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INVESTIGATING CONSUMERS' REDEMPTION RESPONSES THROUGH THE INTERPLAY BETWEEN MESSAGE FRAMING AND PSYCHOLOGICAL DISTANCE IN MOBILE ADVERTISEMENT DESIGN

(Research-In-Progress Paper)

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Abstract

Mobile advertising is increasingly important to promote products in today's business. Despite the advancement of mobile technologies, to improve the effectiveness of mobile advertising still remains a key challenge for business practitioners due to low redemption rates. The truth lies in the means to successfully approach consumers through relevant and personalized mobile promotion messages that incentivize consumers to make the purchase. In this study, we proposed a research framework that integrates both psychological distance theory and regulatory focus theory to personalize and optimize current mobile advertisement design in order to increase consumers' redemption rates. Accordingly, we designed a set of 2X2X2 controlled lab experiments and proposed a field experiments with real merchants to test the research framework. This study is expected to provide useful insights and marketing strategies to practitioners and academic field.

Keywords: e-Business, Mobile Marketing, Mobile Advertisement Design, Construal Level Theory, Regulatory Focus Theory, Psychological Distance, Location-based Marketing

1   INTRODUCTION

With the booming of today's mobile technologies, mobile advertising becomes a new and increasingly important marketing tactic to reach customers who use mobile devices (Marketing Charts 2010). Analysts at Gartner forecast that, by 2017, the mobile advertising market will more than quadruple the total expenditures in 2012 to hit $41.9 billion worldwide. Zoller et al. (2001) categorized mobile advertising into three different types: (1) permission-based advertising; (2) incentive-based advertising; and (3) location-based advertising. In this study, we focus on location-based mobile advertising. Despite the well-developed mobile marketing infrastructure and fast adoption of mobile advertising among retailers and merchants, how to increase the effectiveness of mobile advertising is still a key challenge that practitioners are facing. The true potential of successfully approaching consumers lies in the delivery of targeted, relevant and personalized promotion messages that incentivize consumers to make the consumption.

Extant studies have focused on revealing factors influencing consumers' responses to location-based mobile advertising (e.g., Danaher et al. 2015; Luo et al. 2013; Xu et al. 2010; Lee et al. 2006; Leppaniemi and Karjaluoto 2005; Venkatesh et al. 2003). Chen and Hsieh (2012) used the fuzzy Delphi method to identify key design attributes for personalized mobile advertising: price, preference, promotion, interest, brand, and type of mobile devices. Further they proposed that consumer preferences can be pre-defined and delivered to consumers at the right time and at the right place with the right message. In a recent study that investigates factors influencing the redemption of mobile phone coupons through a large field study at a large shopping mall, Danaher et al. (2015) found where and when the m-coupons are delivered are important factors which significantly influence redemption in addition to traditional coupon features including its face value, product type, and expiry length. Hui et al. (2013) indicated that mobile phone promotions to consumers in store triggered their unplanned purchases through a simulation study. Molitor et al. (2013) reported research findings from a large of m-coupon campaigns study that the higher face value and the closer the consumer was to the store that offered the coupon, the higher intention the consumers to download the m-coupons. Luo et al. (2014) carried out a field experiment where study participants received a 50% discount from a movie cinema at three different lead times before the commencement of the movie. They found that the closer proximity to the cinema (distance), and the closer to the scheduled movie time to send the promotions (time to event), the higher likelihood of redemption rate.

Despite the extensive research on location-based mobile advertising, current findings are unable to shed light on how to develop individualized marketing strategy because of lacking individual-level studies that focus on how to design targeted, relevant, and personalized advertising that mobilizes consumers' redemption behaviour. For instance, Luo et al. (2013) encouraged future studies to examine the effects of location variables on consumers' individual-level decision making processes. Aiming to provide insights and strategies for practitioners to increase the effectiveness of mobile advertising, we propose a research framework for designing mobile advertisement. Drawing on the regulatory focus theory and the psychological distance theory, the framework suggests that matching mobile advertising's product abstractness and regulatory focus with consumers' mindsets induced by their distance and time to the merchant through message framing of mobile advertisement will affect the consumers' attitude/intention to redeem the mobile promotions and actual redemption behavior.

