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# A comparative study between mobile and paper coupons

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## ABSTRACT

This study attempts to examine the differences in consumers' perceptions between paper and mobile coupons. It discovers new potentials of mobile coupons by investigating whether coupon type (mobile vs. paper) has any impact on a consumer's coupon usage intention. It explores the drivers and barriers of consumers' coupon usage intention and also examines to which extent coupon type translates into higher usage intention rates. The data of this study were analyzed with exploratory factor analysis, *t*-test, and multiple regression analysis. This study revealed that when the coupon type changes from paper to mobile, people's coupon intention to use decreases, with the lack of trust as the primary barrier. The current study is the first attempt to apply this transactional utility theory to compare consumers' perceptions between mobile and paper coupons. This study has empowered the transactional utility theory by applying it in a new domain of couponing.

**Keywords:** Mobile & paper coupon, trust, effort, money priming

## 1. INTRODUCTION

Couponing is a century-old promotional technique that marketers have been practicing to entice customers to their products. In a study, it was reported that 92% of shoppers in 2020 searched for coupons or offers before buying online, 86% of Millennials reported that they could be persuaded to try a new brand if offered a discount, and 60% of online shoppers reported that discounts were even more important during COVID-19 [1]. More than 50% of consumers use at least one coupon out of every four purchases [2]. Because of these staggering numbers related to coupon usage, coupons have been recognized as one of the most commonly used promotional tools by marketers. Almost half of all retailers use some type of coupon program because it is an inexpensive form of promotion [3]. From the consumer's perspective, a coupon is also an attractive gift, as it offers instant price reduction as an incentive. The act of coupon redemption brings the feeling of satisfaction and savings [4]. Coupons offer the additional attraction of cost-savings to entice new customers during a product launching and brand trial [5].

The advancement of mobile technology and the proliferation of mobile users opened the door for marketers to promote their products through mobile devices. To enjoy these unprecedented opportunities, marketers are incorporating mobile technology in their marketing and advertising campaigns. With the capability of reaching out to millions

of potential customers in real time, mobile advertising has created a very powerful promotional channel [6]. As a result, mobile coupons became a part of retailers' digital marketing strategy and one of the fastest growing promotional methods. A mobile coupon is a digital coupon that is delivered to a customer's mobile device to offer a fixed price cut for any specific product or service [7]. Marketers use mobile coupons to connect with customers, obtain their current locations in real time, and stimulate unplanned purchases [8]. Additionally, marketers use mobile coupons to create brand awareness, attract new customers, reward existing customers, introduce new products on the market, and respond to competitors' offerings [9-11]. It also offers some additional unique advantages over paper coupons that include accurate target marketing, easy modification, individualized design of the coupon, dynamic customization, and personalization, and tractability. Marketers do not have the options of customization for paper coupons; rather, a generalized "one for all" approach is adapted for paper coupons, where the flexibility of dynamic personalization is missing. Additionally, marketers must deal with the printing and physical distribution of the paper coupons, where mobile coupons do not require those extra tasks.

From consumers' perspective, paper coupons require some extra effort of searching, sorting, clipping, saving, and carrying it to the store for redemption, which is not necessary for mobile coupons. Thus, consumers' usage cost of mobile coupons can be comparatively cheaper than that of paper coupons. Despite all the benefits of mobile coupons, marketers may encounter some resistance from customers relating to mobile coupon usage. For instance, the challenge of technology acceptance pertaining to mobile coupon usage may exist for some customers, which may not be the case for paper coupons. Jayasingh and Eze [12] reported that barriers of entry exist in the usage of mobile coupons because of the technological constraints. Additionally, for mobile coupons, consumers need to disclose their personal data that includes their phone number, current location, and preferences in their product selection to receive and redeem mobile coupons. Marketers must obtain the customer's permission before sending the mobile coupon to the customer, while that permission is not required for paper coupons. This leads to customers' acceptance of some privacy risk. The procedure of permission-based marketing may create an extra psychological barrier when customers use mobile coupons [13]. Thus, the customer's concern for privacy could be much higher for mobile coupons than that of paper coupons. Also, previous research [14] suggested that lack of customers' trust in mobile coupon providers may prevent usage of mobile coupons. Additionally, paper coupons are tangible and have the resemblance of money, while mobile coupons are electronic objects that cannot be touched and not resemble dollar bills. This tangibility and resemblance of dollar bills, which lead to the priming of money, may cause differences in the redemption intention of customers between mobile and paper coupons.

Therefore, in light of customers' privacy concerns, trust, and technology acceptance, and the company's resource allocation for marketing campaigns, the marketing communication strategy would be significantly different between these two types of coupons. A common marketing strategy will not work for both paper and mobile

coupons because the challenges and opportunities for paper and mobile coupons are entirely different. Marketers need to have a clear understanding about these challenges and opportunities for each type of coupon, and subsequently, equip themselves with appropriate resources and adapt suitable strategies. To achieve this goal, this study develops an improved understanding of how and when mobile coupons are effective in improving the customer's intention to use coupons.

Worldwide mobile advertising spending reached a record of $223 billion in 2020, representing 17 percent increase from 2019, and it is expected to surpass $339 billion by 2023 [1]. Despite the stunning volume of continuous investment in coupons and its significant practical implications on marketing strategy, this domain of couponing has been surprisingly ignored by researchers. Thus, the factors responsible for customer's selection between mobile and paper coupons remain unclear, and yet no research has investigated this unanswered question. Additionally, there is a constant debate among marketers about the effectiveness between traditional and mobile coupons and the consumer's preference between these two [15-17]. This knowledge is necessary for marketers to create and apply the correct marketing strategy. Therefore, this area demands considerable attention from academic researchers and there is a dire need to develop a more in-depth understanding of consumers' acceptance of mobile couponing. No academic research has been undertaken to address consumers' decision-making process comparing paper and mobile coupons. In the current coupon literature, there is no theoretical framework that identifies the contributing factors that are responsible for making differences in consumers' preference between paper and mobile coupons. This would be the first attempt to fulfil that research gap by critically examining the consumers' preference between these two types of coupons. It will investigate how mediating factors such as the consumer's lack of trust in coupon senders, their money-induced mindset, and the level of effort are responsible for the effects of coupon type on their redemption intention. By examining these factors in the context of couponing, this study will explore the hedonic aspect of consumer behavior and expand the scope of transactional utility theory (TUT). Marketers will not only be able to identify the reason for customers' preference between traditional and mobile coupons, but also determine the influential factors for coupon usage. This comprehensive picture about customers' perception of couponing will help them design their marketing strategies and campaign programs more efficiently and effectively in order to receive higher return on their advertisement spending.

Recognizing how a company's sales, revenues, and profitability could be impacted by the success or failure of mobile coupon campaigns, this research will investigate the reason behind the acceptance or rejection of mobile coupons by identifying the factors that are responsible for consumers' coupon redemption decision. Therefore, this study will address the following two research questions:

> **RQ1:** Do mobile (vs. paper) coupons help or hurt in improving redemption rates?
>
> **RQ2:** Why do mobile (vs. paper) coupons help or hurt?

## 1.1 Purpose of the study

This consumer-centric empirical study has multiple purposes. It will examine whether coupon type (mobile vs. paper) has any impact on consumers' coupon usage intention. It will investigate whether mobile coupons increase or decrease consumers' coupon usage intention compared to paper coupons. It will investigate the processes that go through a consumer's mind that are being evoked by mobile (vs. paper) coupon usage. It will explore the drivers and barriers of consumer's coupon usage intention.

# 2. LITERATURE REVIEW

The existing coupon literature can by summarized by dividing all studies into four broad streams, paper coupons, online coupons, factors influencing coupon usage, and miscellaneous (Appendix A). Each of these streams can be sub-categorized into different smaller streams. Among the four major streams, studies related to the factors influencing coupon usage are most studied, where the face value of the coupon has been studied the most in that category and all those studies found the significant influence of face value of the coupon on consumer's redemption intention. Consumer's behavioral factors were also broadly examined in the coupon research, where consumer's attitude toward coupon, perceived risk, perceived value, and trust are among the top. Different demographic factors, such as gender, age, income, and education, have been studied to investigate their influence on coupon redemption intention. Several researchers focused their studies also on socio-demographic, socio-economic, and psychographic factors, where socio-demographic factors such as consumer's location and distance from redemption location were the most dominant factors.

A significant number of researchers have undertaken their research on online coupon primarily focusing on consumer's attitude toward online coupon, coupon distribution cost, relative effort in coupon redemption, promotion frequency, promotion depth, gender difference, customer satisfaction, price fairness, and social coupon. In mobile coupon studies, several authors discovered many interesting factors that contribute consumer's decision to redeem coupon, such as influence of intrinsic motivating factors (e.g., sense of self-worth and socializing) and extrinsic motivating factors (e.g., economic reward and reciprocity, motivational factors), customized versus non-customized delivery time, perceived behavioral control, coupon design, personal innovativeness, and customer awareness about mobile coupons. Consumers' positive attitude toward mobile coupon was found to be the most important factor for mobile coupon redemption in a number of studies.

Between the two types of coupons (paper and mobile), paper coupon has been studied the most, since this is the oldest form of coupon. Different physical aspects of in-store environment were examined in this category of studies. Some of the in-store environmental factors include in-store display, background music, salesforce, and store decoration and free-standing insert found to be influencing factors for coupon redemption. Several coupon-related factors were studied on paper coupon, where percent off vs. cents off coupons and coupon duration were the most significant ones.

Additionally, some customer's behavioral factors, such as customer's price consciousness, impulsive buying, and impact of coupon on customer's loyalty toward brand were investigated.

