

(Araştırma)

WHAT ABOUT THE POST-SCARCITY PERIOD? THE LATENT EFFECTS OF SCARCITY PROMOTIONS

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ABSTRACT

The objective of this study is to measure the latent effects of scarcity promotions on brand attitude and purchase intentions. The experimental design includes the result of the attempt to benefit from scarcity promotion as the manipulated factor. The findings of the study confirm the positive influence of scarcity promotions. However, when consumers fail to benefit from the promotion due to the limited number of products offered, their brand attitude and purchase intention levels deteriorate. In case they make several attempts and still fail, they react even more negatively. Based on these findings, some practical implications are provided.

Keywords: Scarcity promotions, brand attitude, purchase intentions.

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KITLIK SONRASI DÖNEMDE NE OLACAK? KITLIK PROMOSYONLARININ GİZLİ ETKİLERİ

ÖZ

Bu alıřma, kıtlık promosyonlarının markaya karřı tutum ve satın alma niyeti üzerindeki gizli etkisini ölçmeyi amaçlamaktadır. alıřmanın deneysel tasarımında kıtlık promosyonundan yararlanabilme başarısı manipüle edilen faktör olarak yer almaktadır. Bulgular, kıtlık promosyonlarının pozitif etkilerini teyit etmektedir. Diđer taraftan, eđer tüketiciler kısıtlı sayıda ürün sunulması sebebiyle bu promosyondan yararlanamazlar iseler, markaya karřı tutumları ve satın alma niyetleri negatif etkilenmektedir. Birden fazla kez deneyip, yine başarısız olduklarında ise söz konusu negatif reaksiyonun etkisi artarak devam etmektedir. Bulgular ışığında, uygulamaya yönelik öneriler sunulmuřtur.

Anahtar Sözcükler: Kıtlık promosyonları, marka tutumu, satın alma niyeti.

1. Introduction

One of the major challenges that marketers face is the accountability issue related to the returns of their marketing investments and their contributions to the bottom-line results (Stewart, 2009: 636). As the reflection of the three important characteristics of post-modern markets, namely rapid change, demanding customers and communication clutter occurred as a result of the high level of competition, marketers face extensive pressure from the management as well as shareholders for generating efficient results for their marketing activities (Sözer, 2009: 4). This situation leads to careful evaluation of all possible marketing communication options and the creation of the communication mix in a way that will provide the highest return on marketing investment. The accountability challenge forces marketers to sacrifice long-term brand investments for the sake of short-term sales and profitability targets.

Sales promotions, as one of the major modes of marketing communications, is one of the leading tools in which marketers rely on boosting sales and consequently reaching their short-term sales targets (Wierenga and Soethoudt, 2010: 383). Marketers allocate a considerable amount of their marketing budgets to sales promotions each year (Teng, 2009: 14). The increasing share of sales promotions in overall marketing budgets is the consequence of two factors, namely, push and pull factors. Push factors are those factors that derive from the market characteristics. These characteristics, which push the companies to involve in sales promotions, can be listed as increased competition in the market, lower level of brand loyalty of consumers, and the tendency of consumers to become more value-oriented. On the other hand, there are also pull factors which can be defined as the relative performance of sales promotions on generating accountable results in the short-term. Two of these outcomes, which lead to successful results, are the conviction of customers to try and buy the product for the first time and purchasing it more in terms of quantity (Garg and Kaur, 2014: 59; Jallow and Dastane, 2016: 314).

Despite the fact that sales promotions are an effective tool for brands to boost their sales, marketers face the difficulty of sustaining the effectiveness level due to the high numbers of sales promotions offered in the market for the same product category as a result of the intensive competition. The availability of different promotional offers provides consumers a wide range of options to choose among, and this situation leads to a decreasing return on sales promotion campaigns of marketers. In order to cope with the effectiveness challenge, marketers implement alternative mechanisms into the sales promotion campaigns. One of these mechanisms is to limit product availability in terms of quantity or time during the promotional campaign. When products have limited availability, it is expected that they become more valuable which eventually leading to higher value perceptions (Lynn, 1991: 52). Thus, marketers try to create a psychological trigger effect by connecting the promotional offer with the scarcity principle by informing the customers about the remaining quantity of time before the offer ends (Eisend,

2008: 33). These types of promotions are called scarcity promotions which are used to communicate the limited availability of the products (Kristofferson et al., 2017: 684).

There is a vast number of studies that focused on the effects of scarcity promotions on consumer behavior. Different aspects of consumer behavior that were focused on scarcity promotion studies include perceived value (Suri et al., 2007), brand evaluations (Gierl and Huettl, 2010), product preference (Jung and Kellaris, 2004) and purchase intentions (Aggarwal et al., 2011). There are several studies which test the quantity (Herpen et al., 2009) and time (Inman et al., 1997) scarcity conditions in online (Zheng et al., 2013) and offline (Parker and Lehmann, 2011) environments within different product contexts (Amaldoss and Jain, 2010). The findings of these studies generally confirm the positive effects of scarcity promotions on cognitive, affective, and behavioral outcomes of consumer behavior, generating conclusive results. However, there is a lack of studies that focus on the post-scarcity promotion period and measuring the effects of scarcity promotions on the future consumer reactions towards the promoted brands.

To fill the gap in the literature, this study measures the post-promotion effects of scarcity promotions on attitude towards the brand and purchase intentions of consumers. The study makes a comparison of these outcomes between those consumers who succeed to benefit from the scarcity promotion and those who couldn't. It is proposed that post-scarcity outcomes of scarcity promotions will differ between these two groups of consumers and those who succeeded in benefitting from the scarcity promotion will have more positive attitudes toward the brand and higher repeat purchase intentions compared to those who did not. Moreover, it is also proposed that the attitudes and purchase intentions of consumers towards the brand who failed to benefit from the scarcity promotion will deteriorate compared to the pre-promotion period.

2. Conceptual Framework

Starting with the famous jar experiment of Worchel, Lee and Adewole (1975), which tested the value perceptions of consumers about the identical cookies placed inside two different jars with varying numbers inside each jar, the concept of scarcity became the subject of many studies in several disciplines including economics, psychology, sociology, anthropology, and marketing. As one of the important aspects of economic behavior, the concept is defined as “the state of being scarce or short in supply” by The Oxford English Dictionary (2018). Thus, the reason for the scarcity is the imbalance between demand and supply which causes shortages of supply (Kristofferson et al. 2017: 684). Previous studies focused on the reasons of scarcity and reported two general reasons for it as limited supply or higher demand (Gierl and Huettl, 2010: 225). When individuals perceive a scarcity situation, it leads to the scarcity effect, explained as the change in the subjective desirability of an object (Jung and Kellaris, 2004: 740).

The concept of scarcity in the marketing context indicates the limited availability of products or services offered to customers. The scarcity effect is experienced by consumers because of several reasons such as limited supply, a limited number of suppliers, delays in production or high costs associated with acquiring or keeping a good (Verhallen and Robben, 1994: 315). Previous studies in the literature confirmed the significant and positive effect of scarcity level of a product in the market and its corresponding perceived value by consumers (Lynn, 1991: 52). This relationship between the scarce product and its associated value is generally explained by several motivational theories, including the commodity, reactance and uniqueness theories (Oruç, 2015: 42).

