

Online vs. Offline Coupon Redemption Behaviors

Kwon Jung, KDI School of Public Policy & Management, Korea
Boon Young Lee, Monitor Group Korea, Korea

ABSTRACT

Coupons are among the most important promotional vehicles used today. Traditionally, coupons have been distributed through printed offline media, such as newspapers or postal mails. Along with technological advances, the Internet has emerged as a new method of coupon distribution. This study empirically examines coupon redemption behaviors between online and offline coupons. Specifically, differences in the impacts of face value and benefit type on coupon redemption rate are investigated. The results showed some similarities and differences as well as new interesting findings on the relationship pattern between face value and redemption rate of coupons.

Keywords: Online and Offline Coupons; Coupon face value; Coupon benefit type

INTRODUCTION

Coupons are among the most important promotional vehicles used today (Bawa, Srinivasan, and Srivastava, 1997). According to the 2010 NCH Coupon Facts Report, consumer packaged goods manufacturers distributed more than \$311 billion coupons in 2009, and consumers made a total savings of \$3.5 billion by redeeming coupons (NCH Marketing Services, 2010). As consumer markets have become more competitive, many companies take more efforts to advertising and promotion activities to attract consumers. In addition, recent economic downturn has made customers more price-sensitive, thus increasing the importance of coupons as promotional vehicles.

Traditionally, coupons have been distributed through printed offline media, such as newspapers or postal mails. Along with technological advances, the Internet has emerged as a new method of coupon distribution. As the Internet is getting used widely, online coupon distribution is becoming a more popular promotion method (Blundo, Cimato, and De Bonis, 2005). Although there have been many studies on traditional offline coupons, it is necessary to study online coupon redemption behaviors to develop more effective coupon strategies under both online and offline media context. One of the important questions is whether consumers react the same way to online coupons as they do to offline coupons. This study attempts to examine and compare coupon redemption behaviors in both offline and online coupons to find answers to this question.

Coupons have been widely used for grocery items in the United States. Past research on coupons, which has been mostly conducted in the United States context, has mainly examined coupon redemption behaviors in consumer products or grocery items. Relatively few studies have examined coupons in service sectors (Peattie and Peattie, 1995). Widespread use of the Internet, however, expands active use of coupons to other categories, including service sectors. One interesting development in the Korean coupon industry is that coupons are more widely used in service sectors, such as restaurants, cafés and bars, entertainment, education, etc., than in the traditional consumer packaged goods category. This study tries to fill the gap in coupon research by examining coupon redemption behaviors in service sectors.

Compared to the United States, where coupons have been used for more than a hundred years, Korea has a very short history of couponing, which spans less than a decade. However, the usage of coupons has been growing fast among Korean consumers due to the continued recession and increased consumer awareness of coupons in terms of their economic benefit. Korea also has a high internet penetration rate of 77.3% (Internet World Stats, 2009)

and 99% of Korean online users are using the Internet to make purchases (Nielsen, 2008). Therefore, it is timely to examine coupon usage behaviors among Korean consumers for online and offline coupons. Although there have been several empirical studies that examine coupon redemption behaviors among Korean consumers, they are mostly survey or experiment-based studies (e.g., Kwak & Kim, 2001, and Lee & Yang, 2002). To our best knowledge, there has been no empirical study that analyzes real coupon redemption data in Korea. This study uses actual coupon redemption data of Korean consumers to examine their coupon redemption behaviors.

BACKGROUND

Definition of Coupon

There are many definitions for “coupon”. A coupon entitles a buyer to a designated reduction in price for a product or service (O’Guinn, Allen, and Semenik, 1998); it is a certificate allowing consumers to get reduced prices at the time of purchase (Schultz, Robinson & Petrison, 1998); or, it is a certificate entitling the bearer to a stated savings on the purchase of a specific product (Kotler and Armstrong, 2010).

In general, a coupon is a certificate that entitles a consumer to some sort of incentive to buy a product or service. Although the incentive is usually a price reduction, coupons can also be used to deliver refunds, combination offers, free samples, or other types of promotions, such as contests or sweepstakes (Schultz, Robinson, and Petrison, 1998). This study regards a coupon as a certificate entitling economic benefits, including price discount, free samples, free trials, free gifts, or free participation in a contest to induce consumers to buy a product or service.

Coupon Market in Korea

Compared to the U.S., Korea has a very short history of couponing. It has been less than a decade since Korean companies started distributing coupons. Although the first coupon in Korea is untraceable, some coupons were offered in newspaper or magazine ads in the mid-1990s. However, neither companies nor consumers perceived coupons as a powerful sales promotion tool in Korea. Coupons in newspaper and magazine ads have been used as a catalog or an entitlement to sample request, rather than as a price discount.

Since the Asian financial crisis in 1997, however, Korean consumers have become more price-sensitive and sought after price discounts. In 1998, the first “discount (cents off)” coupons were introduced by CMS Korea, a third-party coupon distributor, through grocery store chains. Then other similar types of coupon distributors have emerged. Also, service establishments, such as chains of fast food restaurants and stores in local communities, started coupon distribution.

Because the Korean coupon market is still in its infancy, there are no available official data that track actual coupon usage. Thus, representative statistics on coupon usage in Korea are scarce. However, one study estimated that the number of coupons distributed in 2001 was about 100 million (Kim, 2002) and the number would be expected to be 1.2 billion in 2002, reaching to approximately 100 billion won (about \$83 million). Another research from a Korean financial research institute estimated that the Korean coupon market would achieve 30% of annual growth for the following 10 years (Mirae Asset Securities, 2002). When we project 30% annual growth from the 2002 estimate, the Korean coupon market size in 2010 would be 815 billion won (about \$680 million). Table 1 summarizes major coupon distributors in Korea. Each company has unique differentiators over others on its target industry, coupon type, and method of distribution.

