

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Nowadays technology have growth really fast. According to cekindo.com<sup>1</sup>. China, Indonesia, Russia and Brazil have the biggest growth in mobile usage. Indonesia have become the fourth biggest growth of mobile, increasing its technology infrastructure, mobile and have a lot of young people that are tech-hungry. In Indonesia, Facebook usage is fourth in the world, twitter usage is third in the world. Tweet from twitter mostly come from Jakarta than another city in the world. Most people are using technologies, internet, gadget and others. It is really convenient and easy to use. According to thejakartapost.com<sup>2</sup>. Based on data from Indonesia Internet Service Providers Association (APJII) in 2016 number of Indonesian internet user are 132.7 million from the total of 256.2 million population. The number of smartphone usage is 63.1 million. Figure 1.1 shows percentage of digital device ownership in Indonesia and figure 1.2, shows annual growth in Indonesia.

Most of the things that previously using traditional way are now changing using automation way by using technology. Everything become much easier for now. This thing also affect on learning system. That give a new method on how to learn things. Previously people learn from school, university, class and private class, but now they can now learn this through internet. In internet there are a lot of things that you can find, everywhere is in the internet. There are websites that offer online learning and mobile app that provide online learning. This online learning method are starting their growth and they provide website that consist of education that are accessible through the internet and everyone.

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<sup>1</sup> <http://www.cekindo.com/rapid-growth-of-technology-offers-great-opportunities-in-indonesia.html>

<sup>2</sup> <http://www.thejakartapost.com/longform/2017/03/03/the-2017-indonesian-startup-popular-sector-forecast.html>

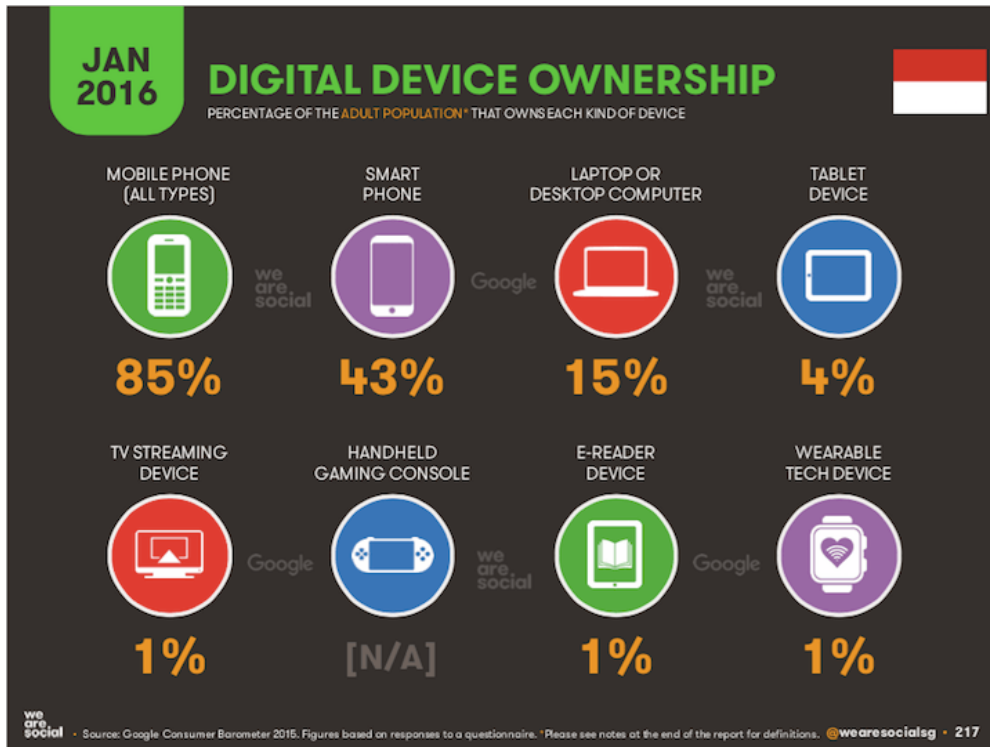


Figure 1.1 Digital Device Ownership



Figure 1.2 Annual Growth Mobile and Internet in Indonesia

Figures 1.1 and 1.2, shows that growth of internet and mobile devices are increasing in Indonesia. And the ownership of smartphone is bigger than desktop. More people are using mobile devices compare than using desktop. Everything have changed into mobile devices usage. According to Judith (2016). There are 326.3 million sim subscription in Indonesia and it is bigger than the population. Which means every mobile user have approximately 2 sim cards. 43% population is using smartphone. Indonesian are using mobile devices more to access internet. There are 70% of population access website using mobile devices, while 28% population access website using desktop. Online learning has been used in desktop and now they are developing into mobile app, because of the technology growth, portability, mobile interface optimization, push notification or reminder, interactive user interface, simple design and more practical.

Online learning become interesting topic for doing a research. Most online learning that comes from desktop are now able to be accessed from device. Developer are creating mobile app from desktop version. It is a challenging task, because they have to change certain aspects to be accessible on mobile app and certain devices. In order to create online learning in mobile app, there are some criteria, such as portability, user friendly interface, accessibility to material. It is really interesting to investigate the usability of online learning in desktop and mobile. Both of them are different. Usability is needed to achieve successful online learning platform in both devices. According to Nielsen (2012), usability consist of ease of learning for the user, efficiency to use, rate of error from using online learning platform and subjectively pleasing (attractive) to the user.