This paper is structured as followed. Following introducing theoretical framework, we propose a set of research hypotheses. Then we propose a study design and discuss potential study implications to the information systems field and practitioners.

2   THEORETICAL FRAMEWORK AND RESEARCH PROPOSITIONS

Our theoretical framework (see Figure 1) predicts that, in the mobile advertising context, how personalized mobile message design through message framing and product features that match consumers' temporal, spatial distance and mental construal level conditions may affect consumers' redemption intention, which further affects their actual responses to the mobile advertisements.
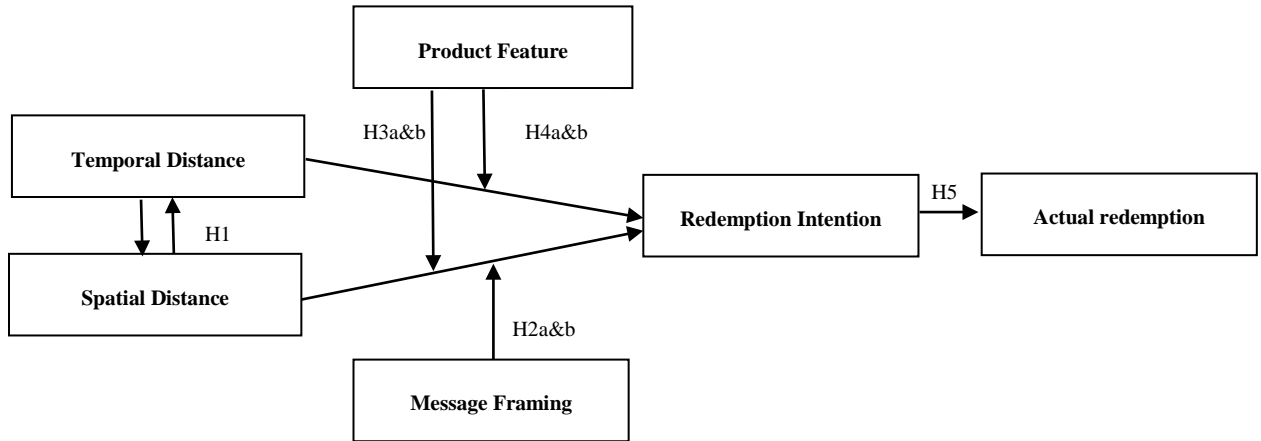

Figure 1. Proposed Research Model

2.1   The Structure of Mobile Advertising Message

In general, an advertisement message can be constructed with three segments of information. The first segment is a general description, i.e., headline of the message. Its major purpose is to draw attention and invoke interest. The second segment provides more information about the advertised product/merchant such as product features. The third segment is about the promotion information and contains information such as the magnitude of the offer and the validity of the promotion. Framing, which basically involves the process of changing perceptions, is an important marketing approach. In message framing, advertising and persuasive messages are designed to influence or tailor to consumer's mindsets and information processing styles to garner heightened attention and processing and trigger desirable behavior.

Grounded in regulatory focus theory, psychological distance, and construal level theory, we propose that mobile advertising messages can introduce three personalization features to fit consumers' unique mindsets induced by when and where they are: (1) matching between time and location; (2) regulatory focus of the messages in terms of message positiveness or negativeness; and (3) product feature's concreteness vs. abstractness.

