Do College Students use E-Book with Smartphone? (Study for College Student's Subject in Information Technology)

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Abstract—recently most college students use a smartphone as a communication device and learning support device. To reduce paper usage electronic book commonly uses by college students currently. Do college students use a smartphone as E-book reader? and Do college students use E-Book rather than printed textbook? This research will show the common use of smartphone and E-book of college students for academic-related purposes. A questionnaire survey was self-administered directly to students and quantitative descriptive and explanatory methodology use for this research and process with crosstabulation to explain the connection between 2 variables. The research results showed that college students use smartphone and E-book. Supporting function such as Infrastructure, Smartphone feature "very influencing" for college students to use eBook. The development of smartphone and E-book service will make significantly increase college students ebook usage.

Keywords—Smartphone; eBook; Learning

I. Introduction

A feature of smartphone keep changing and improve time to time, can be said smartphone similar as microcomputer because smartphone have many similarity functions with computer [7], smartphones is a device use by every people in the world [7], [13]. In 2014 86% undergraduate students have own smartphones reported by EDUCAUSE center for analysis and research. E-Books as a study material growing very fast and become mainstream [3]. Make user easy by using E-book at a smartphone to read, note, sharing functions besides communication and can be used anywhere, anytime [3]. Development of mobile technologies currently beside technical side also educational side [3]. Significant impact on student's educational experience of usage ebook with a mobile device in the classroom [4].

This research questions are Do colleges students use ebook with their smartphone? Does infrastructure influence college students usage of E-book? Does the form of smartphone influencing college students usage of E-book? Study early started college students use smartphone and combination of using E-book with a smartphone have a good response in term of education.

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This paper will show how college students use E-Book and smartphone for academic activities. Quantitative descriptive with explanatory methodology uses by disseminating 23 questionnaires to 161 directly to college students.

II. Smartphone VS E-Book

College students use smartphone increasingly a time to time and it also increased usage of E-book in a smartphone, 78% college students currently use a smartphone as educational device [3].
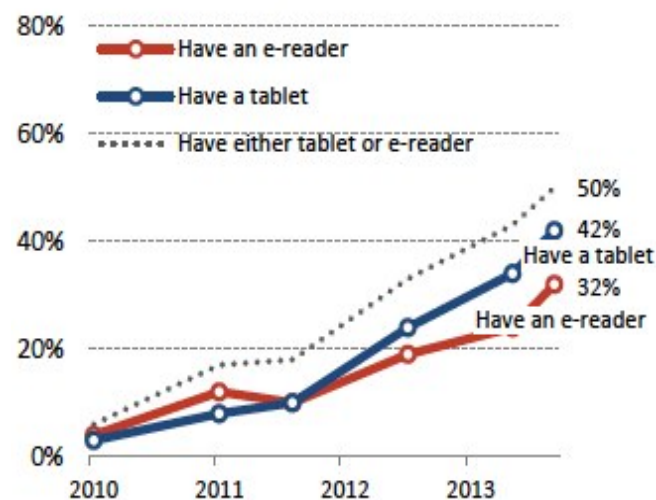

Fig.1 Trends of smartphone and e-reader Source [10]

The graphic above showed comprehensive improvement of using smartphone (tablet) and E-Book by using mobile apps in America for last decade

A. SMARTPHONE

Currently, college students use a smartphone in the daily use and smartphone have a lot of features such as phone as a communication device, internet browser, video, radio, and many mobile applications can be installed such as E-Book Reader.

Early research reported, in the future mobile learning will exert a positive influence and improve student learning performance [23].

Google trend, uses to figure out the last 3 years from 1 January 2013 until week 3 December 2016 searching period, smartphone as a keyword and Indonesia as a location. There was a significant small step upward happened from the first week January 2013 only 43 hits counter become 80 hits counter from 100 scales at the first week January 2014. The stable situation happened after 2014 until 2016 with around 70 to 80 hits counter from 100 scales and in week 3 of December 2016 found 59 hits counter from 100 scales. It is mean smartphone is one of the favorite searching items for people in Indonesia or smartphone is communication device used by people in Indonesia [25]

B. E-Book

The ebook definition is a digital reproduction of a textbook. The definition of E-book has defined in many ways since its inception in the 1980s [11], [12], [14].

Development of communication device, makes college students currently uses an E-book and because of easy to access at several devices, easy to make note and survey result show 76% respondents use the smartphone to access an E-Book [3].

Several types of research reported E-book will promote student professional learning and improve factor of non-intellectual student learning such as the style of learning and impact to student motivation [21], [23], [22].

To figure out the intention of the ebook in Indonesia. Google trend, uses to figure out the last 3 years from 1 January until the 3rd week of December 2016 searching, ebook as a keyword and Indonesia as a location. In the last 3 years found decreasing trend people type ebook as a keyword as a searching item. In the first week of January 2013, there is 93 hits counter from 100 scales and getting a decrease in the first week of January 2014 which only 63 hits counter from 100 scales. A similar trend in the year 2015, in the first week of January, found 50 hits and for the current year, the first week of January 2016 only 39 hits counter from 100 scales and in week 3 of December 2016 found 37 hits counter from 100 scales. It is mean the last 3 years report big drop happened [20]

Similar way uses to figure out the last 3 years from 1 January until the 3rd week of December 2016 searching, PDF as a keyword and Indonesia as a location. There is an increasing intention of searching for PDF as an item, in the first week of January 2013 were only 67 hits counter from 100 scales and around 60 hits counter from 100 scales for 2014 and 2015, a small step upward happened in the year 2016 from 73 hits counter from 100, in the first week of 2016 to 90 hits counter from 100 scales at 3rd week of December 2016. It can be concluded enthusiasm to use PDF files in Indonesia. [24]

III. RESEARCH METHODOLOGY

A. Design

This research used descriptive with an explanatory methodology to identify usage E-Books in Smartphone by college students in generally to support their daily activities and specifically for academic purposes.

