

The impacts of the customers' retention by Technology Acceptance Model (TAM) using mobile applications

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Abstract

This concept paper elaborates the impacts of the customers' retention using the mobile applications by referring to the Technology Acceptance Model (TAM). TAM is the most influential model which focusing on the human behaviour in accepting the technologies. Most countries experienced the growth of communication technologies along with mobiles applications. The expansion of the mobile applications by the users due to accessibility and it is consistent with us. The frequency usage of mobile application is 9.8 times more than tablet application that is only 5.3 times per month. There are various tactics to develop customers relationship management (CRM) using the information technologies with evolution of mobile applications. Many companies and organization highly depending on social media especially mobile application to engage with the new customers as well as to retain the existing ones. According to Annexcloud.com post titled "21 Surprising Customer Retention Statistics For 2021", approximately 65% of business comes from repeat customer, at the same time, customers' retention by 5% can increase the profits by 25% to 95%.

Keywords: Mobile applications, customers' retention, Technology Acceptance Model (TAM), information technologies, computer technologies.

1. Introduction

The number of smartphone users worldwide today surpasses three billion and is forecast to further grow by several hundred million in the next few years (Statista, 2020). Today's mobile phone is a pervasive tool. It has become such an important aspect of a user's daily life that it has moved from being a mere 'technological object' to a key 'social object' (L. Srivastava, 2005). When the public mobile phone was first invented in the 1940s (Farley, 2005) it did not have the advanced design and capabilities that it has now. Currently, the mobile phone continues to remain revolutionary especially in the area of social movements. Combined with the steady climb of social media, the rise of the mobile phone and social media have coupled together to contribute to augmented reality (Jurgenson, 2012). As mobile phone getting upgrade year by year from 1G phone now the latest

is 5G phone, the content of apps also evolving and will continue to do so. With the launch of new apps and new processes, there is no doubt that this trend will be a natural phenomenon in the virtually driven world. There were two key factors that drove the massive growth of mobile apps: 1) Users loved the convenience of apps they could download and use on their phones; and 2) Users always carried their phones with them wherever they went. Together, these factors drove the expansion of mobile apps in ways desktop application developers couldn't envision. Now the trend of service provider creates apps on their product, help the customers feel close to the product, and keep them update with product's offer. Apps may transform according to the way consumers communicate with product, as such apps give consumers control when interacting with brands (Bellman, Potter, Treavan, Robinson & Varan, 2011). This control comes as a result of customers choose to engage with the brand by downloading the app. Customers can perform a range of tasks such as: searching, retrieving and sharing information; passing time with entertainment content; paying bills; navigating maps; making purchases, and performing basic functions such as making calls and sending or receiving text.

Motivations of this study is to enhance the understanding on the impact of customers' retention by using mobile applications. Mobile apps have considerable potential to supersede other mobile marketing tools and help digital marketers overcome consumers negative assumption on the product and encourage the customers to be loyal by offering special discount to the users. Loyal customers will increase income and create efficiency to the operation of company (Reicheld, 2001). Other motivations of this study also to know how Perceived Usefulness (PU) and Perceived Ease of Use (PEU) can influence customer retention on mobile applications.

2. Literature Review

2.1 Mobile Application

Mobile phone is a communication tool that is widely used for texting, getting and exchange information, social media connections and others. Number of mobile subscriptions in use worldwide, both pre-paid and post-paid, has grown from fewer than 1 billion in 2000 to over 6 billion now, of which nearly 5 billion in developing countries (Masrom, M., Nadzari, A.S. & Zakaria, S.A., 2016). In addition, the number of smartphone users have been increased drastically since 2013 and exceeded the traditional personal computer (PC) users in China in 2014 (Jin, 2014). According to the previous study by Stephens, et al., 2020, digital ordering using mobile apps had been grown to 23% over the past 4 years contributing a \$ 26.8 billion dollar to industry. Consumers downloaded a record 204 billion apps in 2019, up 6% from 2018 and up 45% since 2016, and spent \$120 billion on apps, subscriptions and other in-app spending in the past year. The average mobile user, meanwhile, is spending 3.7 hours per day using apps (Sarah Perez, 2020). This data mostly from App Annie's annual report, "State of Mobile," which highlights the biggest app trends for the past years, and sets forecasts for the years ahead. According to App Annie (2020), the record growth in mobile downloads in 2019 can be attributed to the growth taking place in emerging markets like India, Brazil and Indonesia, which have seen downloads soar 190%, 40% and 70%, respectively, since 2016. Meanwhile, download growth in the U.S. has slowed to just 5% during that same time, while China saw 80% growth. The Apple App Store and the Google Play Store dominate this landscape: as such, they are two of the most importance marketplaces in the world.

