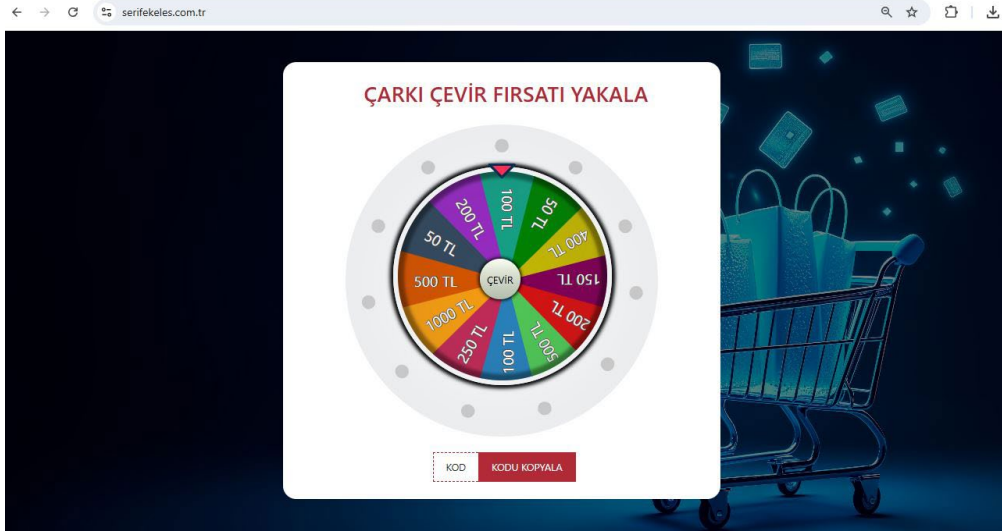
Figure 1. Shopping Website Designed for Research (www.serifekeles.com.tr)

The shopping website designed by the researchers was made available to all users. The website records are available where the participants actively used and then answered the survey questions. Personal data was not shared within the scope of the personal data protection law. Participants accessed the website from different IPs, N=142 of them participated in the surveys. The IP addresses of the participants are confidential. Information about the participants' access to the website is given in Figure 2.
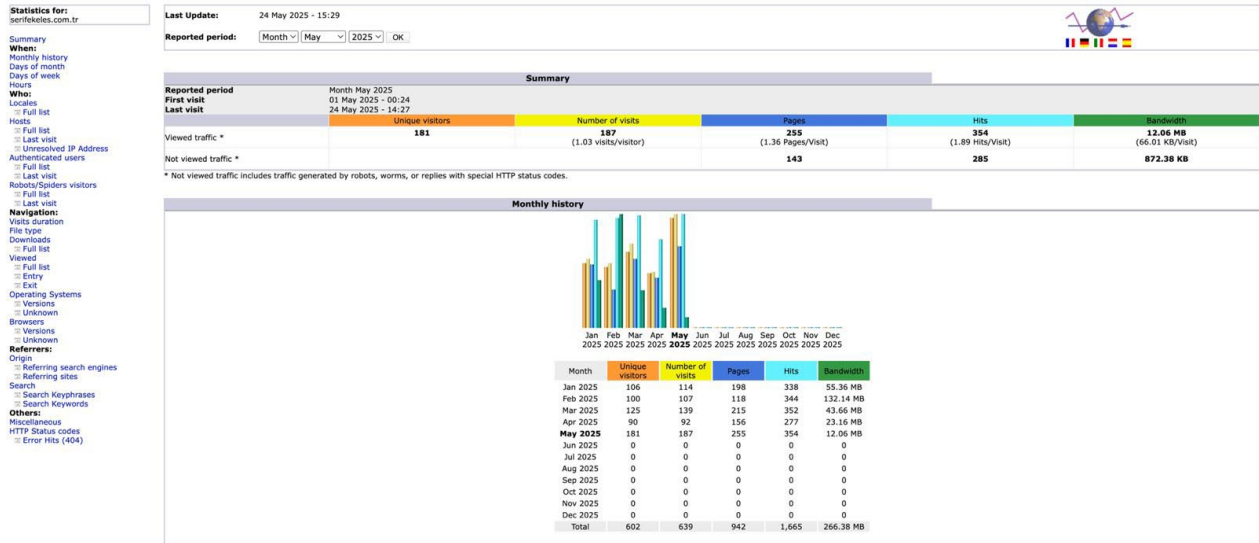

Figure 2. Information About the Participants' Access to the Website

As shown in Figure 2, the participants visited the website frequently between January 2025 and May 2025. In this way, the participants practiced with the pop-up types used in online shopping sites.

