Study on Location-based Advertising Optimization Model

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Abstract. This paper describes the present status of development of mobile advertising and analyzes the existing problems of mobile advertising. Based on the research results of domestic and foreign scholars, the paper summarizes three main influence factors of LBA: Context, content and consumer and comes up with 7 managerial implications. On basis of analysis of the factors of LBA, LBA optimization Model is built. Accordingly, the paper proposes the 3C optimization strategy of LBA. That is context marketing, content marketing and one-to-one marketing, which offers companies specific rules and advice in putting LBA into practice. Context marketing highlights that marketers should pay more attention to the consumers’ scenarios. Content marketing lays stress on the information the LBA delivers. One-to-one marketing emphasizes the variety of LBA receivers and the personalized pushing. The 3C optimization strategy of LBA, aims at making the theory of LBA more systematic and helping marketers take specific measures to boost the effect of LBA.

Introduction

Along with the rapid development of mobile communication technology, mobile advertisements have gained tremendous advantages the traditional advertisements couldn’t get by the aid of the technology of GPS and the big data analysis. For example, LBA, a kind of personalized SMS advertisement which is designed based on the location of the consumers and is pushed to your phone, is more effective than the aimless advertisement. However, there is little knowledge about the accurate results of pushing the mobile advertisements, particularly when we need compare them with traditional advertisements.

In recent years, many researchers pay a lot of attention to LBA. Banerjee and Dholakia (2008) indicated that where the receivers are and what they are doing would influence the effect of the ad, the evaluation of the brand and the willingness to the positive respond to the ad. The result of the experiment of Xu et al. 2009 shows that LBA could bring about more positive attitude to the purchase intention. Furthermore, they demonstrate that the effect of the multi-media is proved to double-edged: on the one hand, it means higher degree of interference; On the other hand, the multi-media can improve the amount of information and the value of entertainment in LBA (Xu et al. 2009).

Accordingly, LBA can precisely find the purchasers of the products and services, and it can positively turn the ads into real sales and help build up a more efficient profit mechanism and business model. However, the inference of information can reduce the effect of the LBA, so when we make the best of the effectiveness of the location of the consumers, what denoise methods we should take and how to improve the effect of LBA to the most extent, is the focus of this paper. In the aspect of the context, content and consumers, this paper makes a summary of the main research findings and turn them into managerial implications as reference for enterprises.

The Influence Factor Analysis

LBA is a kind of advertisements pushed to consumers based on the location. Some analysts estimated that the LBA would gain the click rate 5 times as much as that of the Internet ads. Many researches demonstrate the good effect of LBA (Bruner II and Kumar 2007). Gopal and Tripathi (2006) found that the distance between the location of the shops and where the ads are sent has a significant impact.
on the response of the ads-receivers. Therefore, the influence factor analysis of the effect of LBA has
great importance on the strategy Deployment of LBA. This paper sums up the following three main
factors: Context, Content and Consumer.

**Context**

**The Influence of Distance.** First of all, it is the influence of the physical distance. In the short
physical distance of LBA (that is the distance between the location of consumers and the location of
the products and services the ads promote), it’s convenient for consumers to reach the shops and take
contextualized benefits which can be gained instantly can contribute to improving the
purchase(Prelec and Loewenstein 1991). In contrast, in the long physical distance of LBA, consumers
can get little contextualized benefits (Goodman and Malkoc 2013; Liberman and Trope 2008).
Therefore, the shorter the distance of LBA is, the better effect of LBA is.

Secondly, that’s the influence of the temporal distance. Marketers can control the time of receiving
the ads precisely (Prins and Verhoef, 2007) and it can improve the effect of LBA (Hui, etc, 2013). Hui
pointed that the in-store real-time targeting mobile coupons can give consumers big surprises.
Meantime, in short temporal distance, real-time insight can bring about real-time purchase
(Macdonald et al. 2012).

Lastly, that’s the influence of the social distance. The researches on LBA pay more attention to the
physical distance. Few researchers are aware of the influence of the social distance. A big advantage
of LBA is the social interaction between brands and consumers. Marketers can provide personalized
one to one services and recognize the consumers who have close relationship with the brands with the
help of mobile communication technology. However, the existing researches on the social distance
are not sufficient nor perfect, and especially they don’t put physical distance and temporal distance
into consideration. Previous studies have demonstrated that good relationship between consumers
and brands can increase the purchasing frequency, purchase quantities and the willingness of paying
the premium prices. In other words, the closer relationship between consumers and brands is, the
shorter the social distance is, the more likely consumers would purchase the products and services the
LBA promotes.