One apparent difference between Korean and the U.S. coupon market is the composition of the coupon-prone segment. Contrary to the U.S. consumers, most of whom are familiar with coupon usage, many Korean consumers are not familiar with coupon usage yet. According to a study on Korean coupon users, the most coupon-prone segment in Korea is females in their 20’s (Kim, 2003). Young females are more likely to spend their money in service sectors, such as restaurants or beauty salons, than on consumer packaged goods. As a consequence, coupon usage is more prevalent in service sectors than in consumer goods sectors in Korea. The advent of the Internet has further encouraged the young to use coupons. Since 2000, many online coupon sites have emerged in Korea and many online users, especially young people, are getting familiar with online coupons.

Table 1: Major Korean Coupon Distributors

Company	Target Industry	Coupon Type	Characteristics
Cocofun (www.cocofun.co.kr)	Service	Coupon booklet, Online, Mobile	<ul style="list-style-type: none"> · Monthly publishes its own coupon booklets and distributes through direct-mailing, restaurant chains, convenience stores, news-stands, etc. · Online distribution through the company website and Internet portals (Yahoo, Daum, etc.)
CMS Korea (www.cms.co.kr)	Consumer goods	In-store, Online, In-ad	<ul style="list-style-type: none"> · First coupon distributor in Korea · Focused on consumer goods · Retail store distribution
OK Cashbag (www.okcashbag.co.kr)	Consumer goods & Service	On-pack, In-pack, Online, Store's cash register	<ul style="list-style-type: none"> · Distributes coupons entitling "cash points," not price discounts · Consumers collect coupons and accumulate cash points in their account · The points have cash value for future purchase
Menupan.com (www.menupan.com)	Restaurants	Online, Plastic card	<ul style="list-style-type: none"> · Specialized in restaurant sector · Provides "card-coupon" with all the available coupon information to premium subscribers

* Source: Each company's website, organized by authors

Online Coupons

Online coupons, sometimes called "e-coupons," are available on the Internet. A consumer can access coupon websites and search, download, and print coupons to redeem. Recently, many online coupon websites - third-party coupon providers - have emerged and many manufacturers or service providers also feature online coupons on their websites. In the United States, the number of online coupons downloaded in 2009 grew 58%, from 1.97 billion in 2008 to 3.11 billion (NCH Marketing Services, 2010). The growing usage of online coupons indicates the increasing effectiveness of online coupons.

The increasing penetration of Internet access helps online coupons become more effective. Many previous studies (Ward and Davis, 1978; Reibstein and Traver, 1982; and Henderson, 1985) have highlighted that more easily available coupons tend to have higher redemption rates. Hence, as the Internet access becomes easier (e.g., the ubiquitous networks, including mobile devices), online coupons become more available, and possibly, the redemption rate gets higher. According 2010 NCH Coupon Facts Report (NCH Marketing Services, 2010), the Internet coupons have generated the redemption rate of 15.9% in 2009. This rate is far higher than 0.8% redemption rate of traditional Free Standing Insert (FSI) type coupons.

Online coupons have several advantages over traditional coupons for both manufactures and consumers. One obvious advantage to the manufacturer is savings in cost and time. The online medium can significantly reduce the costs associated with development (e.g., no printing costs), distribution, and database creation. Also, less time is needed to create and distribute online coupons (Carmody, 2001). From consumers' perspectives, online coupons are also beneficial because they reduce time and effort required to search, sort, and organize them (Fortin, 2000).

Another advantage of the online coupon is its selectivity. As direct-mail coupons have a high level of selectivity (Reibstein and Traver, 1982), online coupons can be distributed to selective groups of consumers via e-mail. In some cases, consumers request to receive e-mail alerts on coupons or have particular ones emailed to them when they become available. In other cases, consumers search for coupons they want and download them directly from the Internet. Neslin and Clarke (1987) have found that customer-requested coupon distribution is likely to yield a higher redemption rate. Through online couponing, more precise targeting is possible and thus, the redemption rate of online coupon should be higher than that of traditional offline coupons (Fortin, 2000).

The "interactive" nature of online medium also provides advantages to online coupons. Not only does the data from coupon websites provide quantitative information on consumers' coupon redemption behaviors, but also

immediate feedback and responses from online users make it possible for coupon providers to adapt to target consumers' preferences quickly. The referrals on the websites can also generate favorable word-of-mouth for particular products or services (Carmody, 2001).

Although online coupons have many advantages, they also present some problems (Fortin, 2000). First, marketers cannot control the number of coupons downloaded, and thus redemption rates are not predictable. It might hinder the promotional objectives of couponing. Second, there exist risks of forgery; some technology-savvy consumers can manipulate the coupon graphics, possibly face value or expiration date. It might even further deteriorate coupon providers' control over distribution. Third, at some point, inefficiencies might be more desirable for coupon providers. In the Sunday FSIs, for example, it is unlikely to find a coupon for two or more brands in the same product category in a given week. This constraint partly induces brand switching, which is one of the major objectives of couponing. However, if a consumer has full control over what coupons can be redeemed in the online context, he or she will only redeem coupons for his or her favorite brands. Also, "too-high" redemption rates achieved from online coupons would exacerbate the coupon providers' financial profitability. For this reason, most online coupons are offered by service establishments. Since services cannot be stored, over redemption and stockpiling are unlikely to happen (Fortin, 2000).

Effect of Face Value of Coupon on Redemption Rate

Many researchers have been trying to identify key factors that influence coupon redemption behaviors. Some have examined the effects of coupon characteristics on redemption behavior (e.g., Nielsen, 1965, and Reibstein & Traver, 1982), while others have studied effects of demographic or socio-economic characteristics of consumers (e.g., Bawa & Shoemaker, 1987a, and Narashimhan, 1984) or behavioral or psychological aspects of consumers on their response to coupons (e.g., Lichtenstein, Netemeyer, and Burto, 1990). Among the various factors, the effect of face value on redemption rate has been widely examined because it is directly related to consumers' monetary savings gained from coupon redemption. A general finding for the effect is that higher coupon face value induces higher redemption because consumers find higher monetary value more favorable (Henderson, 1985; Nielsen, 1965; Reibstein and Traver, 1982; Shoemaker and Tibrewala, 1985; Ward and Davis, 1978; Kim and Yoo, 2002; and Ye, Kim, and Yang, 2000). This finding predicts a positive linear relationship between face value of a coupon and its redemption rate.