Commodity theory provides an understanding of the psychological effects of the scarcity concept (Gupta, 2013: 17). The theory claims that the value of objects, which can be possessed by individuals, provides some benefits to the user and can be transferred from one person to another, increases when the availability decreases or in other words it becomes scarce (Brock, 1968: 246). In cases where there are low number of suppliers, when there is a restriction of availability, or customer need to spend extra effort or time to get the product, the product is regarded as scarce and it is perceived relatively more attractive (Brock and Mazzocco, 2003: 129; Bozzolo and Brock, 1992: 100; Lynn and Harris, 1997: 613). Another complementary theory, which explains the dynamics of the relationship between the scarcity concept and its effects on perceived value, is the reactance theory. This theory, which is developed by Brehm (1966), claims that when a person's freedom is limited by an outside factor, the person experiences a kind of psychological reactance. This reactance results in a protectionist behavior towards freedom and the person trying to safeguard the behavior (Rosenberg and Siegel, 2017: 281). When it is applied in a marketing context, when there is a scarce product, the person feels that its freedom to buy this product is limited and reacts to recover the freedom by preferring this scarce product (Clee and Wicklund, 1980: 390; Worchel et al., 1975: 913). Finally, uniqueness theory claims that individuals need to differentiate themselves in comparison to their peer groups and this motivates them to satisfy this need by establishing a unique position of themselves (Snyder and Fromkin, 1977: 524). This will help them to achieve social esteem goals, which will bring them social status (Blumberg, 1974: 481). In this perspective, when they are exposed to a socially desirable scarce product, they see this as an opportunity to differentiate themselves from the rest of the peer group. Amaldoss and Jain (2005: 1449) explain this relationship also based on the social comparison theory by dividing the consumers into two groups, namely leaders and followers. They define leaders as consumers having higher social status and motivated to distinguish themselves from their followers by possessing conspicuous consumption goods. Thus, scarce products serve this purpose and preferred by leader consumers.

3. Scarcity Promotions and Consumer Behavior

The theoretical background on the scarcity concept provides a strong basis for the wide range use of the concept in the marketing practice as it is regarded as one of the 8 principles of influence which in turn may stimulate the purchase of a product or service (Cialdini, 2001: 204). Marketing literature includes many studies that focused on the effects of scarcity messages on different dimensions of consumer behavior (Schins, 2014: 13). The results of these studies are generally conclusive and confirm the significant positive influence of scarcity messages on consumers' evaluations of promotional offers.

One research stream focused on the quantity scarcity appeals in promotions by studying the effect in cases of limited supply, excess demand, and the combination of these two on the different dimensions of consumer behavior. Gierl and Huettl (2010: 232) studied the effect of limited supply on attitude towards the product and confirmed the positive effect of scarcity messages. Another study that also used the limited supply theme confirmed the positive effect of the scarcity messages on purchase intentions of consumers (Aggarwal et al., 2011: 24). In their study previously mentioned, Gierl and Huettl (2010: 232) employed also the excess demand appeal and confirmed the positive effect of scarcity messages on attitude towards the product. Some other studies used the combination of limited supply and excess demand appeals and confirmed the positive effects on perceived popularity (Herpen et al., 2009: 302), purchase intentions of consumers (Bae and Lee, 2005: 255) and sales (Inman et al., 1997: 76). Another group of studies employed time scarcity appeals and focused on the effect of such messages on perceived quality, product desirability, and purchase intentions. Suri, Kohli, and Monroe (2007: 95) focused on the effect of scarcity promotions on perceived product quality and confirmed the positive effects of such messages. It is also reported that time scarcity leads to the positive effects on the purchase intentions of consumers (Bae and Lee, 2005: 255; Lessne, 1987: 116).

In addition to the findings reviewed previously, several studies also reported significant effects of scarcity messages on various consumer responses including assumed expensiveness (Chen and Sun, 2014: 244), attitude towards the deal (Ramanathan and Dhar, 2010: 550), consumer competitive arousal (Zhu and Ratner, 2015: 23), perceived exclusiveness (Herpen et al. 2014: 158), and willingness to pay (Lee and Seidle, 2012: 1493).

In light of the theoretical background as well as supportive findings in the existing literature, we propose the following hypothesis:

H₁: Scarcity promotions will have a positive influence on attitude towards the brand.

H₂: Scarcity promotions will have a positive influence on the purchase intentions of consumers.

4. The Latent Effects of Scarcity Promotions on Consumer Behavior

As we reviewed in the previous section, although there are obviously significant and positive influences of scarcity promotions on consumer responses, it is believed that there is also the other side of the coin which may lead us to alternative conclusions as well. The essence of scarcity promotions lies in offering a special deal with a limited quantity of time, which eventually underlines the fact that few people will be able to benefit from this special offer. This situation generates a competitive behavior among consumers with the aim to buy a scarce product. In turn, this competitive threat generates some physiological effects such as increased hormone levels, mainly testosterone, which is associated with aggressive behavior (Book et al., 2001: 593). As a result of these psychological and physiological triggers, consumers who are exposed to scarcity promotions become ready to react negatively or aggressively in case of failing to reach the targeted outcome (Kristofferson et al. 2017: 686).

In scarcity promotion cases, especially when the products offered are limited, consumers feel that the possible outcomes are not under their control and such conditions, which are controlled by external circumstances, generate stress on those consumers (Donovan et al., 1975: 684). This stress turns into the anger when there is a failure to benefit from the promotion offered due to the reasons such as the end of a limited quantity of products offered or the expiration of the time slot allowed to buy the products. The main reason for this anger is the unfairness they feel about the outcome (Xia et al. 2014: 8). According to the appraisal tendency framework proposed by Lerner and Keltner (2000), such emotions like anger lead to specific cognitive and motivational properties at the biological and behavioral level which eventually generate some judgment and decisions. This leads us to the conclusion that consumers who are exposed to scarcity promotions, due to the physiological and psychological triggers, they start to feel stress, and when they fail to accomplish their target, this stress turns into anger, which eventually becomes the source of a possible negative reaction. The negative emotions, such as anger generated as the result of the failed attempt to benefit from the scarcity promotion, lead to several behavioral outcomes.

When consumers become angry, this emotion is generally become associated with another person (Roseman, 1984: 22; Weiner, 1980: 191). Thus, they become more likely to blame other people and they tend to show lower levels of trust towards others (Dunn and Schweiter, 2005: 745). They also react slower to associate positive traits in comparison to negative traits about a third party (De Steno, 2004: 43). As the previous research suggests, when consumers are treated badly, they share these with other consumers, boycott the company and even engage in verbal insults or violent behavior (Zourrig, et al., 2009: 995). It is believed that in case consumers fail to benefit from the scarcity promotions, the target of their anger will be the brand associated with the product.

In light of the theoretical background as well as supportive findings in the existing literature, we propose the following hypothesis:

H₃: The attitude towards the brand will become more positive when consumers succeed to benefit from the scarcity promotion.

H₄: The attitude towards the brand will become more negative when consumers fail to benefit from the scarcity promotion.

H₅: Consumers who succeeded to benefit from scarcity promotions will have more positive attitudes towards the brand than those consumers who failed to benefit from the scarcity promotions.

H₆: The purchase intentions will become more positive when consumers succeed to benefit from the scarcity promotion.

H₇: The purchase intentions will become more negative when consumers fail to benefit from the scarcity promotion.

H₈: Consumers who succeeded to benefit from scarcity promotions will have more positive purchase intentions than those consumers who failed to benefit from the scarcity promotions.

5. Research Methodology

5.1. Research Design

An experimental design was implemented in this study to measure the effects of scarcity promotions on the attitude towards the brand and purchase intentions of consumers before, during and after the scarcity promotion period. The manipulated factor of the study was the result of the consumers' attempt to buy the product which was categorized as success or failure. The subjects of the study were chosen among the university students who were interested in buying a new mobile phone. A total number of questionnaires collected was 240. The study was composed of five sections.

