The Impact of Consumers Perception of Environment and Technology in Redeeming E-Coupons

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1. INTRODUCTION

Sales promotions are an important marketing activity [1]. They are intended to create quicker and increased purchase of certain products by offering short-term incentives. Promotions often offer some sort of utility gain to consumers in order to be successful. There are several sales promotion techniques such as coupons, rebates, samples, contests, and loyalty awards. In marketing, a coupon is a ticket or a document that allows the consumer to purchase a product at a discount. Coupons are usually issued both by manufacturers and merchants and they are distributed via newspaper inserts, in magazines, or by direct mail. Some of the popular uses for coupons include: (1) promoting a new brand, (2) persuading consumers to switch to the promoted brand, (3) increasing sales of an existing product, and (4) attracting shoppers to a retail establishment [2].

Coupon distribution is conventionally conducted with freestanding inserts in weekly newspapers, magazines, in-store circulars, mail, and weekday newspapers. Although these traditional forms of coupon distribution remain popular among consumers, e-coupons such as text messages and e-mails are growing in popularity. As reported in the online issue of MEDIAWEEK, 8.6 million (8 percent) of Americans are reported to receive their coupons through text messages or e-mails (http://www.adweek.com). Additionally some retailers and distributors now have online tools for...
consumers to collect and organize their e-coupons. Consumers have online access to coupons for almost anything from groceries to theater performances to hotels [3]. A large number of e-coupons are available online for browsing sites and downloading coupons to fit a desire for a specific product or favorite brands. Consumers find their online tools helpful as they can find, sort, organize, store and download their coupons in one place [4].

A thorough review of the coupon literature shows few studies specific to e-coupons. Therefore, a model for consumer behavior in relation to acquiring and using e-coupons is proposed in theory as a potential way to remedy the absence of such research. The model would look at three categories of e-coupons: E-coupons that are downloaded from a coupon web site and printed out and then redeemed in a brick-and-mortar retail store; E-coupons available when consumers request an e-mail alert whenever e-coupons that match certain criteria are available (these are printed and redeemed in a brick-and-mortar store); and e-coupons that are issued and redeemed entirely online. The present paper has three main objectives: (1) to review current theories of coupons and coupon studies over the past 30 years; (2) to use Fishbein and Ajzen’s (1975) Theory of Reasoned Action (TRA) and Davis, Bagozzi, and Warshaw’s (1989) Technology Acceptance Model (TAM) to develop a proposed model with two new constructs specific to e-coupon redemption; and (3) to suggest a number of possible research hypotheses and relate them to managerial implications [5] [18].

2. LITERATURE REVIEW

2.1 Traditional Coupon Studies

Coupons studies date back to 1965, when Webster looked at consumer differences in price sensitivity. He was able to use regression analysis to identify a profile of the deal-prone consumer [31]. He concluded that the deal-prone consumer is usually a brand switcher, female, middle-aged, works and at home [4]. Later, Blattberg et al. (1978) used the household inventory model and cross tabulation to profile the deal-prone as female, not working outside the home but owning a car and home [6]. Their study also concluded that income did not have a significant effect when adjusted for household resources.

Narasimhan (1984) proposed a price discrimination theory of coupon use in which he concluded that use is higher for householders with a higher level of education, a middle class income, and no children under 18 [7]. A positive correlation between coupon usage and large number of purchases was found by Neslin, Henderson, and Quelch (1985), who suggest that consumers with higher previous purchasing of discounted brands are more responsive to coupon promotion compared to those with lower previous purchasing of discounted brands [8]. It has also been shown that price concerns come into play in that the higher the value of a coupon, the more likely its redemption is [9].