On the other hand, some other studies have found a non-linear relationship between coupon's face value and its redemption (Bawa and Shoemaker, 1987b, and Bawa, Srinivasan & Srivastava, 1997). In those studies, coupon redemption appears to be greatest in medium-value coupons, or at least consumers don't perceive high-value coupons more attractive than medium-value coupons.

Raghubir (1998) explained this seemingly contradicting phenomenon by using the availability of price information as a possible moderator. According to Raghubir (1998), when price information of a product is not available, consumers *not only* perceive monetary value *but also* infer price of product from face value of coupon. When a coupon offers high face value, consumers would infer price of product to be high. Although higher face value means higher monetary value after a certain point, the highly-perceived price lowers consumer's purchase intention; so does the likelihood of coupon redemption. On the other hand, when price information is present, there is no need for consumers to make price estimation based on the face value of the coupon. Therefore, as the face value increases, perceived monetary value from the coupon increases, but not the perceived price of product. As a consequence, purchase intention and likelihood of redeeming a coupon increase as the face value of the coupon increases.

Considering the nature of the Internet, where vast amount of information is easily accessible, it is presumed that online coupon users are more likely to find reference price information in the Internet when they collect online coupons. On the other hand, it may be difficult for offline coupon users to find the reference price information when they look through offline coupons, unless the coupon itself provides price information. Following these reasoning, the relationship between actual redemption rate and face value for online and offline coupon is suggested as follows:

H1-1: Redemption rates of online coupons will increase as face value of coupons increase.

H1-2: Redemption rates of offline coupons will show an inverted U-shaped pattern as face value of the coupon increases.

Effect of Coupon Benefit on Redemption Rate

Most coupons offer price discounts, either in percentage or dollar amount terms. However, coupons are offered not only in the form of price discounts, but also in other types of benefits, such as refunds, free samples, or combination offers, etc. (Sawyer and Dickson, 1984). Among the non-price coupon types, free sample is one of the most popular types of coupon in the service industry.

Consumers would perceive same economic value of coupons differently depending on how a discount is framed, either in discount-terms (percent-off vs. dollar-off) or in free-terms. A prospect theory (Kahneman and Tversky, 1979) shows that when alternatives are presented as gains, people choose and judge them differently than when the same alternatives are presented as reduced losses. For example, Kahneman and Tversky (1979) demonstrated that people took fewer risks when the choices were framed as gains. They took more risks when the same choices were framed as reductions in losses. Using the difference in the shape of value function in the prospect theory, Thaler (1985) suggests that consumers prefer segregated gains to reduced losses in their buying decisions. If so, any coupons framed as gains will be chosen and used more often than coupons framed as reduced losses. Price discount coupons are in the same units as pricing information, so they will be more easily integrated with the price and will be more likely to be framed as a reduced loss. On the other hand, free sample or free product or service type coupons are in units other than price. Since they are usually difficult to integrate with the price, they are more likely to be considered as separate gains.

Past research on framing of sales promotion has found that non-monetary promotions are more likely to be framed as gains, whereas monetary promotions are framed as reduced losses (Campbell and Diamond, 1989; Campbell and Diamond, 1990; Diamond and Campbell, 1989; Diamond and Johnson, 1990; and Diamond and Sanyal, 1990). For example, Campbell and Diamond (1989) found that consumers regarded non-monetary promotions, such as free goods or extra amounts of the product, as “extra gains,” while they regarded monetary promotions, such as discounts, as “reduced losses (losing less than usual).” Diamond and Sanyal (1990) also demonstrated that promotions framed as gains (e.g., free goods) appeared more desirable than those framed as reduced losses (e.g., discounts). In several coupon preference studies, it was observed that Korean consumers seemed to prefer free coupons over price discount type coupons (Choi, 2004; Kim, Nam and Jang, 2006; and Lee and Yang, 2002). Since we think that consumers’ perception on gains and losses will not be different in online and offline context, we expect to find the same pattern of response for both offline and online coupons. Thus, the following hypothesis is suggested:

H2: Coupons with free offers will have higher redemption rates than coupons with price discount, either in percentage-off terms or in dollar-off terms for both online and offline coupons.

METHOD

Data Description

The coupon redemption data has been obtained from a Korean coupon distributor (noted as “the Company” hereafter). The Company provides coupons through two methods of distribution— offline and online in nine service sectors: *Restaurant, Café and Bar, Entertainment* (software games, videos, DVD’s, etc.), *Beauty* (beauty salons, dermatology clinics, plastic surgery clinics, etc.), *Education* (foreign languages, test-preparations, etc.), *Sport and Travel* (fitness centers, travel agencies, etc.), *Culture* (plays, movies, exhibitions, etc.), *Shopping*, and *Wedding and Photo*. The offline distribution is done by publishing monthly coupon booklets, which are mainly circulated through cooperative chains of convenience stores, restaurants, and its own coupon stands. Some booklets are mailed to consumers upon request. The online distribution is made through the company’s website where online members can search and download coupons.