In the first section, all participants have introduced an online advertisement in a newspaper web site that communicates the features and the price of a new mobile phone model introduced by a well-known brand. Following the exposure to this online ad, participants were asked to answer the statements measuring their attitude toward the band and their purchase intentions.

Following the first section, in the second section of the study, an identical introductory scenario was presented to all participants showing an online advertisement again in the same newspaper web site about the promotion of a consumer electronics retailer about this popular mobile phone brand. An online advertisement on this web page included the picture of the mobile phone model, its features and two price information, the regular (list), and promotion-specific

prices. The promotion-specific price was presented as 30 % lower than the regular price making the promotion very attractive for those who are interested in buying a new mobile phone. The scarcity message was placed next to the special price offer stating that the offer will be available for only 150 items and these items will be sold in three equal groups each presented every thirty minutes. Thus, every 30 minutes, a group of 50 items were told to be made available for purchase. The newspaper web site was a replica of the original newspaper web page and was in a picture format with a hyperlink to the retailer web page, which was planned to be used for a hypothetical purchase transaction. All participants were shown the advertisement for several minutes, and then they have received a questionnaire including several statements measuring their attitude towards the mobile phone brand and their intention to purchase the item. Following the completion of the initial two measurements, the experiment proceeded to the next level.

At the beginning of the study, participants were randomly distributed to two groups, which were categorized as those who will succeed to purchase the mobile phone and those who will not. Naturally, they did not know the result of their attempt upfront. After the first two sections, in the third section, participants in these two groups, who are exposed to the online advertisement of the brand and answered the pre-promotion and on-promotion questionnaires, were asked to click the promotion ad in the web page at the same time with other group participants and they were directed to the promotion section in the retailers' web page. The web page included a statement that the promotion will start in one minute for the first 50 items and they need to enroll in the retailer web page to make the purchase. All participants started to enroll in the retailers' web page by answering the questions. Those participants who completed the enrollment process, are directed to the purchase transaction web page. In the purchase transaction, web page participants specified the number of items they want to purchase which was limited with a maximum of two items per user. Finally, they were asked to provide their credit/debit card information to complete the transaction. This section was arranged based on the manipulated factor. Thus, the purchase transaction section for the first group of participants was arranged to deliver a positive outcome in their attempt to purchase the mobile phone. This group is presented as Pro_{Win} in the study. On the contrary, the purchase transaction section for the second group of participants was arranged to deliver a negative outcome for their attempt to purchase the transaction. This group is presented as Pro_{Lost} in the study. During the first $\frac{1}{2}$ hour period, which includes 50 items available for sale, 40 participants, in the Pro_{Win} group, and 120 participants in the Pro_{Lost} group were completed their enrollment and tried to purchase the product. Pro_{Win} group participants have received a message confirming the completion of their transaction and included several information regarding the options for tracking the delivery of the product. On the other hand, those participants in Pro_{Lost} group were exposed to a message stating that items for the first time period were limited and out of stock. They were presented an option to buy the product at regular price or try to purchase it

in the next $\frac{1}{2}$ hour section. All respondents were directed to try it one more time. At the end of the third section, 40 participants of Pro_{Win} and all Pro_{Lost} respondents were answered the statements measuring their attitude towards the brand and their future regular purchase intentions.

In the fourth section, a new group of 40 participants from the Pro_{Win} group and the same 120 participants in the Pro_{Lost} group were asked to choose the item and put it into their basket and proceed to check out. Once more, Pro_{Win} group participants have received a message confirming the completion of their transaction and included several information regarding the options for tracking the delivery of the product. On the other hand, those participants in Pro_{Lost} group were exposed to a message stating that items for the third time period was limited and out of stock. They were presented an option to buy the product with regular price or try to purchase it in the next half an hour section. All Pro_{Lost} respondents were directed to try it one more time. At the end of the fourth section, the second group of 40 Pro_{Win} participants and all Pro_{Lost} respondents were answered the statements measuring their attitude towards the brand and their future regular purchase intentions. The same procedure was repeated also in the fifth section of the study. Table 1 summarizes the details of the experimental design applied in this study.

Table 1. Experimental Design Structure

Group	Group Name	Pre-Promotion	On-PromotionPost-Promotion.....		
				30'	60'	90'
1	Pro _{Win}	120	120	40	40	40
2	Pro _{Lost}	120	120	120	120	120

5.2. Operationalization of Variables

The scales which were employed in this study were borrowed from the previous studies in the literature. Attitude towards the brand scale was borrowed from the studies of Lee and Manson (1999), Lee (2000) and Kim, Haley, and Koo (2009). The seven-point Likert type scale, which was intended to measure the attitude toward the brand placed in the online ad, was composed of five items. In terms of reliability, Lee and Manson (1999) reported .92 alpha score, Lee (2000) reported .93 alpha score for computer products, and finally, Kim, Haley, and Koo (2009) reported .92 alpha score for this scale. For the purpose of this study, the scale was adjusted to express the attitude towards the brand which is placed in an online ad and the number of points in the scale was reduced to five.

The scale which measured the purchase intentions of the participants for the mobile phone brand was borrowed from the studies of Bone and Ellen (1992). The scale, which was intended to measure the purchase intentions of participants about the mobile phone brand placed in the online ad, was composed of three

items including one question with eleven points Semantic Differential and two questions with seven points Likert type scale formats. In terms of reliability, the authors reported an alpha score of .90 and .92 in their two consecutive studies. For the purpose of this study, the scale was adjusted to express the purchase intention of the participants about the mobile phone brand on the online advertisement and the number of items in the scale were reduced to two with five points semantic differential responses for both items.

The statements and scale items for attitudes toward the brand and purchased intentions are summarized in Table 2.

Table 2. Attitude Towards the Brand and Purchase Intention Scales

		Scales				
Attitude Towards The Brand						
Items	Statements	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	The brand in the online ad is likely to possess the stated ad claims	(...)	(...)	(...)	(...)	(...)
2	I react favorably to this mobile phone brand	(...)	(...)	(...)	(...)	(...)
3	I feel positively towards this mobile phone brand	(...)	(...)	(...)	(...)	(...)
4	I like the mobile phone brand.	(...)	(...)	(...)	(...)	(...)
5	I am more interested in this mobile phone brand as a result of seeing the online ad.	(...)	(...)	(...)	(...)	(...)
Purchase Intention						
Items						
1	What is the likelihood that you will purchase the advertised mobile phone brand?					
	Extremely Unlikely	(...)	(...)	(...)	(...)	Extremely Likely
2	The next time I purchase a mobile phone, I will buy the brand in this promotion.					
	Extremely Unlikely	(...)	(...)	(...)	(...)	Extremely Likely

Due to the modifications made to the scales employed in the study, a reliability analysis was conducted to confirm the reliability of the modified scales. A principal component analysis was conducted to test the reliabilities of the scales. The principal component analysis resulted in the extraction of two components, namely attitude towards the band and purchase intentions, including the same number of items as it is proposed. Internal reliabilities were measured by calculating alpha scores for each component extracted. Alpha scores for each component were significantly

high, leading to the confirmation of internal reliabilities for both components. The results of the principal component analysis are summarized in Table 3.