Questionnaire divides into 2 parts, in the first parts 9 questions, to identify the background of college students and usage of smartphone and E-book.

A 14-item Likert-scale questionnaire developed and measurement items. A Likert scale from 1 to 5, where a value 1 represented "Strongly Disagree" and 5 represented "strongly agree". The questionnaire is distributed directly to college students.

Data processed by using SPSS computer program and crosstabulation function to identify the connection between 2 variables

B. Sample Data

The questionnaire has given to 161 of Technology Information active college students from the first semester to eight-semester respond to 23 questionnaires in a university with 5 Lickert scale option answer.

IV. DISCUSSION

SPSS use to process the data and crosstabulation functions used to compare 2 variables and the result shows as below.

A. College Students use E-Book

Research result shows from 161 college students who have a smartphone only 34 persons (21%) not interested in using E-Book for several reasons, 9 persons (26%) of college students stated do not understand how to use E-Book, 13 persons (38%) of college students use textbook, 7 persons (20%) of college students having difficulty to find right context, same result early study reports [6] and the rest of other reasons. The similar result reported readability and search for the content is an important factor. [1]. Even the research show positively college students currently use the smartphone as E-reader device but several studies early reported no association between academic performance and cell phone usage [7], [9], [18], [19].

Same research result with early research reported 76% respondents interest to access learning materials from a mobile application through university information system [3], the similar result reported that 78% student use mobile devices and Ebooks [4]. E-Book user willing to access an E-Book by using smartphones anytime and anywhere [5].

Early research reported debatable result, where students are not interested in using E-Book [1], event though the E-Book is free of charged.

B. E-Book problems

The smartphone has a function as an E-Book media reader, crosstabulation process between "why not use E-Book and Smartphone user" in spss is to identify E-Book usage problem the result shows that 8 students (5%) having a problem. 3 persons do not understand how to use E-Book. 4 persons prefer to read the textbook similar reported that E-Book as a complementary printed book [2] and 1 person having a problem to find the right context, the same result with early study reports [6]. Difficulty to find matching context [8].

C. E-Book & Smartphone

Does every college students who have a smartphone use E-Book? SPSS computer program, crosstabulation process use to identify the relation between E-Book reader via Smartphone. The result show, 4 person smartphone user

have no E-Book usage, the similar result reported large scale of student never used E-Book [8], 120 smartphone users have E-Book, 2 persons use E-Book with other devices.

D. E-Book user & Network

SPSS computer program, crosstabulation function between E-Book user and Network Mobile Signal function well process and the Likert scale result score is 3.2 that's mean Medium indication. It is mean E-book user or college students sometimes need network interaction or connection while using E-Book.

E. E-Book user and Screen dimension

SPPS computer program uses, crosstabulation function process to know the relationship between E-book user and the screen wide dimension. For crosstabulation between E-Book user and Screen dimension process the Likert scale result score is 3.18 that's mean Medium indication, it is mean some E-Book user or college students have no problem to read the E-book on the smartphone with smartphone screen wide.

Debatable result found from early research that reported appearance and layout of E-Book become a problem [8][15][16][17]. This result still debatable cause need future explanation and detailed data.

F. E-Book user and Offline mode

SPPS computer program uses, crosstabulation function process to know the relationship between person uses E-Book or ebook user and read E-Book offline (use PDF file and not connected to the internet) and mean score of the Likert scale result is 3.74 can be explained as a high indication. The result can be described E-Book user or people that use E-Book file read the E-Book with offline. Or many (high indication) of college student use the smartphone to read the E-book and the E-book on the smartphone, connection to the internet is not necessary.

G. E-Book user and E-book reader application installation

SPSS computer program uses, crosstabulation function process between E-Book user and successful installation E-book reader computer program and the Likert scale result show is 3.41 can be interpreted as a high indication, it can be mean the successful E-Book user depend on successful install applications on the smartphone.

Doubtful report from early research shows that interfaces and platforms as general problem found.[8][15][16][17]

H. Research Implications

The smartphone is a device that used by every college students in the daily use such as for communication and as a supporting device for academic purposes. The combination between E-Book and Smartphone may affect for learning process for college students in social life and educational effect.

V. CONCLUSION

Some of the results from this research almost the same with early research reported that talk about, the smartphone uses by college students to support educational activity such as a media for E-Book. Beside as communication tools and social activities device. This research also found many other aspects need to consider, such as E-Book big picture, basic equipment needed for a business or society to operate issues (for example mobile phone signal while installing the mobile computer program). The future development of smartphone feature and E-Book feature may improve in education also. The doubtful research result as stated in part E (comparison between E-Book user and screen dimension) will be done in the future research report.

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