USER ACCEPTANCE ON MOBILE APP AS AN EFFECTIVE TOOL TO LEARN KADAZANDUSUN LANGUAGE

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FACULTY OF COMPUTING AND INFORMATICS
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2017

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UMS
UNIVERSITI MALAYSIA SABAH

THESIS SUBMITTED IN FULFILLMENT FOR THE DEGREE OF MASTER OF SCIENCE

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UNIVERSITI MALAYSIA SABAH
2017

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ABSTRACT

The rise of mobile technological devices has taken along new potentials to all walks of life in several communities. As mobile devices with highest abilities encompass into all areas of human life, they also affected language learning and mobile education. There are many mobile applications created for most of the major languages in the world and minor amount is available for the less used languages. Kadazandusun language is an example of languages given less attention as it is not as useful as other world languages. This study discussed the user acceptance of the potentiality of mobile apps as an effective medium to learn Kadazandusun language, guided by the Technology Acceptance Model (TAM). The mobile application; Boros KADUS for learning Kadazandusun language was designed and developed based on ADDIE model that consist five phases; Analysis, Design, Development, Implementation and Evaluation. This study adopted a mixed method research by mixing quantitative and qualitative research method. The explanatory model in mixed method research was used to explain the initial phase of quantitative findings in more depth by interviewing with a few of the participants from the initial phase and explored further in a second qualitative phase. 241 respondents were participated in quantitative phase while 18 participants participated in qualitative phase. The outcomes that this research presented have shown that all eight hypotheses were proved to be supported. The corresponding factors which are Perceived Ease of Use, Perceived Usefulness, Attitude towards Use, Content Richness, User Satisfaction and Perceived Playfulness were confirmed to have impact on user acceptance of using mobile apps to learn Kadazandusun language. Therefore, content richness of mobile apps is the strongest motivation for users to use mobile apps to learn Kadazandusun language compare to perceived usefulness and perceived ease of use.

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ABSTRAK

PENERIMAAN PENGGUNA TERHADAP APLIKASI TELEFON SEBAGAI ALAT YANG BERKESAN UNTUK MEMPELAJARI BAHASA KADAZANDUSUN

Kebangkitan peranti teknologi mudah alih telah membawa potensi baru kepada semua lapisan masyarakat dalam beberapa komuniti. Selain mempunyai kebolehan tertinggi yang merangkumi semua bidang dalam kehidupan manusia, ia turut memberi kesan terhadap pembelajaran bahasa dan pendidikan yang mudah alih. Terdapat banyak aplikasi mudah alih yang dicipta untuk bahasa utama di dunia. Walaubagaimanapun, masih terdapat sebilangan jumlah kecil aplikasi mudah alih yang mengetengahkan bahasa yang kurang digunakan. Bahasa Kadazandusun adalah contoh bahasa kurang diberi perhatian kerana ia tidak begitu digunakan sebagai bahasa pertuturan penting seharian dalam komuniti. Kajian ini membincangkan tentang penerimaan pengguna terhadap potensi aplikasi mudah alih sebagai medium yang berkesan untuk mempelajari asas bahasa Kadazandusun dengan bantuan model Technology Acceptance Model (TAM). Aplikasi mudah alih; Boros Kadus untuk belajar bahasa Kadazandusun telah direka dan dibangunkan berdasarkan model ADDIE yang terdiri lima fasa; Analysis, Design, Development, Implementation dan Evaluation. Kajian ini mengguna pakai kaedah penyelidikan Mix Method Research dimana penyelidik menggabungkan kaedah penyelidikan kuantitatif dan kualitatif. Explanatory Model dalam Mix Method Research telah digunakan untuk menerangkan fasa awal penemuan kuantitatif dengan lebih mendalam dengan menemu bual dengan beberapa orang peserta dari peringkat awal dan seterusnya diterokai dalam fasa kualitatif kedua. Seramai 241 responden telah mengambil bahagian dalam fasa pertama manakala 18 peserta mengambil bahagian dalam fasa kedua. Hasil kajian menunjukkan bahawa kesemua lapan hipotesis telah terbukti disokong. Faktor-faktor yang sama seperti Perceived Ease of Use, Perceived Usefulness, Attitude towards Use, Content Richness, User Satisfaction dan Perceived Playfulness didapati merupakan faktor penting terhadap penerimaan pengguna untuk menggunakan aplikasi mudah alih untuk belajar bahasa Kadazandusun. Oleh yang demikian, kekayaan isi kandungan sesebuah aplikasi mudah alih adalah dipercayai antara motivasi yang kuat bagi pengguna untuk menggunakan aplikasi mudah alih untuk belajar bahasa Kadazandusun berbanding dengan manfaat aplikasi, tahap kemudahan penggunaan aplikasi dan tahap kepentingan aplikasi.