In the miscellaneous coupon-related studies, coupon proneness was the most studied topic and the majority of the studies found that coupon proneness is significant contributing factor for coupon redemption. A few researchers have performed their studies on cross-cultural, domain-specific, and comparative studies between paper versus online and mobile coupons, even though none of these comparative studies examined consumer's perception of paper coupon against mobile coupon.

Although there has been a plethora of research studies on couponing, majority of those research studies focused on a single type of coupon, either paper coupon or online coupon. Very few researchers have explored to compare consumer behavior between different coupon types. Among those few comparative studies, Kondo and Nakahara [16] compared the differences in response among the three types of coupons: Ordinary mail, telephone reservation mail, and hyperlink mail. Danaher et al. [15] investigated the differences of influence of location, time of delivery, and length of coupon duration on the coupon redemption between paper coupon and mobile coupon. Kondo et al. [17] examined whether the probability of consumers' store visit differs because of the type of coupon (paper vs. mobile).

A significant portion of the previous coupon studies focused on coupon-related factors, socio-economic factors, socio-demographic factors, coupon proneness, privacy, mobile content service usage, mobile coupon application, SMS-based coupons, mobile ads, advertising format, mobile coupon services, brand loyalty, cross-cultural studies, segmented studies (such as fast food, dining restaurants and retail stores), coupon proneness, and mobile coupon sharing on social network sites [11, 18, 19, 20, 21, 22]. None of these studies conducted a comparative analysis of consumers' perceptions between paper and mobile coupons. Different mediating factors influencing consumers' coupon intention to use between these two coupons have not been fully explored in the previous studies. Thus, previous research on coupon provides limited insight regarding differences in consumers' perceptions between paper and mobile coupons and the reason behind their differences. This gap raises a strong demand for further investigation focusing on consumer differences in preference between paper and mobile coupon. The current study would be the first study to fill up the above-mentioned research gap by addressing the consumers' differences in perceptions between paper and mobile coupons. Appendix D summarizes and lists some important coupon-related articles.

## 3. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

One of the drivers for customers to redeem a coupon is the utility customers obtain from it. Customers evaluate all the different types of utilities while making a decision about coupon usage. The theoretical framework of this study is based on the transactional

utility theory (TUT) of Thaler [23]. According to the TUT, consumers enjoy two types of utility from a purchase: Acquisition utility and transaction utility. When a consumer purchases any product or service, the total utility he or she acquires from that purchase is the sum of acquisition utility and transaction utility, as expressed in the following equation:

***Consumer's total utility from a purchase = Acquisition utility + Transaction utility***

Acquisition utility represents the financial gain or loss from the purchase and the transaction utility represents the subjective perception of gained benefit from the transaction. Typically, transaction utility is calculated based on the financial factors, such as selling price, consumer's paid price and reference price. The theoretical equations for transaction and acquisition utility advise that coupon usage can enhance both types of utility through lowering the purchase price [24]. As a marketing promotional tool, a coupon is used to increase the consumer's transactional utility by offering a price discount on selected products. Pillai and Kumar [25] suggested that transaction utility should depend on the consumer's psychological satisfaction and pleasure. Thaler [26] also acknowledged that to enhance transaction utility, a variety of factors should be considered that are responsible for consumers' perception of enjoyment and gratification from the transaction; unfortunately, most of those factors have not been identified yet. A few studies have previously examined some psychological factors such as emotion [27], fear of spam, perceived risk, and enjoyment [28] in the TUT. Several other behavioral and psychological factors are still unexplored in this TUT. Thus, this study proposes the expansion of the scope of transaction utility by exploring new factors. This study argues that transaction utility should not be limited to only the financial factors; it should include the non-financial factors as well because consumers' decisions are influenced by several non-financial and psychological factors, which could be as important as financial factors. These non-financial and psychological factors could increase or decrease the transactional utility.

This study argues that consumers do not perceive the mobile coupon in the same way as they do the paper coupon. In order to examine this proposition, this study investigates the factors that may potentially influence consumers' coupon redemption decision differently between paper and mobile coupons. In other words, the impact of those factors may lead to differences in consumers' preference between paper coupon and mobile coupons. Because of those factors, consumers perceive paper coupons and mobile coupons differently.

This study proposes *Money Priming* and *Less Effort* would increase and consumers' lack of *Trust* would decrease the transactional utility. This study compares the influence of these factors on consumers' coupon usage intention between paper and mobile coupons.

## 3.1 Consumer's Intention to Use Coupon

Behavioral intentions is an individual's projected or intended future behavior. The current research study defines intention as a person's subjective probability that he or

she will use the coupon to obtain a monetary discount while purchasing a product or service. Intention is one of the most commonly used variables among the consumer behavior studies [11, 29, 30]. Popular technology acceptance models including theory of reasoned action [31], theory of planned behavior [32], technology acceptance model [33], and extended technology acceptance theory [34] have included intention in their models. Results of numerous studies have reinforced the notion that people's behavioral intentions have a positive effect on their behavior [34-37]. In recent years, various mobile coupon studies have used intention to predict consumer behavior [9, 10, 17, 28, 29, 38, 39]. Thus, this study proposes the following hypothesis:

> ***Hypothesis 1****:* Mobile (vs. paper) coupon has an influence on consumer's *Intention to Use*.

This study adopts a non-directional hypothesis because the impact of coupon type (mobile vs. paper) on consumer's *Intention to Use* may go in both directions, positive and negative. However, it is unknown which direction it may go. This study seeks to shed light on the factors that might be responsible for lower redemption rates of mobile coupons compared to paper coupons. This research suggests consumers' perceptions regarding money priming, lack of trust, and less effort to cause these differences.

## 3.2 Influence of Money Priming

Money is an important element of people's daily lives. People have the natural tendency to collect money because money offers the freedom to purchase their desired products and reduces the need to depend on others. *Money priming* is a concept that expresses the reminder of money makes people feel strong and it leads people to spend more time searching for ways to save money [40, 41]. *Money priming* can alter people's perceptions, thoughts, behaviors, opinions, and motivations [40]. Even thinking about money may have enormous influence on people's behavior and attitudes [36] and reminding about money may motivate people to focus on their personal advantages [36]. Mere exposure to *Money priming* may lead to a change in people's motivational, cognitive, and emotional states, as well as their actual behavior [41-44]. Research also revealed that when people are being exposed to a background image of coins, they spent additional time to search for price-related information and low-priced products in order to save some money [40]. Conversely, people even have the feeling of grief resulting from paying money [45]. Coupons provide the feeling of saving money and consumers enjoy the pleasure of saving through couponing. A paper coupon can be touched with consumers' hands, which elicits the feeling of tangibility. It offers them a similar feeling to touching money, while a mobile coupon does not offer that feeling because of the intangibility of it. Thus, this study argues that the difference between mobile and paper coupons may lie in the fact that paper coupons more likely trigger *Money Priming* while mobile coupon does not. Therefore, this study proposes the following hypothesis about *Money Priming*:

> ***Hypothesis 2:*** The influence of mobile (vs. paper) coupon on *Intention to Use* is mediated by reduced *Money Priming*.

## 3.3 Influence of Trust

*"Trust* is an expectancy of positive outcomes, outcomes that one can receive based on the expected action of another party" [46]. When one party has confidence on another party's reliability and integrity, it could be theorized that the first party has trust in the other party [47]. *Trust* works as an influential factor in many transactional relationships [47, 48] and it has been an extensively researched concept, receiving substantial importance from the marketing researchers in numerous studies. In the context of mobile marketing, *Trust* is considered as an important precursor of user intention in a variety of research areas, including mobile commerce [49], mobile banking [50], and online banking [51]. Previous research has proven that *Trust* can help to reduce perceived risk and uncertainty [52, 53]; consumers' strong *Trust* in the coupon can lessen the perceived risk and uncertainty about the coupon and make them feel comfortable while redeeming it, thus helping them to build the intention to redeem the coupon confidently.

In the context of mobile couponing, *Trust* in the coupon leads consumers to believe that the coupon is authentic and a valuable item. Because mobile couponing is a permission-based marketing tool, marketers will not be able to send coupons until a customer grants permission on his/her mobile device. On the contrary, paper couponing is not permission-based, so marketers do not need any prior permission to mail the paper coupon to customers. Thus, the issue of *Trust* is not a concern for the use of paper coupons. From the control perspective, customers have higher control with paper coupons than mobile coupons, which leads to higher *Trust* in paper (vs. mobile) coupons. Consumers might perceive to have lower control about what happens when redeeming the mobile (vs. paper) coupon. While they may perceive to have no control about what data goes to the company when they use the coupon and what this is being used for, much of this is happening behind the line-of-visibility. A paper coupon, on the other hand, can be better controlled by the customers and they may have the impression to know better what is happening to the data. On a larger scale, given that mobile and online interactions are not tangible, *Trust* in digital items may be lower than that of any items of traditional channels, including paper coupons.

This study argues that when a customer has the *Trust* in the coupon, he or she will have the high intention of using the coupon. Conversely, if there is a lack of *Trust* in the coupon, the customer would have lesser intention to use the coupon. Therefore, intention to use a mobile coupon is theorized to be influenced by level of *Trust* consumers have in the coupon. Thus, this study proposes the following hypothesis.

> ***Hypothesis 3****:* The influence of mobile (vs. paper) coupon on *Intention to Use* is mediated by lack of *Trust* in the coupon.