Table 3. Results of the Principal Component Analysis

Component	Construct	Coverage	Items	Loadings	α
1	Attitude Towards the Brand	Measures a person's attitude toward a particular brand featured in an ad that the person has been exposed to.	5	0.673	0.980
2	Purchase Intentions	Measures consumers' stated likelihood of buying a particular product at the moment or in the future	2	0.263	0.959

Statistical Package for Social Sciences version 25 was used to test the hypothesis related to the effect of scarcity promotions on the attitude towards the brand and purchase intentions for both Pro_{Lost} and Pro_{Win} groups.

6. Findings

6.1. Manipulation Checks

The experimental design of the study includes two experiment groups, namely Pro_{Win} and Pro_{Lost}, and targets to measure the effect of two conditions, to benefit and not benefiting from the promotion offered, on the attitude and purchase intentions of these two groups towards the brand. Before processing with the test of the experimental conditions, manipulation checks were made for the two manipulated factors employed in the experimental design to confirm that experiment groups do not have any statistically different scores in terms of their attitude and purchase intentions towards the brand before they are exposed to promotion offer. Table 4 includes the average scores of both experiment groups on attitude towards the brand and purchase intentions before they are exposed to promotion information used in the experimental study.

Table 4. Attitude and Purchase Intention Scores for Pro_{Win} and Pro_{Loss} Groups

Manipulated Groups	Brand Attitude		Intention to Purchase	
	M	SD	M	SD
Group 1 (Pro _{Win})	3.37	.86	3.34	.68
Group 2 (Pro _{Lost})	3.23	.90	3.31	.84

Before proceeding with the manipulation checks through a series of independent samples t-tests, the data of both experiment groups for the pre-promotion period were checked whether the assumptions of normality were met or not. Although the results of the Shapiro-Wilk test indicated a violation of normality, due to the increasing sensitivity of this test in increasing sample sizes, calculation of z

scores for skewness and kurtosis values as well as graphical assessment through normal Q-Q plots were preferred for the final evaluation. In terms of attitude and intention to purchase scores at pre-promotion period, skewness and kurtosis values and respective standard errors were used to calculate Z values for each group and checked whether these values are within the range of ± 2.58 which corresponds to a statistical significance level of .01. Attitude scores were found to be normally distributed for Pro_{Win} with a skewness value of 0.343 (SE=0.221) and kurtosis value -0.457 (SE= 0.438) and for Pro_{Lost} with a skewness value of 0.444 (SE=0.221) and kurtosis value -0.481 (SE= 0.438). Similarly, purchase intention scores were found to be normally distributed for Pro_{Win} with a skewness value of 0.222 (SE=0.221) and kurtosis value -0.429 (SE= 0.438) and for Pro_{Lost} with a skewness value of 0.060 (SE=0.221) and kurtosis value -0.621 (SE= 0.438). Additionally, the inspection of normal Q-Q plots also confirmed the normality of both dependent variables for each experiment group.

Following the normality checks, the manipulation checks were made through a series of independent samples t-tests. First, the attitude scores of experimental groups were compared in order to test whether is there any statistically significant difference between the scores of these groups in the pre-promotion period. The result of the independent samples t-test confirmed that attitude scores of Pro_{Win} (M=3.37, SD=0.86) and Pro_{Lost} (M=3.23, SD=0.91) groups were not statistically significant; $t(238)=1.245$, $p=.214$. Thus, this result leads us to conclude that the subjects of both groups have no difference in terms of their attitude towards the brand before they are exposed to the promotion information. Following the manipulation checks for attitude scores, the intention to purchase scores of experimental groups was compared to test whether is there any statistically significant difference between the scores of these groups in the pre-promotion period. The result of the independent samples t-test confirmed that purchase intention scores of Pro_{Win} (M=3.34, SD=0.68) and Pro_{Lost} (M=3.31, SD=0.84) groups were not significant statistically; $t(238)=.338$, $p=.735$. Thus, this result leads us to conclude that the subjects of both groups have no difference in terms of their purchase intentions towards the brand before they are exposed to the promotion information.

6.2. The Effect of Scarcity Promotions on Attitude towards the Brand and Purchase Intentions

The first analysis was made to measure the effects of being exposed to scarcity promotions via an online advertisement on consumers' attitudes towards the brand and their purchase intentions. To test this effect, a paired-samples t-test was planned to be conducted to compare the level of attitudes and purchase intentions towards the brand among the participants on two different periods. However, the result of normality checks showed that the distribution of differences in attitude as well as purchase scores for the two related groups was not normally distributed. Due to the violation of normality assumption for the paired-sample t-test, a non-

parametric alternative test, which is, Wilcoxon signed rank test, was conducted. All participants from both Pro_{Win} and Pro_{Lost} groups were included in the analysis to test the effect of being exposed to scarcity promotions on these two variables. The results of the analysis confirmed that there is a significant difference in the attitude levels as well as purchase intentions before and after they are exposed to scarcity promotion offers. Table 5 includes the mean, median scores as well the summary results of the Wilcoxon signed rank test.

Table 5. The Effects of Scarcity Promotions on Brand Attitude and Purchase Intentions

DV	Construct	Before Exposure (Mean)	Before Exposure (Median)	After Exposure (Mean)	After Exposure (Median)	Total N	Test Statistic	SE	Z	Sig.
1	Attitude towards the brand	3.29	3.00	4.15	4.00	240	11.879	755.953	3.332	.001
2	Purchase intentions	3.32	3.00	4.30	4.00	240	20.374	779.567	12.855	.000

The results in the table indicate that the level of attitude towards the brand becomes more positive as there is a statistically significant median increase when consumers are exposed to a scarcity promotion offer (Median=4.00) compared to the pre-promotion offer period (Median=3.00); $z=3.332$, $p = .001$. This leads us to accept H_1 . Similarly, those consumers who are exposed to the same scarcity promotion offer (Median=4.00) have higher levels of purchase intentions as there is a statistically significant median increase compared to pre-promotion offer period (Median=3.00); $z=12.855$, $p < .001$. In light of this result, we accept H_2 .

6.3. The Latent Effects of Scarcity Promotions on Attitude towards the Brand

After testing the effects of scarcity promotions on the attitude towards the brand for all participants, the latent effects were tested by comparing the levels of attitude towards the brand in pre-promotion, on-promotion, and post-promotion periods. Table 6 includes a summary of the mean and standard deviation scores of attitudes towards the brand for each experiment group. Pre-promotion period includes the scores of attitudes before consumers are exposed to a scarcity promotion offer. On-promotion period refers to the measurement made right after they are exposed to the scarcity promotion offer. Finally, post-promotion period is the one when the measurement of attitude score is done following the transaction trial. This Post-Promo period includes only one measurement for Pro_{Win} group since they benefited from the promotion in their first trial. On the other hand, in line with the experimental design, Post-Promo period includes three measurements for Pro_{Lost} group since they failed to benefit three times following the exposure to promotion offer.

Table 6. The Latent Effects of Scarcity Promotions on Attitude towards the Brand

Group	Name	Pre-Promo		On-Promo		Post-Promo						
		(M)	SD	(M)	SD	30' (M)-SD	60' (M)-SD	90' (M)-SD				
1	Pro _{Win}	3.37	0.86	4.27	0.64	4.87	0.34	-	-	-	-	-
2	Pro _{Lost}	3.23	0.90	4.03	0.78	2.28	0.48	1.73	0.85	1.39	0.63	

A one-way repeated measures ANOVA test was targeted to be conducted to compare the effect of promotion engagement and its result (success or failure) on the attitude of consumers towards the brand before, during, and after the promotion ended. Before proceeding with the analysis, one important assumption of one-way repeated measures ANOVA, namely normality of distribution of differences, were checked. Both the results of the Shapiro-Wilk test as well as Z scores of skewness and kurtosis values confirmed that there is a deviation from normality especially due to the post-promotion period data. In the light of normality check results, a non-parametric alternative to one-way repeated measures ANOVA, namely Friedman test, was employed in measuring the latent effect of scarcity promotion in Pro_{Win} and Pro_{Lost} groups.