Most studies before the year 2000 used regression analysis with a single measurement of coupon usage, other studies used self-reported measures of past coupon usage. These studies lack precision and don’t really capture areas that can better explain coupon usage [4]. There are studies that did use multiple indicators for coupon usage like quantity used/week, quantity dollar purchased, dollar value and dollar value as a percent of purchase [10] [11]. Additionally, there are many couponing studies that did enhance our understanding of couponing behavior, for example, the most convincing theoretical application comes from the theory of reasoned action[12] [13]. Shimp and Kavas (1984) applied the theory of reasoned action for traditional coupon usage. They concluded that the theory of reasoned action is helpful in specifying the requirements for coupon usage for grocery shopping. Specifically, the three requirements of intensions, attitudes and subjective norms, accounted for up to 48% of its variance, depending on the model examined. Bagozze et al. (1992) extended the work started by Shimp and Kavas (1984) by evaluating the impact of one more variable to the theory of reasoned action, state versus action orientation [12] [13]. It reflects a person’s readiness to make a decision and implement it, and is measured with a 20-item scale. The goal of their study was to assess the moderating effect of
that construct along with a measure of past behavior in the theoretical model. Their finding concluded that previous coupon usage was not captured by either attitudes or subjective norms.

From surveying the current research pool, there is a wealth of published papers on traditional coupon usage and theory. These concepts, though developed with traditional coupon systems, found many parallels with emerging research in e-coupons.

### 2.2 E-Coupon Studies

An e-coupon or electronic coupon can mean many things: A small clickable banner on a homepage offering 10% off; a discount offered via e-mail, redeemable online, over the phone, or in-store; a printable coupon consumers bring into a merchant’s store or office; or even a limited-time deal offered solely to a company’s Twitter followers or Facebook fans.

According to http://www.e-coupon.com, there are several advantages of e-coupons over conventional coupons. First, with e-coupons, manufacturers can target precise shoppers for whom e-coupons would have the greatest impact along with a useful set of e-coupon delivery options. Secondly, since the manufacturer is not dependent on print schedules, they can easily create and distribute e-coupons to deal with short-term business uncertainties. Thirdly, shoppers don’t need to clip, save, and organize e-coupons because tools for these functions are available online. Also, unlike paper coupons, shoppers do not have to remember to bring coupons physically to the store. In an online store, a single mouse click will allow the shopper to review their e-coupons at any time.

One of the main differences between e-coupons and traditional coupons is the amount of control users can have in searching for and choosing e-coupons in comparison to the lack of control when using traditional coupons [4]. Because consumers have the opportunity to search and select the specific coupons that best suit their needs, that makes e-coupons very attractive to study as marketers because the power of decision is now transferred to the consumers.

In spite of the popularity of e-coupons as a sales promotion technique, they do present some puzzling problems from the manufacturer’s or supplier’s point of view. For example, one difficulty is how to circulate them compared to conventional coupons because with conventional coupons actual circulation can be controlled and one can estimate pretty much an average redemption rates. With e-coupons it is hard if not impossible to control the number of downloads unless coupons are sent individually to consumers following an electronic request. Additionally, when an e-coupon is saved to a different computer, consumer can use special graphics to modify and possibly tamper with the face value, and this could potentially cost businesses a fortune [4].

Both perceived behavioral control and attitudes toward Internet searching are important factors for using e-coupons. Frequent users of e-coupons are different from those using traditional coupons. Also, light users of traditional coupons could use e-coupons a lot more if they have the proper technological means to access e-coupons [3]. Consumers with higher motivation process information from a printed coupon better than from online coupons and consumers with lower motivation process information from online coupons better than from printed ones [14]. Consumers that receive e-coupons tend to be highly educated, well off, and female; 51 percent of them are either college graduates or have a higher degree (See Nielsen business Media, www.adweek.com). The redemption effort required for mobile coupons is shown to be a key determinant of attitude; and economic incentives affect attitude positively where redemption efforts have a negative impact on attitude [15]. Their results also show that, redemption effort is the main determinant of attitude. However, other studies in the mobile service field confirm that mobile device limitations, cumbersome navigation, unclear service protocols, and complicated consumption processes are at the top of the consumer’s mind when it comes to mobile service delivery [16]. In particular, consumers appear to be worried that a mobile phone based coupon might be complicated and/or more time consuming than the coupon is worth to them.