The original data set included in this study covers the coupons distributed via online or offline from April through August 2004. The total number of coupons for the time period is 5,607 (April, 22.4%; May, 20.0%; June, 18.9%; July, 19.4%; and August, 19.3%). Among the 5,607 coupons, 85.9% of the coupons in the data set (4,816) were distributed both online and offline. For the sake of accurate comparisons between online and offline coupon redemption behaviors, coupons distributed both online and offline are used in the analysis. Among the 4,816, 3,153 (65.5%) offer percent-off and 566 (11.8%) offer dollar-off coupons. The percent-off coupons range from 5% to more than 50% and the dollar-off coupons range from KRW 1,000 to more than KRW 100,000.¹ Coupon benefits are classified into four categories: *Percent-off*, *Dollar-off*, *Free Product or Service* (which is related to a service provider's main business), and *Free Gift or Contest* (which is not related to a service provider's main business, peripherals).

The coupon redemption rate is calculated as the number of *redeemed* coupons divided by the number of *distributed* coupons (NCH Marketing Services, 2010). Redemption rate of offline coupon is computed as the number of coupons redeemed divided by the number of coupon booklets distributed. In the case of online coupon, redemption rate is computed as the number of coupons redeemed divided by the number of coupons downloaded. The online coupon used in this study is a consumer-requested type. In consumer-requested type of coupon, distribution is made by consumer request. In the online coupon case, consumers must visit the company's website, download the coupon, and print it before they use it. Therefore, we can consider *the number of visits made to the website*, *the number of coupons downloaded*, or *the number of coupons printed* as possible candidates of the number of distribution for online coupons. Just visiting the website is not enough to qualify it as an actual distribution. Printing is equivalent to clipping in the offline coupon case. Although consumers have to print the coupon to use it, downloading the coupon means that a request is already made and distribution is made upon the request. Therefore, we use the number of coupons downloaded as the distributed number of coupons for the online coupon.

RESULTS

Table 2 displays average redemption rates of online and offline coupons. As it can be seen in the table, there exists a significant difference in average redemption rates between online coupons and offline coupons. As expected, the average redemption rate of online coupons is higher than that of offline coupons (21.76% vs. 0.013%; $t=36.29$, $p<.01$).

Table 2: Average Redemption Rates of Offline/Online Coupons (by Variable)

Category		Sample Size		Redemption Rate	
		N	(%)	Online Coupons	Offline Coupons
Service Sector	Restaurant	1393	(28.9%)	25.61%	0.0205%
	Cafe and bar	1329	(27.6%)	20.15%	0.0109%
	Entertainment	587	(12.2%)	27.69%	0.0180%
	Beauty	670	(13.9%)	19.39%	0.0055%
	Institute	213	(4.4%)	13.71%	0.0014%
	Sport and travel	194	(4.0%)	17.19%	0.0050%
	Culture	85	(1.8%)	17.20%	0.0417%
	Shopping	287	(6.0%)	15.94%	0.0038%
	Wedding and photo	58	(1.2%)	13.54%	0.0032%
Type of Benefits	Percent-off	3153	(65.5%)	20.15%	0.0108%
	Dollar-off	566	(11.8%)	21.46%	0.0130%
	Free product or service	1017	(21.1%)	26.53%	0.0210%
	Free gifts	80	(1.7%)	26.45%	0.0055%
Total		4816	100.0%	21.76%	0.0131%

H1-1 and H1-2 predict different response patterns between coupon face value and redemption rate for

¹ The exchange rate is about 1\$=KRW1, 200 as of June 2010.

online and offline coupons. To test them, separate analyses are conducted for online and offline coupons. Since the face value of coupons is presented in two formats, the response patterns are tested separately for dollar-off and percent-off coupons. First, the hypothesized relationships are tested on the total sample by aggregating coupons across different service sectors. ANOVA tests on the differences in redemption rate across different coupon face values show significant differences in redemption rate according to face value of coupons for both online (F=4.06, p<.01 for percent-off coupons; F=2.42, p<.05 for dollar-off coupons) and offline coupons (F=5.56, p<.01 for percent-off coupons; F=5.66, p<.01 for dollar-off coupons). The results are summarized in Table 3. The relationship patterns are further tested using ANOVA polynomial trend tests. Offline percent-off coupons show a non-significant linear term effect (F=.38, p=.54), significant quadratic term effect (F=11.39, p=.09) and cubic term effect (F=14.29, p<.01). Similarly, the pattern of online percent-off coupon shows a non-significant linear term effect (F=1.64, p=.20), a significant quadratic term effect (F=10.15, p<.01), and a significant cubic term effect (F=8.32, p<.01). Thus, the relationship pattern of the percent-off coupon is found to be a cubic pattern for both online and offline coupon cases.

On the other hand, the relationship pattern of the dollar-off coupon is found to be a negative linear pattern for both online and offline coupons. Offline dollar-off coupons show a significant linear term effect (F=32.97, p<.01), a non-significant quadratic term effect (F=.01, p=.98), and a non-significant cubic term effect (F=.55, p=.46). Similarly, the pattern of online dollar-off coupons shows a significant linear term effect (F=4.32, p<.05), a non-significant quadratic term effect (F=1.00, p=.32), and a non-significant cubic term effect (F=1.37, p=.24).

Although we do observe different response patterns between face value of coupon and redemption rate, the difference was not resulted from the difference in coupon distribution method (i.e., online vs. off line) as predicted, but from the difference in discount types (i.e., percent-off vs. dollar-off). Therefore, H2-1 and H2-2 are not supported. Figure 1, 2, 3, and 4 represent patterns of coupon redemption rates according to face value of the coupon for the four cases.