Based on the above literature review, we can get the following managerial implications:

P1: Besides the physical distance, the psychological distance also includes the temporal distance
and social distance. Thus, marketers can not only find the targeted consumers based on the distance
between the location of the consumers and the location of products and services, but also marketers
have to precisely control the time when consumers receive the ads and cut down the social distance by
recognizing the consumers who have close relationship with the brands through the big data analysis,
so that the companies can make the LBA targeting more precise and purchase quantities can be
improved.

**The Influence of Environments.** The consumers surrounded by the crowding environments make
more positive respond to the LBA. The result of an experiment 14972 mobile phone users involved in
shows that, the passengers in the more crowding subway is twice likely to purchase the products the
LBA promotes as much as that in the spacious subway.

As the degree of crowding of the environment increases, personal physical space is invaded and
people would adapt by turning inwards and becoming more responsive to mobile ads, because
crowding can elicit negative emotions, such as anxiety and risk aversion. The finding show an
interesting and positive aspect of the crowding: Reading LBA is a good way to relax in a crowding
environment.

Based on the above literature review, we can get the following managerial implications:

P2: To a certain extent, in the more crowding environment, consumers would turn their attention to
the mobile phones, so the LBA pushed to consumers in the crowding environment can received more
positive respond from consumers. What’s more, the crowding environment can make consumers
anxious so that it can lead consumers to impulse consumption. Therefore, this commuting time in the subway can be a gold mine in urgent need of development for marketers. If marketers have a knowledge about consumers’ daily routine and activities, marketers can precisely push the LBA which is more accord with the need of the consumers to the mobile phones during the valid time period.

The Influence of Competitive Strength. As for the competition, the study shows that, because of the extra interference, the competition can lead to the reduction of the effect of the LBA (e.g., Danaher, Bonfrer, and Dhar 2007; Vakratsas et al. 2004). So the effect of the ads presents a downward trend when the competition involves.

If consumers can get a few ads, they are more likely to pay more attention to a certain LBA, and more likely to make a respond to the LBA. If consumers are surrounded with a massive information beyond the limitation of their cognitive processing, they would glance through the LBAs or ignore them, and then the LBAs the brand carefully crafts will drown in the tremendous amounts of information.

Based on the above literature review, we can get the following managerial implications:

P3: Consumers arriving in a certain location, a amount of information would flood into their mobile phones. Ordinary and tedious ads must be ignored by consumers and can’t be turned into the real purchasing. Thus, marketers have to have a thorough analysis of other competitors and have a deep insight in what consumers need so that the advantages of the products or services can stand out in the ads and catches consumers’ eyes.

The section headings are in boldface capital and lowercase letters. Second level headings are typed as part of the succeeding paragraph (like the subsection heading of this paragraph).

Content

The Influence of the Types of Information. Many researches show that dynamic information in ads could get different effect of the LBA (Bass et al. 2007; Chandy et al. 2001; Eastlack and Rao 1986, 1989; MacInnis, Rao, and Weiss 2002; Tellis, Chandy, and Thaivanich 2000). Especially the content of the ads could exert noticeable impact. Chandy and his partners (2001) find that the ads about the product introduction can take effect in the new products, but emotional ads work better in the mature market and products with great appeal to emotion (e.g., Becker and Murphy 1993; Comanor and Wilson 1974). MacInnis, Rao and Weiss (2002) have a similar conclusion that emotional information is more effective in the mature products. Similarly, Bass and his partners (2007) suggest that the influence of the emotional information vanishes more slowly than that of the rational information. Based on the above literature review, we can get the following managerial implications:

P4: In different stages of the product life cycle, different advertising elasticities convey different results. Therefore, the content of the ads have to make changes in different stages of the product life cycle. When designing the ads of the new products, the ads lay stress on the functions of products and attracts consumers’ eyes by showing unique attributes of products. As for mature products, marketers can add more emotional information to the ads so that it’s easier for consumers to accept the ads.

The Influence of the Traits of Information. Tsang et al (2004) find that entertainment, trustworthiness, interference and the amount of information can exert important impact on the mobile ads. When Chowdhury et al (2006) was doing some researches on the factors which influence the degree of consumers accepting the mobile ads and he finds that, in the following factors: entertainment, trustworthiness, interference and the amount of information, only trustworthiness can have a significant impact on the consumers’ attitude to the mobile ads. Merisavo et al (2007) confirm 5 driving forces of the acceptance of the mobile ads: (1) Utility; (2) Content; (3) Control; (4) Contribution; (5) Trust. Van der Waldt et al (2009) state that young consumers in Africa take a negative attitude to the mobile ads and the overall attitude of consumers to the mobile ads is related to the entertainment, trustworthiness and interference of the mobile ads. Saadeghvaziri and Hosseini (2009) have made an investigation about the influence factors that inspire consumers’ positive
attitude to the mobile ads, and as the result shows, Personalization, the amount of information, interference, trustworthiness, entertainment and the monetary benefit of the mobile ads are important factors.