2.2   Theory of Psychological Distance

What we can directly experience ourselves are here and now. Anything indirectly perceived causes psychological distance, which inherently relates to mental construal in our mental system (Liberman and Trope 2008). Psychological distance is regarded as the subjective distance between an actor and event in the actor's psychological space. It has four dimensions including spatial, temporal, social and hypothetical distances, which are mentally associated and have similar psychological consequences. For example, increasingly distant events can be construed more abstractly to demonstrate spatial and temporal distance, a less possible event, an example of hypothetical distance can also be described in a

more abstract style. In the location-based context, time and location have been identified as two most relevant key attributes for designing a mobile advertising message (Lee et al. 2006; Leppaniemi and Karjaluoto 2005), so we focus on temporal and spatial distance perspectives of psychological distance in this study rather than other psychological distances which are not well-developed and theorized in mobile advertising.

Temporal distance is defined as the perceived proximity of an event in time (Ariely et al. 2001; Karniol et al. 1996) and is one of the key factors that determines the level of abstraction that mental construal involves. Temporal construal theory (TCT) particularly focuses on how temporal distance from future events influences construal representation and customer judgment (Liberman and Trope 1998). It proposes that the distant future is construed in a more abstract or high level way, and the near future is constructed at a more concrete or low level. In other words, people tend to focus on abstract construals of distant future events and concrete construals of near events (Liberman et al. 2002).

Spatial distance is regarded as the distance between the individual and the focal place (Mischel et al. 1972), and is an important factor influencing psychological distance, and consequently construal level (Kim et al. 2012). In the case of mobile advertising, when consumers are distant from (close to) the merchant for the redemption and consumption, they tend to have a high (low) construal level that represents events in terms of general (specific), superordinate (subordinate), and decontextualized (contextualized) features and facilitate abstract (concrete) information processing.

Customers can receive mobile promotions anywhere on the go. A unique characteristic of mobile technology is its location sensitivity, which refers to its ability to identify the consumer's geographical location based on a global positioning system (Xu et al. 2010). Depending on the precision level of mobile technologies and the number of consumers merchants intend to target, the mobile promotions can be delivered to a relatively small area close to the merchants or a large area distal to the merchants. Luo et al. (2013) document that a mobile promotion receives more than doubled redemptions from consumers receiving it at a place close to the consumption location (200m, 10.1% redemption rate) than distant (2000m, 4.9% redemption rate). Their findings indicate consumers' distance to the merchant plays an important role in influencing consumers' consumption decisions. In a similar vein, Ping (2013) also reports that mobile coupon redemption decreases when the consumer's distance from the merchant increases.

In the location-based mobile context, temporal distance is mainly concerned with mobile promotion expiry dates, and is closely associated with spatial distance, meaning whether the customer is near or far away from the stores. Prior research indicate that temporal distance can influence customers' affective and persuasive responses to advertising appeals, which affect people's goal pursuit (Meyers-Levy et al. 1992; Zhang et al. 2007). Kim et al. (2009) found when temporal distance is low, customers' judgment or decision making on products was more associated with low-level construal features of an event rather than high-level construal features. Furthermore, a match between temporal distance and the abstractness of the message results in "feels right" customer experience (Kim et al. 2009). Therefore, the temporal distance can be used to customize the individual consumers' needs by encouraging marketers to limit the validity of the mobile promotions from a near future (e.g., valid in certain hours, dates) or a distant future (e.g., a week, a month or a year) depending on the customer's spatial distance to stores. This attempt could potentially improve the effectiveness of how customers respond to the mobile advertising, and in turn affect customers' intention and probability to redeem the mobile advertising coupons, and thus we suggest that temporal distance is an important factor that influences customer's decision making process.

Temporal distance in this context indicates an expiry period of a mobile promotion. Consumers are likely to evaluate temporal perspectives (i.e., temporally distant expiry dates) of promotion messages to decide how important it is to respond to the promotion messages (Bauer et al. 1968; Covey et al. 1996). Low temporal distance promotion (e.g., the mobile promotion expires in a few hours) informs consumers about the urgency of responding to the promotion (Covey et al. 1996). When the promotion matching consumers' consumption needs expires soon, the persuasive aspect of the temporal distance

information stimulates the urgency of responding to the promotion. However, such urgency will be more effective when consumers are within close proximity of the merchant. When consumers are far from the merchant, a relatively longer expiry period will be more effective as it can give the consumer more time to schedule their redemption activities.

