Perceived Usefulness and Ease of Use on Mobile Communication App Reviews

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Abstract

The use of mobile communication apps increases drastically in line with the high adoption of smartphone technology. The adoption of mobile apps could be also indicated by the presence of user reviews and user attitude on app stores. Therefore, this study applied the usefulness and ease-of-use concept of the Technological Acceptance Model (TAM) to analyze 202 user comments of instant messaging applications. The content analysis showed high inter-coder reliability (92%) with Cohen's Kappa measurement. There are 19 labeled negative evaluation comments in the apps review. The review revealed that the majority of users still complain about voice call features, updating, and technical error. More users perceive the communication apps as difficult to use (46.2%) and some others admit apps as useful (25.9%). Users also suggest developer to improve feature related to technical error and to create a video call.

Interestingly, few users' complaints are not about the apps quality, but cultural consideration such as LGBT emoji. At the same time, this study found perceived usability of the user sphere has not been yet in accordance with the expert sphere. Different perspective about the apps service, particularly regular update, results massive complaints.

Keywords: mobile communication apps, reviews, users, usefulness, ease-of-use

Introduction

Mobile apps reviews can be found in Apple’s App Store and Google Play Store that contain user evaluation of particular apps. Both those apps stores show different user response due to different strategies in selling mobile apps (Heitkoetter, Hildebrand and Usener, 2012). Apple’s App Store plays a closed platform strategy, which Apple has a high level of control over every process from operating system development, application selection and app sales that have been selected on the App Store distribution channel (Song, Park and Kim, 2013). Application developers sell apps through the App Store must
register and pay a $99 per year fee. Apple also pre-screened before displaying it on the App Store to avoid any illegal content, malfunctions and malicious codes (Remneland-Wikhamn et al., 2011). Instead Google Play Store uses an open platform strategy that allows developers to display their app on the Play Store without pre-screening and verification.

Open platform app store provides an opportunity for users to participate and contribute to the development of the mobile apps market (Khalid, Shehzaib and Asif, 2015). Khalid and colleagues (2015) stated that the apps reviews include crowdsourcing as it involved many users to contribute to a particular activity online. Activities can be either solve problems or get innovative ideas. In addition, the apps reviews are also used to describe user impressions, positions, comparisons and attitudes toward mobile applications (Palomba et al., 2015). WhatsApp is one of the most popular communication apps with a total of about 60 million users in Indonesia (GSMA-Intelligence, 2016). In the Google Play Store, WhatsApp earned an average 4.5 star score since it was first launched in 2009. WhatsApp has been updating features since 2009 when Apple had sent them notification about users that stop using the app. So WhatsApp continues to update based on user requests (Olson, 2014). In addition, WhatsApp reviews share opinions and users’ experiences as reference to help other user decide whether to use an app or not. Therefore, this article discusses the review of WhatsApp instant messaging app in the Google Play Store app store regarding user opinions on the usage and ease of use of WhatsApp.

"Apps" or "app" widely refers to the application or software program for mobile device such as smartphones or tablets. Apple popularized this term in 2008 by launching the “App Store” exactly one year after the iPhone was released. The first App Store contained 500 apps and was downloaded by millions of iPhone users in a week. As the popularity of the iPhone and App Store has increased, the term app becomes a standard term referring to mobile applications in general. Other mobile device manufacturers and platform providers, such as Android, Research In Motion, Nokia and Windows also call mobile applications with ‘apps’ term.

Mobile apps are divided into three types: (1) browser access apps, (2) native apps, and (3) hybrid apps (Flora, Wang and Chande, 2014). Browser access apps are apps that are not installed on mobile devices and can be accessed via a native browser (such as mobile explorer) by entering the URL on the web page. The second type of apps is native apps. This apps are already installed in mobile devices, so users do not need to download. The third type is hybrid apps that needs to be obtained through the online app store. The hybrid apps require Internet connections like social media apps (Facebook, Instagram, Path, Twitter), instant messaging apps (Skype, WhatsApp), E-Commerce (Amazon, e-Bay), and so on.

Mobile apps belong to communication technologies as formed (1) tools (Gerlich et al., 2015), (2) tangible hardware and software (Flora, Wang and Chande, 2014), (3)
multimedia-based (Magrath and McCormick, 2013), (4) exchange messages and information (Pandey et al., 2013; Weiss, 2013); and (5) establishment of the social connections (Soukup, 2015). Mobile apps are realized as a form of new business communication media (Hassan et al., 2014). Mobile apps are also a new communication medium that allow users to communicate with each other (Normore and Blaylock, 2011).