Based on the above literature review, we can get the following managerial implications:
P5: 5 traits of LBA can exert important impact on consumers’ acceptance of LBA, and trustworthiness in particularly. Thus, marketers must design the content of the ads based on the facts of the products. The misleading and false advertising can make consumers disgusting. So marketers simplify the content of LBA relying on what consumers really want and what the products can really provide and build up a personal pushing system.

Customer

The Influence of the Variety of Receivers. The effect of LBA varies across the consumer group division. Information search and memory play a role in different effect of LBA between expert users and rookie users. Expert users are good at categorizing or indexing information so that they can find useful information quickly and purchase what they want easily. Empirical Study of information search points out the double benefits of specialization. On the one hand, specialization can boost the processing of information, and it automatically increases the amount of information searching; On the other hand, specialization advance the more effective search, and it automatically decreases the amount of information searching. So the expert users can make a easy decision of purchase by gaining more useful information nearby, but as for rookie users, they have little knowledge about the traits of the products and they have to spend more time on information searching to make the final decision.

Based on the above literature review, we can get the following managerial implications:
P6: Expert users and rookie users have different way to processing and coding the information of LBA, so they will have different perception about the usefulness of LBA and have different attitude to the LBA. Therefore, marketers can acquire consumers’ familiarity about products by making a deep dig into the consumers’ purchase record of the same category of products, so that marketers can divide the consumers into expert users and rookie users and design different content of LBA. As for expert users, the information of LBA have to be more simplified and more targeted to the consumers’ need. As for rookie users, the information of LBA have to be more professional so that it can reduce the time of processing information.
Construction of Optimization Model of LBA

This paper makes a summary of 6 managerial implications on the basis of the journals reviewed and case analysis. In the aspect of the context, content and consumers, this paper puts together the 6 managerial implications and construct the optimization model of LBA. Based on the model, we can draw the following the optimal LBA strategy: (1) Context Marketing: Make an analysis of the impact of the psychological distance, crowding and competition, and optimize the context of consumers’ receiving LBA; (2) Content Marketing: Based on the reality of the products, marketers can push different types of LBA in different stages of product life cycle. (3) One to one Marketing: By aid of the big data, divide the consumers into different consumers types and built up a one to one personal pushing system.

Summary

The combination of the Internet and mobile device provides people with an main way to acquire information and provides the companies with an effective and convenient marketing channel of promoting their products and service. Under this background, mobile ads enjoy a rapid growth, turning into the most promising area in the mobile marketing. Along with the development of the mobile communication technology, the LBA can realize a great accuracy in targeting the targeted consumers by aid of the GPS and big data analysis, so LBA enjoys tremendous popularity in marketing.

LBA is the advertisement pushed to the consumers based on the distance between where the consumers are and where the products and service can be purchased. In the aspect of context, content and consumer, the paper comes up with 3 optimal strategies of LBA: 3C strategy. That’s context marketing, content marketing and consumer marketing.

Context marketing highlights that marketers should pay more attention to the consumers’ scenarios. One of the influence factor in the effect of LBA is the psychological distance between consumers and products or service, so when marketers gain the consumers’ physical distance and temporal distance, the relationship between consumers and brands can’t be ignored. Crowding can elicit some negative emotions like anxiety. Pushed to consumers in the crowding environment, LBA could get higher response rate, because reading LBA can be a good way to help consumers avoid from the crowding environment and relieve tension, but the LBA must be designed to be so original and creative that it can catch consumers’ eyes in the highly competitive market.

Content marketing lays stress on the information the LBA delivers. The information of LBA should vary across the different stages of the product life cycle. The LBA of new products and service can deliver the rational information about function introduction to consumers, and the LBA of mature products can impress consumers with emotional information. Whatever information the LBA delivers, the information should realize denoising. On one hand, the LBA based on the reality of products, marketers should make the key points of LBA stand out. On the other hand, the consumers’ privacy should be attached great importance and the interference of LBA should be reduced.

One-to-one marketing emphasizes the variety of LBA receivers and the personalized pushing. The familiarity of consumers on the products and service exert important impact on the way consumers process information and the consumers’ attitude to the LBA. Therefore, marketers should make an analysis of the consumers’ knowledge on products by digging into the consumers’ purchase record of buy the same kind of products and divide the consumers, and on the basis, the content of LBA should be personalized.

In summary, the paper aims at providing optimal strategy of LBA based on reviewing the relevant research results, making the theory of LBA more systematic. It provides marketers with 3C optimal strategy of LBA to boost the effect of LBA.
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References