## 3.4 Influence of Less Effort

"Effort is a finite resource that a person may allocate to the various activities for which he or she is responsible" [54]. Among the many factors that influence people's intention to complete a task, required effort is an important one. People may believe that mobile

coupon is comparatively more beneficial and worthy if it is perceived to be simpler than other couponing options [29, 55]. Davis [33] renamed this concept of effort as perceived ease of use in his technology acceptance model (TAM) where he defined it as the degree to which an individual believes that using a particular system or completing a task would be free of physical or mental effort. TAM supports how perceived ease of use influences the attitude and intention to embrace and use mobile coupon services [12, 34, 56]. The theoretical importance of perceived ease of use as a contributing factor of user behavior has been revealed by numerous research studies [33]. Perceived ease of use has been empirically tested and observed to be a significant influential factor on the user's intention to use a system in a variety of research areas, including mobile banking [57], mobile payment [58], mobile commerce [59, 60], mobile services [61, 62], mobile applications [59], mobile Internet [59], e-services [63], Internet banking [64], and wireless technology [65]. Therefore, intention to complete a task is theorized to be influenced by perceived ease of use or required effort.

This study argues that compared to paper coupons, mobile coupons require *Less Effort* and time because they do not require any effort for sorting, clipping, and saving the coupon, as these tasks are necessary for paper coupons. Additionally, consumers always keep their mobile phones with them [60], so there is less planning and effort involved to save, present, and use the mobile coupon at the store. The likelihood of a mobile coupon being redeemed is higher than that of a paper coupon because of the required effort for the coupon redemption. Thus, this study proposes the following hypothesis.

> ***Hypothesis 4****:* The influence of mobile (vs. paper) coupon on *Intention to Use* is mediated by perceptions of *Less Effort*.

In summary, the hypotheses *2, 3,* and *4* imply that the negative effect of mobile (vs. paper) coupon on *Intention to Use* can be explained by the fact that they are less likely to induce the feeling of *Money Priming* and people's lack of *Trust* in coupon. Additionally, the positive effect of mobile (vs. paper) coupon on *Intention to Use* would operate through *Less Effort*.

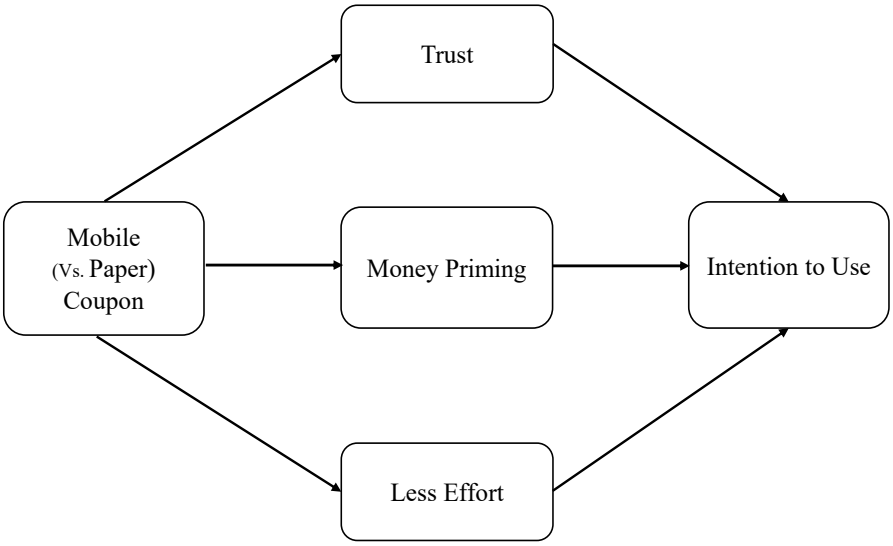



**Figure 1.** Research model

# 4. RESEARCH METHODOLOGY

## 4.1 Research design

This research study adopts a multi-method approach that has been divided into three phases. The first phase is the Pretest study, while the second phase is an Experimental study followed by a Follow-up study (third phase). The objective of the Pretest study is to develop the instrument, while the Experimental study is designed to investigate the causality and mediation effects, and the Follow-up study attempts to search for new insights using same research model in a different domain. All the participants of these three studies are adults who live in the USA and own mobile phones. Data collection for the Pretest took place in the classroom environment in two waves, where in the first wave, a paper survey was used with an actual Windex paper coupon attached to the survey. In the second wave, a QR code for the same Windex coupon was included in the survey and participants were instructed to open the mobile coupon by scanning the QR code. A total of 143 (79 with paper coupons and 64 with mobile coupons) surveys were received, out of which 112 (wave one: 54; wave two: 58) were found to be valid and used for analysis. In the Pretest, the questionnaire was examined to discover any flaws, confusions, ambiguities or discrepancies in any of the questions. Based on the feedback from the participants of this Pretest study, the questionnaire has been modified for the two constructs, *Money Priming* and *Intention to Use*. The next step of this study was a systematic experiment with randomization because this is the only way to establish the causality [66, 67]. Based on the findings in the Pretest, the Experimental study took take place with the updated questions for *Money Priming* and *Intention to Use*. To confirm the normality of the data, Skewness and Kurtosis were measured for this study. Cronbach's alpha was employed for testing the consistency between multiple measurements of the research variables. A Principal Component Analysis with a Promax rotation was performed in order to test the correlations between the factors (Table 5). The statistical analysis of t-test, multiple regression analysis, mediating effects using PROCESS macro (Model 4) of Hayes [68] with confidence intervals 95%, bootstrap samples of 5000, mean center option were used.

## 4.2 Research Model

To address the two research questions, a research model (Figure 1) has been developed by incorporating three mediating variables. In this research model, the influence of coupon type (paper vs. mobile) is an independent variable (IV) and *Intention to Use* is a dependent variable (DV). Three mediating variables—*Money Priming, Trust, and Less Effort*—have been included to test the relationship between IV and DV. In the current research, it is hypothesized that the influence of mobile (vs. paper) coupons on *Intention to Use* operates through the three mediating variables.

## 4.3 Measures

All constructs except *Money Priming* have been adapted from established scales that exhibited high scores of reliability and validity tests in previous studies. Despite that, independent test of reliability and validity were performed in all studies. Appendix

C demonstrates the list of all constructs with references. A self-administered survey questionnaire was developed to address the four hypotheses. The survey instrument was scrutinized multiple times to detect any typos or spelling errors, sequence errors, misplacing of questions in the incorrect group, missing questions, item omissions, or missing pages. A 5-point Likert was used to measure all items except demographic questions. The demographic items were used to collect basic information about participants such as gender, age, income, and ethnic background.

# 5. EXPERIMENTAL STUDY

The purpose of this Experimental study is two folds. First, it is intended to examine whether mobile coupons help or hurt, that is, whether mobile coupons increase or decrease a consumer's *Intention to Use* compared to paper coupons. This research suggests that the potential positive effect of mobile coupons might be the result of consumer perceptions that less effort is required, whereas a potential negative effect might be due to the fact that mobile coupons raise the concern of trust. Thus, the second purpose of the Experimental study is to investigate whether mobile (vs. paper) coupons influence a consumer's *Intention to Use* through *Money Priming*, *Trust*, and *Less Effort*. In this Experimental study, it aimed to establish the evidence for causal effect of the coupon type (mobile vs. paper) on *Intention to Use*. It took place after the Pretest study in the classroom of three universities in Southern California, USA. The same questionnaire with stimulus materials (mobile and paper coupons) that was manipulated according to the coupon type (mobile vs. paper) was distributed among the participants. There was no difference of treatment except the coupon type (mobile vs. paper) between the two groups of participants. An experimental design within the classroom was chosen because this controlled environment allowed controlling for, and ruling out, potential distortions, helping to ensure that all participants took the experiment under similar conditions. A random allocation was ensured to the experimental conditions, which is central to establish evidence for causality. That is, each participant had equal probability of receiving one of the two coupon types (mobile vs. paper).

Two code numbers (0 and 1) were assigned randomly among students and the surveys were distributed accordingly. Students with code 0 received the paper coupon surveys and students with code 1 received the mobile coupon surveys. In the paper coupon survey, the instructions told participants that the attached coupon was a paper coupon that had to be redeemed at the brick-and-mortar store. Accordingly, in the mobile coupon survey, the instructions stated that the displayed QR Code led the participant to a mobile coupon, which had to be redeemed at the brick-and-mortar store. The coupon, which was the same in both experimental conditions, is shown in Appendix B.

## 5.1 Methods – Experimental Study

In the Experimental study, a total of 458 surveys were collected and after careful review, 434 were found to be complete (paper: 217 and mobile: 217) and were used for analysis. Data analysis was performed in five steps. In the first phase, data screening was performed to test missing data, outlier, normality, linearity, and multicollinearity.

In the second phase, reliability and validity testing were performed. The Exploratory Factor Analysis (EFA) was performed in the third phase to detect the number of factors to obtain the optimum model. In the fourth phase, demographic analysis was performed. Finally, in the fifth phase, multiple regression analysis was performed to test the hypotheses. While analyzing the data in SPSS, 0 was coded for paper coupon and 1 for mobile coupon.

## 5.2 Data Quality – Experimental Study

A thorough screening of all variables of this study was performed to examine any possible code violation and to confirm the statistical assumption before starting the final data analysis. Cronbach's alpha ranged from .78 for *Intention to Use* to .93 for *Less Effort* (Table 1), demonstrating the presence of high reliability. The AVE values for all constructs exceed 0.5. Therefore, the convergent validity of all constructs was achieved. The correlation matrix (Table 5) demonstrates that all the correlations between factors were below .7, confirming the discriminant validity.