Mobile applications are applications that run on mobile devices, smart phones, tablets and iPods (Siegler, 2008). They are available through application distribution platforms, which are typically operated by owners of the mobile operating systems, such as Apple App Store, Google Play, Windows Phone Store and BlackBerry App World (Siegler, 2008). Mobile apps can come preloaded on a mobile device or could be downloaded by users from mobile app stores or the Internet for free or with fee. The most application is based on Internet and serve fantastic feature. 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 users demand and the widespread availability of developer tools has driven a rapid expansion to include other categories of apps, including games, eBooks, utilities and social networking platforms, providing access to information on business, finance, lifestyle and entertainment (Hsu & Lin, 2015a). In general, apps are pieces of software that can be installed and run on a variety of hardware platforms, including smartphones, tablets, laptops and desktop computers (Peng et al., 2014).

Marketers have recognised the potential of smartphone apps as an effective marketing communication tool, since smartphones have provided an entirely new distribution method that traditional desktop computer cannot do (Bellman et al., 2011). According to Lipsam (2014), mobile users spend more than half of their digital media usage time on mobile apps, indicating the prevalence of apps in their lives. Nielsen (2014) also indicated that on average, people spend more time using mobile applications than browsing the Web. This strengthened by the report on Adobe’s Digital Marketing Report, App sessions are 3-4 times longer than those spent browsing websites, hitting almost 24 minutes on tablets and 13 on smartphones, against an average of 4.5 minutes spent visiting mobile sites.

This is mostly due to the different purposes of the searches carried out on the two media. While mobile sites are used to obtain quick information – such as checking locations, looking up business phone numbers and clicking on an e-mail offer, mobile apps are preferred for prolonged activities or to access exclusive contents and deals. Prolonged app sessions translate into a valuable opportunity for brands to take advantage of a higher level of concentration and interest from users, and therefore to deliver marketing messages and consolidate relationship.