Online learning provides the learning through several methods such as, slides, video, audio, ebook, online quiz and others. It engages us to learn something that we are interested, in entertaining way. And both teacher and students can create community around the online learning platform. However, to introduce and create it through mobile app might be challenging. Since, there are advantages and disadvantages between mobile and desktop. It might come from how to interact with online learning through desktop and mobile, and restriction between them. Not all of the people are familiar with online learning, somehow they still got confused. Some of online learning platform example in Indonesia are Kelaskita.com, MaubelajarApa.com, Pintaria.com, IndonesiaX and other. In another country there are Coursera, edX, Udacity and other.

In this research, researcher is trying to find user experience using online learning in both devices, the usability of online learning platform in both devices. In order to investigate this, researcher is using Duolingo platform in desktop and mobile app. The researcher picked Duolingo because it has both website and mobile app. They are accessible for children and adults, which are the target population for this research. In addition, the learning platform is free and can be accessed without specific start date and end date.

## 1.2 Research Scope

Research is created in order to compare both device for online learning, investigate and look for user experience while using it. In this research, the researcher is using Nielsen usability's model. According to Nielsen (2012), Usability provide several factor that lead to how easy using software or products. The ease of using it. There are 5 factor for usability, there are ease of learning, efficiency of use, rate of error during use and subjectively pleasing. Since, this research is focusing on first time user, memorability is being removed, because it determined the usability of software or product after user stop using it for certain period of time. Figure 1.3 shows the overall diagram of Nielsen's usability model.

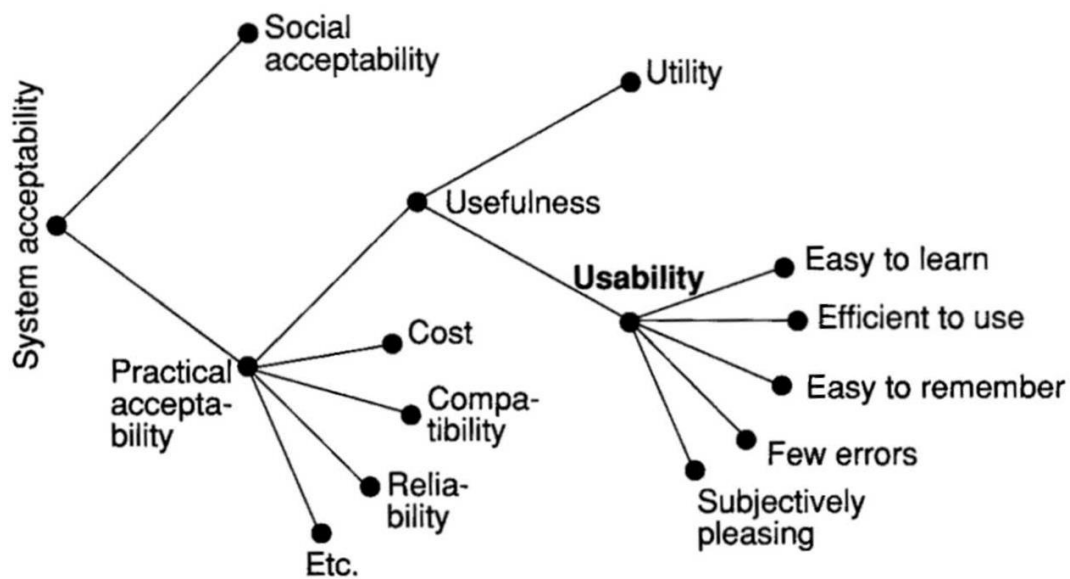


Figure 1.3 Nielsen's Usability Model

### **1.3 Research Objective**

The researcher wants to find out several insights based on the introduction of the research

1. Can different devices affect learner's satisfaction in using Duolingo platform?
2. What will be the learning experience in cases when using different devices?
3. What are the limitation and advantages of using mobile or desktop learning environment to access Duolingo platform?

### **1.4 Research Aim and Benefit**

The target of this research is to evaluate the usage of both devices for online learning by respondents. How is the respondents experience while using online learning on both devices. What is the advantage and disadvantage, what aspect that need to be improve. Based on the result of this research, the researcher can use it for the improvement of app designs for both mobile and desktop devices. Get the result of why another device is dominant compare to another device. The researcher can gain insight on which usability factors affect the satisfaction in both devices.

### **1.5 Research Structure**

Research structure are divided into 4 chapter

- **CHAPTER1: INTRODUCTION**  
This chapter is about the introduction of the research, the background of this research, research scope, objective and research aim and benefit
- **CHAPTER 2: LITERATURE REVIEW**  
This chapter consist of theory that have been written and published before the creation of this research. This theory is being used in order to support this research.
- **CHAPTER 3: RESEARCH METHODOLOGIES**

This chapter consist of methodologies and approach for this research, research objective, hypothesis, research design, data collection method, sampling method and data analysis method

- CHAPTER 4: DATA ANALYSIS

This chapter consist of the result of data, model, hypotheses testing and analysis.

- CHAPTER 5: DISCUSSIONS

This chapter consist of discussion from chapter 4 result

- CHAPTER 6: CONCLUSION & RECOMMENDATIONS

This chapter consist of the conclusion and recommendation for the research