## 5.3 Exploratory Factor Analysis – Experimental Study

Before testing the hypotheses, EFA was conducted to test the factorial reliability and validity of the measurement scales. Any items demonstrating low factor loading (<.40), high cross-loading (>.40), or low commonalities (<.50) have been detected and removed from the data analysis. In the closing round of EFA, the item MNPR_3 was kept in the model because the factor loading (.397) almost reached the minimum level of .4. A seven-factor optimum model was achieved with the Kaiser-Guttman retention criteria of eigenvalues greater than 1.0. These seven factors accounted for 61.35% of the total variance. Bartlett's test of Sphericity yielded a KMO value of 0.610, demonstrating that the data were appropriate for principal component analysis. Also, this test was found significant ($p < .001$), confirming the existence of adequate correlation between the variables, which is a signal to move forward to the final data analysis. Appendix F represents the pattern matrix.

## 5.4 Demographic Profile – Experimental Study

There were 210 males (48.4%), 212 females (48.8%), and 12 (2.8%) students of undisclosed gender who participated in this study. The largest group (60.4%) of participants was between 18 and 30 years old, followed by the group aged 31-40 years old (28.8%). A significant portion (18.9%) of the participants do not have any income. The largest group in the income category earns less than $40,000 and the second largest group earns between $40,001 and $80,000. The largest segment (37.6%) of the participants is Caucasian, followed by African-Americans (12.9%). Every participant in this study owns a mobile phone. This group of participants fits well for this study because the majority of them are young consumers who are tech savvy.

## 5.5 Effect of Coupon Type on Intention to Use – Experimental Study

A significant regression equation was found ($F\ (1, 432) = 150.07, p = .000$), with an $R^2$ of .26. Thus, hypothesis $H_1$ is supported. This indicates that 26% of the variance in *Intention to Use* coupon can be explained by the change of coupon type (paper vs. mobile). On average, *Intention to Use* a mobile coupon is .543 points ($B = -.54$) lower than that of a paper coupon. When the coupon type changes from paper to mobile, people's *Intention to Use* the coupon is decreased by 17.02% ($M_{Intention\text{-}Paper\ Coupon} = 3.191$; $M_{Intention\text{-}Mobile\ Coupon} = 2.648$). In other words, the probability of *Intention to Use* the coupon drops by 17.02% if companies change their coupon type from paper to mobile coupon.

## 5.6 Three mechanisms induced by coupon – Experimental Study

The analysis of the three mediating effects demonstrates that the effect through *Money Priming* was not significant ($p > .10$), while the effects through *Trust* and *Less Effort* were significant ($p \leq .01$). The effect of coupon type disappears when the three mediators are introduced, which proves the strong presence of mediation. Hence, all relevant mechanisms were captured. Table 3 summarizes the direct and indirect effects of this parallel mediation test. *Money Priming* did not have any mediating effect, while *Trust* and *Less Effort* in parallel have mediating effects for the influence of mobile (vs. paper) coupons on the *Intention to Use*. When *Trust* and *Less Effort* were running parallel, the effects through *Trust* ($B = -.63$, $p \leq .01$) and *Less Effort* ($B = .05$, $p \leq .01$) were opposite in their directions. This implies that hypothesis $H_2$ is rejected, while $H_3$ and $H_4$ are accepted. Since 0 was coded for paper coupon and 1 for mobile coupon in SPSS during data analysis, the effect through *Trust* is negative and the effect through *Less Effort* is positive. Figure 2 demonstrates the mediating effect through *Trust*, *Less Effort*, and *Money Priming*.

## 5.7 Summary of findings – Experimental Study

This Experimental study revealed that the influence of mobile (vs. paper) coupons on *Intention to Use* through the mediating variable *Money Priming* was not significant, while the influence through the other two mediating variables, *Trust* and *Less Effort,* was significant. Between these two mediating variables, *Trust* has a significantly stronger mediation effect on the influence of mobile (vs. paper) coupon on *Intention to Use*. Overall, mobile coupons have a negative effect on consumers' *Intention to Use*. It operates specifically through two processes, *Trust* and *Less Effort,* of which lack of *Trust* is the greatest problem that causes the negative effect of the mobile coupon. Lack of *Trust* is the primary barrier to most customers, and it outweighs the mobile coupon's benefit of *Less Effort*. Despite this, some people value this benefit of *Less Effort* more than others and activate the *Trust* factor much less. The results obtained in the Experimental study showed that the effects of *Trust* and *Less Effort* always run in the opposite direction. People who have low *Trust* in mobile coupons ignore the benefit of

*Less Effort* for coupon usage, and the other group of people who appreciate the *Effort* benefit are not concerned about the factor of *Trust*. Even though, the effect through *Trust* is reduced for some people, the effect through *Less Effort* is still not strong enough to overturn the negative effect through *Trust*. Thus, the *Trust* factor certainly dominates, which apparently is the greatest problem for mobile coupons, and this undermines the benefit of *Less Effort* on *Intention to Use* mobile coupons.

## 6. FOLLOW-UP STUDY

Unlike the Experimental study, data for this Follow-up study were collected through the crowdsourcing of Amazon Mechanical Turk (MTurk). The purpose of this Follow-up study is to test the robustness of the research model. The key contribution of this Follow-up study is the application of the same research model in a completely different domain, which will give us the acceptance of generalizability of the research model. It applies the model in a non-tangible industry to test whether the model can be universally applied, or whether the result varies across domains. Two small descriptive sections were included in this online survey: one for paper coupons and the other one for mobile coupons. Those two sections were presented dynamically to distinguish between the two groups of participants and Qualtrics distributed the survey so that half of the participants received the paper coupon version and the other half received the mobile coupon version. Thus, the distribution of the questionnaire was completely randomized, and each participant had equal probability to receive a paper coupon or mobile coupon. This randomized distribution of the survey among participants ensures the evidence for causality. Like the Experimental study, for both type of coupons, the participants were also instructed that they would bring the coupons to the brick-and-mortar stores for redemption.

In the Experimental study, a coupon for a tangible product, Windex window cleaner with the discount of fixed amount ($1) was used, while a coupon for a restaurant named Souplantation with discount of percentage (20%) was used in the Follow-up study. Souplantation is a buffet-style restaurant chain that operates in multiple states in the United States. Coupon type (Windex and Souplantation) was the only difference between the surveys of the Experimental study and Follow-up study. The main difference in characteristics between of mobile and paper coupons is the tangibility and for this reason two domains were selected that has the exactly the same characteristics, tangible, and non-tangible. In the Experimental study, paper coupon demonstrated higher *Intention to Use* and this might be attributed to the fact that a coupon of a tangible product was examined. This may provoke the danger that a tangible product was chosen that matches the coupon type. For this reason, an intangible product was examined in the Follow-up study to ensure that the higher *Intention to Use* in the Experimental study was not just due to the fit of the coupon type and the tangibility of the product. Thus, the selection of a tangible product coupon in the Experimental study and a non-tangible service coupon in the Follow-up study would facilitate generalizability. If the Follow-up study produces a similar result as the Experimental study, it will be able to generalize

the findings across domains. The coupon that was used in the Follow-up study is shown in Appendix B.

## 6.1 Methods - Follow-up Study

A total of 504 online surveys were collected; half of them were for paper coupons, and the other half were for mobile coupons. After careful scrutiny, 465 surveys were selected for final data analysis. Data screening and analysis of this Follow-up study followed the same steps as Experimental study.

## 6.2 Data quality - Follow-up Study

The result of the regression test confirmed the existence of a linear relationship in the dataset of this Follow-up study. The highest and lowest values of Skewness are .81 (for *Intention to Use*) and .20 (for *Trust*) respectively, while the highest and lowest values of Kurtosis are .94 (for *Trust*) and -.68 (for *Less Effort).* Thus, all variables meet the strictest threshold (±1) for Skewness and Kurtosis. Thus, these values of Skewness and Kurtosis confirm the normality of the data distribution. The tolerance values of all variables range from .28 (VIF = 3.52) for *Coupon Type* and .89 (VIF = 1.13) for *Money Priming* (Table 2). This establishes that the Follow-up study does not have any presence of multicollinearity.

In the reliability test of this Follow-up study, all variables exceed the minimum acceptable limit of Cronbach's alpha to establish high reliability. As it shows in the Table 1, the values of Cronbach's alpha range from .76 (for *Less Effort)* to .91 (for *Money Priming)*. This demonstrates consistency of the variables used in this study. The tests of convergent validity in the Follow-up study yielded stronger results than that of the Experimental study. The lowest AVE value of the Experimental study was .34 (for *Money Priming*), while that value of the Follow-up study was .55 (for *Less Effort*). Similarly, the lowest CR value of the Experimental study was 0.66 (for *Money Priming*), while that value of the Follow-up study was .88 (for *Trust*). In case of discriminant validity testing, this result is opposite. The Experimental study produced stronger discriminant validity, even though none of the factors violated the correlation limit of .70 in either of those two studies. However, the Experimental study has fewer lower correlating factors in the correlation matrix table between the Experimental and Follow-up studies. Overall, the Follow-up study has relatively higher correlating factors compared to the Experimental study. In the KMO and Bartlett's test, the KMO measure of sampling adequacy is .91, which is considered excellent. A seven-factor model representing 71.38% of the total variance was obtained through the Kaiser-Guttman test, with retention criteria of eigenvalues greater than 1.0.

## 6.3 Demographic profile - Follow-up Study

This Follow-up study consists of 465 participants, of which 49.5% are female and 48.8% are male, while 1.7% is undisclosed. Among the participants, the largest participant group falls into the "31-40" age group followed by "18-30" age group. Unlike the Experimental study that was based on students' sample, the "No Income"

group is very small (3.4%) in this Follow-up study. Meanwhile, the "$40,000-$60,000" income group was the largest group (32.3%). Caucasians were the dominant ethnic group in this Follow-up study. Appendix E summarizes the demographic distribution of the participants in all studies.