Hypothesis 1: A mobile message with shorter expiry period will be more effective in affecting consumers' redemption intention when they are close to the merchant and a mobile message with longer expiry period will be more effective when they are far from the merchant.

2.3 Regulatory Focus Theory and Message Framing (Positive vs. Negative)

Regulatory focus theory suggests that people often attain their goals via two different ways (Higgins 1997). One is an approaching way whereby people pursue a promotion focus and perceive their goals with a hope and aspirations, and thus they are sensitive to the presence or absence of positive outcomes. Thus, positively framed messages highlighting the positive consequences of engaging in a particular behavior (e.g., "Capture those important moments now" as a positively framed camera advertisement) are more effective for individuals with an approaching/promotion orientation (Zhu and Meyers-Levy 2007). The other is an avoidance way whereby people adopt a prevention focus and are thus sensitive to the presence or absence of negative outcomes such as losses and failures. For individuals with an avoidance/prevention orientation, negatively framed messages stressing the negative consequences if the behavior is not undertaken ("Don't let those important moment slip by" as a negatively framed camera advertisement) will be more effective (Zhu and Meyers-Levy 2007).

We suggest that whether positive or negative framing is more effective will depend on the consumers' mindsets associated with their locations. If they are far from the merchant, they may need to energize themselves to enact the redemption process including scheduling time and physically approaching the merchant outlet. We speculate a positively framing message is more powerful in mobilizing consumers to take redemption actions. In contrast, a physically proximity to the merchant may stimulate a perception of the attainability of the benefits associated with a mobile promotion. A negatively framed mobile promotion message emphasizing the potential loss of non-redemption could exhibit heightened persuasive effectiveness.

Hypothesis 2a: A positively framed promotion message will be more effective in affecting consumers' redemption intention when the consumer is far from the merchant.

Hypothesis 2b: A negatively framed promotion message will be more effective in affecting consumers' redemption intention when the consumer is close to the merchant.

2.4 Construal Level Theory and Feature of the Product Offer (Primary vs. Secondary)

The construal level theory (CLT) (Trope and Liberman 2003) indicates that any event can be construed to (1) high level or abstract level of construals with central, abstract and decontextualized features of an event, and (2) low level or concrete level of construals containing more concrete, contextualized information including incidental or peripheral features of the event. In the product marketing context, communication will be more effective when the product is construed at a level that matches the consumer's mental construal level.

The CLT posits that one's psychological distance to a stimulus can systematically affect how people construe the stimulus (Trope and Liberman 2010). Mental construal functions traverse different dimensions of psychological distance and switch between proximate and distant perspectives on events. When distant from an event, they tend to have a high construal level and focus more on the primary overall value of the event than secondary features. However, when psychological distance decreases, the construal level shifts downward, and consequently, the effect of secondary product features will elevate. To illustrate, consider the evaluation of a restaurant. A consumer with a high

construal level will care more about its food quality than secondary features such as the restaurant's view because food quality is the fundamental attribute of the restaurant. In contrast, the effect of the restaurant's view will become more pronounced when for a consumer with a low construal level.

CLT maintains that both temporal distance and spatial distance affect one's psychological distance and consequently construal level. In the context of mobile advertising, when a message is delivered to individuals who are spatially distant from the merchant, they will likely form a high construal level of the advertised product and focus on its primary feature. Similarly, when consumers receive a mobile advertisement with a long expiry period and thus they can plan to consume it in a relatively far future, they will also construe the product at a high level. With such a high construal level mindset, consumers will focus more on the product's primary feature to make redemption and consumption decision. On the other hand, when consumers receive a mobile promotion advertisement with short expiry period or when they are close to the merchant, their redemption of the promotion and consumption the advertised product often occur within a short time frame. This short temporal or spatial distance promotes a low construal level, making consumers focus less on the product's primary feature. Consequently, the effect of secondary product feature is more likely to emerge.