Table 3: ANOVA and Polynomial Trend Analysis Results on the Relationship between Face Value and Redemption Rate

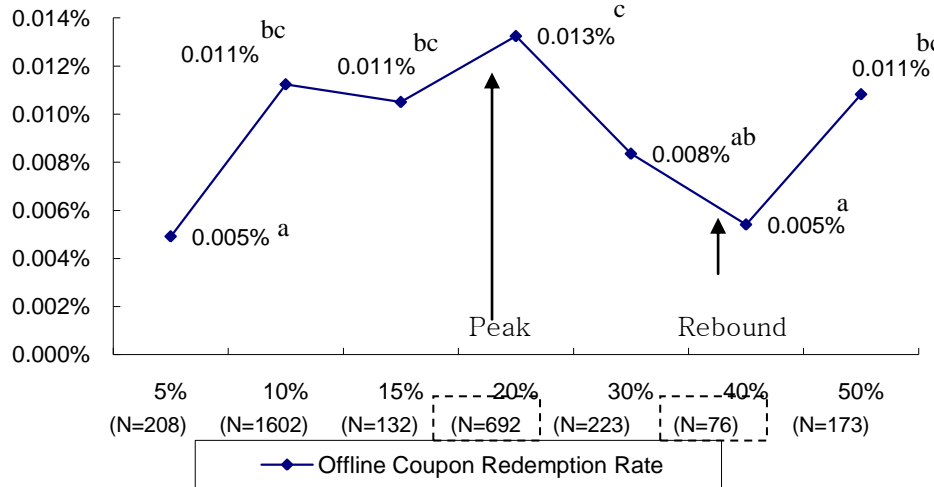
Type of Benefits	Online (F-values)		Offline (F-values)	
	Percent-off	Dollar-off	Percent-off	Dollar-off
<u>Total Sample (n=3,580⁺)</u>	(n=3,106)	(n=474)	(n=3,106)	(n=474)
Mean Differences	4.06**	2.42*	5.56**	5.66**
Trend Analysis				
Linear	1.64	4.32*	.38	32.97**
Quadratic	10.15**	1.00	11.39**	.01
Qubic	8.32**	1.37	14.29**	.55
<u>Restaurant, Café & Bars (n=1,824)[†]</u>	(n=1,645)	(n=179)	(n=1,645)	(n=179)
Mean Differences	2.67*	.38	3.22**	3.77**
Trend Analysis				
Linear	.26	.27	2.28	.01
Quadratic	3.86*	.77	2.75	4.40*
Qubic	3.62*	.01	10.32**	9.51**
<u>Entertainment, Culture, Sports & Travel (n=739)[‡]</u>	(n=550)	(n=189)	(n=550)	(n=189)
Mean Differences	1.55	2.36*	6.64**	2.65
Trend Analysis				
Linear	.30	2.58	.30	9.42**
Quadratic	3.35	.07	2.50	.53
Qubic	1.15	.52	27.39**	.19

*. p<.05, **: p<.01

⁺: Among 3,719 percent-off and dollar-off coupons, 139 coupons are not included because they are issues as ‘Special %’ or ‘Special \’ without having specific discount percent or amount.

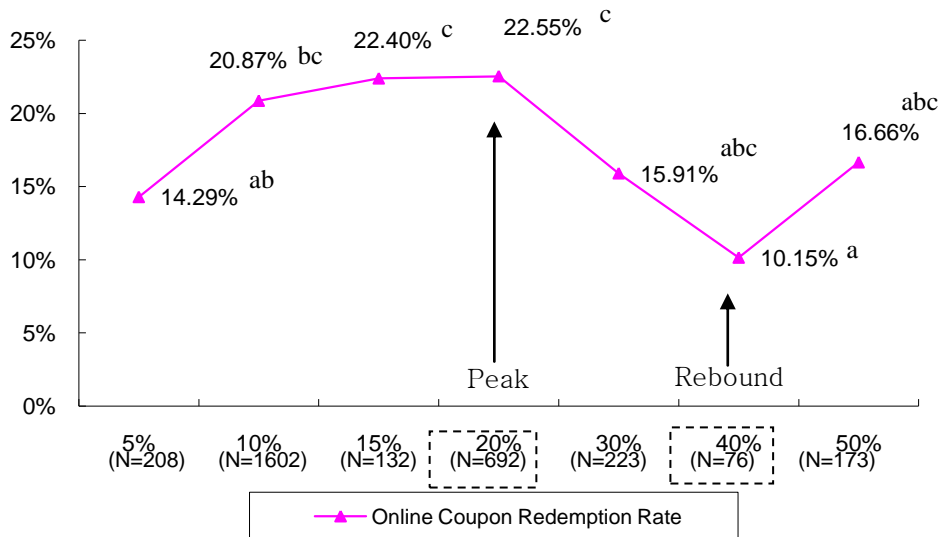
[‡]: Others service sectors (Beauty, Shopping, Education, and Wedding & Photo categories) are not analyzed due to the small sample size.

Figure 1: Average Redemption Rates of Offline Percent-off Coupons by Face Value



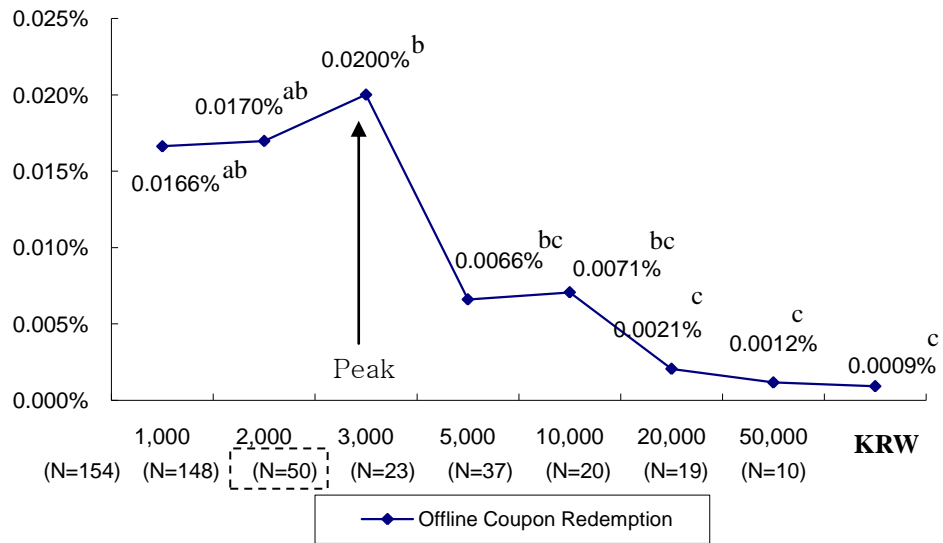
Note: Redemption rates sharing same alphabets mean that they are not different, and redemption rates sharing different alphabets mean that they are different at 5% alpha level under Duncan posthoc comparison test.