## 6.4 Effect of Coupon Type on Intention - Follow-up Study

Like the Experimental study, a significant regression equation was also found ($F$ (1, 465) = 60.27, $p < .000$, with an $R^2$ of .12) in the Follow-up study, supporting hypothesis $H_1$. Participants' predicted *Intention to Use* is 2.98 and 2.52 for paper and mobile coupons, respectively. That signifies that mobile coupons' usage intention is .45 points ($B = -.45$, $t = -7.76$, $p \leq .01$) lower than that of paper coupons. When the coupon type changes from paper to mobile, people's coupon *Intention to Use* is decreased by 15.25%.

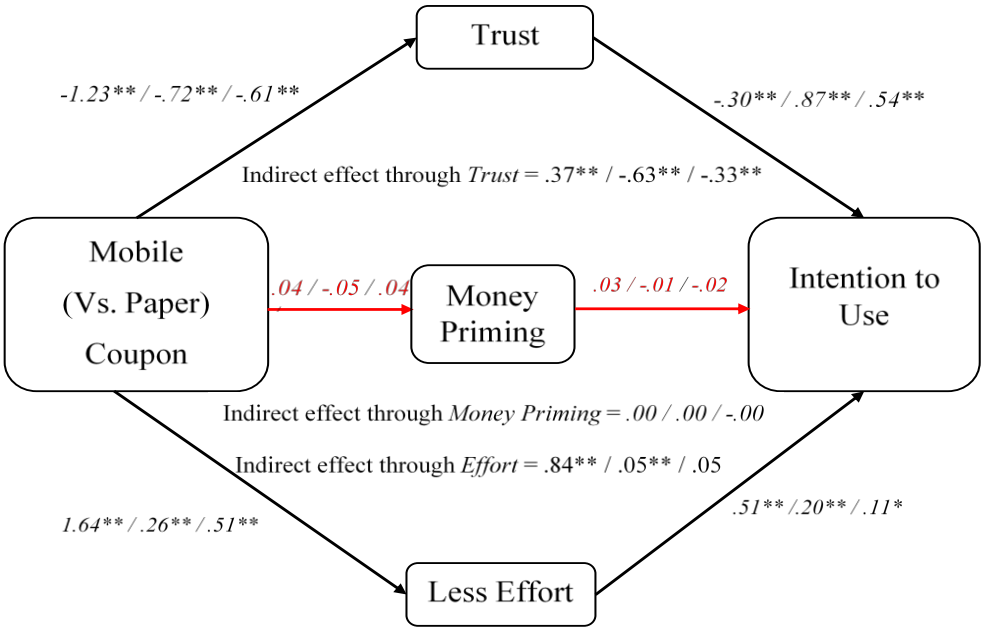
## 6.5 Three mechanisms induced by coupon - Follow-up Study

Consistent with the Experimental study, the Follow-up study reveals that *Money Priming* does not have any mediating effect ($p > .10$) on *Intention to Use*. The other two mediating variables, *Trust* ($B = -.33$, $p \leq .01$) and *Less Effort* ($B = .05$, $p \leq .01$) have significant mediating effects on the influence of mobile (vs paper) coupons on the *Intention to Use*. The indirect effect of coupon type on *Intention to Use* through *Trust* is much higher than through *Less Effort*. The effects through *Trust* and *Less Effort* are opposite in direction. The result of data analysis in the Follow-up study reveals that hypotheses $H_3$ and $H_4$ are supported and $H_2$ is rejected, which is coherent with the Experimental study. Table 3 summarizes the direct and indirect effects of this parallel mediation test in all studies. The total effect of all three mediating variables is -.45. The negative direct ($B = -.18$, $p \leq .01$) and indirect ($B = -.45$, $p \leq .01$) effects indicate that mobile (vs. paper) coupons hurt. Figure 2 illustrates the mediating effects of *Trust*, *Less Effort*, and *Money Priming* comparing across all studies.

## 6.6 Summary of findings – Follow-up Study

The result of the Experimental study was confirmed in this Follow-up study. The mediating effect of *Money Priming* was found to be non-significant in all studies. The influence of coupon type on *Intention to Use* was significantly mediated by *Trust* and *Less Effort*. As in the Pretest and Experimental study, *Trust* has a stronger mediating effect among all mediating factors. Lack of *Trust* is the key mechanism explaining why the rate of *Intention to Use* drops drastically for mobile coupons compared to paper coupons. In order to examine whether test results differ because of coupon categories, coupons for two completely different types of products (i.e., tangible product vs. intangible service) were used in the Experimental and Follow-up studies. The result of the studies demonstrates that despite two different coupons from two different product types and categories (fixed amount vs. percentage off), the results of those studies remained consistent. The consistent results observed in the Experimental and the Follow-up studies show that the model appears to apply to the tangible goods as well as to non-tangible services.

Participants' demography of the Follow-up study was different from that of the Pretest and Experimental study. The participants of the Pretest and Experimental studies were only university students, where the participants of the Follow-up study were recruited from all professions, ages, and income groups. Despite this diversity in the Follow-up study participants, the results of the study did not produce any meaningful differences from the previous two studies. A robustness check was also performed that controls for demographic aspects and which attests to the universality of the model. Thus, the presence of two different coupon categories and diversity of participants, along with the confirmation of robustness test allow the generalizability of the research findings across multiple domains and participant groups. Table 6 summarizes the results of hypothesis testing for the Pretest, Experimental, and Follow-up studies. The √ represents the hypotheses that are supported, and X represents those not supported.




Notes: + p ≤ .10, * p ≤ .05, ** p ≤ .01
Left number represents effect of the Experimental study and right number the Follow-up study.

**Figure 2.** Effects of Trust, Money Priming and Less Effort – Follow-up study

**Table 1**: Reliability Coefficients of 3 Studies

| Variable | Number of Items | Cronbach's Alpha (α) | | | AVE | | | CR | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 |
| MNPR | 5 | .87 | .87 | .91 | .68 | .34 | .75 | .86 | .66 | .94 |
| LSEF | 4 | .71 | .93 | .76 | .70 | .70 | .55 | .87 | .91 | .89 |
| TRST | 4 | .88 | .89 | .82 | .67 | .63 | .64 | .89 | .87 | .88 |
| INT | 5 | .69 | .78 | .88 | | | | | | |

Notes: Study 1 represents Pretest, study 2 experimental study and study 3 follow-up study
MNPR = Money Priming, LEEF = Less Effort, TRST = Trust, INT = Intention

**Table 2:** Collinearity Statistics of 3 Studies

| Variable | Tolerance | | | VIF | | |
|---|---|---|---|---|---|---|
| | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 |
| Coupon Type | .82 | .35 | .28 | 1.22 | 2.87 | 3.52 |
| MNPR | .60 | .91 | .89 | 1.66 | 1.10 | 1.13 |
| TRST | .74 | .44 | .64 | 1.35 | 2.26 | 1.56 |
| LSEF | .69 | .71 | .48 | 1.45 | 1.42 | 2.08 |

**Table 3**: Direct and Indirect Effect on Intention – 3 Studies

| Variable | Direct Effect | | | Indirect Effect | | | Total Effect | | |
|---|---|---|---|---|---|---|---|---|---|
| | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 |
| Money Priming | | | | .00 | .00 | -.00 | | | |
| Trust | | | | .37** | -.63** | -.33** | | | |
| Less Effort | | | | .84** | .05** | .05 | | | |
| Coupon type | .76** | .03 | -.18** | | | | | | |
| Coupon type, Money Priming, Trust, & Effort | | | | | | | 1.97** | -54** | -.45** |

Notes: + p ≤ .10, * p ≤ .05, ** p ≤ .01

**Table 4:** Mean, Standard Deviation, Skewness and Kurtosis of 3 Studies

| Variable | Mean | | | Standard Deviation | | | Skewness | | | Kurtosis | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 |
| INT | 3.29 | 2.74 | 2.75 | .74 | .76 | .67 | -.55 | .03 | .81 | -.49 | -.39 | .26 |
| MNPR | 3.25 | 2.70 | 2.37 | .86 | .63 | .90 | .06 | .11 | .59 | -.13 | -.11 | -.10 |
| TRST | 3.20 | 3.56 | 2.68 | .80 | .65 | .66 | .21 | -.09 | .20 | -.57 | .16 | .94 |
| LSEF | 3.35 | 3.22 | 2.51 | .78 | .92 | .58 | .10 | -.62 | .57 | -.67 | -.30 | -.68 |

**Table 5:** Correlation Matrix of 3 Studies

| Component | MNPR | TRST | LSEF |
|---|---|---|---|
| Money Priming (MNPR) | 1.00 | | |
| | 1.00 | | |
| | 1.00 | | |
| Trust (TRST) | .32 | 1.00 | |
| | .33 | 1.00 | |
| | .06 | 1.00 | |
| Less Effort (LSEF) | .31 | .52 | 1.00 |
| | .28 | .28 | 1.00 |
| | .17 | .13 | 1.00 |

Notes: Top number represents Pretest (study 1), middle number Experimental study (study 2) and bottom number follow-up study (study 3).