The results of the analysis confirmed that there is a significant difference in attitude scores between pre-promotion, on promotion and post-promotion periods, $X^2(2) = 185.469$, $p < 0.001$ for Pro_{Win} group. The post-hoc tests executed with the Bonferroni correction for multiple comparisons resulted in significant difference between attitude scores of Pro_{Win} group before promotion (Median=3.00) and on promotion (Median=4.00), $p < .001$, before promotion (Median=3.00) and after promotion (Median=5.00); $p < .001$ and on promotion (Median=4.00) and after promotion (Median=5.00), $p < .001$. The results of the Friedman test and associated post-hoc tests with the Bonferroni correction for multiple comparisons confirm that attitude towards the brand becomes gradually more positive when consumers are exposed to a scarcity promotion offer (Median=4.00) and then succeed to benefit from this promotion (Median=5.00) compared to the pre-promotion offer period (Median=3.00). These results lead us to accept H₃. Table 7 summarizes the results of the analysis which tests the latent effect of scarcity promotions on the attitude towards the brand of Pro_{Win} group.

Table 7. The Latent Effects of Scarcity Promotions on Attitudes of Pro_{Win} group

Pair	Comparison	Mean Difference	Median Difference	Test Statistic	SE	Std. Test Statistic	Sig.	Adj. Sig
1	Pre-Promotion vs On-Promotion	-0.90	-1.00	-.933	.129	-7.230	.000	.000
2	Pre-Promotion vs Post-Promotion	-1.50	-2.00	-1.529	.129	-11.845	.000	.000
3	On-Promotion vs Post-Promotion	-0.60	-1.00	-.596	.129	-4.615	.000	.000

*Adjusted significance represents the significance value after Bonferroni correction for multiple tests.

The same statistical method was employed to measure the effect of scarcity promotions on the attitude of consumers towards the brand who could not succeed to benefit from the scarcity promotion (Pro_{Lost}). The results of the analysis confirmed that there is a significant difference in attitude scores between pre-promotion, on promotion and three levels (30', 60' and 90') of post-promotion periods, $X^2(4) = 427.362$, $p < 0.001$. The post-hoc tests executed with the Bonferroni correction for multiple comparisons confirm the significant difference between all possible pairings except one, which leads us to conclude that once the customers are exposed to the promotion campaign, their attitude towards the brand becomes more positive (Median=4.00) compared to the pre-promotion period (Median=3.00), $p < .001$. However, this effect turns into a reverse direction when they start to fail to benefit from this promotion in their first attempt (Median=2.00) and second attempt (Median=1.00), $p < .001$. The results of post-hoc test did not report any significant difference between the attitude scores in the second (Median=1.00) and third attempts (Median=1.00) $p = .189$. In light of these results, we partially accept H_4 . Table 8 summarizes the results of the analysis, which tests the latent effect of scarcity promotions on the attitude towards the brand of Pro_{Lost} group with all possible pairwise comparisons.

Table 8. The Latent Effects of Scarcity Promotions on Attitudes of Pro_{Lost} Group

Pair	Comparison	Mean Difference	Median Difference	Test Statistic	SE	Std. Test Statistic	Sig.	Adj. Sig
1	Pre-Promotion vs On-Promotion	-0.81	-1.00	-996	.204	-4.879	.000	.000
2	Pre-Promotion vs Post-Promotion (30')	0.95	1.00	1.058	.204	5.185	.000	.000
3	Pre-Promotion vs Post-Promotion (60')	1.50	2.00	1.958	.204	9.594	.000	.000
4	Pre-Promotion vs Post-Promotion (90')	1.83	2.00	2.438	.204	11.941	.000	.000
5	On-Promotion vs Post-Promotion (30')	1.76	2.00	2.054	.204	10.063	.000	.000
6	On-Promotion vs Post-Promotion (60')	2.31	3.00	2.954	.204	14.472	.000	.000
7	On-Promotion vs Post-Promotion (90')	2.64	3.00	3.433	.204	16.820	.000	.000
8	Post-Promotion (30') vs Post-Promotion (60')	-0.55	1.00	.900	.204	4.409	.000	.000
9	Post-Promotion (30') vs Post-Promotion (90')	-0.88	1.00	1.379	.204	6.757	.000	.000
10	Post-Promotion (60') vs Post-Promotion (90')	-0.33	0.00	.479	.204	2.347	.019	.189

*Adjusted significance represents the significance value after Bonferroni correction for multiple tests.

Finally, a series of independent samples t-test were targeted to be conducted in order to test whether succeeding or failing to benefit from the scarcity promotions lead to differentiated effects in terms of attitude towards the brand. First, the pre-promotion scores were compared in order to confirm that there is no statistically significant difference between the scores of two groups in the pre-promotion period. As there were no issues regarding the violation of normality assumption for the data in pre-promotion period (confirmed in the manipulation checks section), an independent samples t-test was conducted. Parallel to the result obtained in the manipulation checks section, the result of the independent samples t-test confirmed that attitude scores of Pro_{Win} (M=3.37, SD=0.86) and Pro_{Lost} (M=3.23, SD=0.91) groups were not statistically significant; $t(238)=1.245, p=.214$. Thus, this result leads us to conclude that the subjects of both groups have no difference in terms of their attitude towards the brand before they are exposed to the promotion information. Secondly, the effect of benefiting from the scarcity promotion was measured by comparing the attitude scores of Pro_{Win} and Pro_{Lost} groups at the post-promotion period. Due to the violation of normality assumptions of the independent samples t-test as a result of both statistical and visual assessment of the post-promotion data, a non-parametric method, namely, Mann-Whitney U test, was conducted. The similarity of attitude score distributions for both groups was confirmed by visual inspection of population pyramids and the results of the test confirmed that median attitude scores of Pro_{Win} (Median=5.00) and Pro_{Lost} (Median=2.00) groups were statistically different in post-promotion period, $U=16, z=-14,360, p<.001$. These results lead us to accept H₅.

6.4. The Latent Effect of Scarcity Promotions on Purchase Intentions

After testing the effects of scarcity promotions on the purchase intentions of consumers for all participants, the latent effects were tested by comparing the levels of purchase intentions in pre-promotion, on-promotion and post-promotion periods. Table 9 includes a summary of the testing results for the latent effects of scarcity promotion on purchase intentions. Pre-promotion period includes the scores of purchase intentions before consumers are exposed to a scarcity promotion offer. On-promotion period refers to the measurement made right after they are exposed to the scarcity promotion offer. Finally, post-promotion period is the one when the measurement of purchase intention score is done following the transaction trial. This Post-Promo period includes only one measurement for Pro_{Win} group since they benefited from the promotion in their first trial. On the other hand, in line with the experimental design, Post-Promo period includes three measurements for Pro_{Lost} group since they failed to benefit three times following the exposure to promotion offer.