Hypothesis 3a: A mobile promotion message that emphasizes the product's primary features will be more effective in affecting consumers' redemption intention when the consumer is far from the merchant.

Hypothesis 3b: A mobile promotion message that emphasizes the product's secondary features will be more effective in affecting consumers' redemption intention when the consumer is close to the merchant.

Hypothesis 4a: A mobile promotion message that emphasizes the product's primary features will be more effective in affecting consumers' redemption intention when the promotion has long expiry period.

Hypothesis 4b: A mobile promotion message that emphasizes the product's secondary features will be more effective in affecting consumers' redemption intention when the promotion has short expiry period.

2.5 Covariates and Degree of Actual Redemption Behavior

Prior research in mobile marketing (Bart et al., 2014; Dickenger and Kleijnen, 2008; Fong et al., 2015; Hui et al., 2013; Luo et al., 2014; Molitor et al., 2013; Danaher et al., 2015) has identified a number of general background and customer preference factors that can significantly affect consumers' actual redemption behaviour, for example, gender, age, income level, deal seeker, product type and features, brand preference, computer proficiency, and their prior experience of redeeming certain coupons etc. In this study, we consider to use all these identified factors as our covariates in addition to consumers' perception of intrusiveness and privacy invasion (McCoy et al., 2008; Xu et al., 2010). Further, merchants generally have two options to entice consumers to respond to their mobile advertisements (Haig 2002, Dickinger and Kleijnen 2008). One is to stimulate impulsive unplanned buying by giving consumer certain price discounts (i.e., face value) and other personalized features. Presumably, the larger discount or face value, the more positive response merchants can expect. The second is to promote products that meet consumers' needs. Merchants can understand consumers' shopping habits and product preferences by explicitly asking consumers to provide when they subscribe to certain mobile services or through analyzing their historical consumption or redemption records (Luo et al. 2013). This understanding enables merchants to match product offers with consumers' personal needs. Both options cause the merchant to incur implementation costs. On one hand, high discounts would encroach on the merchant's profits. On the other hand, collecting and analyzing consumer habits and preferences would require the merchant to invest in certain consumer analytics technologies to study and predict consumers' personal needs. To derive the optimal value from mobile advertising, the merchant may face a trade-off decision as to which option to use to attract consumers. Not

surprisingly, once consumers' impulsive shopping behavior is triggered and the mobile advertisement matches their consumption needs, it is likely that they may intend to redeem mobile coupons.

Once their attitude/intention is positive, consumers' actual coupon redemption may occur. Therefore, we propose:

Hypothesis 5: Consumers' positive intention toward mobile coupon redemption is likely to lead to their actual coupon redemption behavior.

3   STUDY DESIGN

We intend to carry out a set of empirical studies, consisting of both laboratory and field experiments, to test our hypotheses.

3.1   Design of Lab Experiments

In lab experiments, we plan to design and implement a mobile advertisement messaging system for a restaurant, which can be run in multiple mobile platforms. In order to ensure the validity and reliability of constructs and test the proposed hypotheses, this study will utilize several rounds of data collection.

3.1.1   Experiment 1

In experiment 1, we will test the interaction effect between temporal and spatial distance as well as the effect of message framing on mobile coupon redemption intention.

We will recruit study participants to first run a 2 (Temporal Distance: Present vs. Future) X 2 (Spatial Distance: Distant vs. Close) X 2 (Message Framing: Positive vs. Negative) lab experiments based on our research framework.

Subjects will first fill out a pre-survey on their demographics, background and consumer preferences information, and then will be given vignettes describing they receive a mobile advertising message from a restaurant. The mobile advertising framing, their distance to the merchant, and mobile advertisement expiry date will be manipulated.