**Table 6:** Summary of hypothesis testing on the Pretest (study-1), Experimental (study-2), and Follow-up (study-3) studies

| No. | Hypothesis | Result of Study-1 | Result of Study-2 | Result of Study-3 | Summary Result |
|---|---|---|---|---|---|
| *1* | Mobile (vs. paper) coupon has an influence on consumer's *Intention to Use*. | √ | √ | √ | Fully Supported |
| *2* | The influence of mobile (vs. paper) coupon on *Intention to Use* is mediated by reduced *Money Priming*. | X | X | X | Not Supported |
| *3* | The influence of mobile (vs. paper) coupon on *Intention to Use* is mediated by lack of *Trust* in the coupon. | √ | √ | √ | Fully Supported |
| *4* | The influence of mobile (vs. paper) coupon on *Intention to Use* is mediated by perceptions of *Less Effort*. | √ | √ | √ | Fully Supported |

| | Experimental Study | Follow-up Study |
|---|---|---|
| Positive | Less Effort | Less Effort |
| Negative | Trust | Trust |
| Not Significant | Money Priming | Money Priming |

**Figure 3:** The impacts of Money Priming, Trust, and Less Effort

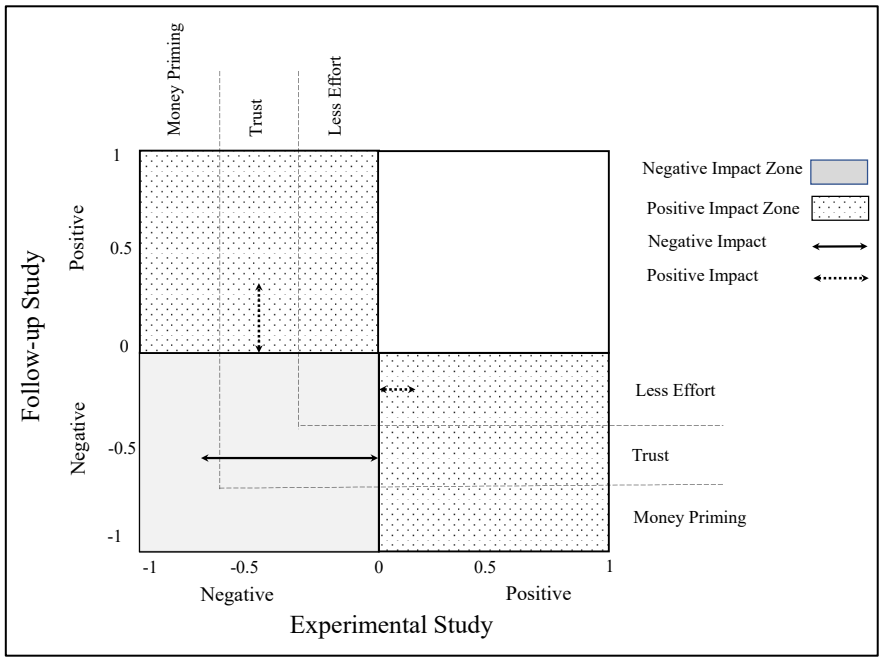



**Figure 4.** Effects in Experimental and Follow-up studies

# 7. DISCUSSIONS AND IMPLICATIONS

## 7.1 Discussions

This yielded some very interesting findings, which provide numerous implications for marketing practitioners and researchers. This study revealed that when the coupon type changes from paper to mobile, people's *Intention to Use* the coupon is decreased in the Experimental and Follow-up studies. This study examined three mediating factors to find the answer to the research questions and those mediating factors explained why mobile coupons hurt. The effect of *Trust* is negative, and the effect of *Less Effort* is positive. The negative net effects of *Trust* on coupon usage indicate that mobile (vs. paper) coupons hurt for both the Experimental and Follow-up studies. Considering the effect sizes, the negative *Trust* effect appears to override the positive *Less Effort* effect.

Overall, lack of *Trust* is the key mechanism as to why coupon usage rates drop drastically. Lack of *Trust* is the primary barrier for coupon usage for most consumers and that outweighs the mobile coupon's benefit of *Less Effort*. Despite this, some people value this *Less Effort* benefit more than others and focus less on *Trust*. It found several consistencies between the Experimental and Follow-up studies. The first consistency is that the mobile coupons illicit lower *Intention to Use* in all studies. The second consistency is that the negative effect can be explained by factors of *Trust* and *Less Effort*. In both studies, it was consistently found that the negative effect of the mobile coupons can be explained by the lack of *Trust*, even though there is a countervailing positive influence of *Less Effort*, which is consistently much weaker than the *Trust* effect. Both in the Experimental and Follow-up studies, the effect of *Money Priming* was not significant, while the negative effects of *Trust* and positive effects of *Less Effort* are significant (Figure 3).

Figure 4 graphically represents comparative representation of the effects of the three mediating factors in the Experimental and Follow-up studies. The X-axis represents the Experimental study and Y-axis represents the Follow-up study. The vertical double-arrow lines are used to demonstrate the impact of mediators in the Experimental study and horizontal double-arrow lines are used for the Follow-up study. The length of the double-arrow line indicates the strength of the effects. Thus, the longer double-arrow line represents stronger effects, and the shorter line represents weaker one. In the figure, the left bottom quadrant (colored in gray) represents the consistent negative impact area, and two other dotted quadrants represent the consistent positive impact area. This figure also demonstrates that the double-arrow lines representing the *Less Effort* effect are shorter than the double-arrow lines representing the *Trust* effect. This visualizes that the effects of *Less Effort* are not as strong as those of *Trust*. No inconsistencies were found between the two studies with regard to the direction of effects.

The directions of the effects of the mediating factors are consistent between the two studies however the inconsistencies exist only in the effect size. These inconsistencies might have originated from the difference in the data collection environment, the way of presenting the coupon to the participants, and the demographics of the participants of the two studies. These factors might have contributed to the stronger effect size in the Experimental study. The Experimental study took place in the classroom environment, where participants were able to touch and feel the printed coupons; meanwhile the Follow-up study was an online study, where participants were not able to touch the coupons. For that reason, the effects were pronounced and reinforced in the Experimental study, where that reinforcement was missing in the Follow-up study. For the same reason, the effects size of the mediating factors in the Experimental study were stronger than that of Follow-up study. Additionally, the participants of the Experimental study were a homogeneous group consisting of only students, whereas the participants of the Follow-up study were very much diversified and a broader mix of all different demographics. This factor might also have played a role in creating the stronger effect size in the Experimental study.

## 7.2 Managerial implications

Treating traditional paper coupon and mobile coupon equally in a company's promotional strategy has been proven to be ineffective [69, 70]. The current study recommends marketers adopt a differentiated approach for each type of coupon based on consumers' behavioral characteristics. The knowledge gained from this study can help marketers reduce cost, eliminate wasting their resources and improve the effectiveness of their coupon strategy. These are possible through effective communications and distributions of coupons and accurate selection of the products for couponing.

Customers are hesitant to be involved with a business relationship if they do not know about the company. Communication is the solution to overcome this barrier. Companies should develop customer awareness through effective and truthful communications. In their communication strategies, companies need to apply different communication techniques for mobile and paper coupon-users to convince them to use coupons. A generic message might not be as effective as the targeted message [71-74]. This targeted-message approach also would help them build the consumer's *Trust*. *Trust* is a prerequisite for any relationship, whether it is a personal or a business relationship. Customers do not like to do business if they do not trust the company or their products, campaigns, or promotional messages [75, 76]. Couponing is one of a company's promotional techniques, so the same rule of *Trust* should apply to couponing as well. *Trust* in coupons depends on *Trust* in the brand. Building *Trust* is not a one-step process or one-time event; rather, it requires series of efforts and time. In addition, *Trust* does build by itself without any effort. It requires planning, execution, and follow-up activities. Therefore, building and maintaining *Trust* should be a priority in the company's strategy. Researchers have uncovered several factors that could help companies build *Trust*. Kharauf et al. [77] found that company's *Trust* could be built by meeting customer's demand promptly and competently, delivering the quality product, and confirming that the customers' experience with the organization is coherent with the brand image. They also recommended that managers design strategies to build both trust and trustworthiness among customers as trustworthiness is a precondition of trust. Based on these observations, in the context of coupons, companies should select the correct type of coupon (mobile vs. paper) for a suitable product, send those coupons in the appropriate time consistent with customer demand, and keep their promises in all areas of their business practices. These strategies will help them build a powerful image and trustworthiness, which will lead to strong *Trust* in their coupons. In a study on building *Trust*, Zarifis et al. [78] revealed that reducing privacy concerns helps build *Trust.* Some of the recommended ways to reduce consumers' privacy concerns include keeping promises and being consistent, honest, and transparent in communicating with consumers [79]. In the couponing context, marketers should utilize communication techniques including educating customers about the ease of use and the benefits of using mobile coupons, clarifying issues that may generate privacy concerns and demonstrating their willingness to support customers with regard to mobile coupon usage. A company that wants to use mobile coupons needs to take the

necessary measures to counter this challenge of *Trust* either at the point of sale or through communications. For example, on some internet banking or e-commerce sites, companies try to establish the *Trust* in their brand by implementing a security system in their software at the backend and displaying the picture of a lock or the logo of the security software on their webpage. Similarly, coupon-issuing companies may also add a sign of security on each coupon to ensure that the coupons are not used for tracking or gathering customer information, and this strategy would build customers' confidence and *Trust*. Additionally, companies may develop some trust-marks similar to trademarks for a trusted entity or a sign similar to the lock icon or security logo for secured sites. These may help establish confidence and pose some psychological impact in the minds of customers.