Table 9. The Latent Effects of Scarcity Promotions on Purchase Intentions

Group	Name	Pre-Promo		On-Promo		Post-Promo					
		(M)	SD	(M)	SD	30' (M)-SD	60' (M)-SD	90' (M)-SD			
1	Pro _{Win}	3.34	0.68	4.34	0.65	4.79	0.41	-	-	-	-
2	Pro _{Lost}	3.31	0.84	4.27	0.67	2.43	0.63	2.45	0.65	2.03	0.77

A one-way repeated measures ANOVA test was targeted to be conducted to compare the effect of promotion engagement and its result (success or failure) on the purchase intention of consumers towards the brand before, during, and after the promotion ended. Before proceeding with the analysis, one important assumption of one-way repeated measures ANOVA, namely normality of distribution of differences, were checked. Both the results of the Shapiro-Wilk test as well as Z scores of skewness and kurtosis values confirmed that there is a deviation from normality, especially due to the post-promotion period data. In the light of normality check results, a non-parametric alternative of one-way repeated measures ANOVA, namely Friedman test, was employed in measuring the latent effect of scarcity promotion in Pro_{Win} and Pro_{Lost} groups.

The results of the analysis confirmed that there is a significant difference in purchase intention scores between pre-promotion, on promotion and post-promotion periods, $X^2(2) = 189.926$, $p < 0.001$ for Pro_{Win} group. The post-hoc tests executed with the Bonferroni correction for multiple comparisons resulted in significant difference between purchase intention scores of Pro_{Win} group before promotion (Median=3.00) and on promotion (Median=4.00), $p < .001$, before promotion (Median=3.00) and after promotion (Median=5.00); $p < .001$ and on promotion (Median=4.00) and after promotion (Median=5.00), $p = .001$. The results of the Friedman test and associated post-hoc tests with the Bonferroni correction for multiple comparisons confirm that purchase intentions towards the brand become gradually more positive when consumers are exposed to a scarcity promotion offer (Median=4.00) and then succeed to benefit from this promotion (Median=5.00) compared to the pre-promotion offer period (Median=3.00). These results lead us to accept H_6 . Table 10 summarizes the results of the analysis which tests the latent effect of scarcity promotions on the purchase intentions towards the brand of Pro_{Win} group.

Table 10. The Latent Effects of Scarcity Promotions on Purchase Intentions of Pro_{Win} group

Pair	Comparison	Mean Difference	Median Difference	Test Statistic	SE	Std. Test Statistic	Sig.	Adj. Sig.
1	Pre-Promotion vs On-Promotion	-1.00	-1.00	-1.087	.129	-8.424	.000	.000
2	Pre-Promotion vs Post-Promotion	-1.45	-2.00	-1.538	.129	-11.909	.000	.000
3	On-Promotion vs Post-Promotion	-0.45	-1.00	-4.450	.129	-3.486	.000	.001

*Adjusted significance represents the significance value after Bonferroni correction for multiple tests.

The same statistical method was employed to measure the effect of scarcity promotions on the purchase intentions of consumers towards the brand who could not succeed to benefit from the scarcity promotion (Pro_{Lost}). The results of the analysis confirmed that there is a significant difference in purchase intention scores between pre-promotion, on promotion and three levels (30', 60' and 90') of post-promotion periods, $X^2(4) = 382.270$, $p < 0.001$. The post-hoc tests executed with the Bonferroni correction for multiple comparisons confirm the significant difference between all possible pairings except one, which leads us to conclude that once the customers are exposed to the promotion campaign, their purchase intentions towards the brand becomes more positive (Median=4.00) compared to the pre-promotion period (Median=3.00), $p < .001$. However, compared to pre-promotion and on-promotion periods, this effect turns into a reverse direction when they start to fail to benefit from this promotion in their first attempt (Median=2.00) and second attempt (Median=2.00), $p < .001$. The results of post-hoc test did not report any significant difference between the purchase intention scores in the first (Median=2.00) and second attempts (Median=2.00), $p = 1.000$. However, the results confirm that there is a significant difference between the second attempt (Median=2.00) and the third attempt (Median=2.00), $p = .018$. In light of these results, we partially accept H₇. Table 11 summarizes the results of the analysis which tests the latent effect of scarcity promotions on the attitude towards the brand of Pro_{Lost} group with all possible pairwise comparisons.

Table 11. The Latent Effects of Scarcity Promotions on Purchase Intentions of Pro_{Lost} Group

Pair	Comparison	Mean Difference	Median Difference	Test Statistic	SE	Std. Test Statistic	Sig.	Adj. Sig
1	Pre-Promotion vs On-Promotion	-0.96	-1.00	-1.204	.204	-5.899	.000	.000
2	Pre-Promotion vs Post-Promotion (30')	0.88	1.00	1.346	.204	6.593	.000	.000
3	Pre-Promotion vs Post-Promotion (60')	0.86	1.00	1.288	.204	6.307	.000	.000
4	Pre-Promotion vs Post-Promotion (90')	1.28	1.00	1.925	.204	9.431	.000	.000
5	On-Promotion vs Post-Promotion (30')	1.83	2.00	2.550	.204	12.492	.000	.000
6	On-Promotion vs Post-Promotion (60')	1.82	2.00	2.492	.204	12.207	.000	.000
7	On-Promotion vs Post-Promotion (90')	2.24	2.00	3.129	.204	15.330	.000	.000
8	Post-Promotion (30') vs Post-Promotion (60')	-0.02	0.00	-.058	.204	-.286	.775	1.000
9	Post-Promotion (30') vs Post-Promotion (90')	0.41	0.00	.579	.204	2.837	.005	.045
10	Post-Promotion (60') vs Post-Promotion (90')	0.43	0.00	.637	.204	3.123	.002	.018

*Adjusted significance represents the significance value after Bonferroni correction for multiple tests.

Finally, a series of independent samples t-test was conducted in order to test whether succeeding or failing to benefit from the scarcity promotions lead to differentiated effects in terms of purchase intentions towards the brand. First, the pre-promotion scores were compared in order to confirm that there is no statistically significant difference between the scores of two groups in the pre-promotion period. As there were no issues regarding the violation of normality assumption for the data in pre-promotion period (confirmed in the manipulation checks section), an independent samples t-test was conducted. Parallel to the result obtained in the manipulation checks section, the result of the independent samples t-test confirmed that purchase intention scores of Pro_{Win} (M=3.34, SD=0.68) and Pro_{Lost} (M=3.31, SD=0.84) groups were not statistically significant; $t(238)=.338, p=.735$. Thus, this result leads us to conclude that the subjects of both groups have no difference in terms of their purchase intentions towards the brand before they are exposed to the promotion information. Secondly, the effect of benefiting from the scarcity promotion was measured by comparing the purchase intention scores of Pro_{Win} and Pro_{Lost} groups at the post-promotion period. Due to the violation of normality assumptions of the independent samples t-test as a result of both statistical and visual assessment of the post-promotion data, a non-parametric method, namely, Mann-Whitney U test, was conducted. The similarity of attitude score distributions for both groups was confirmed by visual inspection of population pyramids and the results of the test confirmed that median attitude scores of Pro_{Win} (Median=5.00) and Pro_{Lost} (Median=2.00) groups were statistically different in post-promotion period, $U = 112, z = -13.898, p < .001$. These results lead us to accept H_8 .

Discussion and Practical Implications

The main objective of this study was to measure the effect of scarcity promotions on consumers' attitudes towards the organizing brand and their respective purchase intentions in pre-promotion, on-promotion, and post-promotion periods. The findings of the study lead to several conclusions as well as contributions that need to be elaborated in comparison with the previous findings in the literature.

Current literature includes conclusive findings of the positive and significant effects of sales promotions on sales (Kopalle et al., 1999: 317), the perceived value of consumers (Grewal et al., 1998: 343) as well as their purchase intentions (Chao and Liao, 2016: 124). Moreover, there are also conclusive results confirming the positive and significant influences of scarcity promotions on different aspects of consumer behavior including attitude towards the product (Gierl and Huettl, 2010: 232), purchase intentions of consumers (Aggarwal et al. 2011: 24), perceived popularity (Herpen et al. 2009: 302), and sales (Inman et al. 1997: 76). The results of this study confirm the positive and significant effect of scarcity promotions on both attitude towards the brand and the purchase intentions of consumers. When consumers are exposed to the scarcity messages during the promotion period in a limited quantity format, their attitudes towards the brand become more positive

and their purchase intention levels increase compared to the pre-promotion period. In this respect, we can conclude that the results of this study are parallel to the previous findings in the literature and support the previous conclusive results.

This study makes an important contribution to the existing literature by measuring the effect of scarcity promotions on post-scarcity period and shed light on an unexplored area of the literature by analyzing the effect of such promotions in the post-purchase period. To the best of our knowledge, this study is the first one which measures the post-promotion period effects on the brand in the case of failed consumer attempt to benefit from the scarcity promotions. The findings of the study confirm that although scarcity promotions have a positive effect on the attitude and purchase intentions of consumers, when consumers fail to benefit from these offers, due to some physiological and psychological triggers, they react negatively towards the brand. Thus, their attitude towards the brand and purchase intentions deteriorate compared to the pre-promotion levels. This finding fills a gap in the existing literature since there are no other studies that reported such negative effects of scarcity promotions on consumer post-promotion reactions towards the brand.

There are several managerial implications of this study that needs to be focused on. First, the findings of this study confirm the conclusive results in the literature about the positive significant effect of scarcity promotions on brand attitude and purchase intentions. Considering its effectiveness in generating positive bottom-line results, it is not an unexpected result that marketing managers rely on scarcity promotions as an effective tool of sales promotions to boost short-term sales. However, further findings of this study indicate the negative consequences of latent effects, which may endanger the relationship of the brand with its customers in the long run. Marketing managers should be very careful in planning the mechanism of such scarcity promotions due to the risk of negative consequences. When an interested and willing consumer fail to benefit from these promotions, he or she is expected to become angry, react negatively, switch to other brands and even spread negative word of mouth.

To prevent such unpleasant situations, there are several alternative methods of planning such promotions which are based on scarcity messages. It is better to define a time limit instead of quantity in such promotions since the time limit is a more controllable environmental factor for consumers compared to limited quantity. Another effective mitigating factor for unpleasant reactions can be to plan a level-based promotion where marketers may set up three tiers of quantities and map them with respective price levels. In the first tier, a limited number of products may be offered at the lowest price. If consumers miss that opportunity, they will not feel a total failure since they will have another chance to benefit from the promotion by catching the second tier. This approach is expected to counterbalance the negative latent effects of failing to benefit from the offer.

As a result, marketers should be very careful to set up scarcity promotions due to the latent effects which have the potential to harm the customer relationships. Thus, marketers should find ways to structure their promotion campaigns to mitigate such risks and balance short-term gains with long-term customer relationships.

7. Limitations and Suggestions for Future Research

The product type, which is employed in this study, was a mobile phone that can be regarded as a high involvement product. Measuring the latent effects of scarcity promotions only in the context of high involvement products raises some generalizability issues for this study. In this perspective, future studies may broaden the product range and include also low involvement products. Another important direction for future studies can be to measure the same latent effect of scarcity promotions on retailers' image and patronage intentions of consumers. Moreover, the proposed structure to mitigate the negative consequences of scarcity promotions can be tested in experimental design and may bring additional clarification about the dynamics of scarcity promotions.

References

- Amaldoss, W. and S. Jain. (2005). Conspicuous consumption and sophisticated thinking. *Management Science*, 51(10): 1449–66.
- Amaldoss, W. and Jain, S. (2010). Reference groups and product line decisions: an experimental investigation of limited editions and product proliferation. *Management Science*, 56(4): 621-644.
- Aggarwal, P., Jun, S. Y., and Huh, J. H. (2011). Scarcity messages: A consumer competition perspective. *Journal of Advertising*, 40: 19–30.
- Bae, Y. and Lee, S. (2005). The effect of scarcity message on consumer's purchase intention in the internet shopping mall. *Asia Pacific Advances in Consumer Research*, 6: 252-258.
- Blumberg, P. (1974). The decline and fall of the status symbol: some thoughts on status in a postindustrial society. *Social Problems*, 21(1): 480–98.
- Bone, P. F. and Ellen, P. S. (1992). The Generation and Consequences of Communication-Evoked Imagery. *Journal of Consumer Research*, 19(June): 93-104.
- Bozzolo, A.M. and Brock, T.C. (1992). Unavailability effects on message processing: A theoretical analysis and an empirical test. *Basic and Applied Social Psychology*, 13(1): 93-101.
- Brehm, J. W. (1966). A theory of psychological reactance. Oxford, England: Academic Press.
- Brock, T. C. (1968). *Implications of Commodity Theory for Value Change*. New York: Academic Press.
- Brock, T.C. and Mazzocco, P.J. (2003). Responses to Scarcity: A Commodity Theory Perspective on Reactance and Rumination. Ed. Wright, R.A., Greenberg, J. & Brehm, S.S. 129-148. Mahwah, NJ: Lawrence Erlbaum Associates.
- Book, A.S., Starzyk, K.B. and Quinsey, V.L. 2001. The Relationship Between Testosterone and Aggression: A Meta-Analysis. *Aggression and Violent Behavior*, 6(6): 579–99.
- Chao, R.F. and Liao, P.C. (2016). The Impact of Brand Image and Discounted Price on Purchase Intention in Outlet Mall: Consumer Attitude as Mediator. *The Journal of Global Business Management*, 12(2): 120-128.
- Chen, H.-J. and Sun, T.-H. (2014). Clarifying the Impact of Product Scarcity and Perceived Uniqueness in Buyers' Purchase Behavior of Games of Limited-Amount Version. *Asia Pacific Journal of Marketing and Logistics*, 26: 232–249.
- Cialdini, R. B. (2001). *Influence: Science and Practice*, 4th edition. Massachusetts: Allyn & Bacon.
- Clee, M.A. and Wicklund, R.A. (1980). Consumer Behavior and Psychological Reactance. *Journal of Consumer Research*, 6: 389-401.