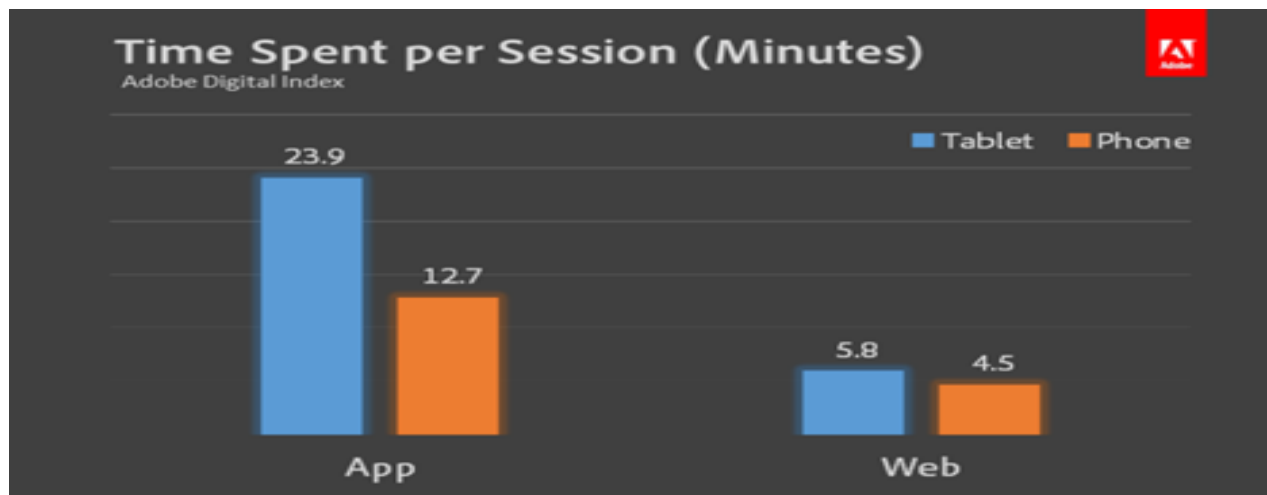


Figure 2.1: Time spent per session between app and web.

Apps are also used twice as often as mobile sites, with an average of almost 9.8 times a month, apps are used twice more often than mobile sites (4.4 times/month). More frequent app sessions mean that app users are more inclined to pay attention to brand news and, as a result, expect to be gratified with dedicated in-app coupons and special deals. In other words, apps offer a great opportunity for small businesses to drive engagement with loyal customers, in terms of loyalty cards, wall chat, special coupons and booking forms.

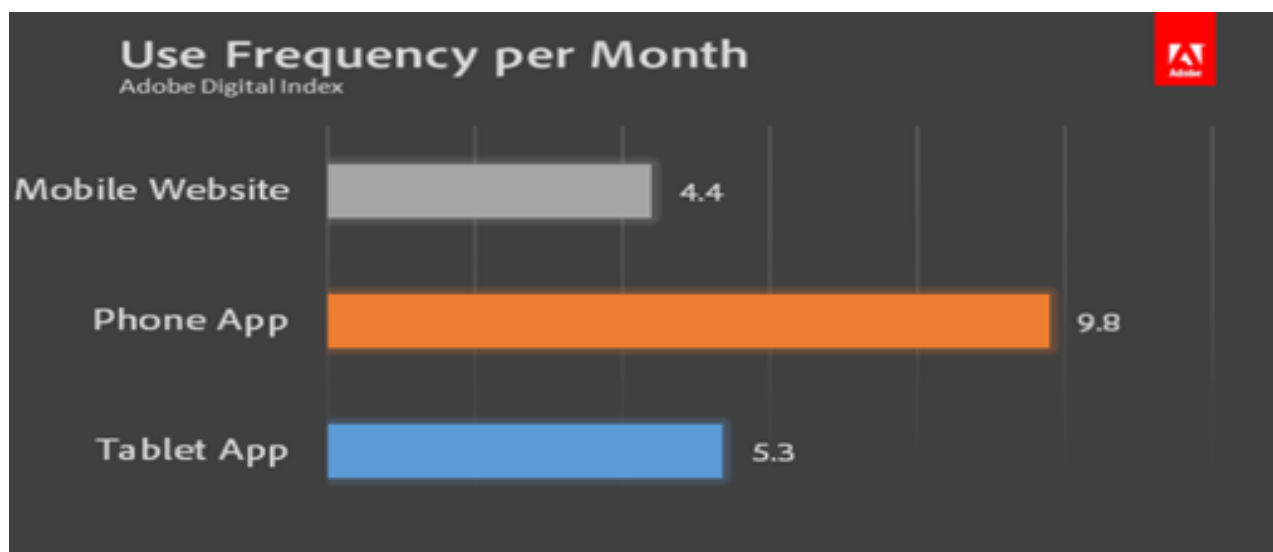


Figure 2.2 The usage frequency between mobile website, phone app and tablet app per month.

The people who are willing to download the app are those customers who already know the brand and feel they are engaged with the brand. As a result, they expect the app to provide an experience that they cannot find in mobile website, something that's really engaging and quick to respond.