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CHAPTER 1

INTRODUCTION

1. 1 Background of the Study

In recent years, mobile phone has brought a large influence on human life as the number of mobile phones has increased and continuously growing. Mobile phone has become the one device that substitutes other devices such as calendars, GPS, watches, alarms, cameras and even laptop as its functions almost similar. Mobile phone can be divided into two categories which is smart phones and feature phones. Smart phones extensively have better functionality than feature phones but feature phones accomplished more compact than smart phones. Smart phone is a general term of the phone that has free operating system like a PC and available to get wireless connection through mobile communication networks.

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By smart phone, users are able to install software, games and other programs that provided by third party providers. The third-party software that most smart phones have installed is known as mobile applications or mobile app. The apps were at first applied in different functions such as media, games, news and books. Mobile applications that are mainly running on mobile operating systems, also known as mobile OS. There are different kinds of mobile OS in the current market such as Android, IOS and WP (Windows Phone). Some mobile apps only apply to certain mobile OS, as the apps programmed according to their own Software Development Kit (SDK). As the use of mobile technology is increasing, mobile devices offer people the capability to do anything at any time, any place and at their own availability.

Language learning can be one of the most difficult areas to settle in mobile devices technology specially to learn native language through mobile apps. In traditional language learning, it requires learners to attend class and the learning process always involves reading and memorizing words and phrases. Edge et.al (2011) stated that for all such learners, the challenge is to maintain the motivation to spend time learning due to the active lifestyle. Traditional learning context experiencing comprehensive changes and challenges where people need to learn what they are interested or need to learn without constraints such as time and location. Therefore, mobile apps learning is viewed as the potential alternative in assisting and motivating people to learn the language.

Therefore, it is interesting to explain which factors that will lead users' acceptance of using mobile app to learn language. As a new application, the user acceptance of mobile app as an effective tool to learn language has not been studied especially in learning Kadazandusun language. Therefore, the result of this study will be valuable to fill the knowledge gap about user acceptance study of the mobile application, and future development of other similar instant mobile application could also beneficial from this study.

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1.2 Types of Mobile Apps

Mobile apps are a computer program which is designed to run on mobile devices. There are three different types of mobile apps which is native apps, web apps and hybrid apps (Budiu, 2013). Native and hybrid apps are installed in app store while web apps are mobile optimized web pages that look like an app. In this study, the researcher will develop native apps instead of web apps or hybrid apps. This is because, the native apps can be accessed when offline and suitable for any user whom cannot online all the time.

1.2.1 Native Apps Categories

A native mobile app is a smart phone application that is coded in a specific programming language, such as Objective C for iOS and Java for Android operating systems. Native mobile apps offer fast performance and a high point of reliability.

In addition, users can use some apps without an internet connection. There are many categories of native apps that user can consider with.