Overall, few studies have focused on e-coupon and behavior in relation to them. The model for e-
coupon usage offered in this paper takes into account the two significant constructs such as ease of access to e-coupons and their positive impact on the environment. It is believed that consumers will use e-coupons on a larger scale if they are easy to access. In terms of the environment, higher redemption rate of e-coupons will reduce the amount of paper waste which in turn will have a positive impact.

Most of the coupon studies examine traditional coupon users and provide empirical evidence of how coupons are used in a business environment [4]. However, consumers are now more technologically oriented than ever before and are also more concerned about the environment compared to previous times. To date no study has looked at these two constructs, which are directly related to one’s intention to redeem e-coupons. These new variables are important factors for consumer behavior around redeeming e-coupons to provide a better understanding of the attitude toward the behavior of e-coupon redemption.

Recent technological advances have made it possible for coupons to be distributed through the Internet. This has created a new dimension for researchers to investigate consumer usage and redemption of paperless e-coupons, a newly emerging electronic version of coupons available on the Internet. Kang, Hahn, Fortin, Hyun, and Eom (2006) concluded that both perceived behavior control and attitude toward Internet searching play important roles in determining the intention to use e-coupons [3]. Additionally, their findings show that heavy users of e-coupons are different from users of traditional coupons and findings reveal further that light users of traditional coupons who have access to e-coupons could become active e-coupon users. This plays an important role in stimulating e-coupon usage behavior.

With this line of thinking, keeping the customer happy in terms of how they perceive their actions is critical for marketers to increase the effectiveness of their e-coupon programs. Consumers need to have the proper skills, opportunities, and resources related to finding and collecting e-coupons on the Internet. Marketers need to come-up with in-store programs to educate consumers on how to get e-coupons on the Internet.

2.3 Theoretical Basis for Proposed Model
The new model explored in this paper makes use of existing models called Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM). A brief outline of these existing models and the reasoned that accompanies them follows:

2.3.1 Theory of Reasoned Action (TRA)
TRA created by Fishbein and Ajzen (1975) has three main constructs: Behavioral Intention, Attitude, and Subject Norm [5]. The theory argues that a person’s behavior is decided by behavioral intentions to take action. This intention itself is decided by the person’s attitudes and the subjective norms that are present in the context of the behavior. Figure 1 shows the relation between attitude and subjective norms through intention to affect behavior.
The theory has received considerable positive attention in the field of consumer studies and consumer psychology. Shimp and Kavas (1984) tested eight different models of self-reported couponing behavior including TRA in its 1975 version to create a basis for their own framework. Both personal attitudes and subjective norms were shown to be important factors in deciding a consumer’s intention to use coupons. Bagozzi, Baumgarther, and Yi (1992) confirmed the work of Shimp and Kavas showing that TRA is useful in describing accurately past experiences of coupon usage for grocery shopping [12]. People with low self-regulatory capacity are called state-oriented, and people with high self-regulatory capacity are called action-oriented. In a sense, state versus action orientation refers to a person's general tendency to approach or avoid things in a static (passive) or dynamic (active) manner. Action-oriented consumers depend more on attitude; State-oriented ones tended to indicate stronger connection to subjective norms. These results have two important implications: (1) TRA can be applied to coupon usage; (2) The Fishbein-Aizen model provides a direct means of understanding attitudes and subjective norms [4].

Hansen, Jensen, and Solgaard (2004) tested the ability of theory of reasoned action and theory of planned behavior in predicting consumer online grocery behavior intention [30]. Their results showed that both theories are capable of explaining a high proportion (greater than 55%) of the variation in future online grocery behavior intention. Additionally, consumers’ attitude toward online grocery shopping was the most important predictor of online grocery behavior intentions. Their finding supports the theory of reasoned action and the theory of planned behavior, which both predict that attitude toward behavior is a determinant of behavioral intention. Furthermore, they concluded that online buying behavior should not be regarded just as a matter of 'subject-channel interaction' and that social normative influence also could be of high importance to a consumer when considering an online grocery buying.

In other research on Internet shopping behavior, Yu and Wu (2007) used the theory of reasoned action as the framework to analyze the internet shopping behavior intentions of consumers [17]. Their findings suggest that main operation strategies of most internet shops should be about improving internet facilities, making more relevant information available through ease of search and information retrieval and having more flexible prices and promotions. Their findings also showed that the most important and perhaps urgent task for internet shops is to strengthen their service image and make their advertisements more effective.

Research shows that both perceived behavioral control and attitude toward Internet searching play important roles in determining the consumer’s intention to use e-coupons. Their results confirmed that the theory of reasoned action is a powerful theory of behavior when consumers have incomplete volitional control. In explaining e-coupon usage intentions, perceived behavioral control about e-coupon usage is shown to be a significant antecedent. Their findings revealed that light users of traditional coupons who had access to e-coupons could become active e-coupon users. Having computer skills and devices necessary for attaining e-coupons plays an important role in stimulating e-coupon usage behaviors. Their results suggests that the net gain of using e-coupons could be significantly higher for light users of traditional coupons who have access to e-coupons than for heavy users who do not have access to e-coupons [3].

### 2.3.2 Technology Acceptance Model (TAM)

TAM is one of the most influential extensions of TRA in the literature. It was developed by Fred Davis with further work by Richard Bagozzi [12] [18]. TAM suggests that a user’s intentions are based on three main variables—attitude, perceived usefulness, and ease of use [18]. TAM postulates that user acceptance of a new system is determined by the user’s intention to use the system, which is influenced by the users’ beliefs about the system’s perceived usefulness and perceived ease of use. Perceived usefulness is defined as the extent to which a person believes that using a particular system will enhance his or her performance, and perceived ease of use refers to the extent which a person believes that using a particular system will be free of effort. Therefore, in TAM, attitude is seen as having a great influence on a person’s intention to use a product or service. This use extends to e-coupons [3], mobile advertising [19], internet banking...
behavior [20], consumer adaptation of e-service systems [21] and mobile coupons [15]. Figure 2 explains the relation from perceived usefulness and perceived ease of use through behavior to affect actual system use.

Previous research has shown that redefining the variables ease-of-use and perceived-usefulness with objectives of research settings at hand will reflect the various circumstances correctly [16]. For example, a study of mobile coupons designated perceived-usefulness as the economic benefit of the coupon and ease-of-use as redemption effort [15]. It is therefore possible to express perceived usefulness as environmental benefits of e-coupon behavior. It is also important to note that no coupon study has yet tested this construct. TAM points to the probable benefits of the ease-of-use aspect of the efforts of gaining online access to e-business.

![Technology Acceptance Model showing combining perceived usefulness with perceived ease of use](Source: Davis et. A., 1989; Venkatech et. Al., 2003).

3. CONCEPTUAL DEVELOPMENT
3.1 Proposed Model
A theoretical model for consumer action related to the willingness to redeem e-coupons is proposed by combining aspects of TRA and TAM. The rationale behind integrating TRA and TAM is that the new proposed model adapts perceived ease of use and perceived usefulness from the TAM model and subjective norm from the TRA. The new model is called Technology & Environment Mediation Model (TEMM), it articulates the perceived usefulness of having the environmental benefits of e-coupons integrated with concepts of having ease of use for accessing coupons online. These combined aspects have distinct mediating effects on the E-coupon redemption rate. Figure 3 shows the new structure for consumer behavior as a result of the expanded concept.
3.2 Hypotheses to Investigate

The model proposed, in figure 3, generates several research hypotheses. These hypotheses target several significant factors in e-coupons acceptance that have not been investigated in combination.

3.2.1 Technology

Fortin (2000) discussed the main difference between traditional coupons and e-coupons as the scope and ease with which control could be exercised on the Internet. Coupon usage is determined by the trade-off consideration between the cost of and benefit from using coupons. For e-coupons, the difficulty of using them may differ according to a person’s computer skills and facilities [3]. Therefore consumers’ attitude toward technology including computer skills and physical environments to use e-coupons may have a more critical impact on e-coupon usage intentions than traditional coupon usage intentions [4].

Lin, Shih, and Sher (2007) presented a study integrating technology readiness into the technology acceptance model in the context of consumer adoption of e-service systems [21]. They defined the technology readiness construct as “an overall state of mind resulting from a gestalt of mental enables and inhibitors that collectively determine a person’s predisposition to use new technologies” [21, p. 643]. In order to measure people’s general beliefs about technology, the technology readiness index was developed and it includes four sub-dimensions; optimism, innovativeness, discomfort, and insecurity. Optimism relates to a positive view of technology and a belief that technology offers people increased control, flexibility, and efficiency. Innovativeness refers to a tendency to be a technology pioneer and thought leader. Discomfort consists of a perception of lack of control over technology and a feeling of being overwhelmed by it. Insecurity involves distrust of technology and skepticism about its ability to work properly. Optimism and innovativeness are drivers of technology readiness, while discomfort and insecurity are inhibitors [21].

Kang et al. (2006) suggested that inclusion of the consumer’s attitude toward internet searching in their conceptual model for consumer e-coupon usage intention is important not only because
internet searching is necessary for obtaining e-coupons, but also because the internet is perceived to be a powerful tool for consumer information searching in general [3]. The e-coupon usage behavior stands for using something that is searched for and attained through the internet. Consumers need to do the internet search to print out and redeem particular e-coupons. This will be one of the critical barriers for consumers in using e-coupons.

**H1.** Consumer’s perceived ease of access to e-coupons related to consumer’s attitude toward technology has direct and positive effect on consumer’s attitude toward e-coupon.

**H2.** (A) Consumer’s attitude toward technology has a direct and positive effect on consumer’s attitude toward e-coupons; (B) it also mediates perceived ease of access to e-coupons and attitude towards e-coupon.

### 3.2.2 Environmental Concerns

Environmental concern, as a major social phenomenon, has been investigated for decades by academics in different disciplines. Xiao and Dunlap (2007) intensively explored the construct of environmental concern by testing its validity and reliability [22]. It was found that people’s environmental concerns related to several issues, including community-related, national-related, global-related, environmental-economic trade-off, policy support, and behavior/activism. The degree of consumers’ environmental concerns depends on both their demographic variables, such as age, education and social class, and their psychographic factors, such as values and lifestyles [22].

Many researchers argued that environmentally friendly attitudes result in environmental behavior or behavior intention to this end. Several factors are identified to influence people’s attitude toward the environment, such as, values, preferences and lifestyles [23]. Individuals are more likely to take action according to what they place more importance on in terms of their values. A study conducted by Bang et al. (2000) showed a strong positive relationship between environmental attitudes toward renewable energy and consumers intention of paying a premium price for renewable energy [24]. Similarly, it can be hypnotized that environmental attitude toward coupon usage should be positively related to consumer intention of using e-coupons.

Modern individuals are more concerned about the world environment and growing numbers of academic studies show that consumers are willing to take actions in the marketplace based on these concerns [25]. Laroche, Bergeron, and Barbro-Forleo (2001) suggest that an increasing number of consumers are realizing that their purchasing behavior directly affects many ecological problems [26]. Their study also concluded that consumers willing to pay more for environmentally friendly products are more likely to be female, married with at least one child living at home. Furthermore, they argue that this group is more likely to put the welfare of others before their own. Environmentally orientated consumers are more likely to purchase environmentally-friendly products or services; more likely to adopt marketing approaches which are considered as providing a product that protects our environment. In contrast to traditional paper-based coupons which are usually published several times more than they are actually redeemed, e-coupons are more environmental friendly in terms of usage of coupon paper. Therefore, it is assumed that consumers with higher environmental sensitivity will have preferences of using online coupons compared to using paper-based coupons.

**H3.** Perceived usefulness of e-coupons toward environment has a direct and positive effect on consumer’s attitude toward e-coupon.

**H4.** (A) Consumer’s environmental concern has a direct and positive effect toward e-coupons; (B) it also mediates usefulness of e-coupons and attitude towards e-coupons.
3.2.1 Subjective Norm
Subjective norm refers to the influence one’s personal community has on a specified behavior [27]. Together, attitude toward a specific behavior and subjective norms have been shown to account for much variance in intention to perform a specified behavior [28]. The proposed model permits subjective norm to have a direct effect on consumer’s intention to redeem e-coupons.

H5. Subjective norm has a direct and positive effect on intention of using e-coupons.

These hypotheses offer the opportunities to define comprehensive analysis of consumer behavior in relation to e-coupons.

4. DISCUSSION
The conceptual model outlined offers improved understanding of the new constructs of e-coupons. One of the main differences between e-coupons and traditional coupons is the amount of control users can have in searching for and choosing e-coupons in comparison to the lack of control when using traditional coupons [4]. Because consumers have the opportunity to search and select the specific coupons that best suit their needs, the amount of waste and of related costs from printed coupons that are not redeemed is significantly reduced. Consumers who are concerned about the environment on a personal level are more likely to take part in environmentally conscious behavior of this type, and will sacrifice important attributes for the well-being of the environment [25]. Xiao and Dunlap’s study (2007) of the construct of environmental concern found that people’s environmental concerns related to several issues—including community, national, and global concerns, environmental-economic trade-offs, policy support and social behavior/activism [22].

The effect of environmental consciousness on coupon use could seem to be marginal, but recent research has shown the possibility of a strong relationship. The degree of consumers’ environmental concerns depends on both their demographic variables, such as age, education and social class, and their psychographic factors, such as values and lifestyles [22]. People are more likely take action according to what they value most, as when, for example, Bang et al. [24] showed a strong positive relationship between environmental attitudes toward renewable energy and the intention of paying a premium price for renewable energy. These studies relate to e-coupons because consumers are more concerned about the environment as compared to before the constructs namely technology and environment in the proposed conceptual model are critical in identifying consumers intention to use e-coupons.

There is no doubt that e-coupons are becoming highly popular among consumers. According to the coupon processor Inmar [29], 13 percent of online coupons were redeemed in 2008 compared to 1 percent of printed coupons. Top retailers such as Wal-Mart, Zellers, the Bay, Sears, and Best Buy use online coupons as a practical and strategic way to compete in the marketplace in order to attract new customers and reward their loyal customers with special savings. Although savvy consumers enjoy taking advantage of these e-coupons, the success of e-coupons will ultimately depend on two things: One is for retailers and online coupon services to come up with simple ways for consumers to access the latest and most popular e-coupon offers, the second is a dramatic use in internet usage as consumers become more environmentally consciousness and produce an even greater demand for e-coupons to the point that traditional printed coupons will disappear.

E-coupons will ultimately satisfy two key retailers needs as well: Reducing costs of producing printed coupons that are unwanted and unused, and speeding consumer response time as they control their selection of coupons through websites that are simple to navigate and retailers and consumers save money through methods that provide choice and ease-of-use.
5. MANAGERIAL IMPLICATIONS
Marketing managers will be able to take advantage of the new form of e-coupons because they provide multiple opportunities for attracting new consumers. The proposed model analyzes the new opportunities for marketing managers by addressing how consumers will use e-coupons at increased levels if they perceive that e-coupons are easy to access using technology such as internet, e-mail, and smart phones. Marketing managers can advertise to educate consumers on how to select and collect e-coupons according to their needs and preferences with little effort by checking their e-mails or mobile messages.

Marketing managers can take advantage of the many consumers who now tend to be environmentally conscious and emphasize that only what is desired will be printed. This model also proposes that consumers will claim more e-coupons if they perceive e-coupons to be useful in saving the environment. Marketing managers can advertise to inform their consumers that using e-coupons is a more environment friendly way of saving money as compared to printed coupons. Finally, consumers can be reminded that their selection time is significantly shortened when they do not have to examine an abundance of print in newspapers and flyers weeks after weeks in order to access coupons.

6. REFERENCES