Figure 2: Average Redemption Rates of Online Percent-off Coupons by Face Value



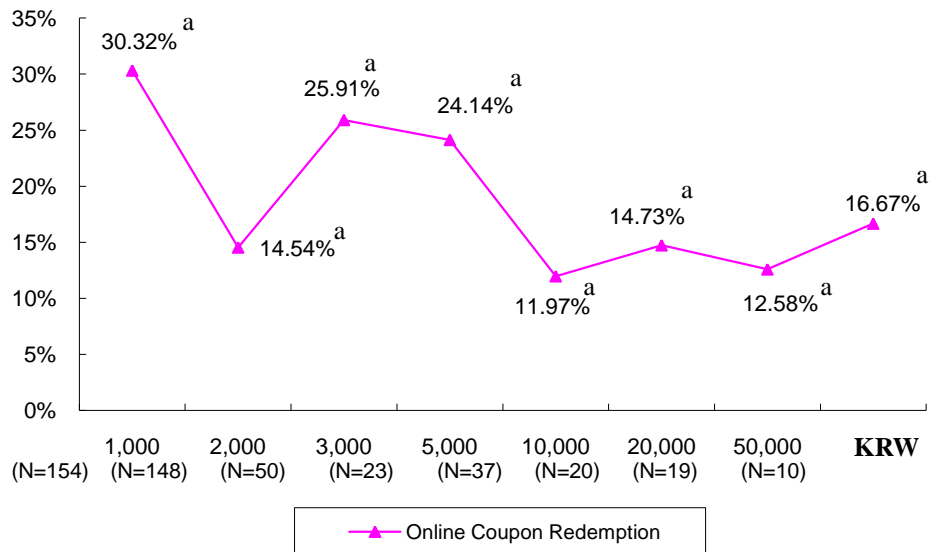
Note: Redemption rates sharing same alphabets mean that they are not different, and redemption rates sharing different alphabets mean that they are different at 5% alpha level under Duncan posthoc comparison test.

Figure 3: Average Redemption Rates of Offline Dollar-off Coupons by Face Value



Note: Redemption rates sharing same alphabets mean that they are not different, and redemption rates sharing different alphabets mean that they are different at 5% alpha level under Duncan posthoc comparison test.

Figure 4: Average Redemption Rates of Online Dollar-off Coupons by Face Value



Note: Redemption rates sharing same alphabets mean that they are not different, and redemption rates sharing different alphabets mean that they are different at 5% alpha level under Duncan posthoc comparison test.

The relationship patterns are further investigated across different service sectors to examine any possible effect of service category. Similar service sectors are grouped together in order to secure enough sample sizes for each level of coupon face value. Restaurant and Café & Bars sectors are grouped together. Entertainment, Culture, and Sports & Travel sectors form another group. Remaining service sectors are not analyzed due to the small sample size problem for certain levels of face value. Although the results of trend analyses are not as strong as those of the total sample, we can find the similar pattern from the separate service sector analysis as those from the total sample.²

² Although they fail to reach the level of significance, the F-value patterns for the online coupon of Entertainment, Culture, Sports & Travel service sector group shows the same patterns as the total sample result. The reason for the significant quadratic

Also, the plots of redemption rate generally resemble the pattern of the total sample result. So, the evidence for service category effect on the redemption pattern is not strongly observed from the service sector level analysis results.

Next, H2 predicts differences in redemption rate by coupon benefit type are tested using pair-wise t-tests on redemption rates. Since there are two types of free coupon (i.e., free product/service type and free gift/contest type), redemption rates of these two types of coupons are compared against those of percent-off and dollar-off coupons. As shown in Table 4, for online coupons, the redemption rate of free product/service type coupons is significantly higher than that of percent-off (26.53% vs. 20.15%; $t=4.26$, $p<.01$) and dollar-off coupons (26.53% vs. 21.46%; $t=1.79$, $p<.05$), as predicted. The redemption rate of free gift/contest type coupons is also significantly higher than that of percent-off coupons (26.45% vs. 20.15%; $t=1.65$, $p<.05$). Although it fails to reach the level of statistical significance, the redemption rate of free gift type coupons is also higher than that of dollar-off coupons (26.45% vs. 21.46%; $t=1.01$, $p=.23$), providing a directional support for the hypothesis. Thus, H2 is generally supported for online coupons.

For offline coupons, the redemption rate of free product type coupons is significantly higher than that of both percent-off (.0210% vs. .0109%; $t=6.71$, $p<.01$) and dollar-off coupons (.0210 vs. .0130%; $t=2.45$, $p<.05$). However, the redemption rate of free gift type coupons is significantly lower than that of both percent-off (.0055% vs. .0109%; $t=-2.25$, $p<.05$) and dollar-off coupons (.0056% vs. .0130%; $t=-3.33$, $p<.01$). Thus, H2 is partially supported for offline coupons.