On the shopping website designed by the researchers, the pop-up types in Table 1 were presented on the screen at certain time intervals. In this way, users accessing the shopping site have gained experience with the types of pop-ups used on shopping sites before filling out the survey form.

Table 1. Screenshots of Pop-Up Types Prepared within the Scope of the Research

Table 1 shows screenshots of examples of pop-up types used on shopping sites. The types of pop-ups in Table 1 and their descriptions are given below.

1. **Spin the wheel pop-up template:** It is a digital version of the classic wheel of fortune crafted to grab users' attention.

2. **Scratch pop-up template:** With the scratch pop-up, it is ensured that the offers offered by the brand to the user are received by scraping confidential information using a virtual currency.

3. **Welcome discount pop-up template:** Intended for new visitors on shopping sites, these pop-ups encourage users to sign up for an email subscription or create an account. In return, they are often offered a discount that will apply to their first purchase. By collecting contact information from potential customers, this strategy helps the business expand its customer database and build a more effective audience for future marketing activities.

4. **Personalized pop-up template:** It is used to offer special discounts, birthday campaigns or benefits for specific customer segments based on each individual's interests, shopping habits, and past purchase data.

5. **Event-based discount pop-up template:** Seasonal campaigns are prepared by taking into account certain special days or seasonal events. For example, during peak shopping periods such as "Black Friday" or "New Year's Eve", it offers themed discounts and promotions to attract consumer attention and increase sales.

6. **Product or category custom discount pop-up template:** This type of pop-up is designed to promote discounts specific to a specific product or product category. It aims to inform users about deals that are only valid on selected products or certain categories, and to direct them to related products.

4. Research Model

The research aims to reveal the relationships between the types of pop-ups used in shopping sites by university students on user attitudes. The research was carried out according to the relational survey model of the general survey model, which is one of the quantitative research designs. Büyüköztürk et al., (2008) relational survey model; It is expressed in the form of a research model used to determine the relationship between two or more variables and to obtain clues related to cause and effect.

4.1. Sample Group

The sample group in the study consists of students studying at Osmaniye Korkut Ata University in the 2024-2025 academic year. Appropriate sampling method was preferred to create a sample group. 142 students participated in the study. This sample was determined because the research expected the use of the website, such as user experience and learning by doing method.

4.2. Analysis of Data

In the study, the data obtained in order to reveal the attitudes of university students towards the types of pop-ups used in shopping sites were analyzed using the SPSS 26 program. After the collected data were entered into the SPSS program one by one, the findings were evaluated by taking into account the opinions of the experts and the results were shown in tables.

The answer scores to be given to each question on the five-point scale applied to the participants vary between 1.00-5.00. On the five-point graded scale applied to the participants, the score ranges were determined as follows, including five units (4/5) of 0.80 points each: 1.00-1.80 Completely Disagree 1.81-2.60 Disagree 2.61-3.40 No Opinion/Undecided 3.41-4.20 Agree 4.21-5.00 Completely Agree.

In the study, the reliability of the questionnaire was tested in the analysis of the data. Kaiser-Meyer-Olkin (KMO) and Barlett's test was used in the research to determine the suitability of the data for factor analysis. The percentage and frequencies of the participants were given in revealing the demographic data. The opinions of the participants about the types of pop-ups used in shopping sites, frequency, percentage distributions and arithmetic averages are given. Based on the hypotheses, the normality test was applied. Since the scores obtained as a result of the normality test did not show a normal distribution, the Mann-Whitney U test, which is a nonparametric statistical test, was used to exami-

ne whether the two samples with quantitative-scale observations came from the same distribution, and Kruskal-Wallis ranked one-way analysis of variance was used to test the equality of the medians of the population between independent groups.

5. Results

In this section, the findings consisting of the data obtained as a result of the stages in the method section of the research are emphasized. The findings were discussed in a certain systematic, the tables formed by the findings were included, and then the table was briefly explained and interpreted.