## 7.3 Academic implications

This study is expanding the current body of knowledge in consumer behavior in couponing in multiple ways. Numerous researchers have applied the TUT in their studies in various areas, including price promotions and perceived quality [80], gender difference in effects of consumer intention [81], and consumer's purchase decisions [82]. The only study that used the TUT in mobile coupon research is by Im and Ha [28] to explore the determining factors of consumers' permission-granting intention. The current study is the first attempt to apply this TUT to compare consumers' perception between mobile and paper coupons. This study has empowered the TUT by demonstrating that consumers' decision of coupon usage is influenced not only by acquisition utility (financial incentives) but also by transaction utility (non-financial psychological satisfaction). It developed a new theoretical framework that includes mechanisms that go beyond transactional utilities such as *Less Effort* and *Trust*. This study uncovers a new process that had not been discovered before. This study found something new: coupon type operates through *Trust* and *Less Effort*.

This study adds valuable knowledge to the existing coupon literature by delving into several unexplored areas of consumer's coupon-related behavior. It is the first study to examine the differences in consumers' perception between mobile and paper coupons in light of different behavioral attributes. This study is also the first to investigate whether mobile coupons help or hurt and why they help or hurt. This study answers those questions through exploring three mechanisms and processes (mediators) that answers the questions of when, and why mobile coupons have the negative effect on people's *Intention to Use*, which consequently hurts the mobile coupon. The underlying mechanisms through three mediating factors show why it has a negative effect, and the study disentangled different processes through which it shows when mobile coupon has the negative effect.

No other study has ever examined the *Money Priming* factor as a contributing factor for coupon usage. The finding about *Money Priming* in this study is quite interesting. Specially, this study has uncovered that coupon type does not have any impact on *Money Priming* in most of the conditions; hence, this factor did not translate to *Intention to Use*. In this case, lack of *Money Priming* is activated. In future studies with a larger

sample size, other aspects, such as brand image and price perceptions may be activated, so it would be interesting to see what lack of *Money Priming* translates into. Mobile coupons make people less money primed than paper coupons. Although the effect of *Money Priming* does not transform to the dependent variable of the study, *Intention to Use*, it may lead to a different money-related dependent variable, meaning that, if we had a money-related dependent variable, such as coupon value, perceived value of coupon, perceived price reduction, perceived savings, or anything related to money, this *Money Priming* could have impacted the dependent variable. In that case, mobile coupons could have induced *Money Priming* that translates to the low perception of the coupon value. This study has partial evidence for that claim. The impacts of *Trust* and *Less Effort* are logical to assume; however, *Money Priming* is a new and interesting process that no one has investigated before. This evidence is preliminary, and future studies should examine whether *Money Priming* has a stronger effect on some money-related dependent variables. The implications of future studies have to come from the two countervailing effects of *Trust* and *Less Effort* on coupon usage. Future studies also need to consider that couponing strategy is not so simple because many factors play a role in consumers' couponing decision-making, and there may be more than it was identified in this study.

# 8. LIMITATIONS AND FUTURE RESEARCH OPPORTUNITIES

The limitations of this study have been divided into three groups: theoretical, methodical, and practical limitations.

## 8.1 Theoretical limitations

From the theoretical perspective, a few limitations exist in this study. The result of this study illustrates that coupon type still has a significant effect, even after introducing the mediators. This result means that part of the coupon effect is still not explained with the model or that it cannot be explained. Thus, the model of this study shows only partial mediation. Additional research could explore this area. In addition, this study was designed as a cross-sectional study, which is a study of a particular phenomenon at a specific time, so a longitudinal study could be undertaken to confirm the findings of this study. This study examined three mediating variables to investigate the research questions. Researchers may initiate further research studies with additional factors to explain the coupon usage behavior better. The theoretical framework of this study was guided by TUT. Researchers may also consider prospect theory [83], self-determination theory [84], uses and gratification theory [85], or other relevant theories for their future research on coupons. Such studies may disclose new findings that could help marketers develop more effective coupon strategies that would lead to a higher usage rate.

## 8.2 Methodical limitations

Some of the limitations are related to sampling and selection of participants in the Follow-up study. Data for the Follow-up study were collected through the crowdsourcing of Amazon Mechanical Turk (MTurk), where the researcher did not

have any control over the participant selection. Convenient sampling was utilized in both the Experimental and Follow-up studies, in which all participants were recruited from the USA, thus, the possibility of sampling biases may exist in this study. New studies with probability sampling may overcome this limitation. Additionally, participants in the Experimental study were all students, which may not represent the other groups. Conducting a study similar to the Experimental study with various occupational groups may reveal new discoveries. This study did not perform any comparative analysis among multiple groups or cultures; therefore, additional cross-cultural or cross-group comparative research could be undertaken to explore more findings.

## 8.3 Practical limitations

This study found that *Trust* is the greatest barrier for coupon usage. The perception of *Trust* in couponing might vary among different cultures. Future cross-cultural research opportunities exist in examining the impact of *Trust* in couponing. Hence, due to this *Trust* factor, one could speculate that cultures that are considerably different in uncertainty avoidance of Hofstede's [86] cultural dimensions may observe differences in couponing behavior between high and low uncertainty avoidance countries. The effect of the *Trust* factor may be significantly stronger in the high uncertainty avoidance culture compared to the low uncertainty avoidance culture. Similarly, the difference in findings may be observed in the two cultures with short-term vs. long-term orientation of Hofstede's cultural dimensions related to the mindset of instant -savings vs. delayed -savings through couponing.

Another area of opportunities in couponing studies is impression management in multiple cultures. Kim and Yi [87] discovered that people from an individualistic (vs. collectivistic) society are more likely to redeem coupons, because people from an individualistic society believe that coupon redemption creates the impression of being smart, while people from a collective culture are less likely to redeem coupons in front of others, because coupon usage is perceived as being cheap in that culture. This study demonstrates that the perception of couponing in these two cultures are completely different. Future researchers may apply this research model to explore more individualistic and collectivistic cultures.

With the advent of wireless technologies, the role of the mobile phone may be strengthened in the future to the extent that some experts predict that the mobile phone will drive our lives in the future [88]. Currently, the primary uses of a mobile phone are calling, texting, picture taking, and browsing. The use of the mobile phone may be extended in the future, and it may even be considered a digital wallet. When more people start paying by phone and mobile payment becomes a common practice or when they make a closer connection between mobile payment and coupon usage, the perception of the mobile coupon may change significantly in their favor.

Adding more coupons from different product types and industries in the study could lead to additional findings as well. The *Trust* concern may disappear with the introduction of coupons from additional types of products or services. Some people

have general skepticism toward online products, but in a few years people's skepticism may disappear because they will be more comfortable with online shopping. Dynamic technological development changes people's perception about shopping. Online shopping is becoming more prevalent. The *Less Effort* effect may become stronger because electronic devices are becoming part of people's part of lives. People are getting more conversant with the digital word; thus, carrying the paper coupon and redeeming it in the store may be a huge effort for them. Because of these changes in our daily lives, conducting the same study at a later period may generate different results. Overall, the proposed conceptual model coupled with the empirical findings will open up debates about why mobile coupons hurt.

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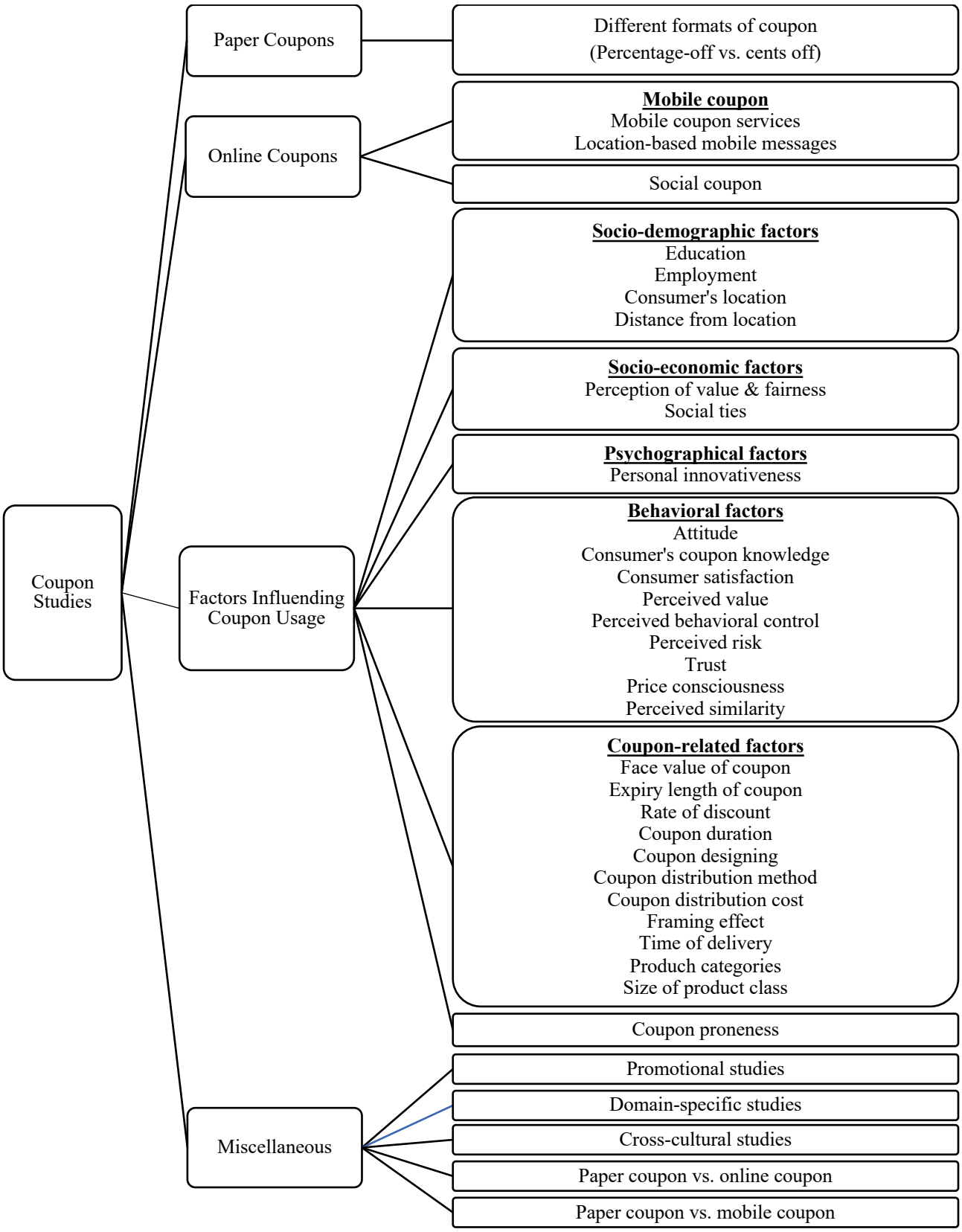
## APPENDIX A: DIFFERENT CATEGORIES OF COUPON STUDIES



