



# Future Trends of Mobile Advertising in E-commerce

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**Abstract— Rapid development and adoption of mobile devices and apps have become a phenomenon in past decade, which creates a new and huge opportunity for advertising and e-commerce. Mobile advertising has attracted attention from almost all industries especially from retail industry. This report aimed to investigate the latest progress, future trends and challenges of mobile advertising in e-commerce. Based on a literature review, the report described the importance and advantages of mobile channel: ubiquitous, life on the screen, and enhancing brand loyalty and spending. Then the report discussed and findings and presented future trends (fluent native design, opportunity with mobile wearable, and personal interactive search engines) and challenges (consumer learning and poorly designed apps disengage consumers) of mobile advertising with recommendations made for advertisers**

## I. INTRODUCTION

Consumers worldwide have rapidly adopted smartphones and tablets and mobile apps since Apple introduced iPhone to the market in 2007. The speed of adoption of mobile devices and apps accelerated exponentially in the past few years (Insight, 2013). As a matter of fact, the quantity of apps available for download in leading app stores as of July 2015 exceeded 1.5 million for both Android and Apple ("Number of apps available in leading app stores as of July 2015," 2015). Along with the extensive adoption of mobile devices and apps, mobile advertising has emerged as a new channel to strengthen the brand, consumer relationship, and eventually profit growth (Bellman, Potter, Treleaven-Hassard, Robinson, & Varan, 2011). Given the amazing speed of development in mobile and internet area, the related study should be updated periodically. Therefore, this report targets to review and study the latest progress and future trends of mobile advertising in the e-commerce industry and to make relevant recommendations to the organizations that want to leverage the power of the mobile commerce.

Concerning the structure of the report, section 2 reviews the related literature published in past few years. Section 3 describes the methodology of the formulation of this report. Section 4 discussed the findings and made several recommendations in terms of both future trends and challenges in mobile advertising and mobile commerce. Section 5 concludes the report with summaries of key findings as the answer to the research question.

## II. REVIEW OF LITERATURE

### A. Mobile as a new advertising channel

Advertising plays a crucial role in marketing execution by attracting and persuading the consumers to try and buy the products or services offered by companies. With the rapid development of mobile devices and mobile apps, mobile advertising or advertising via mobile apps have provided a new approach and channel for companies to further enhance their brand and increase their influence on consumers' buying decisions. Before the emergence of mobile advertising, newspapers, radios, televisions, internet on PCs had been the major channels for

advertising. However, none of these channels has the ubiquitous nature of mobile channel whereby people can access anytime, anywhere. Mobile devices and apps enable consumers to learn and buy a product or service immediately and at places where none of the other channels are accessible (Taylor et al., 2013).

### B. Multi-channel Synergy

According to a recent study on mobile commerce of online grocery shopping, consumers tend to go back and shop in the retailer when they installed the mobile app of online shopping (Wang, Malthouse, & Krishnamurthi, 2015). Moreover, consumers who use more channels to shop generate more sales than those who use fewer channels. Figure 1 below shows the impact of multi-channel purchasing to sales value and purchase frequency (Kim, Wang, & Malthouse, 2015). The charts show that consumer group using "All Devices" generated the highest order value without a reduction in order frequency, i.e. consumer group using multi-channel contributed highest sales for the retailer. The study found that the new mobile channel and mobile commerce created synergy for multi-channel revenue generation.

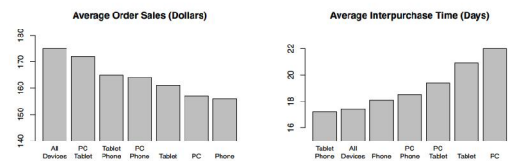


Figure 1. Consumer behaviour by Channel use

Note. The data were collected from a primary U.S. online grocery retailer from July 2011 to June 2013

### C. Advantages of Mobile Channel

#### a) Ubiquitous

Ubiquitous has been perceived as the most recognized characteristics of mobile channel. According to Oxford English Dictionary, ubiquitous means "to be everywhere at once" or be "seen or encountered everywhere." In the context of advertising, the ubiquitous nature of mobile channel means that it's continuous, immediate, portable, and searchable (easy to find required information). All these attributes differentiate the mobile channel from other advertising channels such as newspaper, radio, televisions as well as PCs (Okazaki & Mendez, 2013). The authors of the accepted manuscripts will be given a copyright form and the form should accompany your final submission.

#### b) Life on the screen

Using mobile devices and apps has become part of the life for many consumers today - "life on the screen". Different from other kinds of electronics or media, mobile devices and apps are personal. People use it for taking photos, recording videos, listening to music, watching videos, reading books, playing games, social networking, navigating to new places, managing bank accounts, and making on-line transactions. Most of these activities have an emotional and



personal connection with the user, so the mobile devices and apps are not only “tools” but also part of their lifestyle that provides a unique experience to users (Bell, 2006). Many social media mobile apps provide discount offers and support sharing these offers among friends. A lot of apps give discount codes, coupons, or free vouchers as an incentive for users to install the app and start building a long-term relationship with users (Aksoy et al., 2013). Another study in Hong Kong showed that the top reasons for people to use mobile phones and apps are: 1) looks fashionable, 2) shares feelings with family and friends, 3) kills time, 4) manages personal finance, and 5) has a sense of security (Nysveen, Pedersen, & Thorbjørnsen, 2005).

c) Increase of brand loyalty and spending

A recent study was done to show the revenue impact to a brand from mobile app adoption (Kim et al., 2015). According to the study, the consumer group who downloaded the branded app started to have a higher level of spending than the other group who had the same level of spending earlier but did not download the app. Figure 2 below showed the interesting finding: the spending level (gauged by Point Accrual in the chart) of the app adopters raised after they started to use the app. In addition, the effect was instant and maintained for several months.

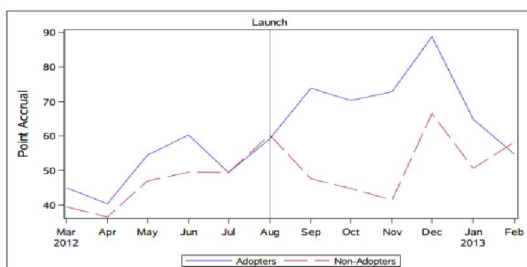


Figure2. Impact of mobile app adoption to brand's revenue

Note. The data were collected from a large loyalty coalition firm between March 2012 and February 2013.

### III. RESEARCH METHODOLOGY

This report used the qualitative research method. Firstly, a literature review was conducted to summarize the key points presented in related studies during past five years. Secondly, research gaps were identified based on the literature review and the research question were confirmed. Thirdly, a thorough discussion was done on the research topic by comparing, synthesizing, and critiquing the findings from the literature review. Last but not least, the research question was answered by presenting the future trends and challenges in mobile advertising with relevant recommendations.

Concerning the scope of the report, the investigation was limited to overall mobile advertising channel and retail industry. As discussed in section 2, mobile advertising was mainly targeted to individual consumers instead of corporates, so the retail industry is naturally most relevant for this research.

### IV. DISCUSSION

Based on the literature review in section 3, this section discusses the findings and makes several recommendations in terms of both future trends and challenges of mobile advertising and mobile commerce.

#### A. Future Trends

##### a) Fluent Native Mobile Advertising

In the context of mobile commerce, native advertising means that the form or the look and feel of the advertisement is native and natural on a mobile device so that it creates a comfortable and fluent user experience to consumers. The design of the mobile advertising must consider the characteristics of the mobile device, e.g. smaller screen, touch-based input, relatively unstable internet connection, relatively weak computing power, location awareness, etc. In other words, the design and functionality should give consumers a native, natural, fluent, and joyful user experience. For example, the web content should be designed to fit the screen size of the mobile device, font type and size should be tested to ensure good readability, large image and videos should be replaced or skipped, content should be tested so that it's supported by major mobile browsers, etc.

##### b) Advertising Opportunity with Mobile Wearable

All major smartphone manufacturers have introduced and promoted wearable mobile devices since 2014, which creates new opportunities for mobile advertising. Traditional fitness gadgets monitor and track users' health status and habits, while mobile wearable can do more. Mobile wearable enable continuous connectivity of users' digital life – messages, emails, social network and locations. The above characteristics of mobile wearable can provide interesting advertising opportunities that enhance the brand loyalty and relationship by triggering contextual advertising, which cannot be realized by smartphones alone. For instance, the advertiser can send a congratulatory message with a voucher of related product to an in-store consumer who has reached a fitness goal. In this example, a location-based, contextual, targeted advertising was triggered based on the data from mobile wearable, which can potentially create new sales opportunities and attract new customers.

##### c) Personal, Interactive Mobile Search Engines

Studies above in section 3 showed that mobile webs and apps have been attracting more and more traffic of internet in past few years, so the next question is how the search engines can embrace this trend and new opportunity. Traditional search engines depend on keyboards and mice as input devices while mobile search engines have to rely on touch screen input that is not as convenient as keyboards and mice. To address this challenge, a few innovative input techniques have been introduced such as enhanced predictive keyboard, voice recognition input, and machine learning, which can help ease the input process for users. For instance, instead of using touch screen typing, users would just speak to the mobile search engine and ask where to buy a certain product or service. Ideally, the search engine would come back providing search results with personalized recommendations such as open hours, telephone numbers, and route proposals. Then with further instructions from



users, these recommendations should integrate and trigger needed smartphone functionalities or apps: phone call, map, navigation, etc.

#### B. Challenges

##### a) Consumer Learning

Before consumers make a purchase decision, the learning to understand the value of the product or service is required. The length of the consumer learning process depends on the overall image of the brand, pricing of the product or service, the cycle of consumption, word of mouth marketing, etc. In section 3 we discussed on the multi-channel synergy, which showed that depending on a single channel is not the optimal approach for completing consumer learning process. Therefore, the advertiser must consider and implement a multi-channel strategy to ensure the consumers can understand the value of the product or service, (e.g. through printed material, televisions, and PC internet channel), rather than solely rely on mobile advertising.

##### b) Poorly Designed Apps Disengage Consumers

Given all the advantages of mobile apps, more and more companies tend to develop their own branded app to further enhance the brand and consumer relationship. However, studies showed that a poorly designed app disengages consumers with the brand (Kim et al., 2015). If consumers found an app did not add value, then they would not use it and finally uninstall it from their mobile devices. This negative feeling affected the overall image of the brand which in turn had a negative impact on the sales of the brand. Therefore, a company should do sufficient user studies and ensure that the app would be of high quality and add value to consumers before it introduces the app to the market.

#### V. CONCLUSION

The report introduced the overview of mobile advertising, including the characteristics of mobile channel. From literature review, the importance of mobile channel was described, and the advantages of mobile channel (ubiquitous, life on the screen, and enhancing brand loyalty and spending) were discussed. Based on the literature review, the report gave a further discussion and presented future trends (fluent

native design, opportunity with mobile wearable, and personal interactive search engines) and challenges (consumer learning and poorly designed apps disengage consumers) of mobile advertising, and recommendations were made for advertisers.

Regarding future development in the research area, the suggestion is to investigate further how much the mobile channel contribution are in different advertising channels with quantitative analysis, as this report only limited to qualitative analysis of future trends of general mobile advertising.

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