1.3 Kadazandusun Language

Kadazandusun language is a language that is categorized in the group of Malayo - polynesian in Austronesian (Price, 2007). Figure 1.1 shows the Dusunic quarter and populated area. The Kadazandusun language refers to the form of language standardized by the Kadazandusun Cultural Association of Sabah and is spoken by the Kadazan and Dusun community in Sabah (KDCA, 1995). Figure 1.2 stated KDCA and USDA agreed that (1) Kadazandusun language is the official language of both organizations KDCA and USDA, (2) Kadazandusun language is the language used in writing and speech in the native language teaching and learning and (3) Kadazandusun language is the language of all ethnic Kadazan Dusun without restricting the use of other local dialects.

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Kadazandusun language is the used term to refer to the language taught in schools throughout the state and some schools in Sarawak and Peninsular Malaysia which is based on the dialect of Bundu Liwan standard and enlightened with other dialects of groups Coastal Kadazan , Dusun Northern , Eastern hamlet and in sub dialect group Central Dusun itself (Price, 2007). Preservation of this language is not only seen from a speaker among the Kadazan Dusun or used in broadcasting on local radio but also need to do some research, planning, and better accomplishment in writing and communication that extends over the Kadazandusun language development

Suku Dusunic	Kawasan didiami
Dusun Liwan	Ranau, Tambunan, Keningau, Daerah Kecil Sook, Tuaran, Kota Belud, dan Tamparuli
Dusun Bundu	Tamparuli, Tuaran, Ranau, Keningau, Daerah Kecil Sook, Tambunan, Kota Belud, Penampang
Dusun Tindal	Kota Belud, Kota Marudu dan Monggis Ranau
Dusun Tobilung	Kota Belud, Kota Marudu, Kudat dan Inanam
Dusun Lotud	Tuaran, dan Tampasuk Kota Belud
Dusun Kuriyou	Bingkor Keningau
Dusun Talantang	Kg.Mindohuon Lama. Kg.Ponulangan. Kg.Tubau. Kg.Pudau. Kg.Kodon. Kg.Piasau, Kg.Nimabali, dan Kawiyan di daerah Ranau, Kg. Bunga Raya Keningau, Sugut dan Kota Marudu (Ranau, Keningau, Sugut dan Kota Marudu)
Momogun Rungus	Kudat dan Pitas
Dusun Labuk	Beluran dan Telupid
Dusun Tangara/tangaa/Kadazan	Kadazan di Penampang, Kadazan di Papar, dan Kadazan di Mambakut, Tawau
Dusun Minokok	Sook, Telupid, Koromuak dan Kinabatangan di Daerah Sandakan
Dusun Tinagas	Kaingaran, Molinsou, Kawiyan serta Karagasan di daerah Ranau dan Kota Marudu
Dusun Kimaragang	Kota Marudu dan Pitas
Dusun Sonsongon	Kg. Sonsongon, Magandai dan suyad di Kota Marudu
Dusun Dumpas	Kinabatangan, Sugut dan Sandakan
Dusun Sukang	asal penempatan di tongod berhijrah ke Koromuak, Intilibon, Bukit Garam dan sepanjang daerah Kinabatangan
Dusun Mangkaak	Kuamut, Koromuak, Tongod
Dusun Sangau	Intilibon, Bukit Garam dan Koromuak
Dusun Malapi	Tongod
Dusun Tindakon	Balat Kawasan Hilir Kinabatangan
Dusun Tompulung	Tongod
Dusun Sogolitan	Kg. Miruru, Mangkadait, Maringkan dan Kopuron di Telupid
Dusun Sandayoh	Paitan
Dusun Tilau-ilau	Tongod, Beluran
Dusun Garo	Kota Marudu