For the manipulation of framing, in the positive condition, the message will say "Grab the opportunity for this rare offer," and in the negative condition, the message will have "Don't miss this rare offer". For spatial distance manipulation, in the close condition, they will be told there are within a five minute walk distance to the merchant. In the distant condition, they will be told they are about 2000m away from the merchant and need to take about 45 minutes to get to the merchant. They will also be given different maps showing their and the merchant's locations. For temporal manipulation, in the present condition, the mobile advertisement will expire on the same day when users receive it, and in the future condition, the mobile advertisement will expire in 3 months.

3.1.2   Experiments 2&3

In experiment 2, we will test the interaction effect between spatial distance and product feature (H3a&b), and in experiment 3 we will test the interaction effect between temporal distance and product feature (H4a&b). Thus, we will run two separate 2X2 experiments.

As with experiment 1, a different set of subjects will first answer some questions about their demographic properties, then be given vignettes describing they receive a mobile advertising message presenting a promotion for a restaurant for the experiments 2 and 3. The restaurant's feature and subjects' distance to the merchant will be manipulated in experiment 2 and the restaurant's feature and the mobile advertisement's expiry period will be manipulated in experiment 3.

Experiment 2 and 3 will adopt the same manipulation for the restaurant's features from the first experiment. The message emphasizing the primary feature of the restaurant will read "its food quality

has been rated highly and people always recommend it for its high level of food quality," and the message highlighting the secondary feature will read "its view has been rated highly and people always recommend it for its excellent view."

The manipulations of spatial distance in experiment 2 and temporal distance in experiment 3 will follow their manipulations in experiment 1, respectively.

In both experiments, to investigate the covariate effects of price discount/face value, we will vary mobile messages by the magnitude of discount and its congruence with study participants' personal needs (pre-tests will be conducted prior to the experiment to solicit participants' needs). In all experiments, participants will be asked to fill out a post-questionnaire by indicating the likelihood of redeeming the mobile advertisement, when they would redeem, the attitude to the mobile advertising, the attitude to the product/merchant, their perceptions about the effectiveness of mobile advertisement design. The design of specific experiment stimuli and materials is currently underway.

3.2 Design of Field Experiment

Once we complete our pilot lab experiments, we also plan to seek some merchants' cooperation to conduct real-world field experiments. We will work together with the merchants to design mobile promotions with varying message framing (i.e., regulatory focus: positive/negative, expiry period: present vs. future, and product feature presentation: primary vs. secondary). When consumers come to redeem the mobile promotion advertisement, they will be asked to answer some questions (e.g., locations where they have received the mobile promotion that will be used to gauge their distance to the merchant; thoughts they have given to the various mobile promotions, views on the effectiveness of mobile advertising design, etc.)

Across all studies, we will also include a set of control variables such as demographic data (e.g., age, gender, education level,), personality and trait (e.g., deal seeker, impulsivity), product-related factors (e.g., product knowledge, brand knowledge, loyalty), and general responses to mobile advertising (e.g., perceived intrusiveness, privacy concerns).

4   THEORECTICAL AND PRACTICAL CONTRIBUTIONS

Our proposed framework is a timely response to the research call to further understand how to effectively design personalized mobile advertisements. First, it structures a mobile advertisement to message delivery and technological delivery and proposes different approaches for the two deliveries to improve the overall effectiveness of mobile advertising. For message delivery, grounded in regulatory focus, psychological distance and construal levels of theories, our proposed study will also provide insights on how to design personalized mobile advertising messages to match their consumption needs and trigger their impulsive shopping behavior. By doing so, we contribute to the field of mobile marketing and information systems through effectively structuring and enriching mobile personalized messaging design based on consumers' location, time and construal levels in order to fit individual consumers' mindsets, and in turn increase the overall mobile advertising effectiveness and consumers' redemption rates to mobile advertising. For technological delivery, our study has the potential to provide useful and practical insights for mobile advertising practitioners on how to better engage today's mobile users to increase their sales and better serve their consumers by inducing an overall liking of the mobile advertisement.

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