## APPENDIX B: COUPONS USED IN THIS STUDY


Coupon used in the Experimental study


Coupon used in the Follow-up study

## APPENDIX C: MEASURES

| Constructs | References |
|---|---|
| **Intension to Use** | |
| INTN1: I am willing to **search** for this coupon.<br>INTN2: I am willing to share my cell phone number to receive this coupon.<br>INTN3: I am willing to open this coupon for redemption.<br>INTN4: I am willing to save this coupon for future redemption.<br>INTN5: I am willing to redeem this coupon at store. | [50] |
| **Trust** | |
| TRST1: Coupons are in general dependable.<br>TRST2: Coupons are in general reliable.<br>TRST3: Coupons are in general honest.<br>TRST4: Coupons are in general trustworthy. | [69, 79] |
| **Money Priming** | |
| MNPR1: This coupon feels like real money.<br>MNPR2: This coupon equals to money to me.<br>MNPR3: This coupon gives me the feeling of having real money.<br>MNPR4: This coupon gives me the good feelings of savings.<br>MNPR5: When I look at this coupon, I experience the same feeling as I see real money | Self developed |
| **Less Effort** | |
| LSEF1: Bringing this coupon to a store for redemption would not require any extra effort.<br>LSEF2: It would not require a lot of mental effort before going to store in order to redeem this coupon.<br>LSEF3: The whole process of redeeming this coupon would not be a cumbersome task for me.<br>LSEF4: Usage of this coupon is not time-consuming. | [33] |

# APPENDIX D: LIST OF IMPORTANT COUPON ARTICLES

| Authors | Topic | Coupon Type | Finding | Key Concepts Examined | Methodology |
|---|---|---|---|---|---|
| Mills and Zamudio (2018) | To identify the determinants of coupon redemption under competition. | Mobile | Coupon value does not have any affect on coupon redemption for new customers and it has a very low effect for loyal consumers. | Net price range, reference price, coupon value, brand loyalty, competitive intensity, and number of coupons. | Survey (N=162) |
| Kim et al. Zemke (2017) | The determinants of customers' intention to use location-based services offered by a hotel. | Mobile | Coupon proneness, familiarity, and trust positively effect people's intention to use location-based services. | Familiarity, coupon proneness, trust, and intention to use location-based services. | Survey (N=402) |
| Zhao et al. (2016) | To identify the factors that affect the intention of users to share mobile coupons (m-coupons) via social network sites. | Mobile | Trust, social ties, and perceived similarity have positive correlation with mobile coupon sharing intention. Those factors also positively influence socializing and sense of self worth, which subsequently lead to higher mobile coupon sharing intention. | Trust, perceived similarity, social capital factor, and social coupon sharing intention. | Survey (N=297) |
| Tang et al. (2016) | The impact of 2 intrinsic (i.e., socializing, sense of self-worth) and 2 extrinsic motivators (i.e., economic reward and reciprocity) on mobile coupon sharing. | Mobile | Socializing, economic reward, sense of self-worth, and reciprocity have positive influence on mobile coupon sharing in social network sites. | Mobile coupon sharing intention, socializing, economic reward, sense of self-worth, and reciprocity. | Survey (N=247) |
| Gonzalez (2016) | The influence of coupon proneness and redemption efforts on redemption intention. | Mobile | The 2 subcomponents of coupon proneness - coupon propensity and enjoyment - have direct effect on redemption intention. Influence of redemption efforts on mobile coupon redemption intention was not significant. | Coupon propensity, enjoyment, and intention to redeem mobile coupons. | Survey (N=273) |
| Authors | Topic | Coupon Type | Finding | Key Concepts Examined | Methodology |
| Liu et al. (2015) | The influence of consumers' value evaluation and personality factors on their mobile coupon adoption intention. | Mobile | Coupon proneness, personal innovativeness, and perceived value positively influence consumers' mobile coupon adoption intention. | Perceived value, personal innovativeness, coupon proneness and intention to accept mobile coupon applications. | Survey (N=271) |
| Im and Ha (2015) | Factors determining customer's intention to grant permission and role of coupon proneness and spamming fear. | Mobile | The evaluation process of a transaction through utilizing mobile coupons was confirmed. | Coupon proneness, spamming, intention to grant permissions. | Field data (N=658) |

## APPENDIX E: DEMOGRAPHIC DISTRIBUTIONS OF 3 STUDIES

| Factors | Values | Frequency | | | Percentage | | |
|---|---|---|---|---|---|---|---|
| | | Study 1 | Study 2 | Study 3 | Study 1 | Study 2 | Study 3 |
| Gender | Male | 78 | 210 | 227 | 69.6 | 48.4 | 48.8 |
| | Female | 34 | 212 | 230 | 30.4 | 48.8 | 49.5 |
| | Undisclosed | 0 | 12 | 8 | 0 | 2.8 | 1.7 |
| Age | 18 – 30 | 54 | 262 | 176 | 48.2 | 60.4 | 37.8 |
| | 31 – 40 | 22 | 125 | 184 | 19.6 | 28.8 | 39.6 |
| | 41 – 50 | 24 | 23 | 47 | 21.4 | 5.3 | 10.1 |
| | 51 – 60 | 2 | 0 | 34 | 1.8 | 0 | 7.3 |
| | Over 60 | 8 | 0 | 19 | 7.1 | 0 | 4.1 |
| | Undisclosed | 2 | 24 | 5 | 1.8 | 5.5 | 1.1 |
| Income | No income | 28 | 82 | 16 | 25.0 | 18.9 | 3.4 |
| | Less than $40,000 | 26 | 95 | 121 | 23.2 | 21.9 | 26.0 |
| | $40,001 - $60,000 | 12 | 92 | 150 | 10.7 | 21.2 | 32.3 |
| | $60,001 - $80,000 | 10 | 23 | 57 | 8.9 | 5.3 | 12.3 |
| | $80,001 - $100,000 | 10 | 34 | 36 | 8.9 | 7.8 | 7.7 |
| | $100,001 - $150,000 | 12 | 12 | 12 | 10.7 | 2.8 | 2.6 |
| | More than $150,000 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Undisclosed | 14 | 96 | 73 | 12.5 | 22.1 | 15.7 |
| Ethnicity | Caucasian | 38 | 163 | 226 | 33.9 | 37.6 | 48.6 |
| | Hispanic or Latino | 10 | 37 | 58 | 8.9 | 8.5 | 12.5 |
| | Asian | 26 | 36 | 49 | 23.2 | 8.3 | 10.5 |
| | Native Hawaiian or Pacific Islander | 0 | 12 | 2 | 0 | 2.8 | 0.4 |
| | Native American | 0 | 56 | 0 | 0 | 10.6 | 0 |
| | African-American | 10 | 46 | 44 | 8.9 | 12.9 | 9.5 |
| | Multi-Racial | 4 | 0 | 38 | 3.6 | 0 | 8.2 |
| | Undisclosed | 24 | 84 | 48 | 21.4 | 19.4 | 10.3 |

Notes: Study 1 represents Pretest, study 2 experimental study and study 3 follow-up study

## APPENDIX F: PATTERN MATRIX – EXPERIMENTAL AND FOLLOW-UP STUDIES

PATTERN MATRIX – EXPERIMENTAL STUDY

| | Factor | | |
|---|---|---|---|
| | **1** | **2** | **3** |
| LSEF_4 | .94 | | |
| LSEF_2 | .90 | | |
| LSEF_3 | .85 | | |
| LSEF_1 | .76 | | |
| TRST_2 | | .98 | |
| TRST_1 | | .88 | |
| TRST_3 | | .75 | |
| TRST_4 | | .62 | |
| MNPR_4 | | | .83 |
| MNPR_2 | | | .67 |
| MNPR_1 | | | .45 |
| MNPR_3 | | | .40 |

PATTERN MATRIX – FOLLOW-UP STUDY

| | Factor | | |
|---|---|---|---|
| | **1** | **2** | **3** |
| MNPR3 | .90 | | |
| MNPR2 | .89 | | |
| MNPR1 | .87 | | |
| MNPR4 | .87 | | |
| TRST1 | | .86 | |
| TRST3 | | .80 | |
| TRST2 | | .79 | |
| TRST4 | | .75 | |
| LSEF2 | | | .88 |
| LSEF4 | | | .73 |
| LSEF3 | | | .72 |
| LSEF1 | | | .63 |

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization