

The Effect of Mobile Apps on Gen Z's Intention to Download Apps in Malaysia

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Abstract Mobile apps is becoming more popular than desktop application usage nowadays. The designs of mobile apps needs to produce the most desired amount of downloads. This paper explore the attractiveness of mobile apps on Gen Z's intention to download the apps. Lack of study in literature review on mobile apps' download, therefore the findings provide an exploration on effective marketing mix to increase mobile apps downloads. Theory of Reason Action (TRA) will be able to analyze the attractiveness of mobile apps designs on the Gen Z's intention to download the mobile apps. Simple random sampling techniques was used and self-administered questionnaire was distributed by mail to students. The research findings provide the information academically and practically for industry regarding the designs of mobile apps and the intention to download by Gen Z.

Keywords Mobile Apps, Gen Z, Marketing Mix and Malaysia

1. Introduction

In recent years, the increasing number of smartphone subscribers has driven the usage of mobile application software for mobile devices, commonly referred to as mobile "apps". Originally, "app" referred to software for general productivity and information retrieval purposes, including email, calendar and contact management, and stock market quote and weather information lookup. However, a huge surge in user demand and the widespread availability of developer tools has driven a rapid expansion to include other categories of apps including games, e-books, utilities, social networking platforms and others providing access to information on business, finance, lifestyle and entertainment.

The global mobile app market is expected to reach US\$25 billion by 2015 (Markets and markets, 2010). In-Stat (2011) also projects 48 billion mobile application downloads annually by 2015. Despite the explosive growth of mobile application downloads, free apps accounted for up to 89% of global downloads in 2012 (Gartner, 2012), indicating that the market for paid apps is still in its infancy.

According to Gupta (2013), the average smartphone user spends 82% of his mobile minutes using apps, with the remainder split between calling, e-mailing, and texting. Each of the leading smartphone operating system providers (Android, iOS, Windows Mobile etc.) also hosts an app marketplace from which users can download apps (Google

Play, App Store and Windows Phone Store). To attract more users, many app publishers offer a basic/trial version of their apps for free and then charge a fixed monthly subscription fee for premium services. Others offer the full version for free and derive their revenue from advertising or in-app purchases that unlock additional functionality such as advertisement removal or value-added content. Therefore, to reduce risk and uncertainty in buying a paid app, users generally start by using a trial or free version of a paid app first to become familiar with its content and functionality. Based on this initial experience with the trial or free version, they then determine whether or not to purchase the paid version (Whitfield, 2013). This is a typical digital business strategy for content providers (Singer-Oestreicher and Zalmanson, 2013). Consequently, the factors that contribute to user intention to purchase paid apps are an important consideration for app publishers and marketers.

The purpose of this study is to examine apps users' purchasing intention by modifying and extending the Theory of Reasoned model (TORA). Technology use research often focuses on the antecedents associated with intention to use a specific technology, or the actual use of such technology. Theories developed to explain this phenomenon include the technology acceptance model (Davis, 1989), the theory of reasoned of action (Ajzen and Fishbein, 1980; Fishbein and Ajzen, 1975), the theory of planned behaviour (Ajzen, 1991). More recent efforts reflect an attempt to apply these theories in an m-commerce setting. For example, Rao and Troshani (2007) develop a model of adoption intentions based on perceived usefulness and perceived ease of use, along with user predisposition and social influence. Maity (2010) extracts TAM-related factors, i.e. perceived usefulness and

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ease of use, as well as subjective norms, behavioural controls, self-efficacy and the role of alternate channels, from qualitative data on m-commerce usage. Khalifa and Shen (2008) apply the theory of planned behaviour – an extension of the theory of reasoned action – to develop an m-commerce framework, with adoption as the behavioural outcome predicted by perceived consequences of adoption, attitude and subjective norms. These studies, though, examine the antecedents of technology use without considering how respondents expect the technology to perform specifically.

In addition, previous studies have verified that the determining factors of IT/IS adoption differ between potential users and experienced users (Dwivedi and Irani, 2009; Teo, 2006; Teo *et al.*, 2009; Hsu and Lu, 2007). Hence, this study also aims to identify factors that influence purchasing intention for experienced users (*i.e.*, users who have purchased apps before) and potential users (users who have not made prior purchases). Since different groups may exhibit different app preferences and purchasing behavior, the results can provide further insights for the design of app marketing strategies.

2. Literature Review

E-commerce concerns electronic transactions of either financial or informational data between the company and any third party (Sila and Dobni, 2012) using the Internet (Li and Xie, 2012). Therefore, e-commerce does not only relate to the buying, sales and exchange of goods online (Grandona and Pearson, 2004), but also includes any transaction of information from consumers to the business or from the business to the consumer; including outbound emails or consumer enquiries (Chaffey *et al.*, 2009). There are two main types of e-commerce: B2B (business to business) and B2C (business to consumer), whereby a business or an individual consumer transacts with another business via the 'global networked environment,' the Internet (Turban *et al.*, 2002).

M-commerce is the sub-set and extension of e-commerce (Turban *et al.*, 2002), where product purchases have now moved onto mobile devices over a wireless network (Yeh and Li, 2009). It enables consumers to participate in e-commerce activities in an entirely new and innovative manner compared with existing shopping channels (Yang, 2010). Multimedia technology and innovations have turned mobile phones into portable computers, allowing consumers to access the Internet and information, equivalent to the experience of a laptop computer (Aldás-Manzano *et al.*, 2009). Smartphone devices and web enabled portable devices such as the Apple iPad have allowed consumers another channel to access the Internet and retail stores (Zhou, 2013). Johnson *et al.*, (2010) found that smart-phones are the fastest growing sales segment, offering Internet access to more and more mobile consumers. In fact, research figures from 2013 suggested that 30% of the world population (2.1 billion people) have a mobile broadband subscription

(International Telecommunication Union, 2013). Mobile commerce sales regardless of category now equate to 33% of all online sales (IMRG, 2014), rising from 23% in 2013 (Capgemini, 2013) and 13.3% in 2012 (Tode, 2012); figures that indicate that the popularity of mobile purchasing is annually increasing (IMRG, 2014).

App Design: The researcher agrees with the inclusion of the colour, typography, symbols and other graphic design stimuli as creating the visual identity of a brand (Abratt and Kleyn, 2012; Jun and Lee, 2007; Melewar and Saunders, 1998). It is therefore classified that the brand typeface, colour and symbols are sub-elements within the category of brand design; and consistent with other studies which regarded them as brand design stimuli (*e.g.* Rowley, 2009, Eroglu *et al.*, 2003). Layout and presentation style have been added as additional sub-elements. This is due to their importance to the brand's visual identity in an online or mobile environment, their inclusion as brand design stimuli within the literature (Rowley, 2004; Okonkwo, 2007; Harridge-March, 2006) and their connection with graphic design and delivering the brand identity (Abratt and Kleyn, 2012).

Typeface: Practitioners and academics alike have noted the importance of typeface as a visual tool for communicating the brand's objectives (Childers and Jass, 2002; Jun and Lee, 2007). The font can affect the consumer's perception of the brand, memorability and influence its legibility (Childers and Jass, 2002). It is agreed by academics that typefaces affect consumer responses (Henderson *et al.*, 2004) and is therefore important to the branding strategy of any company. **Layout:** The layout is the organisation of all of the images, text, headers and graphics and their arrangement on the online page (Rowley, 2004; Harris and Goode, 2010). It relates to the placing of elements as well as the functionality and usage of navigation buttons to move around the site (Harris and Goode, 2010).

Colour: Website colours, including fonts and background colours (Ha and Im, 2012) can have a significant effect on levels of pleasure and arousal (Wu *et al.*, 2008). The unique and representative colours of a brand are used online within text, backgrounds, menus and images (Rowley, 2009) in order to create an identifiable entity (Okonkwo, 2007). Colour palettes are 'brand norm' (Harridge-March, 2006) that help to epitomize brand values in a consistent manner across channels (Rowley, 2009). They are designed to deliver associated messages (Rowley, 2004) such as 'fun', 'modern', 'warm' and 'friendly'; epitomizing the brand's personality and identifying the brand's character (De Chernatony and McDonald, 2003).

Shapes/Icons: Shapes and icons work alongside the colours, typeface and overall presentation to increase the user's positivity towards a brand (Ha and Im, 2012). Shapes may include graphical buttons, the shapes of pictures, menu boxes (Rowley, 2004) or even the overall shape of the layout. Each will have been designed to communicate the brand's visual identity and deliver an exciting experience (Wu *et al.*, 2008). Rowley (2004) mentions that even by rounding the

corners of a rectangular box, the brand can communicate an alternative message and style. 'Symbol' is utilized within the literature to refer to the logo attached to the brand name (Van Riel and Van den Ban, 2001). Yet, it could also relate to graphical symbols on a webpage or mobile app. Again, the symbols will have been designed to match the brand's visual identity and personality. However, practitioners and developers in web design refer to such symbols as icons (Ha and Im, 2012).

Imagery: Whereas imagery can be utilised for marketing and promotional purposes, the objective of brand imagery is to promote the brand's values, image, lifestyle and personality (White et al., 2013; Eroglu et al., 2003). Imagery can include graphics, pictures, headers and background images, designed to visually represent such brand values (Rowley, 2004). They create an enjoyable, attractive (Chen and Dibb, 2010) and interactive web experience and can act as part of the functionality of a website through page links (Heeter, 2000; Page and Lepkowska-White, 2002). They additionally act as a web atmospheric, facilitating the overall feel of a site and offering information about the brand (Eroglu et al., 2003; Chen and Dibb, 2010). Website imagery has been found to heighten the user's perception of the online store in terms of safety, convenience and enjoyability (Oh et al., 2008).

Copy: Rowley (2004) refers to copy as the words written by the retailer to communicate with the consumer. It will have been written with a tone of voice that defines the brand's values and is consistent with the brand's personality and message (Chaffey and Smith, 2008; Rowley, 2004).

Sound/Video: Sound often forms an essential part of the traditional shopping experience for many consumers (Fiore and Kelly, 2007) as audio helps to represent the brand's personality and lifestyle. It has been deemed as a form of verbal communication due to its purpose of communicating the brand message (Fiore and Kelly, 2007). Yet, research has found that many online consumers perceive website audio as unsatisfying and opt to mute automatic sound (Abdinnour-Helm et al., 2005). If sound is to be used in mobiles, similar issues will come into play, yet due to the more personal and public nature of mobile phone usage (Yang, 2010; Lee et al., 2011).

Apps Promotion: Traditional marketing communications tools have been utilised by retail marketers for many years (Kitchen, 1996) and are still in current employment (Kotler and Keller, 2009), albeit in a modernised format. Yet there are a number of newer communications methods, such as interactive marketing and social media networking that have evolved due to the growth of digital media technologies (Smith, 2012). The following literature will discuss the tools of the Marketing Communications Mix (Kotler and Keller, 2009) and review the development of the newer, value-creating and conversational (Burton and Soboleva, 2011) tools for online and m-commerce marketing.

Advertising: Advertisements can be distributed throughout a variety of media including radio, television (Kapoor, 2003; Naik and Peters, 2009), newspapers and the

Internet for example and are a non-personal presentation of goods and ideas (Kotler and Keller, 2009). They have the ability to reach a wide and dispersed audience (Cadden and Leuder, 2013) yet are often the most expensive form of promotion due to the use of models or celebrity endorsements (Lear et al., 2009).

Direct Marketing: Direct marketing was traditionally executed via catalogues and mailing, sending messages directly to the relevant consumer. Yet, modern direct messages are regularly sent via social media networks and push marketing techniques including emails, mobile app pop-ups and text messages (Lascu and Clow, 2007). The advantages of such media lies in their ability to reach the intended recipient of the message directly and form the connection needed to build brand loyalty (Lascu and Clow, 2007).

Word of Mouth (WoM): Word of mouth promotion involves the transmission of marketing messages from peer to peer (Woerndl et al., 2008), whereby one consumer will recall their experience to another consumer, to spread the message. Due to the explosion of social media and blogging communities, word of mouth promotion is now much faster and more effective (Woerndl et al., 2008). It is therefore important that retailers utilise social media to announce promotions and information (Lin and Lekhawipat, 2014), to encourage sharing and increase the power of their messages.

Sales Promotion: Sales promotions are intended to draw in a larger audience of consumers via the incentive of price reductions and special offers (Álvarez and Casielles, 2005). The discounts, traditionally during the festive time or the change of season, ensure stock clearance, increase profits, attract new consumers and create excitement within the store (Fam, 2003; Tong et al., 2012). They also benefit the consumer via monetary savings, convenience, entertainment, exploration and an increase of quality perception (Weng and Cyril de Run, 2013).

PR and Publicity: The role of the Public Relations (PR) team is to manage relationships and communications, encompassing public affairs, internal and corporate communications, media relations, community relations and managing issues related to the public view of the company (Gregory, 2011). In the UK, the term public relations is used interchangeably with corporate communications, as UK companies tend to employ staff to manage both internal and external communications, that aim to influence the positive perception of stakeholders, such as the press or affiliated businesses (Van Riel and Fombrun, 2007; Gregory, 2011). Due to the increase in the blogging community (Hsu et al., 2013).

Personal Selling: Personal selling traditionally related to the one-to-one communication found within the retail store between consumer and sales staff (Hammann, 1979). For many years, academics and practitioners have been interested in how the performance of sales staff can affect retail sales (Churchill et al., 1985; Plouffe et al., 2010; Verbeke et al., 2011), and it has been found that supervisory coaching is essential for staff development (Shannahan et al.,

2013). Yet, the online servicescape lacks the physical presence of a sales person, and therefore retailers have attempted to recreate the experience of personal selling via personalised search results and recommendation systems (Lepkowska-White, 2013).

Interactive Marketing: Marketing has shifted from a transaction-based activity to a conversational effort (Burton and Soboleva, 2011). Yet, there is still confusion as to how to define and interpret interactivity (Koolstra and Bos, 2009). In one definition, interactivity is said to involve interpersonal communication between individuals and/or organisations via reactive communications (when messages respond to previous messages) and fully interactive communications (Burton and Soboleva, 2011) (whereby a conversation has a preceding thread) (Sundar et al., 2003). Such a definition could imply that the consumer has a platform on which to form an interaction with the company, such as the physical store, a chat forum or a social network, i.e. Twitter (Burton and Soboleva, 2011).

3. Methodology

The paper focuses on males Gen Z, which are from one of the public higher education provider were subjected to analysis under the theory of reasoned action to determine whether the theory could provide direction for marketing strategy. A four-page TORA based questionnaire was designed and were administered to 310 male students from age range from 20-24. The target population was defined by experience (Hennink et al., 2011), gender, country of residence and age range, due to the objectives of the research and the mobile applications that were chosen as test subjects. The research aimed to understand the mobile device consumer, and therefore the sample population included only mobile device users. Any person who had had an experience with mobile or online retailing (due to the technological similarities of the mobile and online channels) was viable as a participant. Online and mobile retailing experience was a criterion within the sample frame for the research (Malhotra and Birks, 2007) and therefore the population was defined due to an experiential criterion (Hennink et al., 2011). Participants were selected purposefully depending on their suitability and knowledge of the interview subject. The researcher is able to choose participants and settings that would reveal the richest and most relevant information (Russell and Gregory, 2003).

Interest in the potential mobile application was measured initially as a five point modified Likert, sixteen possible contributing variables to understand the effectiveness of each will lead to the intention to download. Further, all respondents were coded based on their mobile device operating system for future research purpose. The measure of Mobile Apps Design (nine variables) and Mobile Apps Promotion (seven variables) were measured during this research. Regression analysis was used to analyse the data.

Given that the purpose of this study was to simultaneously

test multiple theorized causal relationships among the constructs, the data were analysed using partial least squares regression (Diamantopoulos and Winklhofer, 2001; Levin et al., 2012) using SmartPLS software (Ringle et al., 2005) for a number of reasons. Partial least squares regression is preferable to estimate a path dependent model when the following conditions exist: the hypothesized model includes formative constructs; assumptions about normality do not hold (Chin and Newsted, 1999). Partial least squares regression also requires a sample size with at least ten times the number of predictor variables that influence a criterion variable (Wixom and Watson, 2001).

4. Finding and Conclusions

This study provides a theoretical understanding of the factors contributing to intention to download mobile apps by using Theory of Reasoned Action (TORA) as a base model. First we studies on the effectiveness of mobile apps design in which will improve the chances of downloads. Then, TORA also stresses out the importance of mobile apps promotion are one of the determinant of user intention to download.

The studies provides some information for mobile apps publishers and marketers. The finding underscore the important of apps design and promotion. Most of the apps are free and thus providers must understand the contributing factors which suggest that developers and marketers should consider enhancing and emphasizing the designs and promotion of the apps to increase the intention to download.

As from the study provides interesting and actionable insights for both academics and practitioners into the attitude and subjective norms of the mobile app users. First the study finds strong correlations between the design in the mobile app and the intention to download. This finding is particularly important to app designer and advertising manager, who are facing intense budgeting and competition in the market. The study also provides support to the potential return on investment on the development of mobile apps it finds a significant relationship between the mobile apps and the desired mobile apps download behavior. Managers will benefit from the knowledge on the investment in the mobile apps and further to understand the measurable financial benefit. From the theoretical perspective, the study lends a further support to the extant literature on the correlation between the design and promotion to the intention to download by using Theory of Reasoned Action as a base model.

Secondly, the model presented in this paper provides insights into what users expects a mobile publisher needs to do. That is the user's desires from the mobile apps that pushes the users in completing downloads.

In the same way that Rowley (2004) published her perception of the elements of design, this paper pieces together a marketing literature to deliver a framework of mobile apps design and promotion elements. (Bredahl et al., 1998) further added that the model of TORA statistically

significant and this study results demonstrates, it helps to understand and explain mobile apps intention to download. Other studies have also successfully used the similar theoretical framework from which to examine the purchase intention.

As with any study, there are several limitations. First, the survey data were collected in Malaysia, the results might not be applicable to other nation due to the demographically, social and cultural background. Secondly, the measure are all self-administered, and no actual behavior are measured. Finally, the respondent may be limited. Nevertheless, it provides valuable theoretical and managerial insights that may be expanded upon in future research.

The paper suggests a number of opportunity for research. First and foremost, the TORA model should be expanded to include more marketing mix component, mobile app price and mobile app place. In addition, the study was only limited to understand the effectiveness of mobile apps design and the relationship to the intention to download, however, additional study on the after download service can be an area of research or the mobile apps shopping experience.

The growth of mobile apps adoption among consumers suggests that research in this area will be increasingly important. Smartphones now account for approximately ten percent of web site traffic (Montate, 2012). A recent study indicated that 69 percent of retailers intended to increase their expenditures on mobile commerce (Brohan, 2012), so any research that assists retailers in allocating these dollars should be considered valuable. Furthermore, the emergence of an “apps culture” provides a rich new context in which to study consumers, their preference and behaviors. This study provides some interesting directions for mobile app research.

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