Service sector level analyses find a similar pattern of response that we have observed from the total sample analyses. Although the results are not uniform across the examined service sectors, it can be concluded that the possibility of service sector effect is not evident on the coupon benefit effect based on the analysis results.³

Table 4: Pairwise t-Test Results on Redemption Rate by Benefit Type

Pairwise Comparisons	Online		Offline	
	Redemption Rate	t-values	Redemption Rate	t-value
<u>Total Sample</u>				
Free product/service vs. Percent-off	26.53 vs. 20.15	4.26**	.0210 vs. .0109	6.71**
Free product/service vs. Dollar-off	26.53 vs. 21.46	1.79*	.0210 vs. .0130	2.45*
Free gift/contest vs. Percentage-off	26.45 vs. 20.15	1.65*	.0055 vs. .0109	-2.25*
Free gift/contest vs. Dollar-off	26.45 vs. 21.46	1.01	.0055 vs. .0130	-3.33**
Free product/service vs. Free gift/ contest	26.53 vs. 26.45	0.01	.0210 vs. .0055	1.83
<u>Restaurant, Café & Bars</u> [†]				
Free product/service vs. Percent-off	24.57 vs. 21.54	2.14*	.0199 vs. .0137	3.36**
Free product/service vs. Dollar-off	24.57 vs. 24.00	0.19*	.0199 vs. .0169	.62
Free gift/contest vs. Percentage-off	45.73 vs. 21.54	4.56**	.0092 vs. .0137	-1.15
Free gift/contest vs. Dollar-off	45.73 vs. 24.00	2.81**	.0092 vs. .0169	-2.18*
Free product/service vs. Free gift/ contest	24.57 vs. 45.73	-2.84**	.0199 vs. .0092	.92
<u>Entertainment, Culture, Sports & Travel</u> [†]				
Free product/service vs. Percent-off	36.12 vs. 23.26	2.54**	.0420 vs. .0140	4.16**
Free product/service vs. Dollar-off	36.12 vs. 22.24	1.99*	.0420 vs. .0160	2.56*
Free gift/contest vs. Percentage-off	0.00 vs. 23.26	-1.05	.0005 vs. .0140	-.83
Free gift/contest vs. Dollar-off	0.00 vs. 22.24	-.84	.0005 vs. .0160	-1.15
Free product/service vs. Free gift/ contest	36.12 vs. 0.00	.84	.0420 vs. .0005	.50

*: $p<.05$, **: $p<.01$ (one-tail test)

[†]: Others service sectors (Beauty, Shopping, Education, and Wedding & Photo categories) are not analyzed due to the small sample size.

and cubic results for the case of the offline dollar-off coupon of Restaurant, Café & Bars service sectors could be explained by the fact that the maximum value of the coupon face value in the case is KRW 10,000, which reduces the number of coupon face value level from seven to five. This reduced coupon face value level might cause to detect any non-linear pattern in this case. However, the redemption rate pattern to that level resembles that of the total sample case.

³ The test results of free gift/contest contrasts turn out to be weak because of the small sample size for the cases. In the case of Restaurant, Café & Bar sector, $n=34$. In the case of Entertainment, Culture, and Sports & Travel sectors, $n=3$.

DISCUSSIONS & MANAGERIAL IMPLICATIONS

This study examined Korean consumers' coupon redemption behaviors between online and offline coupons using real coupon redemption data in the service sector. Several interesting results are found from this study. First, consistent with past findings, it is found that the average redemption rate of online coupons is far higher than that of offline coupons. One of the main reasons for the high redemption rate of online coupons would be the "selective" nature of distribution. In our data, online coupon users "actively visited" coupon websites to download coupons, not just passively receiving them. Therefore, coupon distribution through the Internet was done very selectively to consumers who really "wanted" those coupons; i.e., those who were very likely to redeem them. Therefore, online coupons result in a high redemption rate. In addition, the industry examined in this study seems to be another contributing factor to the high redemption rate of online coupons. In Korea, major online users are the young (20s and early 30s) and main customers of stores in the service sectors, such as restaurants, cafés, bars, beauty salons, theaters, etc., are young as well. This overlapping nature of online user group and main customer group might influence the higher redemption rate of online coupons.

Next, the relationship pattern between a coupon's face value and redemption rate shows unexpected, yet interesting results. Although different patterns are expected according to distribution method (i.e., between online and offline coupons), the expected patterns are not observed in the results. The redemption pattern is found to be dependent *not* on distribution method (i.e., online vs. offline distribution), *but* on the type of discount format (i.e., percent-off vs. dollar-off type) of the coupon. This result rules out the possibility of difference in the availability of price information on the target service between the online and offline coupon redemption situations. A possible reason for this could be attributed to the use of actual coupon redemption data in this study. Rather than using experimental or survey data where respondents are mostly dealing with hypothetical coupons or express their intention to use coupons, this study analyzes actual coupon redemption data. In actual redemption data, it is probable that consumers clearly know the price of products or services when they redeem the coupons. Thus, rather than the negative effect of inferred price from the coupon's face value under the absence of price information (Raghubir, 1998), the observed redemption patterns is better explained by the effect of discount framing of the coupon's face value (i.e., in percentage-term or in dollar-term) as suggested by Chen, Monroe, and Lou (1998). For both online and offline coupons, it is found that the redemption pattern of percent-off coupons follows a cubic trend, whereas that of dollar-off coupons appears to be a negative linear. Until now, the relationship between coupon redemption and face value has been proposed to be either positive linear (Henderson, 1985; Nielsen, 1965; Reibstein and Traver, 1982; Shoemaker and Tibrewala, 1985; and Ward and Davis, 1978) or inverted-U shaped (Bawa and Shoemaker, 1987b, and Bawa, Srinivasan & Srivastava, 1997). Results of this study suggest that other possible patterns could exist in the relationship between face value of a coupon and redemption rate.

The cubic pattern can be explained by the interactive effect between perceived savings from the coupon and perceived credibility of the savings. As a coupon's discount percentage increases, consumers' perceived savings from the coupon increases, thus resulting in a high redemption rate. However, after reaching a certain point or a threshold, consumers may question the credibility of the savings. They may infer that the regular price is inflated before the promotion or that it is a disguise of a permanent price reduction as a temporary price promotion (Chen, Monroe & Lou, 1998), resulting in a lower redemption rate. When it passes another higher threshold point, it may be possible that the negative effect of reduced credibility is overcome by the positive effect of perceived monetary savings, therefore producing a higher redemption rate. In the cubic trend of percent-off coupon (both online and offline), the average redemption rate peaked at 20% of the coupon's face value and rebounded at 40%. Although we need to confirm the levels of threshold in further studies, the findings of this study provide empirical support on the existence of a "threshold effect" in coupon redemption behaviors (Bawa, Srinivasan & Srivastava, 1997). The observed cubic pattern under percent-off discount framing can be treated as an extension of an inverted u-shaped pattern with two threshold effects.