Figure 1.1 : Dusunic quarter and populated area

Source : http://ms.wikipedia.org/wiki/Bahasa_Kadazandusun

PERJANJIAN PERISYTIHARAN BAHASA KADAZANDUSUN
SEBAGAI BAHASA RASMI

DI ANTARA

KADAZANDUSUN CULTURAL ASSOCIATION
DAN
UNITED SABAH DUSUN ASSOCIATION

PERJANJIAN PERISYTIHARAN ini dibuat pada 24 bulan **JANUARI**, tahun **1995** di antara Ahli Majlis Tertinggi KADAZANDUSUN CULTURAL ASSOCIATION dan Ahli Majlis Tertinggi UNITED SABAH DUSUN ASSOCIATION, dua pertubuhan yang masing-masing didaftarkan di bawah Akta Pertubuhan 1966 iaitu Bil. SAB 356 beralamat di KM 6, Jalan Penampang, W.D.T. NO. 39, 89509 Penampang bagi Kadazan Dusun Cultural Association (Selepas ini disebut **KDCA**) sebagai pihak pertama dan Bil. SAB 119 beralamat di Tingkat 1, Lot 7, Blok A, Sinsuran Complex bagi United Sabah Dusun Association (Selepas ini disebut **USDA**) sebagai pihak kedua.

Bahawasanya, KDCA dan USDA, dengan penuh sedar dan keinsafan telah bersetuju mengenai perkara-perkara yang tertera di dalam Perjanjian Perisytiharan di bawah ini:

1. KDCA dan USDA adalah dengan ini bersetuju bahawa:
   1. Bahasa KADAZANDUSUN adalah bahasa rasmi bagi kedua-dua pertubuhan KDCA dan USDA;
   2. Bahasa KADAZANDUSUN adalah bahasa yang dipakai dalam penulisan dan pertuturan di dalam pengajaran dan pembelajaran bahasa ibunda (POL) tersebut, dan
   3. Bahasa KADAZANDUSUN adalah bahasa yang dipakai oleh semua etnik Kadazan Dusun tanpa menyekat penggunaan dialek-dialek tempatan yang lain.
2. KDCA san USDA dengan ini bersetuju:
   1. Bahasa KADAZANDUSUN dipelihara dan dikembangkan bersama untuk manfaat semua kaum di Malaysia, yang berminat mempelajari Bahasa KADAZANDUSUN.
   2. Tanggungjawab bersama untuk mengembangkan Bahasa KADAZANDUSUN di peringkat tempatan, kebangsaan dan antarabangsa, khususnya kepada mereka yang ingin mempelajari dan mengkaji Bahasa KADAZANDUSUN.

PERJANJIAN PERISYTIHARAN ini dibuat oleh KDCA dan USDA dengan disaksikan oleh mereka yang mewakili kedua-dua pihak, seperti yang bertandatangan di bawah ini:

Figure 1.2 : Perjanjian pengistiharan Bahasa Kadazandusun sebagai Bahasa Rasmi Diantara Kadazandusun Cultural Association dan United Sabah Dusun Association

Source : http://kdca.org.my/hongkod/official-language

1.4 Problem Statement

Many native languages have become endangered because of language deaths where the original language replaced by national language totally and most at half of the world's existing languages may no longer exist if they are not conceded on to the next generation (Hale et al, 2014; Austin, Peter and Sallabank, 2011; Fishman, 1996). Tahir and Tanalol (2005) in their research stated that Kadazandusun language was listed as one of the in danger of extinction language in the world. Studies also have been conducted on the use of mobile devices for learning in widely spoken languages such as English, Spanish, and French (Godwin-jones, 2011; P. Kim, Miranda, and Olaciregui, 2008; Thornton and Houser, 2005; Martinez et. al, 2010), nevertheless, in the globe of Kadazandusun native language learning, this area of study has yet to be thoroughly explored and studied. Besides that, Razan (2013) also stated that reading books and references in Kadazandusun, especially in academic form is still lacking. There are only few efforts to preserve Kadazandusun language. This study will cover the user acceptance of mobile apps as an effective tool in Kadazandusun language learning.

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1.5 Research Questions

This study addressed the role of mobile apps as an effective tool in learning Kadazandusun language. The research questions were:

1) How do mobile apps for Kadazandusun language learning attract user's acceptance?

2) What are the factors that affect the user's acceptance of the mobile apps usage in Kadazandusun language learning?