There is advantage for the service provider to create a mobile apps for their product, Kozak (2016), with a mobile app, the service provider has access to all of the capabilities of the mobile device. Things like location, camera, and time stamping can be automatically tagged so that everything the field staff does can be pushed back into the digital asset management (DAM). This allows for two-way communication that is augmented by messages, voice communications, and all of the data that is pulled off from a phone or tablet. This data can then be pushed back into central database to be analysed and used to improve future operations. Activity tracked within the app provides data far more individualized, detailed, and comprehensive than desktop and mobile web (e.g. nearest stores, favourite times to browse, wish list activity). Apps provide a window into the personal lives of customers and with this abundance of data, retailers can build extremely tailored experiences and communications (Aanya Ali, 2019).

Some brands recognized the potential of mobile loyalty programs and have developed their own ways to boost customer loyalty through mobile app. The following case studies demonstrated the benefits of a customer loyalty app for a company: Starbucks has the most-used mobile app (link is external) among major restaurant chains. One reason that is so popular is its engaging loyalty program. Its app allows users to: Pay by phone, enjoy in-store refills, take advantage of customized offers, collect points for every dollar spent, which can be exchanged for food and drinks. The app also keeps customers informed and engaged without displaying irrelevant content. It's straightforward and intuitive, providing only the newest offers and personalized discounts.

Sephora constantly adopts new technologies to boost both brand awareness and customer's loyalty. It was one of the first companies to join Snapchat, launch Apple Pay, and apply chatbots (link is external). Sephora's mobile app allows customers to: Discover new products, customize a virtual makeover, add "tested" products to their wish list, browse relevant content about makeup and cosmetics. All of its content is highly personalized, including location-targeted promotions, daily updates, emails, and push messages. As a result, Sephora optimized its user shopping experience, which helped to increase its conversion rates (link is external) and influenced customer retention from the loyalty customers.

The loyalty program of Olimp Labs (link is external), a major Polish pharmaceutical company, significantly transformed when it launched a dedicated mobile app. Instead of saving physical coupons from every product, customers can use the app to scan the unique 2D codes for each package they received, collect points, and exchanged them for the chosen rewards. As a result, Olimp Labs became independent from retailers, and the app allows the company to communicate directly with its loyal customers and track and analyze customer behavior in real time. Within a matter of months, the app has 20,000 loyal customers used the app and boosted the company's retention (Berenika Teter, 2018). Clarke, 2001 added, the customer loyalty may come at first sight to be outmoded in the era of the Internet, when customers are able to explore and evaluate competing alternatives as a touch of a button. Yet the evidence shows that the old rules of successful and profitable management still hold good: customer retention is still a key to long-term profits.

2.2 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) proposed by Davis, 1989 have been used widely to associate human behaviours towards acceptance of technology. Throughout the years TAM has received extensive empirical support through validation and application for its power to predict the use of information system. (Davis, 1993; Taylor & Todd, 1995b; Venkatesh & Morris, 2000). The past eighteen years, the information systems community considered TAM a parsimonious and powerful theory (Lucas and Spitler, 1999). Of all the theories, the Technology Acceptance Model (TAM) is considered the most influential and commonly employed theory for describing an individual's acceptance of information systems (Lee, Y., Kozar, K.A & Larsen, Kai, R.T. 2003). TAM adapted from the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980). Davis (1986) adapted Theory of Reasoned Action (TRA) to bring the intention to accept information technology. Technology Acceptance Model (TAM) originally proposed by Davis, 1986 to identify the relationship and assumes that an individual's information systems acceptance is determined by two major variables:

2.2.1 Perceived Usefulness (PU)

“People used or not to use an application to the extent they believe it will help them perform their job. This variable is referred as *perceived usefulness*. Perceived usefulness (PU) is the extent to which an individual agrees that such information technology or system will improve their efficiency and productivity (Pennington & Davis, 1989). According to Davis (1989), loyalty intentions are formed towards technology based significantly on a cognitive appraisal of how it will improve their performance. Bhattacharjee (2001), suggest that customers are more likely to feel more favourable and satisfied, thus continue to use the system more when the usage is perceived to be useful, therefore, form stronger loyalty intention, and enhance customer experience.

2.2.2 Perceived Ease of Use (PEU)

Even if potential users believe that a given application is useful, they may, at the same time believe that the systems are too hard to use and that the performance benefits of usage are outweighed by the effort of using the application. That is, in addition to usefulness, usage is theorized to be influenced by *perceived ease of use*. ”

Davis (1989) further explained *Perceived usefulness* (PU) means user believes that using any particular system would improve his/her job performance. The definition of word “useful” which is able being used extremely. Comparatively, *Perceived ease of use* (PEU) means user believes that using the particular system would be free of effort. This follows from the definitions of “ease” which is freedom from difficulty or great effort.

The constructs in the original TAM introduced by Davis (1989) include perceived usefulness (PU), perceived ease of use (PEU), attitude toward using (A), behavioural intention to use (I), and actual system usage (U). Since Davis' (1986, 1989) elucidation of these constructs, numerous researchers have discovered that technology acceptance theory yields consistently high-explained variance for why users choose to utilize systems (Adams et al., 1992; Mathieson, 1991; Pavri, 1988; Thompson et al., 1991).

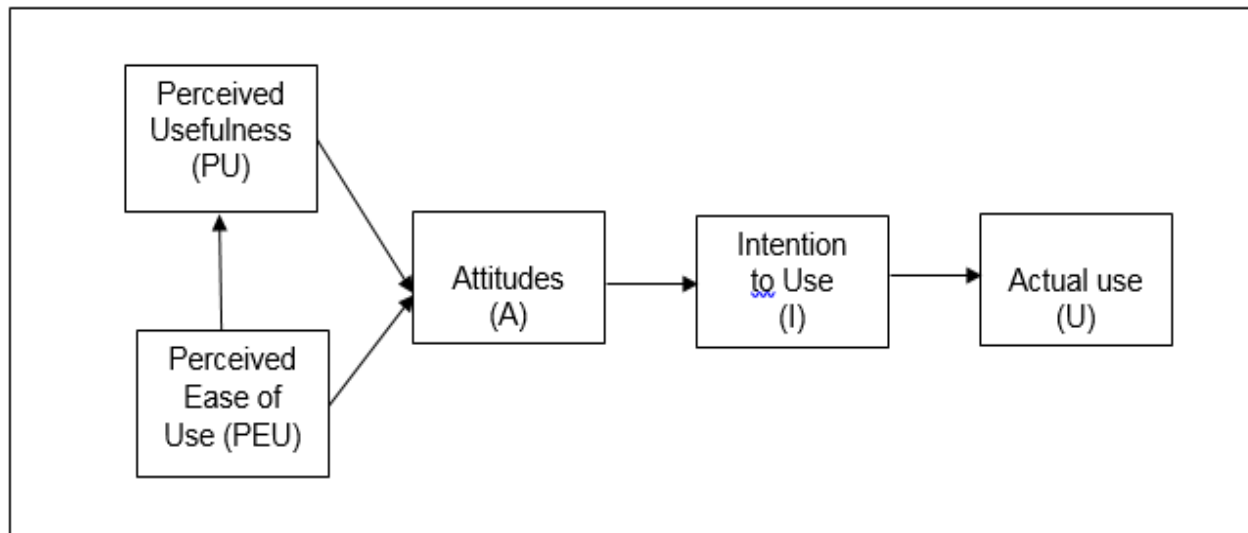


Figure 2.1: Technology Acceptance Model (TAM)

2.3 Customers' Retention

Gronroos, (2011) stated that information technology can help managers to provide customer relationship management (CRM) as a new generation of tactics for customer loyalty. Existence of social media has changed the marketing situation as firm use social media to distribute information, impress and retain the existing customer. Furthermore, the social media marketing empowers business firms and encouraged customers to continue using the firms' products and services, (Qing Yang, N. H., 2022). Customers' retention is a matrix of the customer loyalty measurement to sustain the customer in the organization for overtime. Also, the relationship start with an initial interaction, customer retention metrics are related to the first purchase made by the customer and include all the arrangements of interactions. (Gillis, 2023). If the organization focusing solely on the expanding on the customer base and ignoring the customer retention, soon the potentially losing out on repeat customers will occurred. Proses in gaining the new customer is very important, however it is expensive. Annexcloud.com blog post titled "21 Surprising Customer Retention Statistics For 2021, most of the company's business comes from the repeat customers (65%), at the same time targeting on increasing customer retention by 5% can boost the profit by 25% to 95%. The more loyal the particular customer becomes to the business, the more likely they will try new products or bring in new customers.

The example of the customer retention that used by the firm such as donating a clothing item to a homeless shelter with every purchase of the product. This activity help people in need while also enabling the customer to help by purchasing items. This process can help develop the customer retention, as an individual may want to become repeat customer in order to complete their need and serve their surroundings at the same time. For instance, business, such as London-based Caffè Nero offer loyalty card to incentive customer retention. The practice, if a customer orders a coffee or tea, they get a stamp punched on a card and after a nine stamp on the same card they can obtain a free beverage. Therefore, this startegy gamifies customer retention. When there is a strong

development of internet, e-commerce, and mobile applications, companies also evolving strongly into e-loyalty or loyalty mobile application. Others example is Starbucks Rewards program. It was launched in 2011. Starbucks has developed one of the most optimized loyalty programs for mobile phone users.

Some firms apply customer retention strategies which given form of bonuses or additional rewards when the customers invite their relatives or friends to buy or use the products, this activity lead to lower the retention costs. This is a multiplication strategy that benefits the company (Dwilianingsih & Indradewa, 2022). Nonetheless, this customer retention strategy cannot be implement excellently and could allow failure if not followed by the level of satisfaction of its customers, reported by several studies (Madjid, 2013). He stated that optimal customer retention is develop from customer feedback and responses which satisfied with product or services from the firm. Other references mentioned from Andrson and Sullivan, 1993; Calder et al., 2013 agreed that, customer adopt satisfaction as a primary aspects comparing other choices options whether they want to remain with the firm to buy the product or services again. Essentially, the key to retaining customers is to satisfy them (Petruzzellis et al., 2006)

3. Conclusion

Consumer satisfaction is a significant driver of behavioural loyalty. Nakuze Chalomba (2016) study shows the consumer confirmation of expectations and perceptions of value impacted on continuance intention indirectly through satisfaction. Extremely satisfied customers more important than just having satisfied customer because it could lead to customer loyalty (Bowen and Chen 2001). Gerpott et al (2001) added customer satisfaction is a direct important factor in customer loyalty which, in turn, is a central determinant of customer retention. For that reason, the company should always strive to ensure that their customer very satisfied. Customers nowadays are technology savvy, all the information that they need can be found on the simple tap on mobile phone. There are many apps that customers able to download on Play Store or Apps Store just to get in touch with brand or product. However, few studies about the technology and the customer retention have been doing. To study about this issue one of the models that can be used is the technology acceptance model (TAM) that has been well-known for a decade. The usage of Technology Acceptance Model (TAM) as a model that explained acceptance of in information system such as mobile applications, Davis 1989, p.320 stated that “The degree to which a person believes that using a particular system would enhance his or her job performance”. Begin technologically savvy is a prerequisite and the time it takes to create social media accounts and keep them current, relevance and interesting (Begum, E.A., Yavuz, K. and Piotr, K. 2020). The rapid development of mobile and web technology, social media has become a prevalent channel of communication for consumers and businesses. However, advance websites or product apps that more complex and complicated for usage especially when customers are not technology savvy (Abdullah, D. et al. 2019). This cohort group who are not technology savvy will find out difficult to engage with the product even though they like it. As conclusion, further study should be conducted to see how the technology especially mobile apps in relation to the customer retention and TAM model have the impact into it.

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