The reliability of the questionnaire used in the study was tested and the questionnaire was found to be reliable (Cronbach Alpha = 0.709). Accordingly, the scale items were perceived as consistent by the sample and had high reliability.

Kaiser-Meyer-Olkin (KMO) and Barlett's test was used in the study. The findings of KMO and Barlett tests are given in Table 2.

Table 2. Kaiser-Meyer-Olkin and Barlett's Test Results

Kaiser-Meyer-Olkin and Barlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		,846
Bartlett's Test of Sphericity	Approx. Chi-Square	592,004
	df	66
	Sig.	,000

According to Table 2, the Kaiser-Meyer-Olkin (KMO) value was found to be 0.846. The Kaiser-Meyer-Olkin (KMO) value is a measure of whether the sample is sufficient for SPSS to perform an accurate factor analysis. A KMO value above 0.80 is defined as "good enough". With Bartlett's test, it was checked whether the data matrix was a unit matrix and whether the correlation between the variables was suffi-cient. Bartlett's Sphericity Test was found to be Sig. ,000. Since the p-value value is < 0.05, the dataset is suitable for factor analysis.

The research was carried out on people with different genders and monthly expenditure amounts of university students. In Table 3, the demographic characteristics of the participants are given.

Table 3. Demographic Information of Participants

Gender	Number	%
Female	68	47,9
Male	74	52,1
Income Level	**Number**	**%**
1000 - 1500 TL…	16	11,3
1500 - 2000 TL…	16	11,3
2000- 2500 TL…	17	12
2500 - 3000 TL…	19	13,4
3000 TL - over...	74	52,1

Table 3 gives the demographic characteristics of the respondents. The gender variable is especially important in shopping sites. Demographic characteristics also include the income levels of the participants. 47.9% of the participants were women and 52.1% were men. When the distribution of the participants according to their income levels was examined, it was determined that the participants with an income of 3000 TL and above were 52.1%, while the participants with an income between 2500 TL and 3000 TL were 13.4%, the participants with the lowest income level were 11.3% with an income between 1000 and 1500 TL and between 1500 and 2000 TL.

The distribution of the opinions of the participants about the types of pop-ups used in shopping sites is given in Table 4.

Table 4. Frequency, Percentage Distributions and Arithmetic Averages of the Opinions of the Participants on the Pop-Up Types Used in Shopping Sites

Propositions	Completely disagree		I disagree		I'm undecided		Agree		Totally agree		$\bar{x}$
	f	%	f	%	f	%	f	%	f	%	
1. When I open any site, I close the pop-up ad that appears without looking.	12	8,5	28	19,7	35	24,6	36	25,4	31	21,8	3,32
2. I'm interested in pop-up ads.	33	23,4	43	30,5	29	20,6	33	23,4	3	2,1	2,5
3. I don't want to buy the pro-duct I see the pop-up ad for.	11	7,9	30	21,4	49	35	31	22,1	19	13,6	3,11
4. I have instal-led blocking programs on my internet ac-cess devices due to pop-up ads.	34	24,3	53	37,9	24	17,1	19	13,6	10	7,1	2,42
5. I have a ne-gative perspe-c-tive towards the company whose pop-up ad I see.	24	16,9	40	28,2	52	36,6	17	12	9	6,3	2,62
6. I find pop-up ads anno-ying	12	8,5	29	20,6	30	21,3	43	30,5	27	19,1	3,3
7. I think that the products in pop-up ads are of poor quality.	11	7,8	37	26,2	62	44	18	12,8	13	9,2	2,89
8. I immediately close the websi-te where I see pop-up ads	16	11,3	42	29,6	28	19,7	37	26,1	19	13,4	3
9. I have purcha-sed the product I saw in the pop-up ad at least once	44	31,2	42	29,8	25	17,7	27	19,1	3	2,1	2,31
10. I think I can be deceived by pop-up ads.	8	5,6	23	16,2	40	28,2	53	37,3	18	12,7	3,35
11. I turn off the tool from which I access the internet due to pop-up ads.	28	19,7	46	32,4	38	26,8	25	17,6	5	3,5	2,52
12. If there were no pop-up ads, I would use the internet more efficiently.	8	5,6	25	17,6	44	31	40	28,2	25	17,6	3,34

When Table 4 is examined, it is seen that the participants agree with the proposition "I think I can be deceived by pop-up ads" ($\bar{x}$ = 3.35) and "I would use the internet more efficiently without pop-up ads" ($\bar{x}$ = 3.34). Again, some of the participants of the research state that they agree with the proposition "When I open any site, I close the pop-up ad I see without looking at it" ($\bar{x}$ = 3.32). "I find pop-up ads annoying" was another item mentioned by the participants ($\bar{x}$ = 3.3). In the study, in which the effect of pop-up types used on shopping sites on user attitudes was examined, it was seen that the participants agreed with the suggestion "I bought the product I saw in the pop-up ad at least once" at the lowest rate ($\bar{x}$ = 2.31).