- DeSteno, D., Petty, R. E., Rucker, D. D., Wegener, D. T., and Braverman, J. (2004). Discrete emotions and persuasion: the role of emotion-induced expectancies. *Journal of Personality and Social Psychology*, 86: 43–56.
- Donovan, D. M., Smyth, L., Paige, A. B., and O’Leary, M. R. (1975). Relationships among locus of control, self-concept, and anxiety. *Journal of Clinical Psychology*, 31(4): 682–684.
- Dunn, J. R., and Schweitzer, M. E. (2005). Feeling and believing: the influence of emotion on trust. *Journal of Personality and Social Psychology*, 88(5): 736–748.
- Eisend, M. (2008). Explaining the impact of scarcity appeals in advertising. *Journal of Advertising*, 37(Fall): 33-40.
- Herpen, E. v., Pieters, R., and Zeelenberg, M. (2009). When demand accelerates demand: Trailing the bandwagon. *Journal of Consumer Psychology*, 19: 302-312.
- Jallow, H. and Dastane, O. (2016). Effect of sales promotion schemes on purchase quantity: A study plan of Malaysian Consumers. *Management & Marketing*, 14(2): 299-320.
- Jung, J. M., and Kellaris, J. J. (2004). Cross-national differences in proneness to scarcity effects: The moderating role of familiarity, uncertainty avoidance, and need for cognitive closure. *Psychology and Marketing*, 21: 739–753.
- Garg, P. and Kaur, A. (2014). A Study of Impact of Sales Promotions on Brand Switching and Stock Piling Behavior of Consumers for Electronics & Apparels Industry. *Review of Professional Management- A Journal of New Delhi Institute of Management*, 12(1): 59-66.
- Gierl, H. and Huettl, V. (2010). Are scarce products always more attractable? The interaction of different types of scarcity signals with products’ suitability for conspicuous consumption. *International Journal of Research in Marketing*, 27: 225-235.
- Grewal, D., Krishnan, R., Baker, J. and Borin, N. (1998). The Effect of Store Name, Brand Name and Price Discounts on Consumers’ Evaluations and Purchase Intentions. *Journal of Retailing*, 74: 331-352.
- Gupta, S. (2013). The Psychological Effects of Perceived Scarcity on Consumers’ Buying Behavior. *Dissertations, Theses, and Student Research from the College of Business*, 41.
- Herpen, E. v., Pieters, R., and Zeelenberg, M. (2009). When demand accelerates demand: Trailing the bandwagon. *Journal of Consumer Psychology*, 19: 302-312.
- Herpen, E., Pieters, R., Zeelenberg, M. (2014). When Less Sells More or Less: The Scarcity Principle in Wine Choice. *Food Quality and Preference* 36: 153–160.
- Inman, J. J., Peter, A. C. & Raghubir, P. (1997). Framing the deal: the role of restrictions in accentuating deal value. *Journal of Consumer Research*, 24(1): 68-79.

- Jung, J. M., & Kellaris, J. J. (2004). Cross-national Differences in Proneness to Scarcity Effects: The Moderating Roles of Familiarity, Uncertainty Avoidance, and Need for Cognitive Closure. *Psychology & Marketing*, 21(9): 739-753.
- Kim, S., Haley, E. and Koo, G.Y. (2009). Comparison of the Paths From Consumer Involvement Types To Ad Responses Between Corporate Advertising And Product Advertising. *Journal of Advertising*, 38(3): 67-80.
- Kopalle, P.K., Mela, C.F. and Marsh, L. (1999). The Dynamic Effect of Discounting on Sales: Empirical Analysis and Normative Pricing Implications. *Marketing Science*, 18(3): 317-332.
- Kristofferson, K. , McFerran, B., Morales, A.C. and Dahl, D.W. (2017). The dark side of scarcity promotions: How exposure to limited quantity promotions can induce aggression. *Journal of Consumer Research*, 43: 683-706.
- Lee, Y. H. and Mason, C. (1999). Responses to Information Incongruity in Advertising: The Role of Expectancy, Relevancy, and Humor. *Journal of Consumer Research*, 26(September): 156-169.
- Lee, Y. H. (2000). Manipulating Ad Message Involvement through Information Expectancy: Effects on Attitude Evaluation and Confidence. *Journal of Advertising*, 29(2): 29-43.
- Lee, S.Y. and Seidle, R. (2012). Narcissists as Consumers: The Effects of Perceived Scarcity on Processing of Product Information. *Social Behavior and Personality*, 40: 1485–1500.
- Lerner, J. S., and Keltner, D. (2000). Beyond valence: toward a model of emotion-specific influences on judgment and choice. *Cognition and Emotion*, 14(4): 473–493.
- Lessne, G. J. (1987). The impact of advertised sale duration on consumer perceptions. *Developments in Marketing Science: Proceedings of the Academy of Marketing Science*, 10: 115-117.
- Lynn, M. and Harris, J. (1997). The desire for unique consumer products: A new individual differences scale. *Psychology & Marketing*, 14(6): 601-616.
- Lynn, P. (1991). Scarcity effects on value: A quantitative review of the commodity theory literature. *Psychology & Marketing*, 8(1): 43-57.
- Oruc, R. (2015). The Effects of Product Scarcity on Consumer Behavior: A Meta-Analysis. Doctoral Dissertation. European University Viadrina.
- Oxford English Dictionary (2018). <https://en.oxforddictionaries.com/> Accessed on 13.11.2018.
- Parker, J.R. and Lehmann, D.R. (2011). When shelf-based scarcity impacts consumer preferences. *Journal of Retailing*, 87(2): 142-155.
- Ramanathan, S. and Dhar, S. (2010). The Effect of Sales Promotions on the Size and Composition of the Shopping Basket: Regulatory Compatibility from Framing and Temporal Restrictions. *Journal of Marketing Research XLVII*: 542–552.

- Rosenberg, B. and Siegel, .T. (2017). A 50-year review of psychological reactance theory: Do not read this article. *Motivation Science*, 4(4): 281-300.
- Roseman, I. J. (1984). Cognitive determinants of emotion: a structural theory. *Review of Personality and Social Psychology*, 5: 11–36.
- Schins, M. (2014). The influence of quantity scarcity and time restrictions on consumer preference and purchase intention. *Management, Economics and Consumer Studies*. Wageningen University.
- Stewart, D.W. (2009). Marketing accountability: Linking marketing actions to financial results. *Journal of Business Research*, 62(2009): 636-643.
- Suri, R., Kohli, C., and Monroe, K. B. (2007). The effects of perceived scarcity on consumers' processing of price information. *Journal of Academy of Marketing Science*, 35: 89–100.
- Snyder, C. R. and Fromkin, H. L. (1977). Abnormality as a Positive Characteristic: The Development and Validation of a Scale Measuring Need for Uniqueness. *Journal of Abnormal Psychology*, 86(5): 518-27.
- Sözer, E.G. (2009). *Postmodern Pazarlama: Marka Çağında Liderlik için PIM Modeli*, İstanbul: Beta.
- Teng, L. (2009). A comparison of two types of price discounts in shifting consumers' attitudes and purchase intentions. *Journal of Business Research*, 62(2009): 14-21.
- Verhallen, T.M. and Robben, H.S.J. (1994). Scarcity and Preference: An Experiment on Unavailability and Product Evaluation, *Journal of Economic Psychology*, 15(2): 315-331.
- Weiner, B. (1980). A cognitive (attribution)-emotion-action model of motivated behavior: an analysis of judgments of help-giving. *Journal of Personality & Social Psychology*, 39: 186–200.
- Wierenga, B., and Soethoudt, H. (2010). Sales promotions and channel coordination. *Original Empirical Research*, 38(30): 383-397.
- Worchel, S., Lee, J., and Adewole, A. (1975). Effects of supply and demand on ratings of object value. *Journal of Personality and Social Psychology*, 32(5): 906-914.
- Zheng, X., Liu, N. and Zhao, L. (2013). A Study of the Effectiveness of Online Scarce Promotion —Based on the Comparison of Planned Buying and Unplanned Buying. *WHICEB 2013 Proceedings*. 51: 247-257.
- Zhu, M. and Ratner, R.K., (2015). Scarcity Polarizes Preferences: The Impact on Choice Among Multiple Items in a Product Class. *Journal of Marketing Research*, 72: 13–26.
- Zourrig, H., Chebat, J.C. and Toffoli, R. (2009). Consumer Revenge Behavior: A Cross-Cultural Perspective. *Journal of Business Research*, 62: 995-1001.
- Xia L, Monroe K.B and Cox J.L. (2004). The price is unfair! A conceptual framework of price fairness perceptions. *Journal of Marketing*, 68(4): 1–15.