**Technological Acceptance Model (TAM)**

Two important elements of technology acceptance are usability and ease of use (Davis, 1986). TAM was introduced by Davis (1986) through the study of computer technology acceptance for end-users. TAM is an adaptation model of the Reasoned Action (TRA) theory that is specifically tailored in the context of an information system user (Davis, Bagozzi and Warshaw, 1989). Referring to TRA, acceptance and use of technology can be explained with internal beliefs, user attitudes and intentions (Turner et al., 2010). Davis (1986) developed and tested theoretical models of technological acceptance and rejection, particularly the use of e-mail to organizations to support employment. There are two concepts that have a valid measurement scale; perceived usefulness and perceived ease of use (Davis, 1989). Perceived usefulness and perceived ease of use are two important concepts that determine and lead to acceptance of information technology (Davis, 1989). Davis (1989) defines perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance”. Perceived usefulness explained that people tend to accept technology because they believes that technology will help their work. In contrast, perceived ease of use refers to “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p 320). Perceived ease of use illustrates the difficult or easy belief of using the technology as well as the effort spent to use it. Davis (1986) also focuses on explaining cognitive responses and affective responses as a predictor of behavioral responses to actual technology use.

**Methods**

This study analyzed users’ review of communication apps, Whats’App, on the Google Play Store. Content analysis was used to identify the usability and ease-of-use issues from users’ comments and opinions (Im and Chee, 2006). Unit of analysis of this study is any user comment regarding the evaluation of Whats’App usage. The 202 comments (written in Bahasa Indonesia) were recorded from August 13-27, 2016 which included the categories of “usability” and “all devices”. So the observed comments come from various smartphone or tablet devices in general. The recording units were conceptualized into (1) perceived usefulness and (2) perceived ease of use. Perceived usefulness is divided as (1) useful, and (2) not useful. Perceived ease of use is classified as (1) easy, and (2) difficult. In addition, each comment was categorized based on tone: complaint and appreciation. The complaint reviews are identified with negative
evaluation such as, (1) less attractive visual interfaces, (2) poor quality of chat group features, (3) slow loading, (4) technical error, (5) disturbed ads and regular update, (6) troubled document transmission, (7) no notifications, (8) difficult typing or changing photo profile, (9) hard to back-up conversations, (10) hidden info/personal data, and (11) explicit LGBT (Lesbian, Gay, Bisexual, and Transgender) emoji. This study also identified users’ suggestions for the development of the apps. SPSS was used to process the data and check the reliability. Intercoder reliability was conducted to test the objectivity of the content analysis and the quality of the research (Neuendorf, 2002). Reliability test employs Cohen’s Kappa formula and resulted .920 or 92% which means the reliability of this study is acceptable.

Results

This study analyzed 202 comments toward WhatsApp in the Goggle Play Store. The analysis found that majority (54%) comments are complaint or negative evaluation of using WhatsApp. The complaint category was identified with 19 labels grouping from negative evaluations comments. The most complaints (18.3%) relate to poor quality of voice call feature. For example, an user named Agus Sandi (posted 17/8/2016) wrote voice call is often ‘delayed’ or voice is late received by other person. It is also conveyed by other user, Mustolikhudin (posted 25/8/2016) that voice quality is poor and sounds like Handie Talkie (HT). Furthermore, many complaints (17.4%) are regarding regular update. Automatic update is considered as annoyance. One of user, Findy Ambar (posted 21/8/2016) said that too often updating are considered annoying. Dila Rosa (posted 26/8/2016) also asked why WhatsApp kept update continuously while there are not novel features added. In addition, the technical errors were considered as negative evaluation (16.5%). Various technical errors were experienced, for example, WhatsApp application crashes with other apps (user Sahila Mada, posted 21/8/2016), stop unexpectedly (user, Ahmad Jamil, posted 14/8/2016), and conceal the settings if they have been updated (user Erwan Triwanto, posted 2/8/2016). Notification issue also concerned user (10.1%) that somehow incoming messages were received without any notification (user Anonymous, posted 21/8/2016) or notification came late (user Annisa L, posted 28/8/2016).
Figure 1 Results of WhatsApp Review

File transfer is users’ consideration (6.4%) as problem. Users complain of not being able to send MP3 (user Katrina Bukaradze, posted 23/8/2016), video (user Hans Uye, posted 19/8/2016), photos (user Eko Sularto, posted 16/8/2016) and any file over 50 MB (user, Jerry Lebay, posted 18/8/2016). Problems occurred on chat group feature became users’ attention (4.6%). WhatsApp chat group is considered unsystematic, mixed with other chat room (user Wiwik Jayanti, posted 16/8/2016) and group members’ profile is unseen (user Awaluddin Tegal posted 20/8/2016). Other complaints are about contact numbers (4.6%) that suddenly disappeared from the contact list (user Arif Rachman, posted 16/8/2016) and unable to add a new contact into the apps (user Anonymous, posted 20/8/2016). Users also complained about the visual interface (2.8%) that is considered unattractive (user Yanuar Rifal posted 24/8/2016) and the choice of display theme is limited (user Rerey Kurniawan posted 16/8/2016). Meanwhile, LGBT emoji was protested (2.8%) and users asked the developer to remove the emoji (user Sulthon Fajar Suro posted 23/8/2016). Other complaint is poor application performance (2.8%). A comment from Tyno Chenot (posted 23/8/2016) stated the process of sending and receiving messages are slow although the signal of the cellular data or Internet networks are good. WhatsApp is recognized taken too many smartphone data memory (2.8%). This condition lead failure of saving photos that received in WhatsApp (user Andhika Agung posted 19/8/2016). Difficulties of changing profile photos are also problem for the users (2.8%).

A user named Ahmad Benzen (posted 22/8/2016) said other problem that occurred in WhatsApp are failure of file backup via Google Drive (1.8%). Other user complained about typing problems (1.8%) that suddenly appeared a notification that WhatsApp can not type or edit (user Ence Kusmayadi posted 20/8/2016) and the ‘ENTER’ key on the keyboard disappeared unexpectedly (user Chairil Fahmi posted 25/8/2016). Some other
issues are related to advertising (0,9%) on WhatsApp (user Aditya posted 13/8/2016), unable to edit or correct (0,9%) the error writing (user Adyantini posted 21/8/2016), no pop-up service (0,9%) like Facebook Messenger (Arek Jeruklegi posted 16/8/2016), hidden info (0.9%) (user Rudi Nadia posted 20/8/2016) and personal data (0.9%) policy that WhatsApp may share the data with Facebook (user Yusuf Fahmi posted 28/8/2016).

This study categorizes users suggestions (35,1%) into seven categories for WhatsApp development. Most suggestions are feature improvements (39,4%) related to technical errors that frequently occurred. Creating video call feature (35,2%) such as other communication apps Line, Viber or Skype was recommended. Users also asked WhatsApp developer to enhance innovation (9,9%) as did other apps to prevent the boredom of using simple feature (user Adista Wey, posted 25/8/2016). Users also suggested to make stickers (7%) like Line’s sticker and to remove the LGBT emoji (4,2%). Finally, user proposed to improve visual display (2,8%) by adding new themes (user Kartika Nurhayati posted 23/8/2016) as well as hoping WhatsApp still remains ad-free (1,4%).

Content analysis classified user reviews based on perceived usefulness and perceived ease of use. There is 25,9% reviews that is considered WhatsApp as useful for the work and life. In contrary there is only 0,5% review that is noted as useless for the job. This study reveals that only 19,4% comments are perceived WhatsApp is easy to use. While 46,2% comments are related to difficult to use. The remaining 8% comments is out of the context of usability and ease of use.
Discussion

User behavior has changed from passive to active sharing experiences use communication technology. Users give feedback related to the apps that they used either criticism, suggestion or appreciation. Whats’App reviews show many complaints regarding voice call, update, technical error and notifications problems. Users complained about the disjointed voice call, delayed voice and the quality of the sounds are not as good as conventional call. Voice call feature in Whats’App is considered as Voice over Internet Protocol (VoIP) technology that allows oral conversation via Internet. VoIP enable to convert voice into digital code and transmit them through Internet networks, not like conventional call which transmit the voice via analog circuits. Unfortunately, VoIP has the capacity to transmit the data that cause potential noise or interference in the voice call (Shin and Schulzrinne, 2009).

Other complaint is updating. Whats’App regularly updates the apps to fix bugs and maintain security. Bugs are defects, errors or failures in computer programs or systems that cause improper, unexpected or unwanted results. The existence of bugs in the application can cause errors and other technical problems. On the user perspective, frequent apps update without any feature addition is considered boring and disturbing. In the other hand, developer perspective believes that updating is important action to eliminate the annoying bugs in the apps network system. The apps update is technical error anticipation to prevent interference of VoIP network, failure of file delivery and delayed notification. This contradiction shows that user sphere and expert sphere about the apps update do not fit each other. This shows the review of instant messaging application technology has not accommodate the user space and expert space proportionally (Irwansyah, 2012). Users tend to interpret technical features flexibly. So as to bring the difference of conceptualization of technology meaning from user and expert side (Bijker, Hughes and Pinch, 1987).

Then the number of suggestions related to feature improvement also shows the importance of perceived usability in the development of mobile applications (Shin, 2012). Shin also explained usability is often underestimated compared to aesthetics because app users in Asia are more interested in aesthetics than usability. Whereas usability has long-term implications for mobile application development (Shin, 2012). The high suggestion for adding video call features also shows users want a technology that similar to face-to-face communication. In Media Richness Theory, face-to-face communication is still considered a “rich” medium because of its ability to convey natural language, the diversity of ways to communicate information, personalize messages and rapid feedback (Daft and Lengel, 1984). In addition, the categorization of utility and ease of use with adjective adjectives allows further review of Bipolar Emotional Response Testing (BERT) based applications. BERT can measure and evaluate applications based on emotional responses and user reactions to a digital technology (Irwansyah, 2015).
Conclusion

The instant messaging usage for daily communication is recently popular. It is showed by high number of downloading and installing the apps. But this is not in line with users review on the online apps store which complaints and negative evaluation are commonly found. Three most problem are about voice call feature, apps update and technical error. The sharing experience of the users indicates that the technology recommendation shift from creator perspective (expert sphere) to user perspective (user sphere). Moreover, in the technology acceptance perceived usefulness and perceived ease of use, are important to explain the processes. This study also found perceived usability provides significant implications for further research. The measurement and assessment of the user emotion and reaction toward the apps should be considered as substantial studies related to mobile application research particularly communication apps.

References