1.6 Research Objectives

1. To study the factors of user acceptance for mobile apps usage in learning Kadazandusun Language.
2. To examine user perception of mobile apps usage in learning language.
3. To develop mobile apps for learning Kadazandusun language.

1.7 Significance of the Study

The purpose of this study is to examine the factors that make users keen to use mobile apps as an effective tool to learn Kadazandusun language. Besides that, the present study also focused to determine how mobile apps can be used in learning Kadazandusun language and develop a learning Kadazandusun language application model as an additional tool for language learning. In addition, I wanted to contribute to the community, which is to help community to tackle their language issues by upward a mobile app model for community who would like to employ mobile technology. This study is also suggested in the view that technology can be utilized as an additional tool for language learners. The significance of this study is to contribute to the currently limited literature on the use of mobile technology for language learning reported by previous studies especially in Kadazandusun language learning. Besides that, this study is to advance the knowledge foundation of mobile technology in Kadazandusun language recovery efforts within Kadazandusun community. Apart from that is to develop a Kadazandusun language learning application.

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1.8 Chapter Disposition

This study was structured into six chapters. Chapter 1 provides an introduction to thesis by discussing the background of study, problem, purposes and the significance of the research as well as the research questions that guided this study. Chapter 2 first introduces the background of mobile applications, mobile applications for language learning, about Kadazandusun language and its available application, followed by the mobile devices issues and challenges which includes usability and technical. The next subchapter discussed about Technology Acceptance Model (TAM). Subsequently, extended technology acceptance models will be introduced such as content richness, user satisfaction and perceived playfulness. Afterwards, related previous user acceptance studies of different mobile applications will be discussed. The research model and related hypotheses will be proposed at last. The conceptual framework to develop the mobile application will be discussed. Chapter 3 generally discusses the method adopted in the study. The research design, research approach and data collection will be explained. In addition, different data collection and data analysis methods will be presented briefly.

Finally, the reliability of the research findings will be discussed. Chapter 4 analyses the qualitative data from interview and quantitative data from the survey. For the qualitative analysis, the researcher is mainly focused on interpreting the interview into factors by applying certain steps. Concerning the quantitative analysis, the researcher concentrated on testing the reliability and correlation coefficient of proposed research model and related hypotheses. Chapter 5 discusses the results of this study first. The result from the empirical data analysis in the previous chapter, through presenting the identified factors and further discussion, research questions that proposed in chapter 1 will be answered. Chapter 6 concludes overall results of this study of how mobile app for Kadazandusun language attract user's acceptance to use it and also conclude the factors that affect users' acceptance in using mobile app as an effective tool to learn Kadazandusun language. Managerial implications, theoretical implications and methodological implications also discussed in this chapter followed by the limitations of the study and also directions for future study.

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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Language learning is might one of the most difficult areas to adapt in mobile technology world, particularly when there was a spoken language was involved. Despite of the great benefits in terms of innovation and in the variety of available solutions, mobile device technology proposes few tool for language learning such as Short Message Service (SMS). Levy and Kennedy (2005) in their study used Short Message Service (SMS) for sending vocabulary words and idioms, definitions, and example sentences for Italian learners in Australia. Godwin-Jones (2005) stated the BBC World Service's Learning English section also creates a similar program and offers English lessons via SMS in Francophone West Africa and China. In the present paper, the researcher studies the user acceptance on the effectiveness of mobile apps in learning language for non-native speaker and native speaker of Kadazandusun language. The following literature reviews try to show the previous research regarding learning language through mobile devices. This chapter is divided into ten parts: 1) Mobile applications. 2) Mobile application for language learning. 3) Kadazandusun language application. 4) Issues and challenges in mobile learning application. 5) Technology acceptance model (TAM). 6) Content richness 7) User satisfaction. 8) Perceived playfulness. 9) User acceptance studies of different mobile applications. 10) Chapter summary.

2.2 Mobile Application

Mobile applications which also known as mobile apps are software applications that user can install on handheld devices such as mobile phone, tablet or other portable