Although the trend analysis suggests the possibility of a negative linear relationship pattern for the dollar-off coupon, the negative trend, however, is not that obvious. The pair-wise post-hoc comparison tests on mean redemption rates showed no significant differences for offline dollar-off coupons (see Figure 4). The pattern for offline dollar-off coupons even looks like an inverted U-shaped pattern with a peak at KRW 3,000 (see Figure 3). It is, however, not clear whether the trend is negative linear or if the inverted U-shaped effect is too weak to be

observed in this situation. Further studies are warranted to confirm and verify these new patterns in the future.

Lastly, the coupon benefit type (“free” vs. “discount”) is found to influence redemption rate of both online and offline coupons. Coupons with “free” benefit are redeemed more than coupons with “discount” benefit. This is consistent with the Diamond and Sanyal’s (1990) finding, which demonstrated that coupons framed as “gains” (free offers) were preferred to coupons framed as “reduced losses” (discounts). However, in the case of offline free gift/contest type coupons, the redemption rate turns out to be lower than that of a discount type coupon. This can be explained by the difference in perceived relevancy of free gift/contest type coupons between online and offline cases. In an online coupon case, consumers would download coupons after considering a number of factors, such as coupon issuers’ (service providers’ or manufacturers’) brands, locations, economic benefits, etc., including the relevancy of free gift and contest. In other words, the online free gift/contest coupons are concluded as relevant when they are downloaded, so much the same as the online free product/service. On the other hand, in offline coupon cases, consumers may just focus on direct economic benefits of coupons. In this aspect, although it is free, free gift and contest may be perceived as less relevant than actual discount in price. This lack of relevancy may prevent the gain framing effect to occur. Hence, the redemption rate of free gift/contest coupons turned out to be lower than that of coupons with discount benefit in the offline coupon.

The findings of this study provide useful implications to marketers who are considering promotion in the service sector with both online and offline coupons. Online coupons are found to be more effective in terms of redemption rate due to its selective nature of distribution. If marketers can access their target segment using the Internet, it is recommended to use online coupons. It will result in a higher redemption rate, contributing to a sales increase. When marketers have to use both online and offline coupons, they may not need different approaches for online and offline coupon promotions, especially in deciding the face value levels of their coupons. Rather, they have to be careful in choosing the framing of the discount (i.e., percentage-term vs. dollar-off term) of their coupons. Although it has to be further verified, the result of this study identifies some practical threshold points for coupon’s face value in the service sector. It identifies 20% and 40% as the peak and the rebound point for the percentage-off framing coupon. So, the recommended discount level of percentage-off framing coupon is either 20% or 50% or higher. In the case of the dollar-off framing coupon, although the pattern is neither obvious nor statistically significant, the results of our data show a possible drop in the redemption rate around the KRW 3,000 (about \$2.50) and KRW 5,000 (about \$4.20) range. It is highly likely that the threshold points for both types of coupons are context-dependent. Thus, marketers have to verify and identify the threshold points in their specific promotion context. The result of this study, however, can be used as a good starting point guideline in their search efforts.

Although the results of this study provide meaningful theoretical and practical insights to coupon redemption behaviors, it also has some limitations. First, due to the limitation of empirical data set, the effects of coupon characteristic factors on the coupon redemption rate are examined in this study. Future studies should examine the effect of other possible factors, such as demographics and other consumer behavioral factors to understand the complex nature of coupon redemption behaviors. Second, the data examined in this study only covers a particular industry (i.e., service sectors). Therefore, the coupon redemption patterns found in this study might be industry-specific phenomenon. Further replication is warranted, especially in the consumer packaged goods industry, to generalize the findings of this study. Third, this study only covers one kind of offline coupons; i.e., coupon booklets. Some other kinds of offline coupons might have similar characteristics to online coupons. For example, direct-mail coupons are somewhat similar to online coupons that are emailed to consumers. Or, the redemption rates of some offline coupon booklets would be different depending on how they are distributed; i.e., the redemption rates could be higher when the coupon booklet is mailed than when it is distributed at a convenience store. Hence, future research should include more detailed perspectives to study differences in the coupon redemption rate across various distribution methods. Fourth, although we use the same definition for redemption rate, actual measures of redemption rate between online and offline coupons may have a problem of direct comparison due to the use of different measures of distributed number of coupons for online and offline cases (i.e., the number of coupon downloaded vs. the number of coupon booklet distributed). Interpretation and application of the findings of this study should be made with this caution. Finally, this study has a strong point of using actual coupon redemption data. However, this advantage inevitably creates a limitation of lacking the information on motivational aspect of coupon redemption behaviors. Although there have been several studies to examine cognitive and psychological processes of coupon usage behaviors (Diamond and Campbell, 1989; Diamond and Sanyal, 1990; and Diamond, 1992), future

research is warranted to examine this aspect in more detail. Despite all the limitations of this study, the findings of this study provide very meaningful and practical pictures to understand actual coupon redemption behaviors between online and offline coupons among Korean consumers.

AUTHOR INFORMATION

Kwon Jung is a professor at KDI School of Public Policy & Management. He has a PhD in marketing and has published several research papers in journals such as *Journal of International Business Studies*, *Journal of International Marketing*, *Psychology and Marketing* and others. His research interests include areas of branding, cross-cultural consumer behaviors and Internet consumer behaviors.

Boon Young Lee is a consultant at Monitor Group Korea. She got a MBA at the Stern School of Business.

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