Regarding the data obtained in this study, in which the user attitudes of the pop-up types used in the shopping sites of university students were investigated;

H_0: With 95% confidence, the data are normally distributed.

H_1: With 95% confidence, the data are not normally distributed.

After the normality test applied based on the hypotheses, sig. Since its value was found to be less than 0.05, the H_1 hypothesis was accepted. In other words, it can be said with 95% confidence that the data are not normally distributed.

It was examined whether the gender of the participants and the types of pop-ups used on shopping sites had an effect on user attitudes. Since the scores obtained as a result of the normality test in the study did not show normal distribution, the Mann-Whitney U test, which is a non-parametric statistical test, was applied to examine whether the two samples whose quantitative-scale observations were given came from the same distribution. Table 5 presents the findings obtained from the Mann-Whitney U test.

Table 5. Mann Whitney U-Test Results Regarding the Opinions of the Participants on the Pop-Up Types Used in Shopping Websites by Gender

Average of Responses	Gender	n	Mean Rank	Sum of Ranks
	Female	68	69,99	4759,00
	Male	74	72,89	5394,00
	Sum	142		
			Average of Responses	
Mann-Wihtney U			2413,000	
Wilcoxon W			4759,000	
Z			-,422	
Asymp. Sig. (2-tailed)			,673	

Table 5 shows the results of the Mann Whitney U-test, which was calculated to determine the difference between the scores of the participants regarding their opinions about the types of pop-ups used in shopping sites according to their gender. Accordingly, the p value of the opinions of the participants was found to be .673.

Accordingly, it is seen that there is no statistically significant difference between male and female participants according to the attitudes of the users [U=2413.00; p=0.673 p> .05].

It was examined whether the monthly expenditure amounts of the participants and the types of pop-ups used on shopping sites had an effect on user attitudes. Since the scores obtained as a result of the normality test in the study did not show normal distribution, the non-parametric statistical test Kruskal-Wallis ranked one-way analysis of variance was used to test the equality of the population medians between independent groups. Table 6 presents the findings obtained from Kruskal-Wallis ranked one-way analysis of variance.

Table 6. Kruskal-Wallis Test Results Regarding the Opinions of the Participants on the Pop-Up Types Used on Shopping Sites According to the Monthly Expenditure Amounts

	Monthly Expenditure Amount
Kruskal-Wallis H	5,273
df	4
Sig.	,260

Table 6 presents the results of the Kruskal-Wallis test, which is calculated to determine the difference between the scores of the participants regarding their opinions on the types of pop-ups used on shopping sites according to their monthly expenditure amounts. Accordingly, the p value of the participants' opinions was found to be .260. According to the findings of the research, there is no significant difference between the monthly expenditure amounts of the participants and their opinions on the types of pop-ups used on shopping sites, since p>0.05.

6. Conclusion

When we look at the literature on the types of pop-ups used in shopping sites, pop-up ads are a type of advertising that is generally perceived as disturbing by internet users, but some studies show that they can have positive effects under certain conditions. Pop-up ads can also increase conversion rates through targeted advertising. Pop-up ads are an eye-catching way to highlight special campaigns.

Some studies have found that pop-up ads are negatively received by users due to their intrusive nature (McCoy et al., 2004; Mbugua and Ndavi, 2021). Özen and Sarı (2008) state that pop-ups are the second most annoying type of advertising, while Azeem and Ul-Haq (2012) emphasize that these ads interrupt the user experience. Çalıkuşu (2009), on the other hand, found that consumers have a negative attitude towards pop-up ads and create a sense of discomfort and anger. On the other hand, some studies show that pop-up ads can be perceived positively under certain conditions. For example, Bozkurt (2023) observed that pop-ups offering discounts are effective for undecided users and may change their minds. Hsieh et al., (2021), on the other hand, revealed that the timing of pop-ups is important, and ads shown with a 20-second delay are perceived as less intrusive. Willermark et al. (2020) determined that click-based modal pop-ups were not found to be disturbing.

The effects of pop-up ads on the buying process were also investigated. Pala and Sezgin (2021) found that these advertisements affect the consumer's awareness of needs, alternative evaluation process, and purchasing decision. Yetkin and Basal (2024) stated that pop-ups have a positive effect on brand attitude, while Ristiand and Abdi (2024) stated that they increase customer satisfaction but do not have a direct effect on repurchase decisions. In addition, it has been investigated how factors such as entertainment and informative shape the perception towards pop-up ads. Looking at many studies, pop-up ads are often found to be disturbing, but they have the potential to positively change the perception of consumers in line with their content, timing and advantages. In this study, it was concluded that the participants thought that they could be deceived by pop-up ads and that they could use the internet more efficiently without pop-up ads. It can be stated that these results are due to the problems experienced in the field of cyber security, especially in recent years. Therefore, the participants of the study stated that when they open any site, they close the page without looking at the pop-up ads they encounter. The reason for this is that they find pop-up ads annoying.

In this study, the small sample size (N=142) and its confinement to a single institution limits the generalizability of the findings. However, since the research requested the use of the website as a learning by doing method, the sample was selected in this way.

According to the results of the research, it was determined that the participants of the research were less likely to buy the products they saw in the pop-up advertisement. These results are stated in the literature as entertaining pop-up ads are perceived positively and disturbing ones are perceived negatively. It has also been revealed that pop-up ads with low informative aspects are found to be more disturbing. In addition, it has been suggested that factors such as timing, duration, content compliance, and informational value can reduce the perception of pop-up ads as intrusive (Edwards et al., 2002; Katuwandeniya and Abeywardana, 2019; Hanbazazh and Reeve, 2021). It is important to keep these situations in the foreground in new studies to be carried out.

With this research, users were provided with user experience (UX) in the field of e-commerce. The user experience (UX) provided in the research is a strong example of the "learning to do" method as a process. In this sense, this research is important as it concerns different disciplines such as software development, design, business and marketing. It can be stated that less research has been done with the "learning to do" method in the literature compared to other studies (Le and Vo, 2017; Hsieh et al., 2021; Willermark et al., 2021).

Individuals' attitudes towards the types of pop-ups used on shopping sites also differ according to their demographic characteristics. Variables such as gender and income level guide the behavior of individuals. In the results of the study, it was observed that there was no statistically significant difference between male participants and female participants in terms of their attitudes towards pop-up ads. In addition, there is no significant difference between the monthly expenditure amounts of the participants and their opinions on the types of pop-ups used on shopping sites. In new studies, it may be suggested that different situations can be seen and different demographic questions should be included.

According to the results of the research, the study provides general information and sets an example for future research. For new studies to be conducted, researchers may be advised to conduct studies on similar topics that can be supported by qualitative analysis methods.

In the shopping website developed by the researchers in this research, a modern and useful interface was designed. In new research to be conducted by the researchers, it can be suggested that they prepare websites using artificial intelligence tools. In this way, the effect of e-commerce and artificial intelligence on users can be examined.

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Appendix-1:

Survey Questions Used in the Research

Demographic Questions

Gender: Female...   Male...

Monthly Expenditure:

1000 - 1500 TL...   1500 - 2000 TL...   2000- 2500 TL...   2500 - 3000 TL...   3000 TL - over...

Attitudes Regarding the Use of Pop-ups

1. When I open any site, I close the pop-up ad that appears without looking.

2. I'm intrigued by pop-up ads.

3. I don't want to buy the product I see the pop-up ad for.

4. I installed blocking programs on my internet access devices due to pop-up ads.

5. I have a negative perspective towards the company whose pop-up ad I see.

6. I find pop-up ads annoying.

7. I think that the products in pop-up ads are of poor quality.

8. I immediately close the website where I see pop-up ads.

9. I have purchased the product I saw in the pop-up ad at least once.

10. I think I can be deceived by pop-up ads.

11. I turn off the tool from which I access the internet due to pop-up ads.

12. If there were no pop-up ads, I would use the internet more efficiently.